TRANSFORMATIONAL LEADERSHIP OF SCHOOL ADMINISTRATORS AFFECTING SCHOOL

MANAGEMENT IN DIGITAL ERA UNDER THE SECONDARY EDUCATIONAL SERVICE AREA

OFFICE KANCHANABURI

By

MR. Tawan SANGTHONG

A Thesis Submitted in Partial Fulfillment of the Requirements

for Master of Education EDUCATIONAL ADMINISTRATION

Department of Educational Administration

Silpakorn University

Academic Year 2022

ภาวะผู้นำการเปลี่ยนแปลงที่ส่งผลต่อการบริหารสถานศึกษาในยุคดิจิทัลของผู้บริหาร
สถานศึกษา
สังกัดสำนักงานเขตพื้นที่การศึกษามัธยมศึกษากาญจนบุรี

โดย
นายตะวัน แสงทอง

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรศึกษาศาสตรมหาบัณฑิต
สาขาวิชาการบริหารการศึกษา แผน ก แบบ ก 2 ระดับปริญญามหาบัณฑิต
ภาควิชาการบริหารการศึกษา
มหาวิทยาลัยศิลปากร
ปีการศึกษา 2565

TRANSFORMATIONAL LEADERSHIP OF SCHOOL ADMINISTRATORS AFFECTING

SCHOOL MANAGEMENT IN DIGITAL ERA UNDER THE SECONDARY

EDUCATIONAL SERVICE AREA OFFICE KANCHANABURI

By

MR. Tawan SANGTHONG

A Thesis Submitted in Partial Fulfillment of the Requirements

for Master of Education EDUCATIONAL ADMINISTRATION

Department of Educational Administration

Silpakorn University

Academic Year 2022

Copyright of Silpakorn University

Title	TRANSFORMATIONAL LEADERSHIP OF SCHOOL ADMINISTRATORS AFFECTING SCHOOL MANAGEMENT IN DIGITAL ERA UNDER THE SECONDARY EDUCATIONAL SERVICE AREA OFFICE KANCHANABURI
By	MR. Tawan SANGTHONG
Field of Study	EDUCATIONAL ADMINISTRATION
Advisor	Associate Professor Mattana Wangthanomsak, Ph.D.
Co advisor	Associate Professor Prasert Intarak, Ed.D.
	Associate Professor Sakdipan Tonwimonrat, Ph.D.

Faculty of Education, Silpakorn University in Partial Fulfillment of the Requirements for the Master of Education

....Dean of Faculty of Education

(Assistant Professor Maream Nillapun, Ph.D.)

Approved by

....Chair person

(Assistant Professor Nuchnara Rattanasiraprapha, Ph.D.)

....Advisor

(Associate Professor Mattana Wangthanomsak, Ph.D.)

....Co advisor

(Associate Professor Prasert Intarak, Ed.D.)

....Co advisor

(Associate Professor Sakdipan Tonwimonrat, Ph.D.)

....External Examiner

(Assistant Professor Phornsak Sucharitrak, Ph.D.)

MR. Tawan SANGTHONG : TRANSFORMATIONAL LEADERSHIP OF SCHOOL ADMINISTRATORS AFFECTING SCHOOL MANAGEMENT IN DIGITAL ERA UNDER THE SECONDARY EDUCATIONAL SERVICE AREA OFFICE KANCHANABURI Thesis advisor : Associate Professor Mattana Wangthanomsak, Ph.D.

The purposes of this research were to 1) identify the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi, 2) identify the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi, and 3) identify the transformational leadership affecting the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi. The research samples were 28 schools under The Secondary Educational Service Area Office Kanchanaburi. There were 8 respondents from each school including 1) a school director or an acting school director, 2) a deputy school director or an acting deputy school director 3) two heads of departments, and 4) four teachers, with the total of 224. The research instrument was an opinionnaire concerning the transformational leadership according to Leithwood, Jantzi and Steinbach's concept and the school management in digital era according to Lee and Gaffney's concept. The statistics used for data analysis were frequency, percentage, arithmetic mean, standard deviation, and stepwise multiple regression analysis.

The findings of this research were as the followings:

1. The overall of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level. When considering each aspect, the average of all aspects was at a high level from the most to the least as following: creating and maintaining shared decision-making structures and processes, creating high performance expectations, culture building, building a shared vision, developing consensus about goals, modelling important values and practices, creating intellectual stimulation, and providing individualised support, respectively.

2. The overall of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level. When considering each aspect, the average of all aspects was at a high level from the most to the least as following: managing risk, shaping and selecting digital technology, managing information, achieving digital integration, overseeing the technology and education direction, securing school information assets, balancing internal and external control, managing enthusiasm, networking with the home technology, and financing the technology, respectively.

3. Transformational leadership of school administrators on creating and maintaining shared decision-making structures and processes, building a shared vision, creating high performance expectations, providing individualised support, and developing consensus about goals affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi, as a whole, with statistical significance at the .05 level.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter I

Introduction

In early 2000, a group of pathfinding schools in different parts of the world became digital. They began to use a fundamentally different mode of schooling from what had been done before. Schools have been heavily paper-based, and shaped by the thinking of the industrial age. At present, we are witnessing a shift from the traditional operational paradigm to one that is digital.[1] Nowadays, many organizations worldwide including educational institutions are unavoidably facing the digital era; therefore, we cannot refuse we are now in the era in which high-speed communication technology, electronic technology, industrial technology, technology of Internet of Things (IOT), and, especially, artificial intelligence are rapidly advanced and highly efficient and this affects the access of big data worldwide.[2] Moreover, the disruptive technology affects the change of human's behaviours in many ways, especially the ones of new generations who have new attitudes and do not want to study or work in the same ways since they have many alternatives. The Digital Revolution leading to the Fourth Industrial Revolution, or Industry 4.0, is a massive leap in the growth of information technology that reflects the free flow of goods and information beyond frontiers. The new face of globalization is the world of the "Internet of Things", or the era when the Internet and network systems expand into various places such as educational institutions, transportation, health centres etc. Now that economic systems worldwide are moving towards Industry 4.0, Thailand

---

[1]Mal Lee and Michael Gaffney, "Leading schools in a digital era," in **Leading a digital school**, ed. Mal Lee and Michael Gaffney (Camberwell Victoria: ACER Press, 2008), 4.

[2]Pitsini Mano, "The Impact of Digital Disruption to the Education," **Journal of Industrial Education** 18, 1 (January – April 2019): 1.

1

has prepared policies that promote "Thailand 4.0" to move forward to a value-based economy.[3]

In conformity with The Constitution of the Kingdom of Thailand, the National Education Act, Government policies and Strategic plans, as well as the National Education Plan, Thailand has been continuously developing and reforming its educational system. At present, Section 258 E (focusing on education) of The Constitution of the Kingdom of Thailand, B.E. 2560, demands that education reform of the country be focused on four major issues: (1) ensuring the commencement of care and development of pre-school children with a view to developing their physical body, mind, discipline, emotion, society and intelligence in accordance with their ae; (2) completing the enactment of a law for the establishment of a fund for the purpose of assisting persons with insufficient means, reducing the educational disparity and promoting and improving the quality and efficiency of teachers; (3) providing for a mechanism and a system for producing, screening and developing teaching professionals and instructors; and (4) improving learning and instruction at every level so that students are able to study according to their aptitudes, and improving the structure of relevant agencies with a view to uniformly achieving such a goal at both the national and local levels.[4]

In addition, the Industrial Revolution 4.0 provides opportunities and, at the same time, is a challenge for education providers to serve the millennial generation. The new generation have individualistic, creative, innovative characters because they master information technology with high literacy, so they want to gain freedom of opinion and be creative – to express themselves and not be governed.[5] They have

---

[3]Office of the Education Council, **Education in Thailand 2018** (Bangkok: Prigwhan Graphic, 2019), 7–8.

[4]Office of the Education Council, **Education in Thailand 2019-2021** (Bangkok: Prigwhan Graphic, 2021), 259–260.

[5]Sunarto, E. Handayani Tyas, and Lamhot Naibaho, "Effective School Management in Industrial Revolution Era 4.0," in **Proceeding of the 2nd Annual Conference on Blended Learning, Educational Technology and Innovation**

their own thoughts, attitudes and beliefs. Therefore, they would like to do only what they are extremely interested in and some time they do not want to study what they think is unimportant to their lives. Furthermore, they are engaged in their digital worlds and immersed in an environment rich in digital media and tools. These tools have become status symbols, means of communication, and digital-age organizers. Many people would agree they have also become a student's nerve centre, because so much of a student's life is now influenced by the tools of the age.[6]

Education, one of the important factors for the country's human resources development, must be improved to be quality and appropriate to the rapid change in the digital world. Therefore, school management and learning management have to be inevitably changed to deal with the globalization. As the leaders of the schools in the 21st century, the school administrators need to understand the context of their schools in which external environments, especially the context of technology, affect the schools' internal environments which are students, learning, teachers, technology and learning innovations in the digital era.[7] Consequently, the challenge for school leaders in the new era is to acknowledge these changes and perform effective leadership styles in order to prepare for any changes that will occur.

Statement and significance of the problems

Around the world, schools are confronting extremely profound changes and it is challenging for school leaders who should be able to adopt appropriate leadership styles for managing the schools in the digital era. No matter what changes occur, the school administrators must prepare for and deal with them in order to bring their schools success.

(ACBLETI 2020), Padang, Indonesia October 23-24, 2020 (Paris: Atlantis Press, 2021), 212.

[6]Eric Sheninger, **Digital Leadership: Changing Paradigms for Changing Times** (California: Corwin, 2019), 17.

[7]Sukanya Chaemchoy, **School Management in Digital Era** (Bangkok: Chulalongkorn University Press, 2018), 9.

Making teachers in schools accept technologies, innovations, and changes is an significant mission of the school administrators. It is difficult to manage the changes that schools are facing, especially the change of complex schools' cultures. However, the school administrators must manage their schools with the consideration of these three practices: setting direction, developing people, and redesigning the organization to meet changing demand. Besides, before sharing or using the three practices with teachers, school administrators must accept and bring them to use in their lives first.[8]

Transformational leadership is a process that changes and transforms people. It is concerned with emotions, values, ethics, standards, and long-term goals and includes assessing followers' motives, satisfying their needs, and treating them as full human beings. Besides, transformational leadership involves an exceptional form of influence that moves followers to accomplish more than what is usually expected of them.[9] Transformational leadership, moreover, assumes that the central focus on leadership ought to be the commitments and capacities of organizational members. Higher levels of personal commitment to organizational goals and greater capacities for accomplishing those objectives are to result in extra effort and greater productivity.[10] Hence, good transformational leaders must realize their followers' needs, motivate them to dedicate for the organizations, and support them. Moreover, transformational leaders should inspire their followers to recognize the vision and the mission of the school and motivate them to help develop the school.

According to the sixth section of the National Education Act B.E. 2542 (1999), the amendments of the Second National Education Act B.E. 2545 (2002) and the Third National Education Act B.E. 2553 (2010), Education shall aim at the full development of the Thai People in all aspects: physical and mental health; intellect;

---

[8]ibid, 41.

[9]Peter G. Northouse, **Leadership: theory and practice**, 7th ed. (London: Ashford Colour Press, 2015), 161.

[10]Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach, **Changing leadership for changing times** (Buckingham: Open University Press, 1999), 9.

knowledge; morality; integrity; and desirable way of life so as to be able to live in harmony with other people.[11] Thailand has given high importance to education, since it is the foundation of all sectors of national development. Thailand's education has a long history of development. It reflects the evolution of the instructional system, and several reforms that attempt to provide educational opportunity for all people and strive to meet with the socio-economic and technological change of the country. At present, Thailand has legislated laws, formulated various strategies and planned to express how important education is, since the role of education is vital to a national development.[12] Besides, the management of education will play an important role in creating opportunities and social equality, and to ensure justice in health and educational services – particularly for the low income and the underprivileged. It will focus on opportunity creation which enables all people equal access to high-standard quality education.[13] Therefore, in order to provide quality education to students in the digital era, school administrators should learn and develop their school management skills.

Digital disruption utilizes increasingly efficient methodologies and practices in order to disrupt the existing way of life, caused by ever-changing technologies combined with the enormous data sources and accessible via the globally-connected internet, which causes the world to undergo significant and unpredictable changes.[14]

---

[11]Office of the National Education Commission, **National Education Act B.E. 2542 (1999) and Amendments (Second National Education Act B.E. 2545 (2002))** (Bangkok: Office of the National Education Commission, 2003), 4.

[12]Office of the Education Council, **Education in Thailand 2019-2021** (Bangkok: Prigwhan Graphic, 2021), 1.

[13]ibid, 4-5.

[14]Pitsini Mano, "The Impact of Digital Disruption to the Education," **Journal of Industrial Education** 18, 1 (January – April): 1.

Educational leaders need a particular set of skills and professional practices that will enhance their capability to navigate what are after turbulent waters when social justice and issues of diversity and equity are grounding their work.[15] School administration in the digital era is the management of educational change and management of educational technology simultaneously, among the changes of both internal and external environments that could not be stopped.[16] School principals and education system officers face new challenges in leading schools into the digital age. These are educational and administrative in nature and concern the need to learn about the potential benefits and costs of new technologies, to build their capability, to take strategic action to maximise the benefits and minimise the costs, and to play an active role in decision making about the planning, implementation and outcomes resulting from investment in digital technology in their school communities and systems.[17] In order to prepare for the changes of school management in the digital era efficiently and effectively, a school administrator must be a transformational leader who can be a good role model for teachers. The administrator should not only attempt to stimulate teachers to be open-minded to the changes of technology or educational innovations, but also support teachers to possess behavioural changes to bring technology or educational innovations to integrate in their classrooms professionally.

---

[15]Linda C. Tillman and James Joseph Scheurich, **Handbook of Research on Educational Leadership for Equity and Diversity** (New York: Routledge, 2013), 597-598.

[16]Sangob Intaramanee, "School Mangement in Digital Era," **UMT Poly Journal** 16, 1 (January – June 2019): 353.

[17]Mal Lee and Michael Gaffney, "Engagement with digital technology: new challenges for school and system leaders," in **Leading a digital school**, ed. Mal Lee and Michael Gaffney (Camberwell Victoria: ACER Press, 2008), 38.

Research problems

Education is a significant key to develop people who are important resources of the country. Therefore, it plays a major role towards the implementation of the third Strategy of The 20-Year National Strategy, human resources development, in which it specifies that Thai people in the future must be a quality population who have physical and emotional strength, wisdom, lifelong learning capability, ethics, discipline, social responsibility, health, and skills needed for the 21st century that will prepare highly skilled innovative people, thinkers, and entrepreneurs who value Thainess, ethics, disciplines, social responsibilities and well-being, with the focus on lifelong human resources development.

Educational provision in Thailand, therefore, needs to be developed in order to produce a population with the highly competitive skills needed for participating in the globally economic system in this century and for developing the country. Due to the rapid changes in the digital era, the learning skills in the 21st century, which is considered a strategic guideline for learning management, emphasises body of knowledge, skills, expertise, and competency of learners that can be applied to their daily living.

These challenges have considerate influence on both the policies and practices of educational provision. Education policies and practises, therefore, need to be reformulated and managed by transformational leaders to prepare Thai people with skills and competencies corresponding to situations in the digital era.

The Secondary Educational Service Area Office 8 is in charge of the basic education administration of 55 secondary schools in Ratchaburi and Kanchanaburi.[18] To lead to effective and efficient educational administration of the schools and organizations under it, the office determined the strategies for educational development including 1) Curriculum and teaching process, 2) Teacher preparation and development, 3) Testing, evaluation, quality assurance, and education standard development, 4) Human resource preparation and development and research

---

[18]The Secondary Educational Service Area Office 8, "Overall Operation Report of Fiscal Year 2017," document number 4/25561, 2018, 13.

relating to the need for the country development, 5) ICT for education, and 6) Administration.[19]

Regarding the fifth strategy, ICT for education, the evaluation result of the indicators of The Secondary Educational Service Area Office 8 indicated that in Indicator 1 there is the use of information from Data Management Centre in administration to analyze the budget and plan the procedure in the fiscal year. Fifty-five schools in The Secondary Educational Service Area Office 8 use Data Management Centre, which is 100 percent. Besides, the department of registration and evaluation of each of the fifty-five schools uses Secondary Grading System (SGS), which is 100 percent. In Indicator 2, thirty-nine schools in the service area office passed the assessment criteria in excellent and good levels based on Distance Learning Information Technology (DLIT) standards of Office of Basic Education Commission (70.19%), forty-five schools in the service area office have the plan for Distance Learning Information Technology (DLIT) based on the Distance Learning Information Technology (DLIT) standards (81.82), forty schools in the service area office develop the format of Distance Learning Information Technology (DLIT) (72.73%), 110 personnel of the schools in the service area office gain development in Distance Learning Information Technology (DLIT) (100% of the target), and fifty-five schools in the service area office are supervised, followed, and evaluated in Distance Learning Information Technology (DLIT) (100%). According to the evaluation result of the indicators of The Secondary Educational Service Area Office 8, only two indicators are evaluated which are Data Management Centre and Distance Learning Information Technology (DLIT),[20] and this is not consistent with the information and communication technology strategy regarding Information and Communication Technology Master Plan of Ministry of Education (Version 3), 2014-2016 aiming to 1) enhance the capability of teachers and education personnel to use information and communication technology (ICT) for education, 2) promote electronic learning system, 3) develop basic structure of ICT for expanding opportunities to educational

---

[19]ibid, 30.

[20]ibid, 30-32.

services and lifelong learning, 4) develop ICT system to promote educational administration and services, and 5) promote research to develop body of knowledge about ICT for education.[21]

That the above procedures will be able to be achieved as aimed depends on the administrators of each school. School administrators need to use their knowledge and competence to plan systematically, control, direct, coordinate and communicate with other administrators and teachers for understanding to meet the school's objectives in both policy and performance.[22] However, the problem is there is a push to develop tools and materials more than to apply body of knowledge from ICT to students' learning and to develop teachers to gain adequate knowledge and skills of using ICT to develop their teaching materials and methods. Teachers are not able to efficiently apply ICT for education to their teaching, and students do not use ICT for education for their self-learning. Besides, some schools lack modern and quality media, which are insufficient for teachers and students' self-learning. Additionally, during 2017 – 2021, Ministry of Education of Thailand has the strategic plan to promote and develop the system of digital technology for education. The strategic plan aims to 1) develop information technology and technology networks for education in all areas by managing database by standardized cloud computing for storing, inputting and distributing the same content and courseware, 2) promote and develop education quality by Distance Learning Information Technology and support devoid schools to obtain modern hardware and software to be ready for the technology, 3) coordinate with involved institutes to develop fibre-optic internet and wireless internet, 4) provide online learning system and learning database for students, 5) develop digital libraries to be standardized for long-life learning, and 6) develop computer-assisted instruction

---

[21]Ministry of Education, "Information and Communication Technology Master Plan Ministry of Education, B.E. 2557-2559 (2014-2016)," February 22, 2014, 3.

[22]National Institute of Educational Testing Service, "The Report of The Ordinary National Education (O-NET) Results Academic Year 2016-2017," 2017), 1-4.

(CAI) continuously to make it more efficient.[23] As a result, school administrators need to apply suitable leaderships to school management in digital era which is surrounded with digital changes, unlimited competition, economic crisis, and resource-limited situations.

Regarding the overall operation report of fiscal year 2020 of The Secondary Educational Service Area Office 8, many suggestions for development relating to transformational leadership and school management in digital era were mentioned as follows: 1) to develop teaching and learning to enhance students' achievement and prepare students for the 21st Century, 2) to develop students' competence based on their potential and aptitude regarding PISA to prepare students to be ready for international evaluation, 3) to develop the methods of supervision of teaching to improve students' critical thinking and higher order thinking and to support and enhance students to have 21st Century Skills (3R8C), 4) to support teachers to develop teaching techniques and evaluation to improve students' critical thinking and higher order thinking and to support and enhance students to have 21st Century Skills (3R8C) by various ways continuously, 5) to allocate a budget for projects and activities to support and enhance students' critical thinking at the levels of Office of Basic Education Commission and The Secondary Educational Service Area Office, 6) to support the development of best practises or innovations for enhancing students' achievement, 7) to publish teachers' lesson plans that change the role of a teacher to be a coach, 8) to develop the supervision methods of a supervisor in order to change the role of a teacher to be a coach, 9) to allow schools to apply tools, media, or technology for distance or online learning which are based on their potential and readiness, and 10) to support each school to develop information system and upload information on websites in order to access the information conveniently and quickly.[24]

---

[23]Ministry of Education, "Education Development Plan of Ministry of Education 12 (2017 – 2021)," December 2016, 61-62.

[24]The Secondary Educational Service Area Office 8, "Overall Operation Report of Fiscal Year 2020," document number 16/2563, 2020, 46-50.

According to the above concepts and problems, the researcher would like to identify if the transformational leadership affects school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi in order that this study will be a model to develop school administrators' transformational leadership and reform the education in digital era.

Research objectives

1. To identify the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi

2. To identify the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi

3. To identify the transformational leadership affecting the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi

Research questions

1. In what level is the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi?

2. In what level is the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi?

3. Does the transformational leadership affect the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi?

Research hypotheses

1.The transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi is at a moderate level.

2. The school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi is at a moderate level.

3. The transformational leadership affects the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi.

Theoretical framework

In this study, the researcher determined the systematic theoretical framework by using the concept of Lunenberg and Ornstein which stated that all schools are open systems which constantly interact with their external environment. In the framework, there are inputs, transformation process, and outputs. Systems such schools receive four kinds of inputs from the environment: human, financial, physical, and information resources. The school administrator's job involves combining and coordinating these various resources to attain the school's goals, that is learning for all. The transformation process of the school includes the internal operation of the school and its system of operational management. Some components of the system of operational management include the technical competence of school administrators and other personnel, including their decision-making and communication skills, their plans of operation, and their ability to cope with change. The school administrator's job is also to secure and use inputs from the environment, transform them-while considering external variables-to produce outputs which are the attainment of the goals or objectives of the school including student achievement, teacher performance, and growth levels of students and teachers etc.[25]

The term transformational leadership has appeared with increasing frequency in writings about education since the late 1980s.[26] Many theories and concepts about transformational leadership have been presented. Burns' prize-winning book first drew widespread attention to ideas explicitly associated with

[25]Frederick C. Lunenburg and Allan Ornstein, **Educational Administration: Concepts and Practices**, 7th ed. (California: SAGE Publications, 2022). 23-25.

[26]Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach, **Changing leadership for changing times** (Buckingham: Open University Press, 1999), 27.

transformational leadership. According to Burns, transforming leadership ultimately becomes moral in that it raises the level of human conduct and ethical aspiration of both leader and led, and thus has a transforming effect on both. Burns also divided transformational leaders into four types including 1) intellectuals, 2) reformers, 3) revolutionaries, and 4) heroes.[27] Kouzes and Posner studied transformational leadership in both descriptive and qualitative research and suggested five dimensions of the leadership: challenging the process, inspiring a shared vision, enabling others to act, modelling the way, and encouraging the heart.[28] Bass and Avolio defined transformational leadership as including charisma or idealised influence, inspirational motivation, intellectual stimulation and individualised consideration, known as the four I's.[29] Moreover, Leithwood, Jantzi, and Steinbach conceptualised such leadership along eight dimensions: building a shared vision, developing consensus about goals, creating high performance expectations, providing individualised support, creating intellectual stimulation, modelling important values and practices, culture building, and creating and maintaining shared decision-making structures and processes.[30] In a four-year study of schools, Leithwood also assessed the effects of transformational leadership. His conceptual framework is based on two assertions. First, transformational leadership in schools directly affects such school outcomes as teacher perceptions of students' goal achievement and students' grades. Second, transformational leadership indirectly affects these outcomes by influencing three critical psychological characteristics of staff: perceptions of school characteristics, teacher commitment to change, and organizational learning, which in turn affect the

[27]James M. Burns, **Leadership** (New York: Harper & Raw, 1978), 20.

[28]James M. Kouzes and Barry Z. Posner, **The Leadership Challenge** (San Francisco: Jossey-Bass, 1989), 166-171.

[29]Bernard M. Bass and Bruce J. Avolio, **Improving Organization Effectiveness Through Transformational Leadership** (Thousand Oaks: Sage Publication, 1994), 2-4.

[30]Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach, **Changing leadership for changing times** (Buckingham: Open University Press, 1999), 55-87.

outcomes.[31] Similarly, Fullan suggested that one of the factors which lead to changes is transformational leadership which consists of important elements: moral purpose, understanding change, relationship building, knowledge, and coherence making.[32]

School management in digital era is challenging for school directors. Lee and Gaffney, for instance, mentioned that school administrators who are willing to lead their schools and systems into the digital age need to develop their capability to meet the challenges associated with the development, use and investment in digital technology. They also suggested ten actions that educational leaders in schools might consider: (1) shaping and selecting digital technologies, (2) managing enthusiasm, (3) achieving digital integration, (4) balancing internal and external control, (5) managing risk, (6) securing school information assets, (7) managing information, (8) overseeing the technology and education direction, (9) networking with the home technology, and (10) financing the technology.[33] Chaemchoy suggested that school administrators need to understand the context of their schools' external environments, especially the context of technology, which considerably affect school management.[34] In order to make school management in digital era flexible and consistent with the goal of creating an innovative school, she also presented three dimensions of school management in digital era: (1) learning management, (2) school's human resource management, and (3) learning

---

[31]Kenneth Leithwood, "Leadership for School Restructuring," **Educational Administration Quarterly** 30, 4 (1994): 498-518, quoted in Wayne K. Hoy and Cecil G. Miskel, **Educational Administration: Theory, Research, and Practice**, 6th ed. (New York: McGraw-Hill, 2001), 417

[32]Michael Fullan, **Leading in a Culture of Change: Personal Action Guide and Workbook** (San Francisco: Jossey-Bass, 2004), 5-6.

[33]Mal Lee and Michael Gaffney, "Engagement with digital technology: new challenges for school and system leaders," in **Leading a digital school**, ed. Mal Lee and Michael Gaffney (Victoria: ACER Press, 2008), 40-49.

[34]Sukanya Chaemchoy, **School Management in Digital Era** (Bangkok: Chulalongkorn University Press, 2018), 9.

management support.[35] In the same way, Intaramanee mentioned that school management in digital era is to manage the four major divisions of a school: academic affairs administration, finance administration, personnel administration, and general administration by using ICT for efficiency and effectiveness of the school in both learning management and learning management support.[36] Similarly, Sunarto, Tyas, and Naibaho highlightied that effective school management in digital era is to prepare human resources who have thinking skills, have the competencies needed in the 21st century, and answer global needs. In order to manage a school in digital era efficiently and effective, the school administrator 1) can answer all challenges in the field of Information technology (IT) and has high literacy, as well as qualified in the cognitive, affective and psychomotor domains, 2) must be optimistic, confident, critical and positive thinking, and have interpersonal skills, 3) is a challenge and smart worker, 4) must be able to provide superior Human Resources (HR), resources and learning media that are always up to date, as well as supporting adequate facilities and infrastructure, and 5) must be able to create a conducive work atmosphere, build solid teamwork and a vast network.[37]

---

[35]ibid, 140-142.

[36]Sangob Intaramanee, "School Mangement in Digital Era," **UMT Poly Journal** 16, 1 (January – June 2019): 353.

[37]Sunarto, E. Handayani Tyas, and Lamhot Naibaho, "Effective School Management in Industrial Revolution Era 4.0," in **Proceeding of the 2nd Annual Conference on Blended Learning, Educational Technology and Innovation (ACBLETI 2020)**, Padang, Indonesia October 23-24, 2020 (Paris: Atlantis Press, 2021), 214-215.
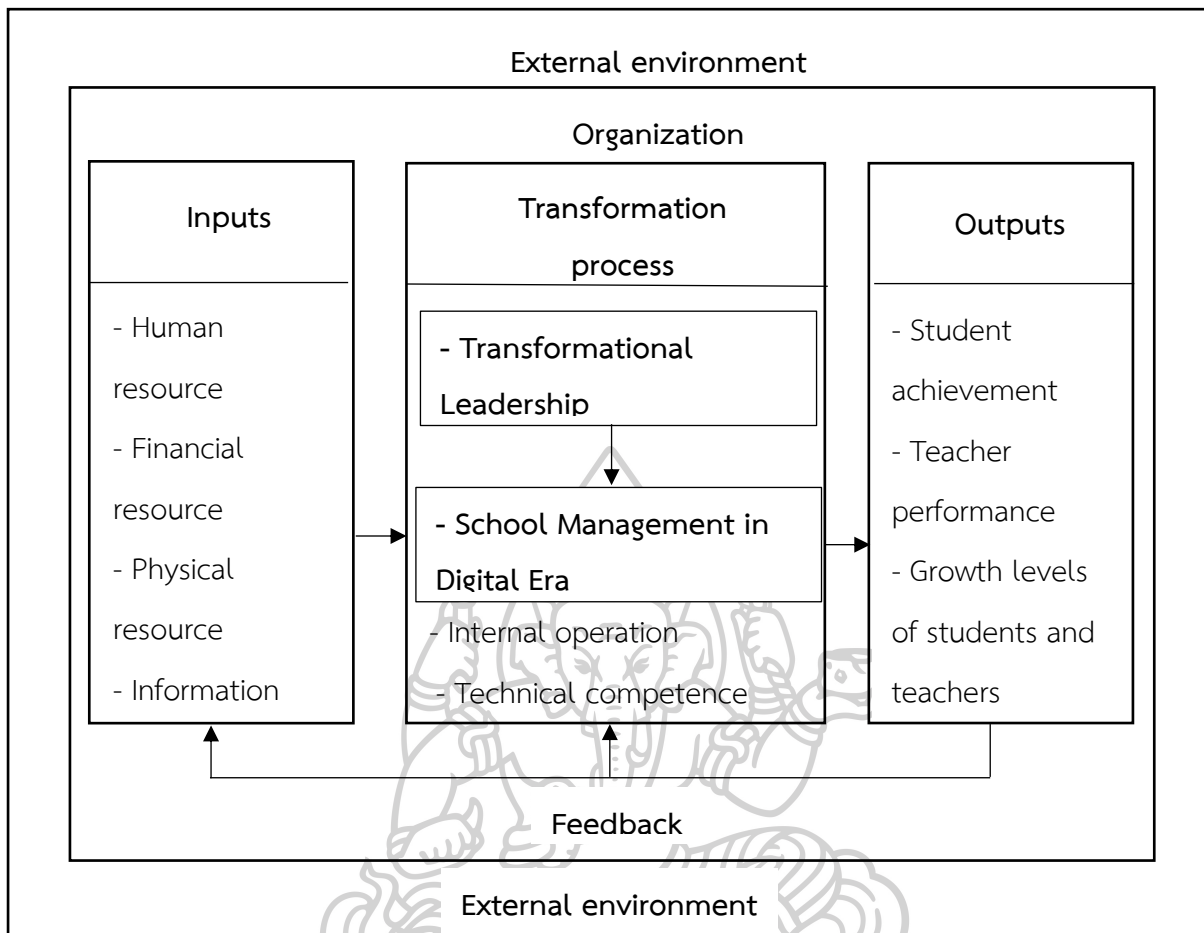
Figure 1 Theoretical framework

From:

Frederick C. Lunenburg and Allan Ornstein, **Educational Administration: Concepts and Practices**, 7th ed. (California: SAGE Publications, 2022). 23-25.

Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach, **Changing leadership for changing times** (Buckingham: Open University Press, 1999), 55-87.

Mal Lee and Michael Gaffney, "Engagement with digital technology: new challenges for school and system leaders," in **Leading a digital school**, ed. Mal Lee and Michael Gaffney (Victoria: ACER Press, 2008), 40-49.

Delimitations of the research

According to the conceptual framework, the researcher chose the theory of transformational leadership by Leithwood, Jantzi and Steinbach which is comprised of eight dimensions: building a shared vision, developing consensus about goals, creating high performance expectations, providing individualised support, creating intellectual stimulation, modelling important values and practices, culture building, and creating and maintaining shared decision-making structures and processes.[38] Also, after reviewing the concept of school management in digital era, the researcher chose Lee and Gaffney's concept of school management in digital era which presents the useful methods of school management in digital era which conclude shaping and selecting digital technologies, managing enthusiasm, achieving digital integration, balancing internal and external control, managing risk, securing school information assets, managing information, overseeing the technology and education direction, networking with the home technology, and financing the technology.[39] These data are used to be the scope of the study as shown in figure 2.

---
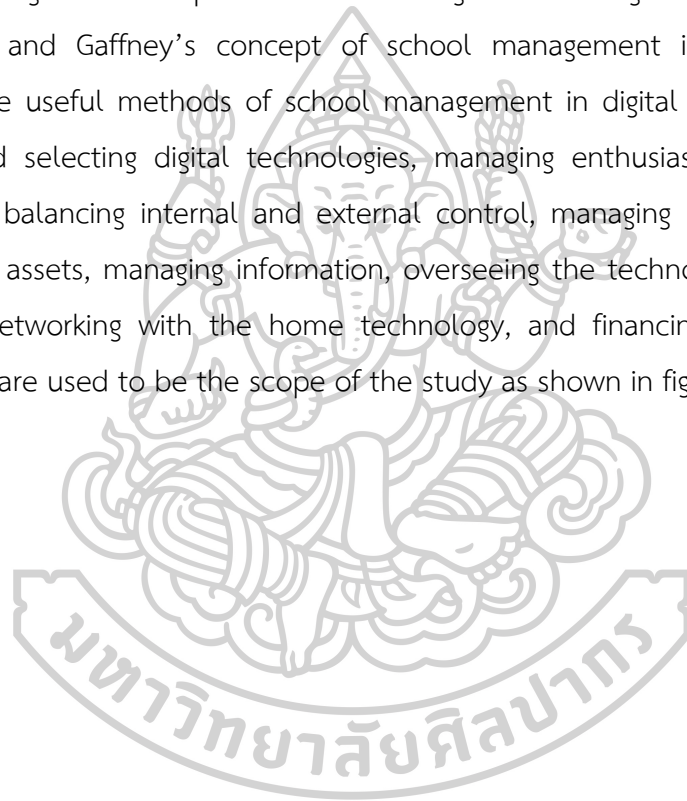
[38]Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach, **Changing leadership for changing times** (Buckingham: Open University Press, 1999), 55-87.

[39]Mal Lee and Michael Gaffney, "Engagement with digital technology: new challenges for school and system leaders," in **Leading a digital school**, ed. Mal Lee and Michael Gaffney (Camberwell Victoria: ACER Press, 2008), 40-49.

Transformational leadership (X_{tot})	School management in digital era (Y_{tot})
1. Building a shared vision (X_1) 2. Developing consensus about goals (X_2) 3. Creating high performance expectations (X_3) 4. Providing individualised support (X_4) 5. Creating intellectual stimulation (X_5) 6. Modelling important values and practices (X_6) 7. Culture building (X_7) 8. Creating and maintaining shared decision-making structures and processes (X_8)	1. Shaping and selecting digital technologies (Y_1) 2. Managing enthusiasm (Y_2) 3. Achieving digital integration (Y_3) 4. Balancing internal and external control (Y_4) 5. Managing risk (Y_5) 6. Securing school information assets (Y_6) 7. Managing information (Y_7) 8. Overseeing the technology and education direction (Y_8) 9. Networking with the home technology (Y_9) 10. Financing the technology (Y_{10})

Figure 2 Delimitations of the research

From:

Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach, **Changing leadership for changing times** (Buckingham: Open University Press, 1999), 55-87.

Mal Lee and Michael Gaffney, "Engagement with digital technology: new challenges for school and system leaders," in **Leading a digital school**, ed. Mal Lee and Michael Gaffney (Camberwell Victoria: ACER Press, 2008), 40-49.

Definition of terms

       Transformational leadership is a process whereby a person engages with others and creates a connection that raises the level of motivation and morality in both the leader and the follower. The process of the transformational leadership is comprised of 1) building a shared vision, 2) developing consensus about goals, 3) creating high performance expectations, 4) providing individualised support, 5) creating intellectual stimulation, 6) modelling important values and practices, 7) culture building, and 8) creating and maintaining shared decision-making structures and processes.

       School management in digital era is a process of a school administrator in developing the school's four main dimensions: academic affair, finance, personnel, and general administration to achieve its goals in the era in which technology and changes affect the school management. The school management in digital era consists of 1) shaping and selecting digital technologies, 2) managing enthusiasm, 3) achieving digital integration, 4) balancing internal and external control, 5) managing risk, 6) securing school information assets, 7) managing information, 8) overseeing the technology and education direction, 9) networking with the home technology, and 10) financing the technology.

       Schools under The Secondary Educational Service Area Office Kanchanaburi are 29 secondary schools under Office of the Basic Education Commission which are located in Kanchanaburi province.

Chapter II
Review of related literature

The research entitled "Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi" had gradually been gathered and synthesized from various concepts, theories, documentaries concerned and related researches. This chapter covered the main concepts of Transformational Leadership, School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi, and related studies as below.

Transformational Leadership

Definitions of transformational Leadership

The term transformational leadership was first coined by Downton (1973). Its emergence as an important approach to leadership began with a classic work by political sociologist Burns titled Leadership (1978). In his work, Burns attempted to link the roles of leadership and followership. He wrote of leaders as people who tap the motives of followers in order to better reach the goal of leaders and followers. For Burns, leadership is quite different from power because it is inseparable from followers' needs.[40] One of the current and most popular approaches to leadership that has been the focus of much research since the early 1980s is the transformational approach.[41] Regarding the review, the literature offers varying interpretations of the concept of transformational leadership as follows.

Northouse stated that transformational leadership is a process that changes and transforms people. It is concerned with emotions, values, ethics, standards, and long-term goals. It includes assessing followers' motives, satisfying their needs, and

---

[40]Peter G. Northouse, **Leadership: theory and practice**, 7th ed. (London: Ashford Colour Press, 2015), 162.

[41]ibid, 161.

treating them as full human beings. Transformational leadership involves an exceptional form of influence that moves followers to accomplish more than what is usually expected of them.[42]

Leithwood, Jantzi, and Steinbach suggested that transformational leadership assumes that the central focus of leadership ought to be the commitments and capacities of organisational members. Higher levels of personal commitment to organizational goals and greater capacities for accomplishing those goals are assumed to result in extra effort and greater productivity. Authority and influence are not necessarily allocated to those occupying formal administrative positions, although much of the literature adopts their perspective. Rather, power is attributed by organization members to whomever is able to inspire their commitments to collective aspirations and the desire for personal and collective mastery of the capacities needed to accomplish such aspirations.[43]

Kouzes and Posner suggested that transformational Leadership does not depend on a position but experience about practices and behaviours which will lead the leaders to achieve their goals. The transformational leader should 1) model the way, 2) inspire a shared vision, 3) challenge the process, 4) enable others to act, and 5) encourage the heart.[44]

Bass mentioned that transformational leadership refers to the leader moving the follower beyond immediate self-interests through idealized influence (charisma), inspiration, intellectual stimulation, or individualized consideration. It elevates the followers' level of maturity and ideals as well as concerns for achievement, self-actualization, and the well-being of others, the organization, and

---

[42]ibid, 161.

[43]Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach, **Changing leadership for changing times** (Buckingham: Open University Press, 1999), 9.

[44]James M. Kouzes and Barry Z. Posner, **The Leadership Challenge** (San Francisco: Jossey – Bass, 2002), 166-171.

society.[45] He also argued that transformational leadership motivates followers to do more than expected by 1) raising followers' levels of consciousness about the importance and value of specified and idealized goals, 2) getting followers to transcend their own self-interest for the sake of the team or organization, and 3) moving followers to address higher-level needs.[46]

Bass and Avolio stated transformational leadership is the new leadership that must accompany good management but goes beyond the importance of leaders simply getting the work done with their followers and maintaining quality relationships with them. Transformational leadership is seen when leaders stimulate interest among colleagues and followers to view their work from new perspectives, generate awareness of the mission or vision of the team and organization, develop colleagues and followers to higher levels of ability and potential, and motivate colleagues and followers to look beyond their own interests toward those that will benefit the group.[47]

Yukl and Gardner highlighted that transformational leadership describes how effective leaders inspire and transform followers by appealing to their ideals and emotions. Transforming leadership appeals to the moral values of followers in an attempt to raise their consciousness about ethical issues and to mobilize their energy and resources to reform institutions. With transformational leadership, the followers feel trust, admiration, loyalty, and respect toward the leader, and they are motivated to do more than they originally expected to do. The leader transforms and motivates followers by (1) making them more aware of the importance of task outcomes, (2)

---

[45]Bernard M. Bass, "Two Decades of Research and Development in Transformational Leadership," **European Journal of Work and Organizational Psychology** 8, 1 (March 1999): 11.

[46]Bernard M. Bass, **Leadership and performance beyond expectation** (New York: Free Press, 1985), 20.

[47]Bernard M. Bass and Bruce J. Avolio, **Improving Organization Effectiveness Through Transformational Leadership** (California: Sage Puplications, 1994), 1-2.

inducing them to transcend their own self-interest for the sake of the organisation or team, and (3) activating their higher-order needs.[48]

In conclusion, transformational leadership is the process whereby a person engages with others and creates a connection that raises the level of motivation and morality in both the leader and the follower. The process of the transformational leadership is comprised of 1) building a shared vision, 2) developing consensus about goals, 3) creating high performance expectations, 4) providing individualised support, 5) creating intellectual stimulation, 6) modelling important values and practices, 7) culture building, and 8) creating and maintaining shared decision-making structures and process.

Theories and concepts of Transformational Leadership

In 1973 Downton's study of rebel leadership is often cited as the beginning of systematic inquiry about transformational leadership in non-school organizations. However, charisma, often considered an integral part of transformational leadership, has substantially more distant origins – typically attributed to Max Weber's efforts almost five decades ago.[49]

Burn's prize-winning book in 1978 first drew widespread attention to ideas explicitly associated with transformational leadership. Based on a sweeping historical analysis, Burns argued that most understanding of leadership not only overemphasized the role of power but held a faulty view of it as well. He also claimed that two vital aspects of power – motives or purposes and resources – each possessed not only by those exercising leadership but also by those experiencing it. The essence of leadership is to be found in the relationships between motives,

---

[48]Gary Yukl and William L. Gardner, III, **Leadership in Organizations**, 9th ed. (Boston: Pearson Education, 2020), 235.

[49]Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach, **Changing leadership for changing times** (Buckingham: Open University Press, 1999), 27.

resources, leaders, and followers: 'the most powerful influences consist of deeply human relationship in which two or more persons engage with one another'.[50]

House, in 1976, published a theory of charismatic leadership and, since then, it has obtained a great deal of attention by researchers. It is often described in ways that make it similar to, if no synonymous with, transformational leadership. His charismatic theory has been extended and revised for years and one major revision of the theory was made by Shamir, House and Arthur in the book The Motivational Effects of Charismatic Leadership: A Self-Concept Based Theory in 1993. They postulated that charismatic leadership transforms followers' self-concepts and tries to link the identity of followers to the collective identity of the organization Charismatic leaders forge this link by emphasizing the intrinsic reward of work and deemphasizing the extrinsic rewards. The hope is that followers will view work as an expression of themselves. Throughout the process, leaders express high expectations for followers and help them gain a sense of confidence and self-efficacy. In summary, charismatic leadership works because it ties followers and their self-concepts to the organizational identity.[51]

In the mid-1980s, Bass provided a more expanded and refined version of transformational leadership that was based on, but not fully consistent with, the prior works of Burns and Houses. In his approach, Bass extended Burns' work by giving more attention to followers' rather than leaders' needs, by suggesting that transformational leadership could apply to situations in which the outcomes were not positive, and by describing transactional and transformational leadership as a single continuum rather than mutually independent continua. Bass also extended House's work by giving more attention to the emotional elements and origins of charisma and by suggesting that charisma is a necessary but not sufficient condition for transformational leadership.[52]

---

[50]James M. Burns, **Leadership** (New York: Harper & Raw, 1978), 11.

[51]Peter G. Northouse, **Leadership: theory and practice**, 7th ed. (London: Ashford Colour Press, 2015), 164-165.

[52]ibid, 166.

The challenges of school restructuring have been cited as reasons for advocating a move from instructional to transformational forms of school leadership. Included among these challenges are, for example, high degrees of uncertainty about educational ends and means; attention not only to changes in the core technology of schooling but also to the redesign of school organizations in support of these changes; a focus on the relatively large and pedagogically complex secondary school organization; and a desire to professionalize teaching by allocating to teachers, themselves, the responsibility for providing instructional leadership to their peers.

Transformational forms of leadership are well suited to such challenges because of their potential for building high levels of commitment to the complex and uncertain nature of the restructuring agenda, and for fostering growth in the capacities school staffs must develop to respond productively to this agenda.[53]

As its name implies, transformational leadership is a process that transforms or changes people. The term transformational leadership has appeared with increasing frequency in writings about education since the late 1980s.[54] Many theories and concepts about transformation leadership have been presented.

---

[53]Doris Jantzi and Kenneth Leithwood, "Toward an Explanation of How Teachers' Perceptions of Transformational School Leadership are Formed" (paper presented at The Annual Meeting of the American Educational Research Association, San Francisco, CA, April 18-22, 1995).

[54]Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach, **Changing leadership for changing times** (Buckingham: Open University Press, 1999), 27.

1. Bass' Transformational Leadership

Bass stated that transformational leadership motivates followers to do more than expected by 1) raising followers' levels of consciousness about the significance and value of specified and idealised goals, 2) getting followers to transcend their own self-interest for the benefit of the team or organisation, and 3) moving followers to address high-level needs.[55]

He also presented two types of leadership which are 1) transactional leadership and 2) transformational leadership which are linked to each other. Leaders will use transformational leadership to develop followers' needs to be continuously higher than transactional leadership, which focus on the exchanges that occur between leaders and their followers. In order to apply these two types of leadership, leaders may use their different experiences. Besides, Bass suggested that transformational leadership results in efficiency more than transactional leadership. Transactional leadership, in Bass' view, particularly focuses on management or exchanges between leaders and their colleagues and followers based on the agreements between them and the rewards that the colleagues and followers will receive after they achieve the goals. However, transformational leadership focuses on improving the performance of followers and developing followers to achieve accomplish their purposes. Bass also added that transformational leadership is different from transactional leadership, but they are not totally separated. A leader may use both transformational and transactional leaderships circumstantially.[56]

2. Jantzi and Leithwood's Transformational Leadership

Jantzi and Leithwood presented six dimensions of transformational leadership by aiming at adapting, for schools, models of transformational leadership developed in non-school contexts. The six dimensions of Jantzi and Leithwood consist of 1) Identifying and Articulating a Vision; behaviour on the part of the leader aimed at identifying new opportunities for his or her school, and developing, articulating, and

---

[55]Bernard M. Bass, **Leadership and performance beyond expectations** (New York: Free Press, 1985), 20.

[56]ibid, 123-125.

inspiring others with his or her vision of the future, 2) Fostering the Acceptance of Group Goals; behaviour on the part of the leader aimed at promoting cooperation among staff and assisting them to work together toward common goals, 3) Providing Individualized Support; behaviour on the part of the leader that indicates respect for staff and concern about their personal feelings and needs, 4) Intellectual Stimulation; behaviour on the part of the leader that challenges staff to re-examine some of the assumptions about their work and rethink how it can be performed, 5) Providing an Appropriate Model; behaviour on the part of the leader that sets an example for staff to follow consistent with the values the leader espouses, and 6) High Performance Expectations; behaviour that demonstrates the leader's expectations excellence, quality, and high performance on the part of staff.

Premised on this conception of school leadership, the study inquired about not only influences on teachers' overall perceptions of principals' transformational leadership, but also influences on their perceptions of the six leadership dimensions considered separately.[57]

3. Leithwood, Jantzi and Steinbach's Transformational Leadership

Leithwood, Jantzi and Steinbach stated that the central focus of transformational leadership should be the commitments and capacities of organizational members. Higher levels of personal commitment to organizational goals and greater capacities for accomplishing those goals are assumed to result in extra effort and greater productivity. Authority and influence are not necessarily allocated to those occupying formal administrative positions. Rather, power is attributed by organization members to whomever is able to inspire their commitments to collective aspirations and the desire for personal and collective mastery or the capacities needed to accomplish such aspirations.[58]

---

[57]Doris Jantzi and Kenneth Leithwood, "Toward an Explanation of How Teachers' Perceptions of Transformational School Leadership are Formed" (paper presented at The Annual Meeting of the American Educational Research Association, San Francisco, CA, April 18-22, 1995).

[58]Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach, **Changing**

They stated that transformational approaches to leadership have significant indirect effects on teachers' perceptions of student effects as well as on other, more conventional student outcome measures. Their direct effects on student outcomes are modest but important. This approach to leadership is strongly related to satisfaction with the leader and positive perceptions of the leader's effectiveness. While it is also related to the willingness of organizational members to engage in extra effort, it is weakly or negatively associated with most aspects of organizational citizenship behaviour.[59]

They also offered eight dimensions of transformational leadership in schools: building a shared vision, developing consensus about goals, creating high performance expectations, providing individualised support, creating intellectual stimulation, modelling important values and practices, culture building, and creating and maintaining shared decision-making structures and processes as follows.

1) Building a shared vision is that transformational school leaders help to provide colleagues with an overall sense of purpose, initiate processes (retreats, and so on) that engage staff in the collective development of a shared vision, espouse a vision for the school but not in a way that pre-empts others from expressing their vision, excite colleagues with visions of what they may be able to accomplish if they work together to change their practices, help clarify the meaning of the school's vision in terms of its practical implications for programmes and instruction, assist staff in understanding the relationship between external initiatives for change and the school's vision, assist staff in understanding the larger social mission of which their vision of the school is a part, a social mission that may include such important end values as equality, justice and integrity, and use all available opportunities to communicate the school's vision to staff, students, parents and other members of the school community.

2) Developing consensus about goals is that transformational school leaders

---

leadership for changing times (Buckingham: Open University Press, 1999), 9.

[59]ibid, 38.

provide staff with a process through which to establish school goals and to regularly review those goals; this is likely to be a 'problem-solving' process and to include careful diagnosis of the school's context, expect teams of teachers (for example, departments) and individuals to regularly engage in goal setting and reviewing progress toward those goals, assist staff in developing consistency between school visions and both group and individual goals, work towards the development of consensus about school and group goals and the priority to be awarded such goals, frequently refer to school goals and makes explicit use of them when decisions are being made about changes in the school, encourage teachers, as part of goal setting, to establish and review individual professional growth goals, have ongoing discussions with individual teachers about their professional growth goals, clearly acknowledge the compatibility of teachers' and school's goals when such is the case, express one's own views about school goals and priorities, and act as an important resource in helping colleagues achieve their individual and school goals.

3) Creating high performance expectations is that transformational school leaders expect staff to be innovative, hard-working and professional; these qualities are included among the criteria used in hiring staff, demonstrate an unflagging often espouses norms of excellence and quality of service, do not accept second-rate performance from anyone, establish flexible boundaries for what people do, thus permit freedom of judgement and action within the context of overall school goals and plans, and are clear about one's own views of what is right and good.

4) Providing individualized support is that transformational school leaders that everyone equally; not showing favouritism towards individuals or groups, have an 'open-door' policy, are approachable, accessible and welcoming, protect teachers from excessive intrusions on their classroom work, give personal attention to colleagues who seem neglected by others, are thoughtful about the personal needs of staff, encourage individual staff members to try new practices consistent with their interests, respond positively to staff members' initiatives for change as often as possible, provide money for professional development and other needed resources in support of changes agreed on by staff as often as possible, provide coaching for

those staff members who need it, get to know individual teachers well enough to understand their problems and to be aware of their particular skills and interests and listens fully to staff's ideas, have the 'pulse' of the school and builds on the individual interests of teachers, often as the starting point for school change, provide recognition for staff work in the form of individual praise or 'pats on the back', are specific about what is being praised as 'good work', offer personal encouragement to individuals for good performance, demonstrate confidence in colleagues' ability to perform at their best, follow through on decisions made jointly with legitimate cautions about proceeding quickly toward implementing new practices, thus demonstrate sensitivity to the real problems of implementation faced by teachers, take individual teachers' opinions into consideration when initiating actions that may affect their work, and instil, in staff, a sense of belonging to the school.

5) Creating intellectual stimulation is that transformational school leaders change those school norms that might constrain the thinking of staff by removing penalties for making mistakes as part of efforts toward professional and school improvement; embracing and sometimes generating conflict as a way of clarifying alternative courses of action available to the school; requiring colleagues to support opinions with good reasons; insisting on careful thought before action, challenge the status quo by directly challenging the basic assumptions of staff about their work as well as unsubstantiated or questionable beliefs and practices; encouraging staff to evaluate their practices and refine them as needed; encouraging colleagues to re-examine some of their basic assumptions about their work; determining the problems inherent in the way things are; stimulating colleagues to think more deeply about what they are doing for their students, encourage new initiatives by encouraging staff to try new practices without using pressure, encouraging staff to pursue their own goals for professional learning, helping staff to make personal sense of change; providing the necessary resources to support staff participation in change initiatives, and bring their colleagues into contact with new ideas by stimulating the search for and discussion of new ideas and information relevant to school directions; seeking out new ideas by visiting other schools, attending conferences and passing

on these new ideas to staff; inviting teachers to share their expertise with their colleagues; consistently seeking out and communicating productive activities taking place within the school; providing information helpful to staff in thinking of ways to implement new practices.

6) Modelling important values and practices is that transformational school leaders act as a role model, leading by doing rather than only by telling. Some of these practices model the transformational leader's general commitment to the school organization: becoming involved in all aspects of school activity; working alongside teachers to plan special events; displaying energy and enthusiasm for own work. Other practices model commitment to professional growth: responding constructively to unrequested feedback about one's leadership practices; requesting feedback from staff about one's work; demonstrating a willingness to change one's practices in light of new understandings. Yet other practices seem intended to enhance the quality of both group and individual problem-solving processes: demonstrating, through school decision-making processes, the value of examining problems from multiple perspectives; modelling problem-solving techniques that others can adapt for their own work. Finally, transformational school leaders also engage in practices intended to reinforce key values: the basic values of respect for others; trust in the judgement of one's colleagues; integrity; and even the instrumental value of punctuality.

7) Culture building is that transformational school leaders develop school norms, beliefs, values and assumptions that are student-centred and support continuing professional growth by teachers. Also, the transformational school leaders encourage collaborative problem solving when that is likely to be profitable. They have the potential to enhance teachers' motivation to change through their influence on teachers' beliefs about the social support available to them in their school ('We're all in this together'); they may be motivational, as well, through enhanced self-efficacy resulting from the professional growth fostered by close working relationships with peers.

8) Creating and maintaining shared decision-making structures and processes is that transformational school leaders provide both informal and formal opportunities for members of the school to participate in decision making about issues that affect them and about which their knowledge is crucial. Moreover, the transformational school leaders create discretion and autonomy for teachers to use their expertise to greatest effect. Empowering teachers in these ways contributes to their motivation to change by enhancing beliefs about the extent to which their working context will support their best efforts to implement new practices in their classrooms and schools.[60]

The nature, strength and form of a school's professional culture play a large part in its contribution to students, and transformational school leaders have many ways of influencing that culture – some direct, others indirect. Transformative leaders seek to create a context in which organizational members are motivated by what they consider to be a moral imperative. This imperative is to collaborate with their colleagues and other stakeholders in providing students with the best educational experiences of which they are capable.[61]

4. Kouzes and Posner's Transformational Leadership

Kouzes and Posner suggested that leadership is not at all about personality; it is about practice. They, after looking deeper into the dynamic process of leadership though analyses and survey questionnaires, uncovered five practices common to personal-best leadership experiences which are important components of transformational leadership. When getting extraordinary things done in organizations, leaders engage in these five practices of exemplary leadership as follows.

1) Model the way. To model the way, leaders need to be clear about their own values and philosophy. They need to find their own voice and express it to others. Exemplary leaders set a personal example for others by their own behaviours. They also follow through on their promises and commitments and affirm the common values they share with others.

---

[60]ibid, 56-87.

[61]ibid, 96.

2) Inspire a shared vision. Effective leaders create compelling visions that can guide people's behaviour. They are able to visualise positive outcomes in the future and communicate them to others. Leaders also listen to the visions and dreams of others and show them how their visions and dreams can be realized. Through inspiring visions, leaders challenge others to transcend the status quo to do something for others.

3) Challenge the process. Challenging the process means being willing to change the status quo and step into the unknown. It includes being willing to innovate, grow, and improve. Exemplary leaders are like pioneers as they want to experiment and try new things. They are willing to take risks to make things better. When exemplary take risks, they do it one step at a time, learning their mistakes as they go.

4) Enable others to act. Outstanding leaders are effective at working with people. They build trust with others and promote collaboration. Teamwork and cooperation are highly valued by these leaders. They listen closely to diverse viewpoints and treat others with dignity and respect. They also allow others to make choices, and they support the decisions that others make. To sum up, they generate environments where people can feel good about their work and how it contributes to the greater community.

5) Encourage the heart. Leaders encourage the heart by rewarding others for their achievements. It is natural for people to require support and recognition. Effective leaders are attentive to this need and are willing to give praise to followers for jobs well accomplished. They use authentic celebrations and rituals to show appreciation and encouragement to others. The outcome of this kind of support is greater collective identity and community spirit.[62]

---

[62]James M. Kouzes and Barry Z. Posner, **The Leadership Challenge**, 3rd ed. (San Francisco: Jossey-Bass, 2002), 13-20.

Kouzes and his colleagues stated that these practices are available to anyone, in any organization or situation and are not the accident of a special moment in history.[63]

5. Bass and Avolio's Transformational Leadership

Bass and Avolio suggested that transformational leadership must accompany good management but goes beyond the importance of leaders simply getting the work done with their followers and maintaining quality relationships with them. Transformational leadership is seen when leaders stimulate interest among colleagues and followers to view their work from new perspectives, generate awareness of the mission or vision of the team and organization, develop colleagues and followers to higher levels of ability and potential, and motivate colleagues and followers to look beyond their own interests toward those that will benefit the group. Transformational leaders motivate others to do more than they originally intended and often even more than they thought possible. They set more challenging expectations and typically achieve higher performances.

They also highlighted that transformational leadership is an expansion of transactional leadership. Transactional leadership emphasises the transaction or exchange that takes place among leaders, colleagues, and followers. This exchange is based on the leader discussion with others what is required and specifying the conditional and rewards these others will receive if they fulfil those requirements. Transformational leaders do more with colleagues and followers than set up simple exchanges or agreements. They behave in ways to achieve superior results by employing one or more of the "Four I's" as follows.

1) Idealized influence. Transformational leaders behave in ways that result in their being role models for their followers. The leaders are admired, respected, and trusted. Followers identify with the leaders and want to emulate them. Among the things the leader does to earn this credit is considering the needs of others over his or her own personal needs. The leader shares risks with followers and is consistent rather than arbitrary. He or she can be counted on to do the right thing,

---

[63]ibid, 96.

demonstrating high standards of ethical and moral conduct. He or she avoids using power for personal gain and only when needed.

2) Inspirational motivation. Transformational leaders behave in ways that motivate and inspire those around them by providing meaning and challenge to their followers' work. Team spirit is aroused. Enthusiasm and optimism are displayed. The lead gets followers involved in envisioning attractive future states. The leader creates clearly communicated expectations that followers want to meet and also demonstrates commitment to goals and the shared vision.

3) Intellectual stimulation. Transformational leaders stimulate their followers' efforts to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways. Creativity is encouraged. There is no public criticism of individual members' mistakes. New ideas and creative problem solutions are solicited from followers, who are included in the process of addressing problems and finding solutions. Followers are encouraged to try new approaches, and their ideas are not criticized because they differ from the leaders' ideas.

4) Individualized consideration. Transformational leaders pay special attention to Each individual's needs for achievement and growth by acting as coach or mentor. Followers and colleagues are developed to successively higher levels of potential. Individualized consideration is practiced as follows: new learning opportunities are created along with supportive climate. Individual differences in terms of needs and desires are recognized. The leader's behaviour demonstrates acceptance of individual differences (e.g., some employees receive more encouragement, some more autonomy, others firmer standards, and still others more task structure). A two-way exchange in communication is encouraged, and 'management by walking around" work spaces is practiced. Interactions with followers are personalized (e.g the leader remembers previous conversations, is aware of individual concerns, and sees the individual as a whole person rather than as just an employee). The individually considerate leader listens effectively. The leader delegates tasks as a means of

developing followers. Delegated tasks are monitored to see if the followers need additional direction or support and to assess progress; ideally, followers do not feel they are being checked on.[64]

Practices of transformational leaders

Leaders are those people who 'walk ahead', people who are genuinely committed to deep change in themselves and in their organizations. They lead through developing new skills, capabilities, and understanding. And they come from many places within the organizations.[65]

Bennis and Nanus identified four common strategies used by leaders in transforming organizations. First, transforming leaders had a clear vision of the future state of their organizations. It was an image of an attractive, realistic, and believable future. The vision usually was simple, understandable, beneficial, and energy creating. The compelling nature of the vision touched the experiences of followers and pulled them into supporting the organization. Second, transforming leaders were social architects for their organizations. They created a shape or form for the shared meanings people maintained within their organizations. These leaders communicated a direction that transformed their organizations' values and norms. In many cases, these leaders were able to mobilise people to accept a new group identity or a new philosophy for their organizations. Third, transforming leaders created trust in their organizations by making their own positions clearly known and then standing by them. Trust has to do with being predictable or reliable, even in situations that are uncertain. For organizations, leaders built trust by articulating a direction and then

---

[64]Bernard M. Bass and Bruce J. Avolio, **Improving Organization Effectiveness Through Transformational Leadership** (California: Sage Publications, 1994), 1-4.

[65]Peter M. Senge, **Leading learning organizations: the bold, the powerful, and the Invisible** (Cambridge, Mass: Center for Organizational Learning, Massachusetts Institute of Technology, 1996), 45, quoted in Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach, **Changing Leadership for Changing Times** (Buckingham: Open University Press, 1999), 3.

consistently implementing the direction even though the vision may have involved a high degree of uncertainty. Fourth, transforming leaders used creative deployment of self through positive self-regard. Leaders knew their strengths and weaknesses, and they emphasised their strengths rather than dwelling on their weaknesses. Based on an awareness of their own competence, effective leaders were able to immerse themselves in their tasks and the oversearching goals of their organisations. They were able to fuse a sense of self with the work at hand. Warren Bennis and Nanus also found that positive self-regard in leaders had a reciprocal impact on followers, creating in impact on followers, creating in them feelings of confidence and high expectations.[66]

Kouzes and Posner determined five fundamental practices the enable leaders to get extraordinary things accomplished: model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart. First, to model the way, effective leaders need clarify their own values and philosophy. They need to find their own voice and express it to others. Exemplary leaders set a personal example for others by their own behaviours. They also follow through on their promises and commitments and affirm the common values they share with others. Second, to inspire a shared vision, outstanding leaders build compelling visions that can guide people's behaviour. They are able to visualise positive outcomes in the future and communicate them to others. Leaders also listen deeply to the dreams of others and show them how their dreams can be realised. Leaders must show others how they will be served by the long-term vision of the future, how their specific need can be satisfied. Through visions, leaders allow others to do something they find it challenging, meaningful, and purposeful. Third, to challenge the process, potential leaders are like pioneers who want to experiment and try new challenging things. They are willing to innovate, grow, and improve. They also try to take risks to make things better. When exemplary leaders take risks, they do it one step in a time,

---

[66]Warren G. Bennis and Burt Nanus, **Leaders: The strategies for taking charge** (New York: Harper & Row, 1985), quoted in Peter G. Northouse, **Leadership: theory and practice**, 7th ed. (London: Ashford Colour Press, 2015), 173.

learning from their mistakes as they go. The leaders people admire are ones who have the courage of their convictions. What's just as important to constituents as having leaders with values is have leaders who stand up for those beliefs during times of intense challenge and radical change. Fourth, to enable others to act, effective leaders build trust with others and promote collaboration. Teamwork and cooperation are highly important for these leaders. They listen closely to diverse viewpoints and treat others with respect and dignity. They also provide choices, and they support the decisions that others make. In brief, they create environments where people can feel comfortable with their work and how it contributes to the greater community. Fifth, to encourage the heart, leaders need to listen to others sincerely and understand what they need. Effective leaders encourage others by rewarding them creatively for their accomplishments. It is common for people to need support and recognition. Therefore, leaders need to be attentive to this need and willing to give praise to workers who achieve their production objectives. They use authentic celebrations to show sincere appreciation and encouragement to others.[67]

Northouse stated that transformational leaders set out to empower followers and nurture them in change. They attempt to raise the consciousness in individuals and to get them to transcend their own self-interests for the sake of others. To create change, transformational leaders become strong role models for their followers. They are confident, competent, and articulate, and they express strong ideals. They listen to followers and are not intolerant of opposing viewpoints. A spirit of cooperation often develops between these leaders and their followers. Followers want to emulate transformational leaders because they learn to trust them and believe in the ideas for which they stand. It is common for transformational leaders to create a vision. The vision emerges from the collective interests of various individuals and units in an organization. The vision is a focal point for transformational leadership. It gives the leader and the organisation a conceptual

---

[67]James M. Kouzes and Barry Z. Posner, **The Leadership Challenge**, 3rd ed. (San Francisco: Jossey-Bass, 2002), 43-380.

map for where the organisation is headed; it gives meaning and clarifies the organisation's identity. The transformational approach also requires that leaders become social architects. This means that they make clear the emerging values and norms of the organization. They involve themselves in the culture of the organization and help shape its meaning. Transformational leaders are out front in interpreting and shaping for organizations the shared meanings that exist within them. Through the process, transformational leaders are effective at working with people. They build trust and foster collaboration with others. Transformational leaders encourage others and celebrate their accomplishments.[68]

Salaman emphasised that new leaders contribute qualities to organizations that are seriously different from, even opposed to, the inherent features of organization (passion, energy, innovation, enterprise, etc.). They transform organizations and so rid them of their obstructive elements (regulation, standardisation, bureaucracy, etc.). They also represent the interests and values of owners and the marketplace within the organization. The emphasis on leadership as a solution to the alleged dysfunctionalities of organizations essentially regards organizations as inherently obstructive and opposed to the behaviours required to be successful within a market-place – affinity with the pre-occupation with shareholder value which is the central objective and key performance metric of the dominant business model – and so sees the solution to this dilemma in the iconoclastic market-oriented regimes of the new leader.[69]

Yukl and Gardner stated that transformational leaders appeal to the moral values of followers in an attempt to raise their consciousness about ethical issues and to mobilise their energy and resources to reform institutions. They transform and motivate followers by (1) making them more aware of the importance of task

---

[68]Peter G. Northouse, **Leadership: theory and practice**, 7th ed. (London: Ashford Colour Press, 2015), 175-176.

[69]Graeme Salaman, "The new corporate leadership," in **Leadership in organizations : current issues and key trends**, ed. John Storey (New York, NY: Routledge, 2016), 55.

outcomes, (2) inducing them to transcend their own self-interest for the sake of the organization or team, and (3) activating their and (3) activating their higher-order needs.[70]

In summary, effective transformational leaders have fundamental practices in transforming organizations by (1) have a clear vision of the future state of the organization, (2) are like pioneers who want to experiment and try new challenging things, (3) make followers more aware of the importance of task outcomes, (4) build trust and foster collaboration with followers, (5) listen to followers and are not intolerant of opposing viewpoints, (6) raise the consciousness in individuals and get them to transcend their own self-interests for the sake of others, (7) encourage others and celebrate their accomplishments, and (8) transform the organization and contribute qualities to it.

School Management in Digital Era

Definitions of School Management in Digital Era

Due to the turbulence of today's world, school management in digital era has been widely mentioned. To navigate the challenges of school management in this era, school administrators need to shift their mindsets. The field of management is undergoing a revolution that asks managers to do more with less, to engage whole employees, to see change rather than stability as the nature of things, and to create vision and cultural values that allow people to create a truly collaborative workplace.[71] The existence of educational institutions, ranging from basic education to higher education, has a very important role as a starting point of change and transformation towards better development in a country especially in the digital

---

[70]Gary Yukl and William L. Gardner, III, **Leadership in Organizations**, 9th ed. (Boston: Pearson Education, 2020), 235.

[71]Richard L. Daft, **The New Era of Management** (Ohio: Thomson/South-Western, 2006), 6.

era.[72] School management in digital era is the management of educational change and management of educational technology simultaneously, among the changes of the environment both inside and outside schools that could not be stopped. Key issues in educational change management include creating a culture that is conductive to educational change, managing educational knowledge in digital era and working in a network.[73] Regarding the review, the literature offers varying interpretations of the concept of school management in digital era as the following.

Murphy and Forsyth stated that educational administration has been in the throes of considerable turmoil that appears to be accompanying the shift from a scientific to a post scientific era in school administration. As was true in preceding periods of major transition in the profession, the present ferment is being fuelled by devastating attacks on the current state of preparation programmes, critical analysis of practicing school administrators, and references to alternative visions of what programmes should become.[74]

Lee and Gaffney mentioned that leading a digital school involves taking a school from the traditional paper-based to a digitally based operational paradigm. Along the way leaders will undoubtedly be obliged to work with a model that blends the paper-based with the digital, the old and the new. Leading schools and education systems to provide students with learning opportunities appropriate for the twenty-first century through taking advantaged of digital technologies can be immensely exciting and professionally gratifying.[75]

---

[72]Nani Sutarni and others, "Change Management of Education Institutional in the Digital Era," **International Journal of Advanced Science and Technology** 29, 5 (2020): 11959.

[73]Sangob Intaramanee, "School Mangement in Digital Era," **UMT Poly Journal** 16, 1 (January – June 2019): 353.

[74]Joseph Murphy and Patrick B Forsyth, **Educational administration: A decade of reform** (California: Corwin Press, 1999), 3.

[75]Mal Lee and Michael Gaffney, "Leading schools in a digital era," in **Leading**

Allen suggested that school management is to co-ordinate the various activities of the units for goal achievement. Management in school entails working with and through teachers, non-teaching staff and pupils or students to have things done effectively. School management has its attention primarily on the school. It is more concerned with the institution, its goals, policies and execution of these policies. In school management, the primary purpose has to do with the improvement of teaching and learning, and all the activities of the school. The functions of management in school are performed by the school's heads known as the school managers.[76]

Altınay, Dagli and Altınay mentioned that school management in digital era is an umbrella of facilitating learning and teaching; therefore, role of digital transformation in school management is an intensified need to underlined. In establishing school culture, school management plays an essential role that digital transformation effects the school management and culture for the quality in education.[77]

Wiruchnipawan stated that management in digital era is to serve people or provide convenience and services to the public including, probably less or more, these ten aspects: people, professionalism, dependability, democracy, initiative, improvement, convenience, coordination network, technology, and teamwork.[78]

---

a digital school, ed. Mal Lee and Michael Gaffney (Camberwell Victoria: ACER Press, 2008), 12-13.

[76]Allen A. Agih, "Effective School Management and Supervision: Imperative for Quality Education Service Delivery," **An International Multidisciplinary Journal, Ethiopia** 9, 3 (July 2015): 63.

[77]Fahriye Altınay, Gokmen Dagli, and Zehra Altınay, "Digital Transformation in School Management and Culture," in **Virtual Learning**, ed. Dragan Cvetkovic (Rijeka: InTech, 2016), 37.

[78]Wiruch Wiruchnipawan, **Digital Era Administration** (Bangkok: N4 Proprint, 2018), 125-126.

Chaemchoy suggested that school management in digital era is to manage the school with the consideration of these three practices: setting direction, developing people, and redesigning the organisation to meet changing demand. Besides, before sharing or using the three practices with teachers, school administrators must accept and bring them to use in their lives first. Making teachers in schools accept technologies, innovations, and changes is a significant mission of school administrators.[79] It is necessary that school administrators who are in charge of managing schools in digital era be able to manage educational changes and technology in their schools.[80]

Intaramanee defined School Administration in Digital Era as management of the school's four dimensions: academic affair, finance, personnel, and general administration using information and communication technology to manage the school efficiently and effectively in both learning management and learning management support to be the quality school in the 21th century.[81]

Sunarto, Tyas, and Naibaho mentioned that effective school management in digital era is to prepare human resources who have thinking skills, have the competencies needed in the 21st century, and answer global needs. Managing schools in digital era is far different from conventional ways of managing schools. A 'sure' strategy is needed to be able to continue to exist in this fast-paced era, and the words efficient and effective must be internalised in the hearts of every school citizen.[82]

---

[79]Sukanya Chaemchoy, **School Management in Digital Era** (Bangkok: Chulalongkorn University Press, 2018), 41.

[80]ibid, 4.

[81]Sangob Intaramanee, "School Management in Digital Era," **UMT Poly Journal** 16, 1 (January – June 2019): 357.

[82]Sunarto, E. Handayani Tyas, and Lamhot Naibaho, "Effective School Management in Industrial Revolution Era 4.0," in **Proceeding of the 2nd Annual Conference on Blended Learning, Educational Technology and Innovation**

In summary, school management in digital era is is a process of a school administrator in developing the school's four main dimensions: academic affair, finance, personnel, and general administration to achieve its goals in the era in which technology and changes affect the school management. The school management in digital era consists of 1) shaping and selecting digital technologies, 2) managing enthusiasm, 3) achieving digital integration, 4) balancing internal and external control, 5) managing risk, 6) securing school information assets, 7) managing information, 8) overseeing the technology and education direction, 9) networking with the home technology, and 10) financing the technology.

Schools in Digital Era

Today, public schools are in crisis with various sectors of society questioning their performance and ability to provide the quality of education needed to maintain the nation's pre-eminence in the world economy.[83] Therefore, schools must provide professional educators, presenting up to date teaching materials and fun learning. Simultaneously, the education staff is qualified incomplete administration, library and laboratory governance, facilities and infrastructure that meet standards. A reputable school has links with partner schools, inside and outside the country.[84]

(ACBLETI 2020), Padang, Indonesia October 23-24, 2020 (Paris: Atlantis Press, 2021), 214-215.

[83]Saran Donahoo and Richard C. Hunter, "Introduction: Teaching Leaders to Lead Teachers: Educational Administration in The Era of Constant Crisis," in **Teaching Leaders to Lead Teachers: Educational Administration in The Era of Constant Crisis**, ed. Saran Donahoo and Richard C. Hunter (Oxford: JAI Press, 2007), 1.

[84]Sunarto, E. Handayani Tyas, and Lamhot Naibaho, "Effective School Management in Industrial Revolution Era 4.0," in **Proceeding of the 2nd Annual Conference on Blended Learning, Educational Technology and Innovation (ACBLETI 2020)**, Padang, Indonesia October 23-24, 2020 (Paris: Atlantis Press, 2021), 212.

Chamchoy highlighted that schools in digital era have to deal with both internal and external environments that affect schools. Internal factors that challenge schools are (1) students in digital era, (2) learning in digital era, (3) teachers in digital era, and (4) technology and innovation in digital era. External factors affecting schools in digital era are Thailand 4.0, Education 4.0, and digital era.[85]

Bagul, comparing schools in the digital era of the current generation with ones of the previous generation, stated that technology plays an important role in the education. Today's generation is more literate, and highly uses technology useful for education. The increase in literacy rates and recent technological advancements have led to the growth of educational technology. Millennials make maximum use of limited technology to learn in the classroom, while Generation Z begins to use new technologies related to their education and invest in learning. Consequently, technology is the most important part of education today and every teacher must apply this technology to learn students in and outside the classroom.[86]

Sutarni and others suggested that to achieve the goals in this very digital era, the educational institutions have to involve in the change management. Various challenges faced by educational institutions from the community in general as well as demands from policies and educational stakeholders require institutions to adjust themselves through a management with a focus on changes in various important components in the institution. All components of education in the institution need to be managed efficiently and effectively so that the institution can continue to adapt to change.[87]

---

[85]Sukanya Chaemchoy, **School Management in Digital Era** (Bangkok: Chulalongkorn University Press, 2018), 9-33.

[86]Bagul M.M., "Education by the Application of Technology in Digital Era," in **Developing the Next Generation Learners in This Digital Era**, ed. P. Suresh Prabu (North Carolina: Lulu Publication, 2020), 1.

[87]Nani Sutarni and others, "Change Management of Education Institutional in the Digital Era," **International Journal of Advanced Science and Technology** 29, 5 (2020): 11960.

In the same way, Sunarto, Tyas, and Naibaho mentioned that schools in the fast-paced era, in which knowledge is easily gained quickly, must be able to adjust to changes that occur in all lines (industry, trade, services, technology, etc.). Changes continue to occur and will always continue to impact the development of the school world. There needs to be an increase in the ability of schools to face increasing competition and challenges.[88]

To sum up, schools in digital era are institutions for students that are facing internal and external challenges in the era of changes of students, ways of learning, teachers, and technology and innovation.

Concepts of School Management in Digital Era

The digital era has stimulated various changes and transformations in almost all sectors of life, including in educational institutions.[89] School management in this era is to enable administrators, teachers, and all the stakeholders to work as a team in order to accomplish the desired goals of the school. The school administrator is the person responsible for coordinating the activities of the school, using resources at the disposal in such a way that the school's objectives are achieved. He is essentially an organiser and implementer of plans, policies and programmes meant for specific educational objectives.[90] Many concepts about school management in digital era have been recently stated.

---

[88]Sunarto, E. Handayani Tyas, and Lamhot Naibaho, "Effective School Management in Industrial Revolution Era 4.0," in **Proceeding of the 2nd Annual Conference on Blended Learning, Educational Technology and Innovation (ACBLETI 2020)**, Padang, Indonesia October 23-24, 2020 (Paris: Atlantis Press, 2021), 212.

[89]Nani Sutarni and others, "Change Management of Education Institutional in the Digital Era," **International Journal of Advanced Science and Technology** 29, 5 (2020): 11959.

[90]Allen A. Agih, "Effective School Management and Supervision: Imperative for

Lee and Gaffney stated that principals not only need to have a general understanding of the digital technology infrastructure in their school, but also provide effective oversight of how that technology is being used in classrooms to support teaching and learning; in school administration to manage information; and with parents, the school community, the system, other schools, governments and outside agencies to communicate and demonstrate accountability to these key stakeholders.[91]

They also suggested ten dimensions that school administrators might consider: shaping and selecting digital technologies, managing enthusiasm, achieving digital integration, balancing internal and external control, managing risk, securing school information assets, managing information, overseeing the technology and education direction, networking with the home technology, and financing the technology as follows.

1) Shaping and Selecting Digital Technologies. School administrators are responsible for shaping and selecting digital technologies. They need to develop their capability to understand technology, ask the hard questions, and shape how technology could be used to enhance their school and education systems and outcomes for students.

2) Managing enthusiasm. School directors need to encourage trialling and development of new technologies, and carefully monitor the effects of those technologies on teaching practice, student outcomes and school costs. They also need to manage the enthusiasm of 'early adopters' and their quest to acquire and use every new piece of technology, whether it is the latest communication device, educational software, or social networking facility. That is, they should not quash the enthusiasm of the early adopters or prevent their exploration of new educational

---

Quality Education Service Delivery," **An International Multidisciplinary Journal, Ethiopia** 9, 3 (July 2015): 63.

[91]Mal Lee and Michael Gaffney, "Engagement with digital technology: new challenges for school and system leaders," in **Leading a digital school**, ed. Mal Lee and Michael Gaffney (Camberwell Victoria: ACER Press, 2008), 38.

opportunities. School administrators should encourage adopters to ask and report on the hard questions about the educational appropriateness of the technology for students.

3) Achieving digital integration. School administrators need to take deliberate action on digital integration and facility. They should remember that people are more important than technology, and every effort should be made to inform and engage staff in achieving 'digital integration' across a school. They also need to foster teachers to work together in the hope of better outcomes for students rather than defend competing empires in the fear of losing control or organizational prestige.

4) Balancing internal and external control. School administrators are responsible for balancing internal and external control. In a networked world, most digital information and communication systems used by schools could be hosted and controlled by external bodies. For example, the school's website, email system, student information, publications and teaching resources could all be hosted by an external agency. Where this occurs, there need to be clear contractual arrangements and obligations agreed between the relevant education authority and the external agency to control the use of information. In most cases schools are tending to opt for an amalgam of in-house and external service providers. Therefore, school directors need to be able to decide which services will be controlled by the school, and which will be delegated to outside bodies.

5) Managing risk. Not only can school administrators be held responsible for poor choice and loss of teaching time, they also stand to lose their job for wasting money or as a result of legal action for inappropriate use of the technology. Schools (and especially school administrators) are putting themselves at severe risk of legal action when they do not have appropriate network redundancy and disaster plans, data backup, exigencies to cover the loss of key staff expertise and appropriate student Internet usage. Thus, school directors need to be good at managing risks.

6) Securing school information assets. School administrators have the responsibility to secure school information assets because as schools move further into the digital age, they will build up extensive and valuable information assets that

need to be protected, managed and archived. Among the most valuable of the holdings are digital teaching resources developed by staff and these resources can add to the richness and efficiency of the teaching in the school.

7) Managing information. As the digital technology can provide school leaders with timely valuable information on the workings and outcomes being achieved by the school, the school administrators need to manage them. The leading and working in schools require ready access to information relevant to areas of responsibility. In either circumstance, schools need the information and knowledge management systems in place to obtain a ready insight into the short and long-term effectiveness and efficiency of their operation. School administrators should insist on the selection and use of systems that provide that capability.

8) Overseeing the technology and education direction. School administrators have the responsibility to ensure that the technology chosen is consonant with the educational goals of the school. They have the opportunity to take 'a helicopter view of the educational and digital landscape' in which their schools are situated. They are in a privileged position to view the totality and identify how what is being contemplated, or being done, might enhance school outcomes and student learning. The importance of that perspective will become more important as the range of community expectations and accountabilities and digital offerings increases.

9) Networking with the home technology. It is important for school administrators to take account of the level of technology in students' homes or hands when making decisions regarding the school's acquisition of technology and the design of its instructional program. Schools obviously cannot control the technology that parents make available to their sons and daughters, but they can work with parents and provide advice about management and choice of hardware and software to support their children's education.

10) Financing the technology. There are two givens for educators seeking to develop the capability for funding investments in digital technology. The first is there is never enough money. The second is that 'going with the flow' will no longer suffice. The best way for school administrators to work with this context is to take

strategic investment decisions that maximise the benefits that digital technology holds for the students in their care. This means that they need to set clear operational parameters, review the use of existing technology, question the return on investment, and (as best they can in changing and uncertain times) channel the scarce resources towards the use of technology that will lead their school and systems into the digital age.

They also highlighted that in leading schools into the digital age, school administrators need to understand the digital technology they will be working with, and maintain oversight of that technology as developments occur.[92]

Intaramanee mentioned that school management in digital era is the management of school missions including academic affair, finance, personnel, and general administration by utilising information and communication technology in order to enhance learning management and learning management support efficiently and effectively. School management, moreover, should consist of change management (policy, technology for school management, supervision, evaluation, and using technology enhancement.[93]

Chamchoy suggested that school management in digital era is to manage the school to achieve the school's goals that leads the school to be an innovative school with these three major tasks: (1) learning management, (2) school's human resource management, and (3) learning management support. Learning management is composed of school's curriculum development, teaching, Learning Management System: LMS, learning resource development, and learning network association. The school's curriculum development must be creative and uniquely consistent with the contexts of both digital world and school. Moreover, the curriculum will have to consist of a multitude of programmes which allow learners to choose the courses

---

[92]Mal Lee and Michael Gaffney, "Engagement with digital technology: new challenges for school and system leaders," in **Leading a digital school**, ed. Mal Lee and Michael Gaffney (Camberwell Victoria: ACER Press, 2008), 40-49.

[93]Sangob Intaramanee, "School Management in Digital Era," **UMT Poly Journal** 16, 1 (January – June 2019): 357.

that meet their needs and capabilities. Teaching must aim to develop students in three aspects: knowledge, skills needed for the next era, and morality. Knowledge must be appropriately integrated into technology and learners' characteristics in digital era and can be applied to learning inside and outside classrooms, and even in virtual classrooms. Also, learners should be developed to have skills needed for the next era which is composed of career risks and new forms of risks. For example, there are risks from viruses on computers such as malware, or malicious software, which is designed to cause damage to a computer, server, client, or computer network. Furthermore, morals are important to learners. People in the digital era have less attention to one another, less morals and less humanity. However, the advance of technology in the new era becomes an important tool which can be used to investigate, regulate and create transparency for working systems or living of people more and straightforwardly. Therefore, ones who are in the digital world must be moral and have media literacy. Learning Management System will facilitate teachers to create flip classrooms and use them efficiently. And this would create main materials and innovations for the concept 'Moderate class, more knowledge outside class'. Schools should develop learning resources both inside and outside classrooms to enhance students' learning and creativity and create positive atmosphere for learning. Learning network association with communities and organisations for learning and resource exchange will support education and increase opportunities to generate learning innovations. Furthermore, schools should aim at developing teachers to be professional in organising learning for students as much as they can with school's human resource development which is comprised of creating Professional Learning Community (PLC) and inspiring. Professional Learning Community of teachers is to find the ways or solutions for solving problems about learning management, developing teachers' learning management to promote students to be successful in learning, or creating innovations from learning by a variety of procedures that would lead to teachers' learning management innovations. This will enhance teachers to be more professional. Besides, teachers do not have to go out of their schools for trainings and schools do not have to invite public speakers

to train their teachers which would cost a vast of amount of school's budget and is not truly beneficial. However, inviting public speakers would be necessary if a school needs a particular expert. Inspiring is different from reinforcing, which is about working for an exchange. In contrast, inspiring motivates teachers, from inside, to work. Therefore, school directors have to create a positive school atmosphere, allow teachers to experience meeting new people and going to new places, and provide an appropriate model in order to inspire teachers to work. Last but not least, learning management support is comprised of two school divisions: finance administration and general administration which support students' learning and teachers' learning management. And schools should not waste the teachers' time on these tasks because the technology in the current era will facilitate them.[94]

Ugah and Nwali indicated that the management of school is made more meaningful and effective through the support of a strong Information Management System especially in this 21st century. The enormous tasks and activities involved in the administration and management of school can effectively be handled only through the development of a well thought after school management system which must have the capacity to automate the following tasks without the viability and the integrity of data being sent and received compromised, these tasks include; store, received all information regarding the students teachers non-teaching stuff, parents alumni, online payment and the facilities being owned by the school. The enhanced school management system oversees data collation, access grant, communication and social facility, enforcement of top management level decision procedures and meeting resolutions, report generation, fees payment (online) and tracking, admission and project management, and resources management. School management in this 21st century requires a robust and adaptable school management portal that can be used by different schools irrespective of their mode of operation thereby breaking the barriers created by culture and language of the existing school management portal. Adaptable school management systems bring under a common platform and

---

[94]Sukanya Chaemchoy, **School Management in Digital Era** (Bangkok: Chulalongkorn University Press, 2018), 140-142.

interface all the different level of schools (Nursery, Primary and Secondary) in to a common umbrella thereby eliminating excessive cost of running different portal for different school. Nevertheless, the adaptable school management portal grants access to schools that ordinarily may not have afforded the money to build a school management portal for themselves.[95]

Sunarto, Tyas, and Naibaho highlighted that, in digital era, effective school management must prepare students and all citizens to learn to compete or compete in the millennium era and the industrial revolution 4.0. In order to manage a school in digital era efficiently and effective, the school administrator 1) can answer all challenges in the field of Information technology (IT) and has high literacy, as well as qualified in the cognitive, affective and psychomotor domains, 2) must be optimistic, confident, critical and positive thinking, and have interpersonal skills, 3) is a challenge and smart worker, 4) must be able to provide superior Human Resources (HR), resources and learning media that are always up to date, as well as supporting adequate facilities and infrastructure, and 5) must be able to create a conducive work atmosphere, build solid teamwork and a vast network.[96]

---

[95]John O. Ugah and Stephen C. Nwali, "Enhancing the 21th Century School Management through ICT," **International Journal of Computer Engineering and Information Technology** 11, 5 (May 2019): 104-105.

[96]Sunarto, E. Handayani Tyas, and Lamhot Naibaho, "Effective School Management in Industrial Revolution Era 4.0," in **Proceeding of the 2nd Annual Conference on Blended Learning, Educational Technology and Innovation (ACBLETI 2020)**, Padang, Indonesia October 23-24, 2020 (Paris: Atlantis Press, 2021), 214-215.

Schools under The Secondary Educational Service Area Office Kanchanaburi

Schools under The Secondary Educational Service Area Office Kanchanaburi are located in 13 districts. In Mueang District, there are 3 secondary schools: Kanchananukroh School, Thepmongkhonrangsi School, and Debsirinladya Kanchanaburi School. Saiyok District consists of 2 secondary schools which are Saiyokmaneekanwitthaya School and Saiyoknoivittaya School. In Bophloi District, there are two secondary schools which are Borphloiratchadapisek School and Nongreeprachanimit School. Srisawat District consists of only one school which is Srisawatpitthayakom School. In Thamaka District, there are 6 secondary schools: Thamakawitthayakom School, Prathandongrungwittayakarn School, Niwitratupathum School, Thamakapunsirivitthaya School, and Tharuapitthayakhom School. Thamuang District, in the same way, has 6 secondary schools which are Visuttharangsi School, Thamuang Rajbumrung School, Nongkhaokowitpitthayakom School, Pangtruratrangsan School, Nongtakyatangwiriyaratbumrung School, and Srinagarindra The Princess Mother School Kanchanaburi. In Thong Pha Phum District, there are 2 secondary schools which are Thongphaphomwittaya School and Romkloa Kanchanaburi School. Only one secondary school is located in Sangkhlaburi which is Udomsitthisuksa School while Phanom Thuan District consists of Phanomthuanchanupatham School and Phanomtuanpittayakom School. Lao Khwan Districts is composed of only one school which is Laokhwanratbumrung School. Similarly, Dan Makham Tia District consists of only one secondary school which is Danmakhamtiawitthayakom School. Nong Prue District is comprirsed of 2 secondary schools which are Prachamongkol School and Nongpruepittayakom School whereas Huai Kachao District is composed only 1 secondary school which is Huaykrajaopittayakom School.

Educational Background Information

Schools under The Secondary Educational Service Area Office Kanchanaburi are in charge of managing basic education in order to enhance, advocate, and supervise school management in the secondary level in Kanchanaburi in order that Thai students are able to access quality education thoroughly and the quality of each school is developed with educational standards to complete the reform of educational administration and management systems regarding National Education Act B.E. 2542 (1999) and Amendments (Second National Education Act B.E. 2545 (2002)) and National Education Act (Third National Education Act B.E. 2553 (2010)). The numbers of schools, school directors, vice school directors, teachers, students, and educational personnel are shown in the following table.

Table 1 Number of schools, school directors, vice school directors, teachers, students, and educational personnel

No.	Category	Number
1	Schools	29
	- Small schools (1 – 359 students)	8
	- Medium schools (360 – 1,079 students)	12
	- Large schools (1,080 – 1,679 students)	4
	- Extra-large schools (1,680 students)	5
2	Students	29,926
	- Junior high school students (Grade 7 – 9)	16,460
	- Senior high school students Grade 10 – 12)	13,305
	- Vocational certificate students	161
3	School directors	26
4	Vice school directors	49
5	Teachers	1,726
	- Government teachers	1,484
	- Government employees	43
	- Contract teachers	199

Data was presented as of Academic Year 2020.

Related studies

Local studies

Srichaingam and Sinjindawong conducted a mixed method research named The Development of Transformational Leadership Model of School Administrators under the Secondary Educational Service Area Offices 1 and 2. The research results showed that (1) the overall transformational leadership of school administrators was found at the highest level, consisting of having vision, giving value and priority to human resources, being a communicator and listener, having proactive behaviour, and taking risks, and (2) the components of the change management of school administrators were consistent with Bertalanffy's system model with the process of training consisting of Feed Forward and Context (proposing an overall survey on the transformational leadership of school administrators and evaluating the transformational leadership of school administrators of the participants), Input (body knowledge for participants, paradigm shift, and transformation leadership of secondary school administrators), Process (giving body knowledge lecture to participants, setting the individual change leadership of secondary schools (ICLSS), implementing the ITLSS for the period of 6 months to strengthen skills, and evaluating transformational leadership, Output, and Feedback. The overall examination of the transformational leadership of school administrators, on accuracy, appropriateness, possibility and usefulness was at the highest level.[97]

Sakonthawat, Viseshsiri, and Siribanpitak conducted the research Management Strategies of Saint Gabriel Foundation's Schools in Thailand according to the Concept of Enhancing Digital Citizenship in Students. The results revealed that the conceptual framework of enhancing digital citizenship in students encompassed 3 components including the respect toward oneself and others in digital world, the use of digital

---

[97]Thawil Srichaingam and Sirinthorn Sinjindawong, "The Development of Transformational Leadership Model of School Administrators under the Secondary Educational Service Area Offices 1 and 2," **EAU Heritage Journal Social Science and Humanity** 5, 3 (September-December 2015): 168-169.

appliances with responsibility and safety, and digital innovations creation. Internal status analysis indicated academic department as weakness and student affairs department as strength; and external status analysis indicated government policy, economic status, and social status as threats, and technology as opportunity. The management strategies of Saint Gabriel Foundation's schools in Thailand according to the concept of enhancing digital citizenship comprised 3 main strategies, namely: (1) to improve school management to enhance students' digital responsibility and safety, (2) to enhance management capacity to develop students' ability to create digital innovations, and (3) to uplift school management to enhance students respect in themselves and others in the digital world.[98]

Sirifak conducted the study Transformation Leadership of Administrators and Information and Communication Technology of Secondary School in Kanchanaburi Province. The result showed that 1) transformational leadership of administrators of secondary school in Kanchanaburi province as a whole was at high level and as each aspect was high level when arranged by arithmetic mean from the highest to the lowest as follows: enabling others to act, modelling the way, challenging the process, encouraging the heart, and inspiring a shared vision, 2) Information and Communication Technology of secondary school in Kanchanaburi province as a whole was at high level and as each aspect was high level when arranged by arithmetic mean from the highest to the lowest as follows: to enhance teachers and educational personnel's proficiency in using ICT, to study the development of ICT system, to support the administrative management and service by developing the fundamental structure of ICT, to expand the opportunity to approach educational service and lifelong learning and promote course networking system, to develop students and promote research that enhances technology and innovation knowledge for education, and 3) the relationship between transformational leadership of

---

[98]Seksan Sakonthawat, Pongsin Viseshsiri, and Pruet Siribanpitak, "Management Strategies of Saint Gabriel Foundation's Schools in Thailand according to the Concept of Enhancing Digital Citizenship in Students," **Scholar: Human Sciences** 10, 2 (2018): 263.

administrators and Information and Communication Technology of secondary school in Kanchanaburi province as a whole and individual were positive correlation with statistically significant at the .01 level.[99]

Panhinkong and Phuangsomjit conducted the research Transformational leadership of school administrators affecting the being of learning organization in basic education schools under the Secondary Education Service Area Office 7. The purposes of the research were to study 1) the level of transformational leadership of school administrators and the level of being of learning organization in basic education schools, 2) the relationships between transformational leadership of school administrators and the being of learning organization in basic education schools, and 3) the influence of transformational leadership of school administrators on the being of learning organization in basic education schools under the Secondary Educational Service Area Office 7. The research sample consisted of 41 basic education schools under the Secondary Educational Service Area Office 7. The research findings were as follows: 1) the overall transformational leadership of school administrators was at the high level, with the aspect receiving the top rating mean being that of having the idealized influence, whereas the aspect receiving the lowest rating mean being that of consideration for individuals; on the other hand, the overall being of learning organization of the basic education schools was at the high level, with the aspect receiving the top rating mean being that of having the shared vision, whereas the aspect receiving the lowest rating mean being that of being the person with mastery learning, 2) transformational leadership of school administrators correlated positively and significantly at the .01 level with learning organization of the basic education schools, and 3) the influence of transformational leadership of school administrators on the being of learning organization of the basic education schools showed that transformational leadership of school administrators had

---

[99]Nongluk Sirifak, "Transformational Leadership of Administrators and Information and Communication Technology of Secondary School in Kanchanaburi," **Journal of Educational Administration and Leadership** 10, 2 (July–December 2019): 481.

significant influence on the being of learning organization of basic education schools under the Secondary Educational Service Area Office 7 at the .05 level, and transformational leadership of school administrators could predict learning organization of the schools by 72.0 percent.[100]

Supising and others conducted the research School management paradigm in digital disruption era. The results of the study showed that 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, and 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, and each structure consists of principles, aims, operational methods, activities, and factors to success, and 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.[101]

Boonduang, Dararuang and Supirak conducted the research Academic Leadership of the Administrators of Schools Affecting to Performance Motivation of Teachers and Educational Personnel under Vocational Education Commission Nakhorn Sawan. The results of the research were as follows: 1) the academic leadership of the administrators under Vocational Education, Nakhon Sawan Province, overall, was at a high level and operational motivation of teachers and education personnel, overall had a high average, 2) the academic leadership of the school administrators and the teachers' operational motivation of teachers and educational

---

[100]Jackkrapan Panhinkong and Choochat Phuangsomjit, "Transformational leadership of school administrators affecting the being of learning organization in basic education schools under the Secondary Education Service Area Office 7," **Silpakorn University Journal** 39, 5 (September-October 2019), 129-130.

[101]Jiraporn Supising and others, "School management paradigm in digital disruption era," **Interdisciplinary Research Review** 16, 2 (March-April 2021), 19.

personnel under Vocational Education, Nakhon Sawan Province with the correlation coefficient between .530 - .684 were statistically significant at level. 01, and 3) in the aspect of setting up the mission of the schools, enhancing the academic atmosphere of the schools and teaching and learning management, academic leadership of the school administrators under Vocational Education, Nakhon Sawan Province can be explained as variance or prediction of dependent prediction that were operational motivation of teachers and education personnel under the Vocational College, Nakhon Sawan Province, with a statistically significant level of .01 or 68.90%.[102]

Najampa and others conducted the research The Development of Educational Management Model in The Digital Era for Secondary School in The Central Region Under the Office of The Basic Education Commission. The results of the study showed that 1) the factor of educational institution administration in the digital era for secondary schools in the central region Under the Office of the Basic Education Commission consists of 6 aspects: director, teacher, learner, learning, technology and process, 2) the model of educational institutions' administration model in the digital era for secondary schools in the central region Under the Office of the Basic Education Commission shows congruence with empirical data consists of 6 main components and 29 subcomponents with Relative Chi-square=0.977, CFI =1.00, TLI = 1.00, RMSEA = 0.000, SRMR=0.024. 3. The model of educational institutions administration model in the digital era for secondary schools in the central region Under the Office of the Basic Education Commission, is accurate, appropriate, useful, and feasible.[103]

---

[102]Kowit Boonduang, Kritsana Dararuang and Somsak Supirak, "Academic Leadership of the Administrators of Schools Affecting to Performance Motivation of Teachers and Educational Personnel under Vocational Education Commission Nakhorn Sawan," **The Journal of Research and Academics** 4, 3 (July-September 2021), 126-127.

[103]Tanyaporn Najampa, Apithee Songbanditand, and Yothin Srisopha, "The Development of Educational Management Model in The Digital Era for Secondary

Foreign studies

Damanik and Aldridge conducted the research entitled Transformational Leadership and its Impact on School Climate and Teachers' Self-Efficacy in Indonesian High Schools. The results indicated statistically significant and positive relationships between leadership style, school climate, and teacher self-efficacy. With the exception of individual support, the relationships between principal leadership and teacher self-efficacy were largely indirect, mediated through staff collegiality and goal consensus.[104]

Zacharo, Marios, and Dimitra conducted the study Connection of Teachers' Organizational Commitment and Transformational Leadership: A Case Study from Greece. The purpose of the study is to investigate the perceptions of teachers to the extent that transformational leadership contributes to commitment to school goals. The survey's results showed that teachers feel substantial commitment to school goals when the school principal acts as transformational leader. Demographic variables, type of school and work experience do not affect the views of teachers.[105]

Francisco conducted the research School Principals' Transformational Leadership Styles and Their Effects on Teachers' Self-efficacy aiming at investigating the effects of school principals' transformational leadership styles on teachers' self-efficacy. The results of the regression analysis indicate that all eleven variables of the transformational leadership styles of school principals affect teachers' self-efficacy to a different extent as shown by the non-zero coefficients. A closer look at the

School in The Central Region Under the Office of The Basic Education Commission," **Journal of Arts Management** 6, 4 (October-December 2022), 1806.

[104]Enceria Damanik and Jill Aldridge, "Transformational Leadership and Its Impact on School Climate and Teachers' Self-Efficacy in Indonesian High Schools," **Journal of School Leadership** 27, 2 (March 2017), 296.

[105]Kouni Zacharo, Koutsoukos Marios, and Panta Dimitra, "Connection of Teachers' Organizational Commitment and Transformational Leadership: A Case Study from Study from Greece," **International Journal of Learning, Teaching and Educational Research** 17, 8 (August 2018), 89.

obtained B coefficients, one could deduce that two variables yielded B coefficients of 0.08 (effectiveness) and 0.06 (contingent reward) with associated probability less than the significance level set at 0.05. This means that effectiveness and contingent reward significantly affect teachers' self-efficacy that for every unit improvement in effectiveness and contingent reward, teachers' self-efficacy can be expected to increase by 0.08 and 0.06 respectively. The rest of the variables also affect the teachers' self-efficacy but not to a significant extent. The study recommended that school principals should continue to nurture their leadership skills rating and further school innovations and transformations were highly recommended.[106]

Yamamoto and Yamaguchi conducted the research Relationships between ICT Implementation at Schools and Factors Related to Transformational Leadership: A Case of primary school in Mongolia. The study found that the component of inspirational motivation is especially important for ICT use in classroom teaching. Teachers' collaborations which stimulate innovation is associated with both teachers' ICT use in teaching, and funding allocation for ICT training. In addition, the results support the relevance of transformational leadership for Implementing ICT at the school level in the Mongolian context.[107]

Rahman and others conducted the study The Relationship between Educational Transformational Leadership and Teacher Quality at Secondary School: Total Quality Management as Mediator. The results showed that the relationships between educational leadership and Total Quality Management practices (.768), Total Quality Management practices and teacher quality (.942), educational transformational leadership and teacher quality (.846) are all positive and significant.

---

[106]Christopher DC. Francisco, "School Principals' Transformational Leadership Styles and Their Effects on Teachers' Self-efficacy," **International Journal of Advanced Research** 7, 10 (2019), 622.

[107]Yukiko Yamamoto and Shinobu Yamaguchi, "Relationships between ICT Implementation at Schools and Factors Related to Transformational Leadership: A Case of primary school in Mongolia," **International Journal of Education and Development using Information and Communication Technology** 15, 2 (2019), 45.

In addition, the Variance Accounted For (VAF) for the mediator is 64.62%. Thus, it can be concluded that Total Quality Management has a partial mediator effect on the relationship between educational transformational leadership and teacher quality in secondary schools. The findings of this study can contribute to the improvement of school management practices, specifically through the implementation of educational transformational leadership, Total Quality Management and teachers' quality. In summary, the findings suggest that educational transformational leadership and Total Quality Management can contribute to the improvement of teachers' quality.[108]

Ratnasari, Roemintoyo and Winarno conducted the research entitled Community Participation in School-based Management at SDN 02 JETIS to Face Digital Era. From the results of interviews and observations, SDN 02 JETIS always empowers the community in every school activity and invites the community to participate in the progress of the students' achievements and cooperates in supervising the progress of students' achievements. The principal of SDN 02 JETIS invites the community to participate in improving the achievement of learners especially in facing the challenges in the digital era.[109]

Ugah and Nwali conducted the research Enhancing the 21st Century School Management through ICT. The paper exposes the various administrative tasks not being covered by existing school management portals that complement the existing school management portals for effective and better school management. It also

---

[108]Mohd Rahimi A. Rahman and others, "The Relationship between Educational Transformational Leadership and Teacher Quality at Secondary School: Total Quality Management as Mediator," **Universal Journal of Educational Research** 8, 12 (2020), 6369.

[109]Desi Ratnasari, Roemintoyo, and Winarno, "Community Participation in School-based Management at SDN 02 JETIS to Face The Digital Era," **Scientific Journal of Preschool and Early School Education** 3, 3 (November 2018), 182.

defines ICT and its constituting terms such as Information, Communication and Technology. The research also outlined a number of benefit accruing from enhancing school management, increased workflow and communication channels, reduced list of administration and centralized administration monitoring, to really meet up with the management/administrative demands of the 21st century, it is very paramount to deploy enhanced school management portals.[110]

Sutarni and others conducted the study Change Management of Education Institutional in the Digital Era. The study focuses on the determinants of change management which include the causes of change, resistance to change, and adaptation strategies to changes that occur in the digital era. The concept of change management in the digital era is understood in the setting of educational institutions is examined, with the focus on secondary and higher education. The result showed that quadrant model plots the positions of each dimension in each quadrant related to the focus of the action or strategy being performed: sustained, adjusted, repaired, and improved. Hence, each educational institution may select and design the most suitable model of change management in the digital era for its own determination.[111]

Suyudi and others conducted the study entitled Effect of Leadership Style toward Indonesian Education Performance in Education 4.0 Era: Aschematic Literature Review. The results of the systematic literature review showed that the leadership models of the six articles show similar similarities, namely transactional, transformational, charismatic, bureaucratic, and democratic leadership that have a positive and significant effect on the performance of educational institutions.[112]

---

[110]John O. Ugah and Stephen C. Nwali, "Enhancing the 21st Century School Management through ICT," **International Journal of Computer Engineering and Information Technology** 11, 5 (May 2019), 101.

[111]Nani Sutarni and others, "Change Management of Education Institutional in the Digital Era," **International Journal of Advanced Science and Technology** 29, 5 (2020): 11959.

[112]Suyudi and others, "Effect of Leadership Style toward Indonesian Education

De Mouraa and De Souza Bispo conducted the research Understanding the Practice of School Management through the Perspective of Sociomateriality. The result showed that the practice of school management does not happen in isolation, but is interconnected within the greater texture of sociomaterial practices.[113]

Efendi and Qolfathiriyus conducted the research Management of Salafiyah Islamic Boarding School towards Quality Enhancement of Formal Education Institution in the Digital Era. The results revealed that 1) planning function of management is categorized into good criteria by preparing facilities and infrastructure as well as professional teaching staff, 2) implementation function of management can integrate the boarding school curriculum with the modern education curriculum, and 3) evaluation function of management is conducted by practicing various sciences in the world and the hereafter, mastering science and technology as well as faith and piety. Regarding the results, the Salafiyah Islamic boarding school requires formal education as a foundation of life to compete in the disruption era.[114]

Kimani conducted the study Influence of transformational leadership styles on Performance - A Critical Literature Review. The study found out that transformational leadership encourages loyal followers who give results. Leaders must be encouraged to use this management style. The findings denoted a positive relationship between performance and transformational leadership style. Besides, responsive and supportive transformational leadership behaviour have a positive impact on organizational growth. The study recommended that leaders need to adopt transformational leadership to achieve organizational performance.

Performance in Education 4.0 Era: Aschematic Literature Review," **Systematic Reviews in Pharmacy** 11, 10 (October-November 2020): 371.

[113]Elton Oliveira de Moura and Marcelo de Souza Bispo, "Understanding the Practice of School Management through the Perspective of Sociomateriality," **Journal Organizações & Sociedade** 28, 96 (2021): 130.

[114]Nur Efendi and Ahmad Qolfathiriyus, "Management of Salafiyah Islamic Boarding School towards Quality Enhancement of Formal Education Institution in the Digital Era," **Psychology and Education** 58, 2 (2021): 4645.

Organization should embrace transformational leadership and sound policies that will strengthen their position as a fundamental sector in generating human capital for the country's developmental and economic needs as well as the development of training programmes in leadership skills and competences in transformational leadership for the leaders of organizations.[115]

Mulawarman conducted the research The Effect of Smart Management and School Efficiency on School Performance in the Digital Era. The study's results indicate that smart management directly affects school performance in the digital age. Additionally, school efficiency has a large direct impact on school achievement. Smart control and efficiency greatly influence school success in the digital age.[116]

Summary

Transformational leadership is the process whereby a leader engages with his or her followers and creates a connection that raises the level of motivation and morality in both the leader and the followers. A good transformational leader must realize their followers' needs, motivate them to dedicate for the organizations, and support them. Moreover, transformational leaders should inspire their followers to recognise the vision and the mission of the school and motivate them to help develop the school. According to Leithwood, Jantzi and Steinbach, the process of the transformational leadership is comprised of eight dimensions which are 1) building a shared vision, 2) developing consensus about goals, 3) creating high performance expectations, 4) providing individualised support, 5) creating intellectual stimulation, 6) modelling important values and practices, 7) culture building, and 8)

---

[115]James Kimani, "Influence of transformational leadership styles on Performance - A Critical Literature Review," **International Journal of Leadership and Governance** 1, 4 (2021): 36.

[116] Widyatmike Gede Mulawarman, "The Effect of Smart Management and School Efficiency on School Performance in the Digital Era," **Eurasian Journal of Educational Research** 100 (2022): 256.

creating and maintaining shared decision-making structures and processes. Regarding the literature review, transformational leadership is an important factor for the school management in digital era which is a process of a school director in developing the school's four main dimensions: academic affair, finance, personnel, and general administration to achieve its goals in the era in which technology and changes affect the school management. Regarding Lee and Gaffney, school management in digital era involves taking a school from the traditional paper-based to a digitally based operational paradigm to manage the school to achieve the school's goals by 1) shaping and selecting digital technologies, 2) managing enthusiasm, 3) achieving digital integration, 4) balancing internal and external control, 5) managing risk, 6) securing school information assets, 7) managing information, 8) overseeing the technology and education direction, 9) networking with the home technology, and 10) financing the technology. In order to prepare for the changes of school management in the digital era efficiently and effectively, a school administrator must be a transformational leader who can be a good role model for teachers in the school, attempt to stimulate teachers to be open-minded to the changes of technology or educational innovations in the digital era, and support teachers to possess behavioural changes to bring technology or educational innovations to integrate in their classrooms professionally

Chapter 3

Methodology

The research entitled "Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi" was descriptive research which aimed to 1) identify the transformational leadership of school administrators under the Secondary Educational Service Area Office Kanchanaburi, 2) identify the school management in digital era of school administrators under the Secondary Educational Service Area Office Kanchanaburi, and 3) identify the transformational leadership affecting the school management in digital era of school administrators under the Secondary Educational Service Area Office Kanchanaburi. The population in the study consisted of 29 schools under The Secondary Educational Service Area Office Kanchanaburi and the respondents were comprised of eight people from each of the schools including 1) a school director or an acting school director, 2) a deputy school director or an acting deputy school director, 3) two heads of departments, and 4) four teachers. In the study, the respondents were utilized as a unit of analysis. The variables of this research were composed of the transformational leadership according to Leithwood, Jantzi and Steinbach and the school management in digital era according to Lee and Gaffney. Below are the stages of this research.

Process of the study

In accordance with the research methodology and its objectives, the researcher specified the process of this research as following.

Preparatory

The researcher reviewed and analysed the theories and concepts relating to the transformational leadership and the school management in digital era from documentaries, textbooks, information, statistics, dissertations, academic articles, journals and websites both national and international in order to apply the theories and concepts to the research. Then the researcher created the thesis proposal and

consulted the thesis advisor about how to improve the proposal. After that, the researcher presented the thesis proposal to the Department of Educational Administration to approve it and asked for the approval of the thesis proposal from the Graduate School of Silpakorn University.

Procedure and Data analysis

Knowledge gathered from the literature review was applied to develop the instruments of this research. The researcher created the instruments and had their quality checked by specialists and then evaluated their reliability. Then the instruments were brought to collect the data from the samples. After that, the data were verified, analysed and interpreted.

Research report

The researcher collected all data from the questionnaires and performed statistical analysis. After analysing all data, the researcher reported and presented the result to the thesis committee in order to receive their comments, suggestions and approval. Then the researcher submitted the thesis as Master of Education (Educational Administration) thesis with the permission and approval from the Graduate School.

Research methodology

According to the objectives of this research, the research methodology consisted of research design, population and samples, variable terms definitions, research instrument, data collection and the statistical analysis.

Research design

This research was descriptive research. In addition, the research design applied in this research was a one-shot, non-experimental case study as the figure below.

```
          O
   R —————————X
```
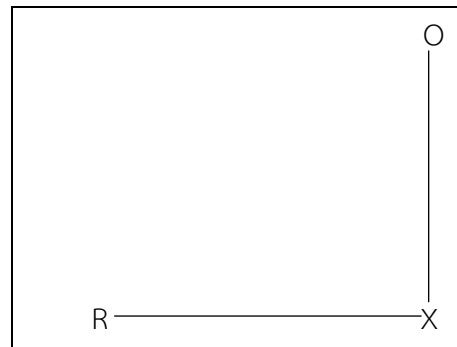
Research design

  R : Samples by random

  X : Variables

  O : Data from sample

Population

  The population of this study was composed of 29 schools under The Secondary Educational Service Area Office Kanchanaburi.

Samples

  The samples of 28 government schools under The Secondary Educational Service Area Office Kanchanaburi were determined by using Krejcie and Morgan Table. Besides, they were recruited for the study using simple random sampling.

Respondents

  In each of the schools, there were eight respondents including 1) a school director or an acting school director, 2) a deputy school director or an acting deputy school director 3) two heads of departments, 4) four teachers. Overall, 224 respondents from the 28 government schools under The Secondary Educational Service Area Office Kanchanaburi were determined in this research as shown in the following table.

Table 2 Number of populations, samples and respondents

Province	Population (School)	Sample (School)	Respondents				
			School director or acting school director	Deputy school director or acting deputy school director	Heads of department	Teacher	Total
Kanchanaburi	29	28	28	28	56	112	224
Total	29	28	28	28	56	112	224

Definition of variables

The variables of this research were composed of the basic variables and the studied variables as follows.

1. The basic variables were the personal information of respondents including gender, age, educational background, position and work experience.

2. The independent variable (X_{tot}) was about transformational leadership according to Leithwood, Jantzi and Steinbach who conceptualised such leadership along eight dimensions as following.

1) Building a shared vision (X_1) is to help to provide colleagues with an overall sense of purpose, initiate processes (retreats, and so on) that engage staff in the collective development of a shared vision, espouse a vision for the school but not in a way that pre-empts others from expressing their vision, excite colleagues with visions of what they may be able to accomplish if they work together to change their practices, help clarify the meaning of the school's vision in terms of its practical implications for programmes and instruction, assist staff in understanding the

relationship between external initiatives for change and the school's vision, assist staff in understanding the larger social mission of which their vision of the school is a part, a social mission that may include such important end values as equality, justice and integrity, and use all available opportunities to communicate the school's vision to staff, students, parents and other members of the school community.

2) Developing consensus about goals (X_2) is to provide staff with a process through which to establish school goals and to regularly review those goals; this is likely to be a 'problem-solving' process and to include careful diagnosis of the school's context, expect teams of teachers (for example, departments) and individuals to regularly engage in goal setting and reviewing progress toward those goals, assist staff in developing consistency between school visions and both group and individual goals, work towards the development of consensus about school and group goals and the priority to be awarded such goals, frequently refer to school goals and makes explicit use of them when decisions are being made about changes in the school, encourage teachers, as part of goal setting, to establish and review individual professional growth goals, have ongoing discussions with individual teachers about their professional growth goals, clearly acknowledge the compatibility of teachers' and school's goals when such is the case, express one's own views about school goals and priorities, and act as an important resource in helping colleagues achieve their individual and school goals.

3) Creating high performance expectations (X_3) is to expect staff to be innovative, hard-working and professional; these qualities are included among the criteria used in hiring staff, demonstrate an unflagging commitment to the welfare of students, often espouses norms of excellence and quality of service, do not accept second-rate performance from anyone, establish flexible boundaries for what people do, thus permit freedom of judgement and action within the context of overall school goals and plans, and are clear about one's own views of what is right and good.

4) Providing individualized support (X_4) is to treat everyone equally; not showing favouritism towards individuals or groups, have an 'open-door' policy,

are approachable, accessible and welcoming, protect teachers from excessive intrusions on their classroom work, give personal attention to colleagues who seem neglected by others, are thoughtful about the personal needs of staff, encourage individual staff members to try new practices consistent with their interests, respond positively to staff members' initiatives for change as often as possible, provide money for professional development and other needed resources in support of changes agreed on by staff as often as possible, provide coaching for those staff members who need it, get to know individual teachers well enough to understand their problems and to be aware of their particular skills and interests and listens fully to staff's ideas, have the 'pulse' of the school and builds on the individual interests of teachers, often as the starting point for school change, provide recognition for staff work in the form of individual praise or 'pats on the back', are specific about what is being praised as 'good work', offer personal encouragement to individuals for good performance, demonstrate confidence in colleagues' ability to perform at their best, follow through on decisions made jointly with teachers, explicitly share teachers' legitimate cautions about proceeding quickly toward implementing new practices, thus demonstrate sensitivity to the real problems of implementation faced by teachers, take individual teachers' opinions into consideration when initiating actions that may affect their work, and instil, in staff, a sense of belonging to the school.

5) Creating intellectual stimulation (X_5) is to change those school norms that might constrain the thinking of staff by removing penalties for making mistakes as part of efforts toward professional and school improvement; embracing and sometimes generating conflict as a way of clarifying alternative courses of action available to the school; requiring colleagues to support opinions with good reasons; insisting on careful thought before action, challenge the status quo by directly challenging the basic assumptions of staff about their work as well as unsubstantiated or questionable beliefs and practices; encouraging staff to evaluate their practices and refine them as needed; encouraging colleagues to re-examine some of their basic assumptions about their work; determining the problems inherent in the way things are; stimulating colleagues to think more deeply about what they

are doing for their students, encourage new initiatives by encouraging staff to try new practices without using pressure, encouraging staff to pursue their own goals for professional learning, helping staff to make personal sense of change; providing the necessary resources to support staff participation in change initiatives, and bring their colleagues into contact with new ideas by stimulating the search for and discussion of new ideas and information relevant to school administrators; seeking out new ideas by visiting other schools, attending conferences and passing on these new ideas to staff; inviting teachers to share their expertise with their colleagues; consistently seeking out and communicating productive activities taking place within the school; providing information helpful to staff in thinking of ways to implement new practices.

6) Modelling important values and practices (X_6) is to act as a role model, leading by doing rather than only by telling. Some of these practices model the transformational leader's general commitment to the school organization: becoming involved in all aspects of school activity; working alongside teachers to plan special events; displaying energy and enthusiasm for own work. Other practices model commitment to professional growth: responding constructively to unrequested feedback about one's leadership practices; requesting feedback from staff about one's work; demonstrating a willingness to change one's practices in light of new understandings. Yet other practices seem intended to enhance the quality of both group and individual problem-solving processes: demonstrating, through school decision-making processes, the value of examining problems from multiple perspectives; modelling problem-solving techniques that others can adapt for their own work. Finally, transformational school administrators also engage in practices intended to reinforce key values: the basic values of respect for others; trust in the judgement of one's colleagues; integrity; and even the instrumental value of punctuality.

7) Culture building (X_7) is to develop school norms, beliefs, values and assumptions that are student-centred and support continuing professional growth by teachers. Also, the transformational school administrators encourage collaborative

problem solving when that is likely to be profitable. They have the potential to enhance teachers' motivation to change through their influence on teachers' beliefs about the social support available to them in their school ('We're all in this together'); they may be motivational, as well, through enhanced self-efficacy resulting from the professional growth fostered by close working relationships with peers.

8) Creating and maintaining shared decision-making structures and processes (X_8) is to provide both informal and formal opportunities for members of the school to participate in decision making about issues that affect them and about which their knowledge is crucial. Moreover, the transformational school administrators create discretion and autonomy for teachers to use their expertise to greatest effect. Empowering teachers in these ways contributes to their motivation to change by enhancing beliefs about the extent to which their working context will support their best efforts to implement new practices in their classrooms and schools.

3. The dependent variable (Y_{tot}) was about school management in digital era according to Lee and Gaffney who conceptualised such management along ten major actions as follows.

1) Shaping and Selecting Digital Technologies (Y_1) is to shape and select digital technologies efficiently and effectively. School administrators need to develop their capability to understand technology, ask the hard questions, and shape how technology could be used to enhance their school and education systems and outcomes for students.

2) Managing enthusiasm (Y_2) is to encourage trialling and development of new technologies, and carefully monitor the effects of those technologies on teaching practice, student outcomes and school costs. School administrators need to manage the enthusiasm of 'early adopters' and their quest to acquire and use every new piece of technology, whether it is the latest communication device, educational software, or social networking facility. That is, they should not quash the enthusiasm of the early adopters or prevent their exploration of new educational opportunities.

School administrators should encourage adopters to ask and report on the hard questions about the educational appropriateness of the technology for students.

3) Achieving digital integration (Y_3) is to take deliberate action on digital integration and facility. School administrators should remember that people are more important than technology, and every effort should be made to inform and engage staff in achieving 'digital integration' across a school. They also need to foster teachers to work together in the hope of better outcomes for students rather than defend competing empires in the fear of losing control or organizational prestige.

4) Balancing internal and external control (Y_4) is to balance internal and external control appropriately. In a networked world, most digital information and communication systems used by schools could be hosted and controlled by external bodies. For example, the school's website, email system, student information, publications and teaching resources could all be hosted by an external agency. Where this occurs, there need to be clear contractual arrangements and obligations agreed between the relevant education authority and the external agency to control the use of information. In most cases schools are tending to opt for an amalgam of in-house and external service providers. Therefore, school administrators need to be able to decide which services will be controlled by the school, and which will be delegated to outside bodies.

5) Managing risk (Y_5) is to manage and be aware of any risks that would occur. Not only can school administrators be held responsible for poor choice and loss of teaching time, they also stand to lose their job for wasting money or as a result of legal action for inappropriate use of the technology. Schools (and especially school directors) are putting themselves at severe risk of legal action when they do not have appropriate network redundancy and disaster plans, data backup, exigencies to cover the loss of key staff expertise and appropriate student Internet usage. Thus, school administrators need to be good at managing risks.

6) Securing school information assets (Y_6) is to secure school information assets because as schools move further into the digital age, they will build up extensive and valuable information assets that need to be protected,

managed and archived. Among the most valuable of the holdings are digital teaching resources developed by staff and these resources can add to the richness and efficiency of the teaching in the school.

7) Managing information (Y_7) is to manage school information to be well-organized and ready for use. As the digital technology can provide school administrators with timely valuable information on the workings and outcomes being achieved by the school, the school administrators need to manage them. The leading and working in schools require ready access to information relevant to areas of responsibility. In either circumstance, schools need the information and knowledge management systems in place to obtain a ready insight into the short and long-term effectiveness and efficiency of their operation. School administrators should insist on the selection and use of systems that provide that capability.

8) Overseeing the technology and education direction (Y_8) is to ensure that the technology chosen is consonant with the educational goals of the school. School administrators have the opportunity to take 'a helicopter view of the educational and digital landscape' in which their schools are situated. They are in a privileged position to view the totality and identify how what is being contemplated, or being done, might enhance school outcomes and student learning. The importance of that perspective will become more important as the range of community expectations and accountabilities and digital offerings increases.

9) Networking with the home technology (Y_9) is to take account of the level of technology in students' homes or hands when making decisions regarding the school's acquisition of technology and the design of its instructional program. Schools obviously cannot control the technology that parents make available to their sons and daughters, but they can work with parents and provide advice about management and choice of hardware and software to support their children's education.

10) Financing the technology (Y_{10}) is to seek to develop the capability for funding investments in digital technology. There are two givens for educators to do so. The first is there is never enough money. The second is that 'going with the

flow' will no longer suffice. The best way for school administrators to work with this context is to take strategic investment decisions that maximise the benefits that digital technology holds for the students in their care. This means that they need to set clear operational parameters, review the use of existing technology, question the return on investment, and (as best they can in changing and uncertain times) channel the scarce resources towards the use of technology that will lead their school and systems into the digital age.

Research instrument

The instrument for collecting data was an opinionnaire consisting of 3 parts presented below:

Part 1 of the opinionnaire was a checklist form and asked for the personal information of respondents including gender, age, educational background, position and work experience.

Part 2 of the opinionnaire asked about transformational leadership of school directors according to Leithwood, Jantzi and Steinbach.

Part 3 of the opinionnaire asked about school management in digital era according to Lee and Gaffney.

The part 2 and 3 of the opinionnaire used the Likert's five rating scale with the criteria as follows.[117]

5 means transformational leadership or school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi is at the highest level.

4 means transformational leadership or school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi is at the high level.

3 means transformational leadership or school management in digital era of

---

[117]Rensis Likert, **New Pattern of Management** (New York: McGraw-Hill, 1961), 74.

school administrators under The Secondary Educational Service Area Office Kanchanaburi is at the moderate level.

2 means transformational leadership or school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi is at the low level.

1 means transformational leadership or school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi is at the lowest level.

Instrument development

The development of the instrument was as follows:

Stage 1 All concepts, theories and the research concerning transformational leadership and school management in digital era both in Thailand and other countries were content analysed and synthesised according to the thesis advisor's suggestions.

Stage 2 The researcher created the opinionnaire and presented it to the thesis advisor.

Stage 3 The researcher translated the opinionnaire from English into Thai before having it checked by experts.

Stage 4 Then the content validity and the language use of the questionnaire were checked by 5 experts. Content validity was measured by item objective congruence (IOC), and all items were found qualified with IOC between 0.6-1.0.

Stage 5 Thirty-two edited and improved opinionnaires were tried out with four schools which are under The Secondary Educational Service Area Office Ratchaburi. Eight respondents from each of the schools consisting of 1) a school director or an acting school director, 2) a deputy school director or an acting deputy school director, 3) two heads of departments, and 4) four teachers were asked using the opinionnaire.

Stage 6 The Cronbach's reliability coefficient alpha of the opinionnaire was tested by finding alpha coefficient according to Cronbach.[118] The reliability coefficient of the instrument was found at 0.985.

Data collection

In accordance with the research objectives, the researcher collected data from the samples by:

1. Writing to request the kind assistance from the head of Department of Educational Administration to write to the dean of Graduate School of Silpakorn University to request the cooperation from the school directors of the schools under The Secondary Educational Service Area Office Kanchanaburi which are the samples in this research to respond to the research opinionnaire,

2. Posting the opinionnaire to the samples to collect data,

3. Following the opinionnaire responding of the samples,

4. Gathering all the opinionnaires.

Data analysis

The unit of analysis applied in this research was the data from 224 respondents from the 28 schools under The Secondary Educational Service Area Office Kanchanaburi including 1) a school director or an acting school director, 2) a deputy school director or an acting deputy school director 3) two heads of departments, 4) four teachers from each school. The data was analysed by using a software package.

Statistics used in the study

In accordance with the research objectives, the researcher used the following statistics for data analysis.

---

[118]Lee J. Cronbach, **Essential of Psychological Testing** (New York: Harper & Row Publishers, 1987), 161.

1. Frequency and percentage were applied to analyse the general information of the respondents.

2. Arithmetic mean ($\bar{x}$) and standard deviation (SD) were applied to analyse transformational leadership and school management in digital era. Then the result was compared to the arithmetic mean according to Best.[119]

Arithmetic mean at 4.50 – 5.00 means transformational leadership or school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi is at the highest level.

Arithmetic mean at 3.50 – 4.49 means transformational leadership or school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi is at the high level.

Arithmetic mean at 2.50 – 3.49 means transformational leadership or school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi is at the moderate level.

Arithmetic mean at 1.50 – 2.49 means transformational leadership or school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi is at the low level.

Arithmetic mean at 1.00 – 1.49 means transformational leadership or school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi is at the lowest level.

3. Stepwise multiple regression analysis was applied to analyse transformational leadership of school administrators affecting school management in digital era under The Secondary Educational Service Area Office Kanchanaburi.

---

[119]John W. Best, **Research in Education** (Englewood Cliffs: Prentice-Hall Inc., 1970), 190.

Summary

The research entitled "Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi" was descriptive research which aimed to 1) identify the transformational leadership of school administrators under the Secondary Educational Service Area Office Kanchanaburi, 2) identify the school management in digital era of school administrators under the Secondary Educational Service Area Office Kanchanaburi, and 3) identify the transformational leadership affecting the school management in digital era of school administrators under the Secondary Educational Service Area Office Kanchanaburi. The research design applied in this research was a one-shot, non-experimental case study. The population of this study was composed of 29 schools under The Secondary Educational Service Area Office Kanchanaburi. The samples were 28 schools under The Secondary Educational Service Area Office Kanchanaburi and the respondents from the 28 schools were determined in this research, and there were eight respondents from each of the schools including 1) a school director or an acting school director, 2) a deputy school director or an acting deputy school director, 3) two heads of departments, and 4) four teachers. The independent variable studied in this research was the transformational leadership according to Leithwood, Jantzi and Steinbach and the dependent variable was the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi according to Lee and Gaffney. The instrument for collecting data was an opinionnaire and the data were analysed by using frequency, percentage, arithmetic mean, standard deviation, and stepwise multiple regression analysis.

Chapter 4

Research Finding

In accordance with the research objectives of the research entitled "Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi", the research collected the data from 224 respondents from the 28 schools under The Secondary Educational Service Area Office Kanchanaburi including 1) a school director or an acting school director, 2) a deputy school director or an acting deputy school director 3) two heads of departments, 4) four teachers from each school. In terms of the research purposes, the data from 100 percent of the respondents was analysed and displayed in schedules to present four parts as follows:

Part 1 The analysis of the personal information of respondents

Part 2 The analysis of the transformational leadership of school administrators

Part 3 The analysis of the school management in digital era of school administrators

Part 4 The analysis of the transformational leadership of school administrators affecting the school management in digital era.

Part 1 The analysis of the personal information of respondents

Frequency and percentage were applied to analyse the general information of the respondents as shown in Table 3.

Table 3 The analysis of the general information of the respondents

No.	General information of the respondents	Number of the respondents	Percentage
1	Gender		
	1) Male	71	31.70
	2) Female	153	68.30
	Total	**224**	**100**
2	Age		
	1) 21 – 30 years	51	22.76
	2) 31 – 40 years	85	37.95
	3) 41 – 50 years	67	29.91
	4) 51 – 60 years	21	9.38
	Total	**224**	**100**
3	Educational background		
	1) Bachelor's degree	129	57.56
	2) Master's degree	82	36.62
	3) Doctoral degree	13	5.82
	Total	**224**	**100**
4	Position		
	1) School director or acting school director	28	12.50
	2) Deputy school director or acting deputy school director	28	12.50
	3) Head of department	56	25.00
	4) Teacher	112	50.00
	Total	**224**	**100**
5	Work experience		
	1) 1 – 5 years	62	27.68
	2) 6 – 10 years	58	25.88
	3) 11 – 15 years	35	15.63
	4) 16 – 20 years	34	15.18
	5) More than 20 years	35	15.63
	Total	**224**	**100**

According to Table 3, the majority of the respondents were 153 (68.30%) females while 71 (31.70%) of the respondents were male. Regarding the age, most of the respondents, 37.95%, were 31-40 years old, followed by 29.91% of 41-50 years, then 22.76% of 21-30 years, and the least of them, 9.38%, were 51-60 years old. In reference to the respondents' educational background, 129 of them graduated with a bachelor's degree, 82 with a master's degree and 13 with a doctoral degree, which accounted for 57.56%, 36.62% and 5.82%, respectively. The positions of the respondents consisted of 112 (50.00%) teachers, 56 (25.00%) heads of departments, 28 (12.50%) school directors or acting school directors, and 28 (12.50%) deputy school director or acting deputy school director. For the respondents' work experience, 62 (27.68%) of them worked for 1-5 years, followed by 58 (25.88%) for 6-10 years, 35 (15.63%) for 11-15 years, 35 (15.63%) for more than 20 years, and 34 (15.18%) for 16-20 years.

Part 2 The analysis of the transformational leadership of school administrators

Arithmetic mean (X) and standard deviation (SD) were applied to analyse the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi. Then the result was compared to the arithmetic mean according to Best as shown in Table 4.

Table 4 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi (X_{tot})

(n = 224)

No.	Transformational leadership of school administrators	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	Building a shared vision (X_1)	4.23	0.90	High
2	Developing consensus about goals (X_2)	4.17	0.87	High
3	Creating high performance expectations (X_3)	4.28	0.87	High
4	Providing individualised support (X_4)	4.02	0.91	High
5	Creating intellectual stimulation (X_5)	4.14	0.91	High
6	Modelling important values and practices (X_6)	4.15	0.87	High
7	Culture building (X_7)	4.27	0.87	High
8	Creating and maintaining shared decision-making structures and processes (X_8)	4.29	0.84	High
	Total (X_{tot})	4.19	0.88	High

Regarding Table 4, the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi (X_{tot}) was at a high level ($\bar{x}$ = 4.19, S.D. = 0.88). When considering the arithmetic mean of each aspect, all of the aspects of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi were respectively at a high level: creating and maintaining shared decision-making structures and processes ($\bar{x}$ = 4.29, S.D. = 0.84), creating high performance expectations ($\bar{x}$ = 4.28, S.D. = 0.87), culture building ($\bar{x}$ = 4.27, S.D. = 0.87), building a shared vision

($\bar{x}$= 4.23, S.D. = 0.90), developing consensus about goals ($\bar{x}$= 4.17, S.D. = 0.87), modelling important values and practices ($\bar{x}$ = 4.15, S.D. = 0.87), creating intellectual stimulation ($\bar{x}$= 4.14, S.D. = 0.91), and providing individualised support ($\bar{x}$= 4.02, S.D. = 0.91), respectively. The standard deviation was between 0.84-0.91 which means that the respondents' opinions were consistent.

The analysis of each dimension of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi were displayed in Table 5-12.

Table 5 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational. Service Area Office Kanchanaburi about Building a shared vision (X_1)

(n = 224)

No.	Building a shared vision (X_1)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	School administrators provide personnel with an overall sense of purpose.	4.45	0.86	High
2	School administrators engage personnel in the collective development of a shared vision.	4.28	0.83	High
3	School administrators excite personnel with the school's visions of what they may be able to accomplish.	4.32	0.93	High
4	School administrators clarify the meaning of the school's vision in terms of its practical implications for programmes and instruction.	4.31	0.97	High
5	School administrators assist personnel in understanding the relationship between	4.17	0.87	High

Table 5 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational. Service Area Office Kanchanaburi about Building a shared vision (X_1) (cont.)

(n = 224)

No.	Building a shared vision (X_1)	Arithmetic mean ($\bar{X}$)	Standard deviation (S.D.)	Level
	external initiatives for change and the school's vision.			
6	School administrators assist personnel in understanding the larger social mission of which their vision of the school is a part.	4.00	0.98	High
7	School administrators use all available opportunities to communicate the school's vision to personnel, students, parents and other members of the school community.	4.10	0.86	High
Total (X_1)		4.23	0.90	High

According to Table 5, the dimension Building a shared vision of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{X}$= 4.23, S.D. = 0.90). The arithmetic mean of each of the aspect of Building a shared vison was at a high level; school administrators provide personnel with an overall sense of purpose ($\bar{X}$= 4.45, S.D. = 0.86), school administrators excite personnel with the school's visions of what they may be able to accomplish ($\bar{X}$ = 4.32, S.D. = 0.93), school administrators clarify the meaning of the school's vision in terms of its practical implications for programmes and instruction ($\bar{X}$ = 4.31, S.D. = 0.97), school administrators engage personnel in the collective development of a shared vision ($\bar{X}$ = 4.28, S.D. = 0.83), school administrators assist personnel in understanding the

relationship between external initiatives for change and the schools vision ($\bar{x}$= 4.17, S.D. = 0.87), school administrators use all available opportunities to communicate the school's vision to personnel, students, parents and other members of the school community ($\bar{x}$ = 4.10, S.D. = 0.86), and school administrators assist personnel in understanding the larger social mission of which their vision of the school is a part ($\bar{x}$ = 4.00, S.D. = 0.98), respectively. The standard deviation was between 0.83-0.98 which means that the respondents' opinions were consistent.

Table 6 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Developing consensus about goals (X_2)

(n = 224)

No.	Developing consensus about goals (X_2)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	School administrators provide personnel with a process through which to establish school goals.	4.37	0.83	High
2	School administrators expect teams of personnel to review progress toward school goals.	4.17	0.84	High
3	School administrators assist personnel in developing consistency between school visions and their both groups and individual goals.	4.14	0.87	High
4	School administrators work towards the development about consensus about school and group goals and the priority to be awarded such goals.	3.93	0.87	High

Table 6 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Developing consensus about goals (X_2) (cont.)

(n = 224)

No.	Developing consensus about goals (X_2)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
5	School administrators encourage personnel to establish and review individual professional growth goals.	4.34	0.87	High
6	School administrators have ongoing discussions with individual personnel about their professional growth goals.	4.04	0.89	High
7	School administrators act as an important resource in helping personnel achieve their individual and school goals.	4.18	0.93	High
	Total (X_2)	4.17	0.87	**High**

From Table 6, the dimension Developing consensus about goals of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.17, S.D. = 0.87). The arithmetic mean of each of the aspect of Developing consensus about goals was at a high level; school administrators provide personnel with a process through which to establish school goals ($\bar{x}$ = 4.37, S.D. = 0.83), school administrators encourage personnel to establish and review individual professional growth goals ($\bar{x}$ = 4.34, S.D. = 0.87), school administrators act as an important resource in helping personnel achieve their individual and school goals ($\bar{x}$ = 4.18, S.D. = 0.93, school administrators expect teams of personnel to review progress

toward school goals ($\bar{x}$ = 4.17, S.D. = 0.84), school administrators assist personnel in developing consistency between school visions and their both groups and individual goals ($\bar{x}$ = 4.14, S.D. = 0.87), school administrators have ongoing discussions with individual personnel about their professional growth goals ($\bar{x}$ = 4.04, S.D. = 0.89), and school administrators work towards the development about consensus about school and group goals and the priority to be awarded such goals ($\bar{x}$ = 3.93, S.D. = 0.87), respectively. The standard deviation was between 0.83-0.93 which means that the respondents' opinions were consistent.

Table 7 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Creating high performance expectations (X_3)

(n = 224)

No.	Creating high performance expectations (X_3)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	School administrators expect personnel to be innovative, hardworking and professional.	4.34	0.87	High
2	School administrators demonstrate an unflagging commitment to the welfare of students.	4.33	0.85	High
3	School administrators espouse norms of excellence and quality of service.	4.22	0.90	High
4	School administrators establish flexible boundaries for what personnel do.	4.33	0.87	High
5	School administrators are clear about ones' own views of what is right and good.	4.18	0.86	High
Total (X_3)		4.28	0.87	High

According to Table 7, the dimension Creating high performance expectations of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{X}$ = 4.28, S.D. = 0.87). The arithmetic mean of each of the aspect of Creating high performance expectations was at a high level; school administrators expect personnel to be innovative, hardworking and professional ($\bar{X}$ = 4.34, S.D. = 0.87), school administrators demonstrate an unflagging commitment to the welfare of students ($\bar{X}$ = 4.33, S.D. = 0.85), equally, school administrators establish flexible boundaries for what personnel do ($\bar{X}$ = 4.33, S.D. = 0.87, school administrators espouse norms of excellence and quality of service ($\bar{X}$ = 4.22, S.D. = 0.90), and school administrators are clear about ones' own views of what is right and good ($\bar{X}$ = 4.18, S.D. = 0.86), respectively. The standard deviation was between 0.85-0.90 which means that the respondents' opinions were consistent.

Table 8 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Providing individualized support (X_4)

(n = 224)

No.	Providing individualized support (X_4)	Arithmetic mean ($\bar{X}$)	Standard deviation (S.D.)	Level
1	School administrators treat everyone equally.	4.09	0.95	High
2	School administrators have an 'open-door' policy for individuals.	3.97	0.96	High
3	School administrators protect personnel from excessive intrusions on their classroom work.	3.86	0.97	High

Table 8 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Providing individualized support (X_4) (cont.)

(n = 224)

No.	Providing individualized support (X_4)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
4	School administrators encourage individual personnel to try new practices consistent with their interests.	4.21	0.83	High
5	School administrators get to know individual personnel to understand their problems and to be aware of their particular skills and interests and listen fully to personnel's ideas.	3.95	0.93	High
6	School administrators in stil, in personnel, a sense of belonging to the school.	4.05	0.81	High
	Total (X_4)	4.02	0.91	High

Regarding Table 8, the dimension Providing individualized support of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.02, S.D. = 0.91). The arithmetic mean of each of the aspect of Providing individualized support was at a high level; school administrators encourage individual personnel to try new practices consistent with their interests ($\bar{x}$ = 4.21, S.D. = 0.83), school administrators treat everyone equally ($\bar{x}$ = 4.09, S.D. = 0.95), school administrators instil, in personnel, a sense of belonging to the school ($\bar{x}$ = 4.05, S.D. = 0.81, school administrators have an 'open-door' policy for individuals ($\bar{x}$ = 3.97, S.D. = 0.96),

school administrators get to know individual personnel to understand their problems and to be aware of their particular skills and interests and listen fully to personnel's ideas ($\bar{x}$ = 3.95, S.D. = 0.93), and school administrators protect personnel from excessive intrusions on their classroom work ($\bar{x}$ = 3.86, S.D. = 0.97), respectively. The standard deviation was between 0.81-0.97 which means that the respondents' opinions were consistent.

Table 9 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Creating intellectual stimulation (X_5)

(n = 224)

No.	Creating intellectual stimulation (X_5)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	School administrators encourage personnel's efforts toward professional and school improvement.	4.35	0.86	High
2	School administrators require personnel to support opinions with good reasons.	3.98	1.06	High
3	School administrators stimulate personnel to think more deeply about what they are doing for their students.	4.11	0.98	High
4	School administrators encourage personnel to evaluate their practices and refine them as needed.	4.21	0.87	High
5	School administrators encourage personnel to pursue their own goals for professional learning.	4.12	0.94	High

Table 9 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Creating intellectual stimulation (X_5) (cont.)

(n = 224)

No.	Creating intellectual stimulation (X_5)	Arithmetic mean ($\overline{x}$)	Standard deviation (S.D.)	Level
6	School administrators provide the necessary resources to support personnel participation in change initiatives.	4.14	0.84	High
7	School administrators stimulate personnel to search for and discuss new ideas and information relevant to school directions.	4.09	0.87	High
8	School administrators seek out new ideas by visiting other schools, attending conferences and passing on these new ideas to personnel.	4.14	0.88	High
9	School administrators invite teachers to share their expertise with their colleagues.	4.19	0.88	High
10	School administrators consistently seek out and communicate productive activities taking place within the school.	4.10	0.89	High
Total (X_5)		4.14	0.91	High

According to Table 9, the dimension Creating intellectual stimulation of the transformational leadership of school administrators under The Secondary

Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.14, S.D. = 0.91). The arithmetic mean of each of the aspect of Creating intellectual stimulation was at a high level; school administrators encourage personnel's efforts toward professional and school improvement ($\bar{x}$ = 4.35, S.D. = 0.86), school administrators encourage personnel to evaluate their practices and refine them as needed ($\bar{x}$ = 4.21, S.D. = 0.87), school administrators invite teachers to share their expertise with their colleagues ($\bar{x}$ = 4.19, S.D. = 0.88, school administrators provide the necessary resources to support personnel participation in change initiatives ($\bar{x}$ = 4.14, S.D. = 0.84), school administrators seek out new ideas by visiting other schools, equally, attending conferences and passing on these new ideas to personnel ($\bar{x}$ = 4.14, S.D. = 0.88), school administrators encourage personnel to pursue their own goals for professional learning ($\bar{x}$ = 4.12, S.D. = 0.94), school administrators stimulate personnel to think more deeply about what they are doing for their students ($\bar{x}$ = 4.11, S.D. = 0.98), school administrators consistently seek out and communicate productive activities taking place within the school ($\bar{x}$ = 4.10, S.D. = 0.89), school administrators stimulate personnel to search for and discuss new ideas and information relevant to school directions ($\bar{x}$ = 4.09, S.D. = 0.87), and school administrators require personnel to support opinions with good reasons ($\bar{x}$ = 3.98, S.D. = 1.06), respectively. The standard deviation was between 0.84-1.06 which means that the respondents' opinions were consistent.

Table 10 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Modelling important values and practices (X_6)

(n = 224)

No.	Modelling important values and practices (X_6)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	School administrators act as a role model, leading by doing than only by telling.	4.06	0.92	High
2	School administrators involve in all aspects of school activity, work alongside personnel to plan special events, are responsible for own work.	4.24	0.82	High
3	School administrators model problem-solving techniques that personnel can adapt for their own work.	4.15	0.90	High
4	School administrators engage in practices intended to reinforce key values: the basic values of respect for others, trust in the judgement of one's colleagues, integrity, and even the value of punctuality.	4.15	0.84	High
Total (X_6)		4.15	0.87	High

According to Table 10, the dimension Modelling important values and practices of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.15, S.D. = 0.87). The arithmetic mean of each of the aspect of Modelling important values and practices was at a high level; school administrators involve in

all aspects of school activity, work alongside personnel to plan special events, are responsible for own work ($\bar{\mathcal{X}}$ = 4.24, S.D. = 0.82), school administrators engage in practices intended to reinforce key values: the basic values of respect for others, trust in the judgement of one's colleagues, integrity, and even the value of punctuality ($\bar{\mathcal{X}}$ = 4.15, S.D. = 0.84), school administrators model problem-solving techniques that personnel can adapt for their own work ($\bar{\mathcal{X}}$ = 4.15, S.D. = 0.90), and school administrators act as a role model, leading by doing than only by telling ($\bar{\mathcal{X}}$ = 4.06, S.D. = 0.92), respectively. The standard deviation was between 0.82-0.92 which means that the respondents' opinions were consistent.

Table 11 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Culture building (X_7)

(n = 224)

No.	Culture building (X_7)	Arithmetic mean ($\bar{\mathcal{X}}$)	Standard deviation (S.D.)	Level
1	School administrators develop school norms, beliefs, values and assumptions that are student centred.	4.31	0.86	High
2	School administrators support continuing professional growth by personnel.	4.37	0.87	High
3	School administrators encourage collaborative problem solving.	4.25	0.85	High
4	School administrators have the potential to enhance personnel's motivation to change through their influence on personnel's beliefs in their school.	4.15	0.89	High
Total (X_7)		4.27	0.87	High

According to Table 11, the dimension Culture building of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.27, S.D. = 0.87). The arithmetic mean of each of the aspect of Culture building was at a high level; school administrators support continuing professional growth by personnel ($\bar{x}$ = 4.37, S.D. = 0.87), school administrators develop school norms, beliefs, values and assumptions that are student centred ($\bar{x}$ = 4.31, S.D. = 0.86), school administrators encourage collaborative problem solving ($\bar{x}$ = 4.25, S.D. = 0.85, and school administrators have the potential to enhance personnel's motivation to change through their influence on personnel's beliefs in their school ($\bar{x}$ = 4.15, S.D. = 0.89), respectively. The standard deviation was between 0.85-0.89 which means that the respondents' opinions were consistent.

Table 12 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Creating and maintaining shared decision-making structures and processes (X_8)

(n = 224)

No.	Creating and maintaining shared decision-making structures and processes (X_8)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	School administrators provide opportunities for personnel of the school to participate in decision making about issues that affect them.	4.25	0.86	High
2	School administrators provide opportunities for personnel of the school to participate in decision making about which their knowledge is crucial.	4.34	0.85	High

Table 12 The arithmetic mean, standard deviation, and level of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Creating and maintaining shared decision-making structures and processes (X8) (cont.)

(n = 224)

No.	Creating and maintaining shared decision-making structures and processes (X_8)	Arithmetic mean ($\bar{X}$)	Standard deviation (S.D.)	Level
3	School administrators create discretion and autonomy for personnel to use their expertise to greatest effect.	4.27	0.80	High
	Total (X_8)	4.29	0.84	High

Regarding Table 12, the dimension Creating and maintaining shared decision-making structures and processes of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{X}$ = 4.29, S.D. = 0.84). The arithmetic mean of each of the aspect of Creating and maintaining shared decision-making structures and processes was at a high level; school directors provide opportunities for personnel of the school to participate in decision making about which their knowledge is crucial ($\bar{X}$ = 4.34, S.D. = 0.85), school administrators create discretion and autonomy for personnel to use their expertise to greatest effect ($\bar{X}$ = 4.27, S.D. = 0.80), school administrators provide opportunities for personnel of the school to participate in decision making about issues that affect them ($\bar{X}$ = 4.25, S.D. = 0.86), respectively. The standard deviation was between 0.80-0.86 which means that the respondents' opinions were consistent.

Part 3 The analysis of the school management in digital era of school administrators

      Arithmetic mean (X) and standard deviation (SD) were applied to analyse the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi. Then the result was compared to the arithmetic mean according to Best as shown in Table 13.

Table   13 The arithmetic mean, standard deviation, and level of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi (Y_{tot})

(n = 224)

No.	School management in digital era of school administrators	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	Shaping and selecting digital technology (Y_1)	4.32	0.80	High
2	Managing enthusiasm (Y_2)	4.21	0.76	High
3	Achieving digital integration (Y_3)	4.28	0.80	High
4	Balancing internal and external control (Y_4)	4.24	0.73	High
5	Managing risk (Y_5)	4.32	0.72	High
6	Securing school information assets (Y_6)	4.26	0.75	High
7	Managing information (Y_7)	4.30	0.76	High
8	Overseeing the technology and education direction (Y_8)	4.27	0.73	High
9	Networking with the home technology (Y_9)	4.20	0.81	High
10	Financing the technology (Y_{10})	4.07	0.82	High
	Total (Y_{tot})	**4.25**	**0.77**	**High**

Regarding Table 13, the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi (Y_{tot}) was at a high level ($\bar{X}$ = 4.25, S.D. = 0.77). When considering the arithmetic mean of each aspect, all of the aspects of the school management in digital era of school directors under The Secondary Educational Service Area Office Kanchanaburi were respectively at a high level. The aspects which had the highest mean were managing risk ($\bar{X}$ = 4.32, S.D. = 0.76) and shaping and selecting digital technology ($\bar{X}$ = 4.32, S.D. = 0.80. The rest were respectively in the high level: managing information ($\bar{X}$ = 4.30, S.D. = 0.76), achieving digital integration ($\bar{X}$ = 4.28, S.D. = 0.80), overseeing the technology and education direction ($\bar{X}$ = 4.27, S.D. = 0.73), securing school information assets ($\bar{X}$ = 4.26, S.D. = 0.75), balancing internal and external control ($\bar{X}$ = 4.24, S.D. = 0.73), managing enthusiasm ($\bar{X}$ = 4.21, S.D. = 0.76), networking with the home technology ($\bar{X}$ = 4.20, S.D. = 0.81), and financing the technology ($\bar{X}$ = 4.07, S.D. = 0.82), respectively. The standard deviation was between 0.72-0.82 which means that the respondents' opinions were consistent.

The analysis of each dimension of the school management in digital era of school administrators under the Secondary Educational Service Area Office Kanchanaburi were displayed in Table 14-23.

Table 14 The arithmetic mean, standard deviation, and level of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Shaping and selecting digital technology (Y_1)

(n = 224)

No.	Shaping and selecting digital technology (Y_1)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	The school has shaping and selecting digital technologies efficiently and effectively.	4.28	0.76	High
2	The school has understanding of applying technology.	4.39	0.82	High
3	The school shapes how technology could be used to enhance the school and education systems and outcomes for students.	4.30	0.82	High
	Total (Y_1)	**4.32**	**0.80**	**High**

Regarding Table 14, the dimension Shaping and selecting digital technology of the school management in digital era of school administrator under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.32, S.D. = 0.80). The arithmetic mean of each of the aspect of Shaping and selecting digital technology was at a high level; the school has understanding of applying technology ($\bar{x}$ = 4.39, S.D. = 0.82), the school shapes how technology could be used to enhance the school and education systems and outcomes for students ($\bar{x}$ = 4.30, S.D. = 0.82), and the school has shaping and selecting digital technologies efficiently and effectively ($\bar{x}$ = 4.28, S.D. = 0.76), respectively. The standard deviation was between 0.76-0.82 which means that the respondents' opinions were consistent.

Table 15 The arithmetic mean, standard deviation, and level of the school management in digital era of school administrator under The Secondary Educational Service Area Office Kanchanaburi about Managing enthusiasm (Y_2)

(n = 224)

No.	Managing enthusiasm (Y_2)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	The school has trialling and development of new technologies.	4.11	0.80	High
2	The school has careful mentoring of the effects of the technologies on teaching practice, student outcomes and school costs.	4.17	0.69	High
3	The school manages the enthusiasm of early adopters and their quest to acquire and use every new piece of technology, whether it is the latest communication device, educational software, or social networking facility.	4.23	0.76	High
4	The school encourages adopters to ask and report on the hard questions about the educational appropriateness of the technology for students.	4.33	0.77	High
	Total (Y_2)	4.21	0.76	High

From Table 15, the dimension Managing enthusiasm of the school management in digital era of school administrators under The Secondary educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.21, S.D. = 0.76). The arithmetic mean of each of the aspect of Managing enthusiasm was at a high level; the school encourages adopters to ask and report on the hard questions about the educational appropriateness of the technology for students ($\bar{x}$ = 4.33, S.D. = 0.77), the school manages the enthusiasm of early adopters and their quest to acquire and

use every new piece of technology, whether it is the latest communication device, educational software, or social networking facility ($\bar{x}$ = 4.23, S.D. = 0.76), the school has careful mentoring of the effects of the technologies on teaching practice, student outcomes and school costs ($\bar{x}$ = 4.17, S.D. = 0.69), and the school has trialling and development of new technologies ($\bar{x}$ = 4.11, S.D. = 0.80), respectively. The standard deviation was between 0.69-0.80 which means that the respondents' opinions were consistent.

Table 16 The arithmetic mean, standard deviation, and level of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Achieving digital integration (Y_3)

(n = 224)

No.	Achieving digital integration (Y_3)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	The school has deliberate action on digital integration and facility.	4.25	0.80	High
2	The school engages staff in achieving digital integration across the school.	4.20	0.81	High
3	The school fosters teachers to work together in the hope of better outcomes for students.	4.38	0.78	High
Total (Y_3)		4.28	0.80	High

According to Table 16, the dimension Achieving digital integration of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.28, S.D. = 0.80). The arithmetic mean of each of the aspect of Achieving digital integration was at a high level; the school fosters teachers to work together in the hope of better outcomes for students ($\bar{x}$ = 4.38, S.D. = 0.78), the school has

deliberate action on digital integration and facility ($\bar{x}$ = 4.25, S.D. = 0.80), and the school engages staff in achieving digital integration across the school ($\bar{x}$ = 4.20, S.D. = 0.81), respectively. The standard deviation was between 0.78-0.81 which means that the respondents' opinions were consistent.

Table 17 The arithmetic mean, standard deviation, and level of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Balancing internal and external control (Y_4)

(n = 224)

No.	Balancing internal and external control (Y_4)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	The school balances internal and external control appropriately.	4.20	0.75	High
2	The school has clear contractual arrangements and obligations agreed between the relevant education authority and the external agency to control the use of information.	4.21	0.70	High
3	The school determines which services will be controlled by the school, and which will be delegated to outside bodies.	4.30	0.73	High
	Total (Y_4)	4.24	0.73	High

Regarding Table 17, the dimension Balancing internal and external control of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.24, S.D. = 0.73). The arithmetic mean of each of the aspect of Balancing internal and external control was at a high level; the school determines which services will be

controlled by the school, and which will be delegated to outside bodies ($\bar{x}$ = 4.30, S.D. = 0.73), the school has clear contractual arrangements and obligations agreed between the relevant education authority and the external agency to control the use of information ($\bar{x}$ = 4.21, S.D. = 0.70), and the school balances internal and external control appropriately ($\bar{x}$ = 4.20, S.D. = 0.75), respectively. The standard deviation was between 0.70-0.75 which means that the respondents' opinions were consistent.

Table   18 The arithmetic mean, standard deviation, and level of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Managing risk (Y_5)

(n = 224)

No.	Managing risk (Y_5)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	The school has management and awareness of any risks that would occur.	4.39	0.74	High
2	The school is responsible for poor choice and loss of teaching time and inappropriate use of the technology.	4.33	0.71	High
3	The school has good risk management.	4.25	0.71	High
Total (Y_5)		4.32	0.72	High

According to Table 18, the dimension Managing risk of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.32, S.D. = 0.72). The arithmetic mean of each of the aspect of Managing risk was at a high level; the school has management and awareness of any risks that would occur ($\bar{x}$ = 4.39, S.D. = 0.74), the school is responsible for poor choice and loss of teaching time and inappropriate use of the technology ($\bar{x}$ = 4.33, S.D. = 0.71), and the school has good

risk management ($\bar{x}$ = 4.25, S.D. = 0.71), respectively. The standard deviation was between 0.71-0.74 which means that the respondents' opinions were consistent.

Table 19 The arithmetic mean, standard deviation, and level of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Securing school information assets (Y_6)

(n = 224)

No.	Securing school information assets (Y_6)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	School information assets are secured.	4.27	0.77	High
2	The school has school information assets management.	4.28	0.73	High
3	The school's extensive and valuable information resources are protected.	4.21	0.75	High
4	School information assets are systematically archived and ready for use.	4.27	0.75	High
	Total (Y_6)	4.26	0.75	High

From Table 19, the dimension Securing school information assets of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.26, S.D. = 0.75). The arithmetic mean of each of the aspect of Securing school information assets was at a high level; the school has school information assets management ($\bar{x}$ = 4.28, S.D. = 0.73), school information assets are systematically archived and ready for use ($\bar{x}$ = 4.27, S.D. = 0.75), equally, school information assets are secured ($\bar{x}$ = 4.27, S.D. = 0.77) and the school's extensive and valuable

information resources are protected ($\bar{x}$ = 4.21, S.D. = 0.75), respectively. The standard deviation was between 0.73-0.77 which means that the respondents' opinions were consistent.

Table 20 The arithmetic mean, standard deviation, and level of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Managing information (Y_7)

(n = 224)

No.	Managing information (Y_7)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	The school's valuable information on the workings and outcomes are well-organized.	4.31	0.73	High
2	The school has the information and knowledge management systems in place to obtain a ready insight into the short and long-term effectiveness and efficiency of their operation.	4.29	0.78	High
Total (Y_7)		4.30	0.76	High

According to Table 20, the dimension Managing information of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.30, S.D. = 0.76). The arithmetic mean of each of the aspect of Managing information was at a high level; the school's valuable information on the workings and outcomes are well-organized ($\bar{x}$ = 4.31, S.D. = 0.73), and the school has the information and knowledge

management systems in place to obtain a ready insight into the short and long-term effectiveness and efficiency of their operation ($\bar{x}$ = 4.29, S.D. = 0.78), respectively. The standard deviation was between 0.73-0.78 which means that the respondents' opinions were consistent.

Table 21 The arithmetic mean, standard deviation, and level of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Overseeing the technology and education direction (Y_8)

(n = 224)

No.	Overseeing the technology and education direction (Y_8)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	The technology chosen is consonant with the educational goals of the school.	4.16	0.73	High
2	The school has the information of the educational and digital landscape in which the school is situated.	4.24	0.72	High
3	The school has the procedures that enhance school outcomes and student learning.	4.41	0.73	High
Total (Y_8)		4.27	0.73	High

According to Table 21, the dimension Overseeing the technology and education direction of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.27, S.D. = 0.73). The arithmetic mean of each of the aspect of Overseeing the technology and education direction was at a high level; the school has the procedures that enhance school outcomes and student learning ($\bar{x}$ = 4.41,

S.D. = 0.73), the school has the information of the educational and digital landscape in which the school is situated ($\bar{x}$ = 4.24, S.D. = 0.72), and the technology chosen is consonant with the educational goals of the school ($\bar{x}$ = 4.16, S.D. = 0.73), respectively. The standard deviation was between 0.72-0.73 which means that the respondents' opinions were consistent.

Table 22 the arithmetic mean, standard deviation, and level of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Networking with the home technology (Y_9)

(n = 224)

No.	Networking with the home technology (Y_9)	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	The school's technology is suitable for the level of technology in students' homes or hands.	4.13	0.82	High
2	The school's design of the instructional program relates to the level of technology in students' homes or hands.	4.28	0.81	High
3	The school can work with parents and provide advice about management and choice of hardware and software to support the students' education.	4.19	0.81	High
Total (Y_9)		4.20	0.81	High

Regarding Table 22, the dimension Networking with the home technology of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.20,

S.D. = 0.81). The arithmetic mean of each of the aspect of Networking with the home technology was at a high level; the school's design of the instructional program relates to the level of technology in students' homes or hands ($\bar{x}$ = 4.28, S.D. = 0.81) , the school can work with parents and provide advice about management and choice of hardware and software to support the students' education ($\bar{x}$ = 4.19, S.D. = 0.81), and the school's technology is suitable for the level of technology in students' homes or hands ($\bar{x}$ = 4.13, S.D. = 0.82), respectively. The standard deviation was between 0.81-0.82 which means that the respondents' opinions were consistent.

Table 23 the arithmetic mean, standard deviation, and level of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Financing the technology (Y_{10})

(n = 224)

No.	Financing the technology (Y_{10})	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
1	The school develops the capability for funding investments in digital technology.	3.81	0.78	High
2	The school has strategic investment decisions that maximise the benefits that digital technology holds for the students.	4.02	0.84	High
3	The school sets clear operational parameters.	4.00	0.82	High
4	The school reviews the use of existing technology.	4.20	0.81	High
5	The school questions the return on investment.	4.13	0.85	High

Table 23 the arithmetic mean, standard deviation, and level of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi about Financing the technology (Y_{10}) (cont.)

(n = 224)

No.	Financing the technology (Y_{10})	Arithmetic mean ($\bar{x}$)	Standard deviation (S.D.)	Level
6	The school channels the scarce resources towards the use of technology that will lead their school and systems into the digital age.	4.26	0.82	High
	Total (Y_{10})	4.07	0.82	High

From Table 23, the dimension Financing the technology of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level ($\bar{x}$ = 4.07, S.D. = 0.82). The arithmetic mean of each of the aspect of Financing the technology y was at a high level; the school channels the scarce resources towards the use of technology that will lead their school and systems into the digital age ($\bar{x}$ = 4.26, S.D. = 0.82), the school reviews the use of existing technology ($\bar{x}$ = 4.20, S.D. = 0.81), the school questions the return on investment ($\bar{x}$ = 4.13, S.D. = 0.85), the school has strategic investment decisions that maximise the benefits that digital technology holds for the students ($\bar{x}$ = 4.02, S.D. = 0.84) and the school sets clear operational parameters ($\bar{x}$ = 4.00, S.D. = 0.82), respectively. The standard deviation was between 0.78-0.85 which means that the respondents' opinions were consistent.

Part 4 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi

Pearson's product moment correlation-coefficient (r_{xy}) was applied to analyse the relationship between transformational leadership of school administrators and the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi as shown in Table 24.

Table 24 The analysis of the relationship between transformational leadership of school administrators and the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi

(n = 224)

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_{tot}	Y_{tot}
X_1	1									
X_2	.843**	1								
X_3	.779**	.771**	1							
X_4	.823**	.860**	.795**	1						
X_5	.860**	.917**	.840**	.911**	1					
X_6	.819**	.746**	.794**	.827**	.816**	1				
X_7	.914**	.840**	.781**	.828**	.858**	.860**	1			
X_8	.779**	.748**	.745**	.748**	.750**	.774**	.871**	1		
X_{tot}	.930**	.916**	.887**	.926**	.948**	.905**	.948**	.875**	1	
Y_{tot}	.780**	.689**	.635**	.744**	.697**	.720**	.834**	.882**	.816**	1

** Statistically significant at the .01 level

 * Statistically significant at the .05 level

Regarding Table 24, the relationship between the transformational leadership of school administrators (X_{tot}) and the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi (Y_{tot}) as a whole were positive correlation (r_{xy}=.816**) with statistical significance at the .01 level.

From considering the relationship between the school management in digital era (Y_{tot}) and each aspect of the transformational leadership of school administrators (X_1-X_8), the correlation coefficient of each of the independent variables was in descending order as follows: creating and maintaining shared decision-making structures and processes (X_8) (r =.882[**]), culture building (X_7) (r =.834[**]), building a shared (X_1) (r =.780[**]), providing individualised support (X_4) (r =.744[**]), modelling important values and practices (X_6) (r =.720[**]), creating intellectual stimulation (X_5) (r =.697[**]), developing consensus about goals (X_2) (r =.689[**]), and creating high performance expectations (X_3) (r =.635[**]), respectively.

Stepwise multiple regression analysis was applied to analyse the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi as displayed in Table 25-30.

Table 25 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi (Y_{tot})

Source of variation	df.	Sum of Squares	Mean Squares	F	Sig
Regression	5	75.783	15.157	215.597	.000
Residual	218	15.325	0.070		

Multiple correlation coefficient (Multiple R)	0.912
Coefficient of determination (R Square)	0.832
Adjusted coefficient of determination (Adjusted R Square)	0.828
Standard error of estimate (Standard Error)	0.26514

Table 25 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi (Y_{tot}) (cont.)

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	T	Sig
	B	Std.Error			
Constant	1.320	0.107		12.366	.000
1. Creating and maintaining shared decision-making structures and processes (X_8)	0.592	0.038	0.755	15.622	.000
3. Creating high performance expectations (X_3)	-0.201	0.041	-0.252	-4.914	.000
4. Providing individualised support (X_4)	0.220	0.048	0.284	4.602	.000
5. Developing consensus about goals (X_2)	-0.163	0.053	-0.193	-3.092	.002

Regarding Table 25, the predictor variables which were chosen to be in the equation were creating and maintaining shared decision-making structures and processes (X_8), building a shared vision (X_1), creating high performance expectations (X_3), providing individualised support (X_4), and developing consensus about goals (X_2). The multiple correlation coefficient of the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi (Y_{tot}) was 0.912 and the coefficient of determination (R Square) was 0.832. That is to say, creating and maintaining shared decision-making structures and processes (X_8), building a shared vision (X_1), creating high performance expectations (X_3), providing individualised support (X_4), and developing consensus about goals (X_2) could 83.20 percent predicted the school management in digital era, as a whole. The adjusted coefficient of determination (Adjusted R Square) was 0.828 and Standard error of estimate

(Standard Error) was 0.26514. This means creating and maintaining shared decision-making structures and processes (X_8), building a shared vision (X_1), creating high performance expectations (X_3), providing individualised support (X_4), and developing consensus about goals (X_2) affected the school management in digital era (Y_{tot}), as a whole, with .05 level of statistical significance; however, creating high performance expectations (X_3) and developing consensus about goals (X_2) showed the negative correlation with the school management in digital era (Y_{tot}). The multiple linear regression equation was as follows.

$$\widehat{Y}_{tot} = 1.320 + 0.592(X_8) + 0.246(X_1) + -0.201(X_3) + 0.220(X_4) + -0.163(X_2)$$

Table 26 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Shaping and selecting digital technology (Y_1)

Source of variation	df.	Sum of Squares	Mean Squares	F	Sig
Regression	3	99.870	33.290	244.172	.000
Residual	220	29.995	0.136		
Total	223	129.865			
Residual	218	15.325	0.070		

Multiple correlation coefficient (Multiple R)	0.877
Coefficient of determination (R Square)	0.769
Adjusted coefficient of determination (Adjusted R Square)	0.766
Standard error of estimate (Standard Error)	0.36924

Table 26 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Shaping and selecting digital technology (Y_1) (cont.)

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	T	Sig
	B	Std.Error			
Constant	0.775	0.144		5.391	.000
1. Creating and maintaining shared decision-making structures and processes (X_8)	0.625	0.052	0.668	12.098	.000
2. Building a shared vision (X_1)	0.361	0.054	0.389	6.635	.000
3. Creating high performance expectations (X_3)	-0.154	0.053	-0.162	-2.932	.004

According to Table 26, the predictor variables which were chosen to be in the equation were creating and maintaining shared decision-making structures and processes (X_8), building a shared vision (X_1), and creating high performance expectations. The multiple correlation coefficient of the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Shaping and selecting digital technology (Y_1) was 0.877 and the coefficient of determination (R Square) was 0.769. That is to say, creating and maintaining shared decision-making structures and processes (X_8), building a shared vision (X_1), and creating high performance expectations (X_3) could 76.90 percent predicted the school management in digital era on Shaping and selecting digital technology (Y_1). The adjusted coefficient of determination (Adjusted R Square) was 0.766 and the standard error of estimate (Standard Error) was 0.36924. This means creating and maintaining shared decision-making structures and processes (X_8), building a shared vision (X_1), and creating high performance expectations (X_3) affected the school management in digital era on Shaping and selecting digital technology (Y_1),

individually, with .05 level of statistical significance; however, creating high performance expectations (X_3) showed the negative correlation. The multiple linear regression equation was as follows.

$$\widehat{Y}_1 = 0.775 + 0.625(X_8) + 0.361(X_1) + -0.1541(X_3)$$

Table 27 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Managing enthusiasm (Y_2)

Source of variation	df.	Sum of Squares	Mean Squares	F	Sig
Regression	3	68.508	22.836	135.149	.000
Residual	220	37.173	0.169		
Total	223	105.681			

Multiple correlation coefficient (Multiple R) 0.805
Coefficient of determination (R Square) 0.648
Adjusted coefficient of determination (Adjusted R Square) 0.643
Standard error of estimate (Standard Error) 0.41106

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	t	Sig
	β	Std.Error			
Constant	1.442	0.160		9.018	.000
1. Culture building (X_7)	0.692	0.111	0.814	6.241	.000
2. Creating and maintaining shared decision-making structures and processes (X_8)	0.435	0.072	0.515	6.009	.000
3. Transformational leadership (X_{tot})	-0.490	0.123	-0.527	-3.981	.000

Regarding Table 27, the predictor variables which were chosen to be in the equation were culture building (X_7), creating and maintaining shared decision-making structures and processes (X_8), and transformational leadership (X_{tot}). The multiple correlation coefficient of the school management in digital era under The Secondary

Educational Service Area Office Kanchanaburi on *Managing enthusiasm (Y₂)* was 0.805 and the coefficient of determination (R Square) was 0.648. That is to say, culture building (X_7), creating and maintaining shared decision-making structures and processes (X_8), and transformational leadership (X_{tot}) could 64.80 percent predicted the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on *Managing enthusiasm (Y₂)*. The adjusted coefficient of determination (Adjusted R Square) was 0.643 and the standard error of estimate (Standard Error) was 0.41106. This means creating and maintaining shared decision-making structures and processes (X_8), and transformational leadership (X_{tot}) affected the school management in digital era under the Secondary Educational Service Area Office Kanchanaburi on *Managing enthusiasm (Y₂)*, individually, with .05 level of statistical significance; however, transformational leadership (X_{tot}) showed the negative correlation. The multiple linear regression equation was as follows.

$$\widehat{Y}_2 = 1.442 + 0.692(X_7) + 0.435(X_8) + -0.490(X_{tot})$$

Table 28 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Achieving digital integration (Y₃)

Source of variation	df.	Sum of Squares	Mean Squares	F	Sig
Regression	6	98.947	16.491	161.288	.000
Residual	217	22.187	0.102		
Total	223	121.134			

Multiple correlation coefficient (Multiple R) 0.904
Coefficient of determination (R Square) 0.817
Adjusted coefficient of determination (Adjusted R Square) 0.812
Standard error of estimate (Standard Error) 0.31976

Table 28 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Achieving digital integration (Y_3) (cont.)

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	t	Sig
	B	Std.Error			
Constant	1.065	0.131		8.146	.000
1. Creating and maintaining shared decision-making structures and processes (X_8)	0.560	0.054	0.619	10.293	.000
2. Culture building (X_7)	0.586	0.090	0.643	6.499	.000
3. Building a shared vision (X_1)	-0.248	0.070	-0.277	-3.542	.000
4. Developing consensus about goals (X_2)	-0.370	0.076	-0.379	-4.863	.000
5. Creating intellectual stimulation (X_5)	0.360	0.075	0.409	4.769	.000
6. Modelling important values and practices (X_6)	-0.141	.057	-0.152	-2.474	.014

According to Table 28, the predictor variables which were chosen to be in the equation were creating and maintaining shared decision-making structures and processes (X_8), culture building (X_7), building a shared vision (X_1), developing consensus about goals (X_2), creating intellectual stimulation (X_5) and modelling important values and practices (X_6). The multiple correlation coefficient of the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on *Achieving digital integration (Y_3)* was 0.904 and the coefficient of determination (R Square) was 0.817. That is to say, creating and maintaining shared decision-making structures and processes (X_8), culture building (X_7), building a shared vision (X_1), developing consensus about goals (X_2), creating intellectual stimulation (X_5) and modelling important values and practices (X_6) could 81.70 percent predicted

the school management in digital era under the Secondary Educational Service Area Office Kanchanaburi on Achieving digital integration (Y_3). The adjusted coefficient of determination (Adjusted R Square) was 0.812 and the standard error of estimate (Standard Error) was 0.31976. This means creating and maintaining shared decision-making structures and processes (X_8), culture building (X_7), building a shared vision (X_1), developing consensus about goals (X_2), creating intellectual stimulation (X_5) and modelling important values and practices (X_6) affected the school management in digital era under the Secondary Educational Service Area Office Kanchanaburi on Achieving digital integration (Y_3), individually, with .05 level of statistical significance; however, building a shared vision (X_1), developing consensus about goals (X_2), and modelling important values and practices (X_6) showed the negative correlation. The multiple linear regression equation was as follows.

$$\widehat{Y}_3 = 1.065 + 0.560(X_8) + 0.586(X_7) + -0.248(X_1) + -0.370(X_2) + 0.360(X_5) + -0.141(X_6)$$

Table 29 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Balancing internal and external control (Y_4)

Source of variation	df.	Sum of Squares	Mean Squares	F	Sig
Regression	3	56.838	18.946	99.613	.000
Residual	220	41.844	0.190		
Total	223	98.682			

Multiple correlation coefficient (Multiple R)	0.759
Coefficient of determination (R Square)	0.576
Adjusted coefficient of determination (Adjusted R Square)	0.570
Standard error of estimate (Standard Error)	0.43612

Table 29 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Balancing internal and external control (Y_4) (cont.)

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	T	Sig
	B	Std.Error			
Constant	1.679	0.169		9.919	.000
1. Creating and maintaining shared decision-making structures and processes (X_8)	0.434	0.075	0.531	5.811	.000
2. Culture building (X_7)	0.339	0.080	0.413	4.229	.000
3. Creating high performance expectations (X_3)	-0.175	0.060	-0.211	-2.932	.004

Regarding Table 29, the predictor variables which were chosen to be in the equation were creating and maintaining shared decision-making structures and processes (X_8), culture building (X_7), and creating high performance expectations (X_3). The multiple correlation coefficient of the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Balancing internal and external control (Y_4) was 0.759 and the coefficient of determination (R Square) was 0.576. That is to say, creating and maintaining shared decision-making structures and processes (X_8), culture building (X_7), and creating high performance expectations (X_3) could 57.60 percent predicted the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Balancing internal and external control (Y_4). The adjusted coefficient of determination (Adjusted R Square) was 0.570 and the standard error of estimate (Standard Error) was 0.43612. This means creating and maintaining shared decision-making structures and processes (X_8), culture building (X_7), and creating high performance expectations (X_3) affected the school management in digital era under the Secondary Educational Service Area

Office Kanchanaburi on Balancing internal and external control (Y_4), individually, with .05 level of statistical significance; however, creating high performance expectations (X_3) showed the negative correlation. The multiple linear regression equation was as follows.

$$\widehat{Y}_4 = 1.679 + 0.434(X_8) + 0.339(X_7) + -0.175(X_3)$$

Table 30 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Managing risk (Y_5)

Source of variation	df.	Sum of Squares	Mean Squares	F	Sig
Regression	5	76.244	15.249	173.498	.000
Residual	218	19.160	0.088		
Total	223	95.404			

Multiple correlation coefficient (Multiple R)   0.894
Coefficient of determination (R Square)   0.799
Adjusted coefficient of determination (Adjusted R Square)   0.795
Standard error of estimate (Standard Error)   0.29646

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	t	Sig
	B	Std.Error			
Constant	1.343	0.114		11.823	.000
1. Creating and maintaining shared decision-making structures and processes (X_8)	0.710	0.050	0.885	14.125	.000
2. Building a shared vision (X_1)	0.369	0.063	0.464	5.894	.000
3. Modelling important values and practices (X_6)	-0.294	0.054	-0.356	-5.468	.000
4. Culture building (X_7)	-0.195	0.082	-0.241	-2.370	.019

Table 30 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Managing risk (Y_5) (cont.)

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	t	Sig
	B	Std.Error			
5. Providing individualised support (X_4)	0.105	0.049	0.132	2.154	.032

Regarding Table 30, the predictor variables which were chosen to be in the equation were creating and maintaining shared decision-making structures and processes (X_8), building a shared vision (X_1), modelling important values and practices (X_6), culture building (X_7), and providing individualised support (X_4). The multiple correlation coefficient of the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Managing risk (Y_5) was 0.894 and the coefficient of determination (R Square) was 0.799. That is to say, creating and maintaining shared decision-making structures and processes (X_8), building a shared vision (X_1), modelling important values and practices (X_6), culture building (X_7), and providing individualised support (X_4) could 79.90 percent predicted the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Managing risk (Y_5). The adjusted coefficient of determination (Adjusted R Square) was 0.795 and the standard error of estimate (Standard Error) was 0.29646. This means creating and maintaining shared decision-making structures and processes (X_8), building a shared vision (X_1), modelling important values and practices (X_6), culture building (X_7), and providing individualised support (X_4) affected the school management in digital era under the Secondary Educational Service Area Office Kanchanaburi on Managing risk (Y_5), individually, with .05 level of statistical significance; however, modelling important values and practices (X_6) and culture building (X_7) showed the negative correlation. The multiple linear regression equation was as follows.

$$\widehat{Y}_5 = 1.343 + 0.710(X_8) + 0.369(X_1) + -0.294(X_6) + -0.195(X_7) + 0.105(X_4)$$

Table 31 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Securing school information assets (Y_6)

Source of variation	df.	Sum of Squares	Mean Squares	F	Sig
Regression	5	67.291	13.458	69.842	.000
Residual	218	42.007	0.193		
Total	223	109.299			

Multiple correlation coefficient (Multiple R)   0.785

Coefficient of determination (R Square)   0.616

Adjusted coefficient of determination (Adjusted R Square)   0.607

Standard error of estimate (Standard Error)   0.43897

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	t	Sig
	β	Std.Error			
Constant	2.111	0.177		11.948	.000
1. Creating and maintaining shared decision-making structures and processes (X_8)	0.488	0.075	0.569	6.501	.000
2. Providing individualised support (X_4)	0.674	0.079	0.793	8.490	.000
3. Developing consensus about goals (X_2)	-0.514	0.086	-0.553	-5.963	.000
4. Creating high performance expectations (X_3)	-0.309	0.067	-0.354	-4.632	.000
5. Culture building (X_7)	0.189	0.094	0.218	2.009	.046

Regarding Table 31, the predictor variables which were chosen to be in the equation were creating and maintaining shared decision-making structures and

processes (X_8), providing individualised support (X_4), developing consensus about goals (X_2), creating high performance expectations (X_3), and culture building (X_7). The multiple correlation coefficient of the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Securing school information assets (Y_6) was 0.785 and the coefficient of determination (R Square) was 0.616. That is to say, creating and maintaining shared decision-making structures and processes (X_8), providing individualised support (X_4), developing consensus about goals (X_2), creating high performance expectations (X_3), and culture building (X_7) could 61.60 percent predicted the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Securing school information assets (Y_6). The adjusted coefficient of determination (Adjusted R Square) was 0.607 and th standard error of estimate (Standard Error) was 0.43897. This means creating and maintaining shared decision-making structures and processes (X_8), providing individualised support (X_4), developing consensus about goals (X_2), creating high performance expectations (X_3), and culture building (X_7) affected the school management in digital era under the Secondary Educational Service Area Office Kanchanaburi on Securing school information assets (Y_6), individually, with .05 level of statistical significance; however, developing consensus about goals (X_2) and creating high performance expectations (X_3) showed the negative correlation. The multiple linear regression equation was as follows.

$$\widehat{Y}_6 = 2.111 + 0.488(X_8) + 0.674(X_4) + -0.514(X_2) + -0.309(X_3) + 0.189(X_7)$$

Table 32 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Managing information (Y_7)

Source of variation	df.	Sum of Squares	Mean Squares	F	Sig
Regression	5	98.983	19.797	166.136	.000
Residual	218	25.977	0.119		
Total	223	124.960			

Table 32 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Managing information (Y_7) (cont.)

Multiple correlation coefficient (Multiple R)					0.890
Coefficient of determination (R Square)					0.792
Adjusted coefficient of determination (Adjusted R Square)					0.787
Standard error of estimate (Standard Error)					0.34519

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	T	Sig
	β	Std.Error			
Constant	0.808	0.135		6.007	.000
1. Building a shared vision (X_1)	0.524	0.061	0.576	8.656	.000
2. Creating and maintaining shared decision-making structures and processes (X_8)	0.362	0.049	0.394	7.374	.000
3. Providing individualised support (X_4)	0.401	0.070	0.442	5.696	.000
4. Creating intellectual stimulation (X_5)	-0.288	0.081	-0.322	-3.550	.000
5. Creating high performance expectations (X_3)	-0.164	.056	-0.176	-2.913	.004

Regarding Table 32, the predictor variables which were chosen to be in the equation were building a shared vision (X_1), creating and maintaining shared decision-making structures and processes (X_8), providing individualised support (X_4), creating intellectual stimulation (X_5), and creating high performance expectations (X_3). The multiple correlation coefficient of the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on *Managing information (Y_7)* was 0.890 and the coefficient of determination (R Square) was 0.792. That is to say, building a shared vision (X_1), creating and maintaining shared decision-making structures and processes (X_8), providing individualised support (X_4), creating

intellectual stimulation (X_5), and creating high performance expectations (X_3) could 79.20 percent predicted the school management in digital era under the Secondary Educational Service Area Office Kanchanaburi on *Managing information (Y_7)*. The adjusted coefficient of determination (Adjusted R Square) was 0.787 and the standard error of estimate (Standard Error) was 0.34519. This means building a shared vision (X_1), creating and maintaining shared decision-making structures and processes (X_8), providing individualised support (X_4), creating intellectual stimulation (X_5), and creating high performance expectations (X_3) affected the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on *Managing information (Y_7).*, individually, with .05 level of statistical significance; however, creating intellectual stimulation (X_5) and creating high performance expectations (X_3) showed the negative correlation. The multiple linear regression equation was as follows.

$$\widehat{Y}_7 = 0.808 + 0.524(X_1) + 0.362(X_8) + 0.401(X_4) + -0.288(X_5) + -0.164(X_3)$$

Table 33 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Overseeing the technology and education direction (Y_8)

Source of variation	df.	Sum of Squares	Mean Squares	F	Sig
Regression	2	67.403	33.702	210.719	.000
Residual	221	35.346	0.160		
Total	223	102.750			

Multiple correlation coefficient (Multiple R)	0.810
Coefficient of determination (R Square)	0.656
Adjusted coefficient of determination (Adjusted R Square)	0.653
Standard error of estimate (Standard Error)	0.39992

Table 33 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Overseeing the technology and education direction (Y_8) *(cont.)*

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	T	Sig
	β	Std.Error			
Constant	1.249	0.150		8.315	.000
1. Creating and maintaining shared decision-making structures and processes (X_8)	0.484	0.052	0.580	9.231	.000
2. Building a shared vision (X_1)	0.224	0.052	0.271	4.316	.000

Regarding Table 33, the predictor variables which were chosen to be in the equation were creating and maintaining shared decision-making structures and processes (X_8) and building a shared vision (X_1). The multiple correlation coefficient of the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Overseeing the technology and education direction (Y_8) was 0.810 and the coefficient of determination (R Square) was 0.656. That is to say, creating and maintaining shared decision-making structures and processes (X_8) and building a shared vision (X_1) could 65.60 percent predicted the school management in digital era under the Secondary Educational Service Area Office Kanchanaburi on Overseeing the technology and education direction (Y_8). The adjusted coefficient of determination (Adjusted R Square) was 0.653 and the standard error of estimate (Standard Error) was 0.39992. This means creating and maintaining shared decision-making structures and processes (X_8) and building a shared vision (X_1) affected the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Overseeing the technology and education direction (Y_8), individually, with .05 level of statistical significance. The multiple linear regression equation was as follows.

$$\hat{Y}_8 = 1.249 + 0.484(X_8) + 0.224(X_1)$$

Table 34 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Networking with the home technology (Y_9)

Source of variation	df.	Sum of Squares	Mean Squares	F	Sig
Regression	4	91.695	22.924	134.401	.000
Residual	219	37.353	0.171		
Total	223	129.048			

Multiple correlation coefficient (Multiple R) 0.843
Coefficient of determination (R Square) 0.711
Adjusted coefficient of determination (Adjusted R Square) 0.705
Standard error of estimate (Standard Error) 0.41299

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	T	Sig
	β	Std.Error			
Constant	1.225	0.162		7.544	.000
1. Creating and maintaining shared decision-making structures and processes (X_8)	0.993	0.079	1.064	12.626	.000
2. Providing individualised support (X_4)	0.800	0.102	0.866	7.825	.000
3. Transformational leadership (X_{tot})	-1.470	0.221	-1.430	-6.651	.000
4. Building a shared vision (X_1)	0.393	0.100	0.426	3.925	.000

Regarding Table 34, the predictor variables which were chosen to be in the equation were creating and maintaining shared decision-making structures and processes (X_8), providing individualised support (X_4), transformational leadership (X_{tot}), and building a shared vision (X_1). The multiple correlation coefficient of the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on *Networking with the home technology (Y_9)* was 0.843 and the c of

determination (R Square) was 0.711. That is to say, creating and maintain shared decision-making structures and processes (X_8), providing individualised support (X_4), transformational leadership (X_{tot}), and building a shared vision (X_1) could 71.10 percent predicted the school management in digital era under the Secondary Educational Service Area Office Kanchanaburi on *Networking with the home technology (Y_9)*. The adjusted coefficient of determination (Adjusted R Square) was 0.705 and th standard error of estimate (Standard Error) was 0.41299. This means creating and maintaining shared decision-making structures and processes (X_8), providing individualised support (X_4), transformational leadership (X_{tot}), and building a shared vision (X_1) affected the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on *Networking with the home technology (Y_9)*, individually, with .05 level of statistical significance; however, transformational leadership (X_{tot}) showed the negative correlation. The multiple linear regression equation was as follows.

$$\widehat{Y}_9 = 1.225 + 0.993(X_8) + 0.800(X_4) + -1.470(X_{tot}) + 0.393(X_1)$$

Table 35 The analysis of the transformational leadership of school administrators affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Financing the technology (Y_{10})

Source of variation	df.	Sum of Squares	Mean Squares	F	Sig
Regression	5	91.385	18.277	105.247	.000
Residual	218	37.857	0.174		
Total	223	129.242			

Multiple correlation coefficient (Multiple R)	0.841
Coefficient of determination (R Square)	0.707
Adjusted coefficient of determination (Adjusted R Square)	0.700
Standard error of estimate (Standard Error)	0.41672

Table 35 The analysis of the transformational leadership of school directors affecting the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Financing the technology (Y_{10}) (cont.)

Predictor variables	Unstandardise Coefficients		Standardise Coefficients	T	Sig
	β	Std.Error			
Constant	1.267	0.162		7.803	.000
1. Creating and maintaining shared decision-making structures and processes (X_8)	0.674	0.059	0.721	11.367	.000
2. Creating high performance expectation (X_3)	-0.466	0.068	-0.490	-6.839	.000
3. Building a shared vision (X_1)	0.443	0.073	0.479	6.055	.000
4. Providing individualised support (X_4)	0.509	0.085	0.550	5.977	.000
5. Creating intellectual stimulation (X_5)	-0.485	0.098	-0.534	-4.961	.000

Regarding Table 35, the predictor variables which were chosen to be in the equation were creating and maintaining shared decision-making structures and processes (X_8), creating high performance expectation (X_3), building a shared vision (X_1), providing individualised support (X_4), and creating intellectual stimulation (X_5). The multiple correlation coefficient of the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Financing the technology (Y_{10}) was 0.841 and the coefficient of determination (R Square) was 0.707. That is to say, creating and maintaining shared decision-making structures and processes (X_8), creating high performance expectation (X_3), building a shared vision (X_1), providing individualised support (X_4), and creating intellectual stimulation (X_5) could 70.70 percent predicted the school management in digital era under the Secondary Educational Service Area Office Kanchanaburi on Financing the technology (Y_{10}). The adjusted coefficient of determination (Adjusted R Square) was 0.700 and

the standard error of estimate (Standard Error) was 0.41672. This means creating and maintaining shared decision-making structures and processes (X_8), creating high performance expectation (X_3), building a shared vision (X_1), providing individualised support (X_4), and creating intellectual stimulation (X_5) affected the school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on Financing the technology (Y_{10}), individually, with .05 level of statistical significance; however, creating high performance expectation (X_3) and creating intellectual stimulation (X_5) showed the negative correlation. The multiple linear regression equation was as follows.

$$\widehat{Y}_{10} = 1.267 + 0.674(X_8) + -0.466(X_3) + 0.443(X_1) + 0.509(X_4) + -0.485(X_5)$$

The stepwise multiple regression analysis applied to analyse transformational leadership of school administrators affecting school management in digital era under The Secondary Educational Service Area Office Kanchanaburi showed the results as follows.

1. Transformational leadership on creating and maintaining shared decision-making structures and processes, building a shared vision, creating high performance expectations, providing individualised support, and developing consensus about goals affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi, as a whole.

$$\widehat{Y}_{tot} = 1.320 + 0.592(X_8) + 0.246(X_1) + -0.201(X_3) + 0.220(X_4) + -0.163(X_2)$$

2. Transformational leadership on creating and maintaining shared decision-making structures and processes, building a shared vision and creating high performance expectations affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on shaping and selecting digital technologies.

$$\widehat{Y}_1 = 0.775 + 0.625(X_8) + 0.361(X_1) + -0.1541(X_3)$$

3. Transformational leadership on creating and maintaining shared decision-making structures and processes, building a shared vision and creating high

performance expectations affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on managing enthusiasm.

$$\widehat{Y}_2 = 1.442 + 0.\,692(X_7) + 0.\,435(X_8) + \text{-}0.\,490(X_{tot})$$

4. Transformational leadership on creating and maintaining shared decision-making structures and processes, culture building, building a shared vision, developing consensus about goals, creating intellectual stimulation and modelling important values and practices affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on achieving digital integration.

$$\widehat{Y}_3 = 1.065 + 0.560(X_8) + 0.586(X_7) + \text{-}0.248(X_1) + \text{-}0.370(X_2) + 0.360(X_5) + \text{-}0.141(X_6)$$

5. Transformational leadership on creating and maintaining shared decision-making structures and processes, culture building, and creating high performance expectations affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on balancing internal and external control.

$$\widehat{Y}_4 = 1.679 + 0.434(X_8) + 0.339(X_7) + \text{-}0.175(X_3)$$

6. Transformational leadership on creating and maintaining shared decision-making structures and processes, building a shared vision, modelling important values and practices, culture building, and providing individualised support affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on managing risk.

$$\widehat{Y}_5 = 1.343 + 0.710(X_8) + 0.369(X_1) + \text{-}0.294(X_6) + \text{-}0.195(X_7) + 0.105(X_4)$$

7. Transformational leadership on creating and maintaining shared decision-making structures and processes, providing individualised support, developing consensus about goals, creating high performance expectations, and culture building affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on securing school information assets.

$$\widehat{Y}_6 = 2.111 + 0.488(X_8) + 0.674(X_4) + \text{-}0.514(X_2) + \text{-}0.309(X_3) + 0.189(X_7)$$

8. Transformational leadership on building a shared vision, creating and maintaining shared decision-making structures and processes, providing individualised support, creating intellectual stimulation, and creating high performance expectations affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on managing information.

$$\widehat{Y}_7 = 0.808 + 0.524(X_1) + 0.362(X_8) + 0.401(X_4) + -0.288(X_5) + -0.164(X_3)$$

9. Transformational leadership on creating and maintaining shared decision-making structures and processes and building a shared vision affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on overseeing the technology and education direction.

$$\widehat{Y}_8 = 1.249 + 0.484(X_8) + 0.224(X_1)$$

10. Transformational leadership on creating and maintaining shared decision-making structures and processes, providing individualised support, transformational leadership as a whole, and building a shared vision affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on networking with the home technology.

$$\widehat{Y}_9 = 1.225 + 0.993(X_8) + 0.800(X_4) + -1.470(X_{tot}) + 0.393(X_1)$$

11. Transformational leadership on creating and maintaining shared decision-making structures and processes, creating high performance expectations, building a shared vision, providing individualised support, and creating intellectual stimulation affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on financing the technology.

$$\widehat{Y}_{10} = 1.267 + 0.674(X_8) + -0.466(X_3) + 0.443(X_1) + 0.509(X_4) + -0.485(X_5)$$

Transformational leadership of school administrators affecting school management in digital era under The Secondary Educational Service Area Office Kanchanaburi was concluded in the following figure.

Figure 3 Conclusion of transformational leadership of school administrators affecting school management in digital era under The Secondary Educational Service Area Office Kanchanaburi

Transformational leadership (X_{tot})
$\beta Y_2 = -0.527$ $\beta Y_9 = -1.430$

Building a shared vision (X_1)
$\beta Y_{tot} = 0.317$ $\beta Y_1 = 0.389$
$\beta Y_3 = -0.277$ $\beta Y_5 = 0.464$
$\beta Y_7 = 0.576$ $\beta Y_8 = 0.271$
$\beta Y_9 = 0.426$ $\beta Y_{10} = 0.479$

Developing consensus about goals (X_2)
$\beta Y_{tot} = -0.193$ $\beta Y_6 = -0.553$

Creating high performance expectations (X_3)
$\beta Y_{tot} = -0.252$ $\beta Y_1 = -0.162$
$\beta Y_4 = -0.211$ $\beta Y_6 = -0.354$
$\beta Y_7 = -0.176$ $\beta Y_{10} = -0.490$

Providing individualised support (X_4)
$\beta Y_{tot} = 0.284$ $\beta Y_5 = 0.132$
$\beta Y_6 = 0.793$ $\beta Y_7 = 0.442$
$\beta Y_9 = 0.866$ $\beta Y_{10} = 0.550$

Creating intellectual stimulation (X_5)
$\beta Y_7 = -0.322$ $\beta Y_{10} = -0.534$

Modelling important values and practices (X_6)
$\beta Y_5 = -0.356$

Culture building (X_7)
$\beta Y_2 = 0.814$ $\beta Y_3 = 0.643$
$\beta Y_4 = 0.413$ $\beta Y_5 = -0.241$
$\beta Y_6 = 0.218$

School management in digital era (Y_{tot})
$\hat{Y}_{tot} \leftarrow X_8, X_1, X_3, X_4, X_2$

Shaping and selecting digital technologies (Y_1)
$\hat{Y}_1 \leftarrow X_8, X_1, X_3$

Managing enthusiasm (Y_2)
$\hat{Y}_2 \leftarrow X_7, X_8, X_{tot}$

Achieving digital integration (Y_3)
$\hat{Y}_3 \leftarrow X_8, X_7, X_1, X_2, X_5, X_6$

Balancing internal and external control (Y_4)
$\hat{Y}_4 \leftarrow X_8, X_7, X_3$

Managing risk (Y_5)
$\hat{Y}_5 \leftarrow X_8, X_1, X_6, X_7, X_4$

Securing school information assets (Y_6)
$\hat{Y}_6 \leftarrow X_8, X_4, X_2, X_3, X_7$

Managing information (Y_7)
$\hat{Y}_7 \leftarrow X_1, X_8, X_4, X_5, X_3$

Overseeing the technology and education direction (Y_8)
$\hat{Y}_8 \leftarrow X_8, X_1$

Networking with the home technology (Y_9)
$\hat{Y}_9 \leftarrow X_8, X_4, X_{tot}, X_1$

Financing the technology (Y_{10})
$\hat{Y}_{10} \leftarrow X_8, X_3, X_1, X_4, X_5$

Creating and maintaining shared decision-making structures and processes (X_8)
$\beta Y_{tot} = 0.755$
$\beta Y_1 = 0.668$
$\beta Y_2 = 0.515$
$\beta Y_3 = 0.619$
$\beta Y_4 = 0.531$
$\beta Y_5 = 0.885$
$\beta Y_6 = 0.569$
$\beta Y_7 = 0.394$
$\beta Y_8 = 0.580$
$\beta Y_9 = 1.064$
$\beta Y_{10} = 0.721$

Chapter 5

Conclusion of the findings, discussion and recommendation

The research entitled "Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi" was descriptive research which aimed to 1) identify the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi, 2) identify the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi, and 3) identify the transformational leadership affecting the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi. The unit of analysis applied in this research was the data from schools under The Secondary Educational Service Area Office Kanchanaburi. The samples were 28 schools under The Secondary Educational Service Area Office Kanchanaburi. In each of the schools, there were eight respondents including 1) a school director or an acting school director, 2) a deputy school director or an acting deputy school director, 3) two heads of departments, and 4) four teachers. Overall, there were 224 respondents from the 28 schools in this research. The instrument for collecting data was an opinionnaire consisting of 3 parts: the checklist form asking about the personal information of respondents, the opinionnaire asking about transformational leadership of school directors according to Leithwood, Jantzi and Steinbach, and the opinionnaire asking about school management in digital era regarding Lee and Gaffney. The researcher received 224 complete opinionnaires from the 28 schools which accounted for 100 percent. The data was analysed by using frequency, percentage, arithmetic mean, standard deviation, and stepwise multiple regression analysis.

Conclusion of the findings

The findings of the research entitled "Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi" were as follows.

1. The overall of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level. When considering each aspect, the average of all aspects was at a high level from the most to the least as following: creating and maintaining shared decision-making structures and processes, creating high performance expectations, culture building, building a shared vision, developing consensus about goals, modelling important values and practices, creating intellectual stimulation, and providing individualised support, respectively.

2. The overall of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level. When considering each aspect, the average of all aspects was at a high level from the most to the least as following: managing risk, shaping and selecting digital technology, managing information, achieving digital integration, overseeing the technology and education direction, securing school information assets, balancing internal and external control, managing enthusiasm, networking with the home technology, and financing the technology, respectively.

3. According to the analysis of transformational leadership of school administrators affecting school management in digital era under The Secondary Educational Service Area Office Kanchanaburi, the researcher found that transformational leadership on creating and maintaining shared decision-making structures and processes, building a shared vision, creating high performance expectations, providing individualised support, and developing consensus about goals affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi, as a whole, with statistical significance at the .05 level. Moreover, the findings of transformational leadership that affected each aspect of

school management in digital era under The Secondary Educational Service Area Office Kanchanaburi were as follows.

        3.1 Transformational leadership on creating and maintaining shared decision-making structures and processes, building a shared vision, and creating high performance expectations affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on shaping and selecting digital technologies with statistical significance at the .05 level.

        3.2 Transformational leadership on creating and maintaining shared decision-making structures and processes, building a shared vision, and creating high performance expectations affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on managing enthusiasm with statistical significance at the .05 level.

        3.3 Transformational leadership on creating and maintaining shared decision-making structures and processes, culture building, building a shared vision, developing consensus about goals, creating intellectual stimulation and modelling important values and practices affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on achieving digital integration with statistical significance at the .05 level.

        3.4 Transformational leadership on creating and maintaining shared decision-making structures and processes, culture building, and creating high performance expectations affected school management in digital era under The Secondary Educat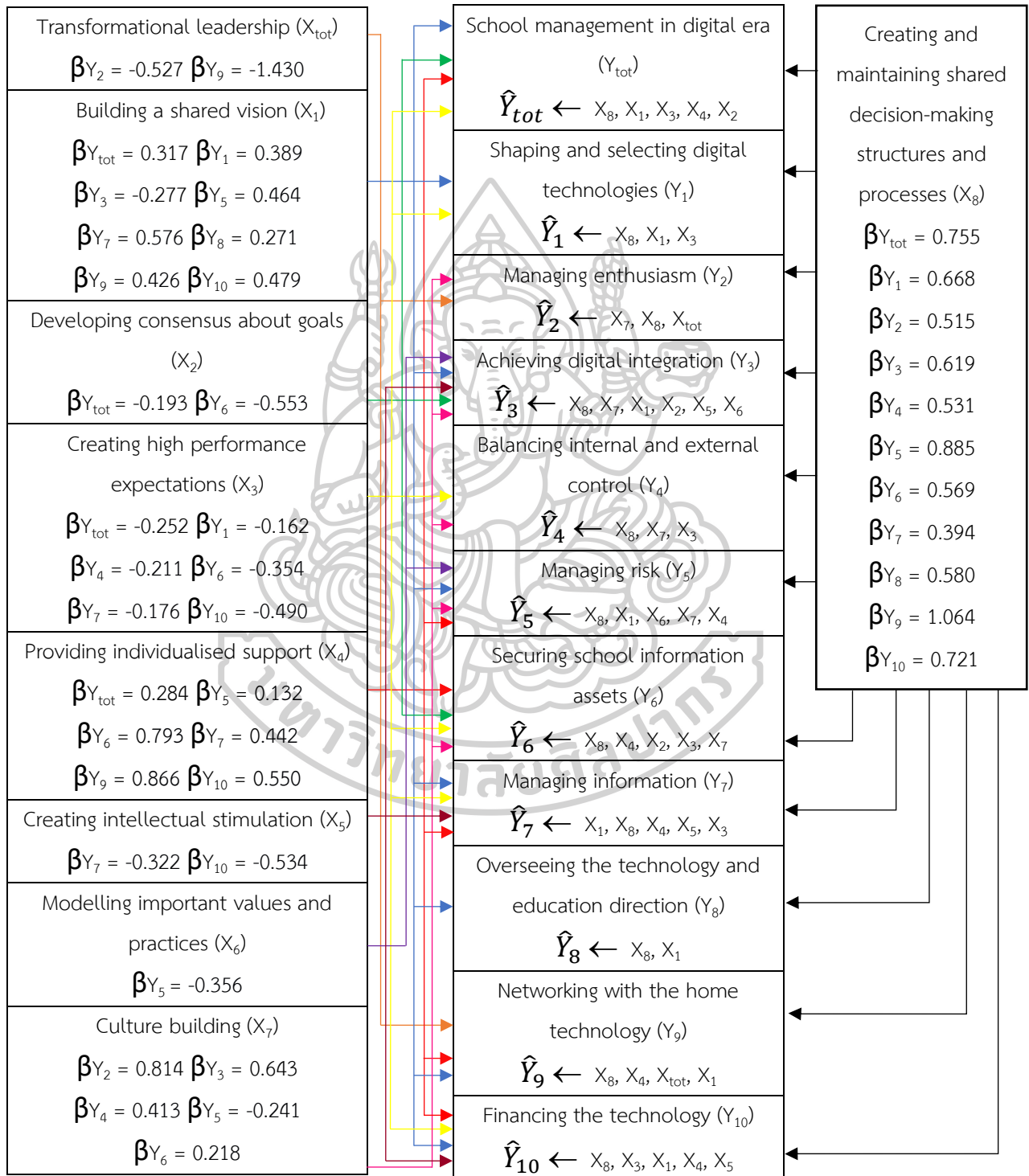ional Service Area Office Kanchanaburi on balancing internal and external control with statistical significance at the .05 level.

        3.5 Transformational leadership on creating and maintaining shared decision-making structures and processes, building a shared vision, modelling important values and practices, culture building, and providing individualised support affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on managing risk with statistical significance at the .05 level.

        3.6 Transformational leadership on creating and maintaining shared decision-making structures and processes, providing individualised support, developing consensus about goals, creating high performance expectations, and

culture building affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on securing school information assets with statistical significance at the .05 level.

3.7 Transformational leadership on building a shared vision, creating and maintaining shared decision-making structures and processes, providing individualised support, creating intellectual stimulation, and creating high performance expectations affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on managing information with statistical significance at the .05 level.

3.8 Transformational leadership on creating and maintaining shared decision-making structures and processes and building a shared vision affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on overseeing the technology and education direction with statistical significance at the .05 level.

3.9 Transformational leadership on creating and maintaining shared decision-making structures and processes, providing individualised support, transformational leadership as a whole, and building a shared vision affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on networking with the home technology with statistical significance at the .05 level.

3.10 Transformational leadership on creating and maintaining shared decision-making structures and processes, creating high performance expectations, building a shared vision, providing individualised support, and creating intellectual stimulation affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi on financing the technology with statistical significance at the .05 level.

Discussion

According to the research findings, the discussion is as follows.

1. The overall of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level. However, this was not consistent with the research hypothesis which predicted that the transformational leadership of school directors under The Secondary Educational Service Area Office Kanchanaburi was at a moderate level. This was because The Secondary Educational Service Area Office Kanchanaburi determined that the school administrators should possess transformational leadership and apply it to their school management, and the administrators recognised the importance of transformational leadership and, to lead their school to be successful, they needed to be a good role model for their personnel, listen to their needs and support them individually and create high-performance teams to accomplish the school's goals by utilizing the concepts of the leadership which include building a shared vision, developing consensus about goals, creating high performance expectations, providing individualized support, creating intellectual stimulation, modelling important values and practices, building cultures, and creating and maintaining shared decision-making structures and processes in their schools. This was relevant to the concepts of Kouzes and Posner which suggested five fundamental practices that enable leaders to get extraordinary things accomplished: model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart. Besides, the study was consistent with the concepts of Yukl and Gardner who stated that transformational leaders appeal to the moral values of followers in an attempt to raise their consciousness about ethical issues and to mobilise their energy and resources to reform institutions. They also transform and motivate followers by making them more aware of the importance of task outcomes, inducing them to transcend their own self-interest for the sake of the organization or team, and activating their higher-order needs. The result of the research was also relevant to the result of the study of Sirifak which found that transformational leadership of administrators of secondary school in Kanchanaburi province as a whole was at high

level and as each aspect was high level when arranged by arithmetic mean from the highest to the lowest as follows: enabling others to act, modelling the way, challenging the process, encouraging the heart, and inspiring a shared vision, and also the researching finding of the mixed method research of Srichaingam and Sinjindawong which showed that the transformational leadership of school administrators consisted of having vision, giving value and priority to human resources, being a communicator and listener, having proactive behaviour, and taking risks. In addition, the research was consistent with the research of Kimani which found out that transformational leadership encourages loyal followers who give results, leaders must be encouraged to use this management style, and the study recommends that leaders need to adopt transformational leadership to achieve organizational performance. Organization should embrace transformational leadership and sound policies that will strengthen their position as a fundamental sector in generating human capital for the country's developmental and economic needs as well as the development of training programmes in leadership skills and competences in transformational leadership for the leaders.

2. The overall of the school management in digital era of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level. This, however, was not consistent with the research hypothesis which predicted that the school management in digital era of school administrators under the Secondary Educational Service Area Office Kanchanaburi was at a moderate level since the schools under the Secondary Educational Service Area Office Kanchanaburi prepared for the changes in digital era systematically and attempted to enhance their schools to be ready for digital era in order to serve students, parents, personnel, and stakeholders by managing any risks that would occur, shaping and selecting digital technology appropriately, managing the school's information, achieving digital integration for everyone's best experience, overseeing the technology and education direction, securing school information assets, balancing internal and external control, managing enthusiasm of their personnel, networking with the students' home technology, and financing the technology

efficiently and effectively. This was consistent with the concept of Ugah and Nwali, who indicated that in this 21st century the enormous tasks and activities involved in the administration and management of school can effectively be handled only through the development of a well thought after school management system and the enhanced school management system oversees data collation, access grant, communication and social facility, enforcement of top management level decision procedures and meeting resolutions, report generation, fees payment (online) and tracking, admission and project management, and resources management, and also the researching finding of Sutarni and others who suggested that to achieve the goals in this very digital era, the educational institutions have to involve in the change management and various challenges faced by educational institutions from the community in general as well as demands from policies and educational stakeholders require institutions to adjust themselves through a management with a focus on changes in various important components in the institution; moreover, all components of education in the institution need to be managed efficiently and effectively so that the institution can continue to adapt to change. In the same way, the study of Sunarto, Tyas, and Naibaho found that schools in the fast-paced era, in which knowledge is easily gained quickly, must be able to adjust to changes that occur in all lines (industry, trade, services, technology, etc.) and changes continue to occur and will always continue to impact the development of the school world; therefore, there needs to be an increase in the ability of schools to face increasing competition and challenges. The research of Supising and others also illustrated the relevant results which showed that the supporting factors to success and management guidelines were 4Ms: Man, Money, Material, Management, five preliminary structures of school management paradigm in digital disruption era were verified, evaluated, and recommendations to be completed, and each structure consists of principles, aims, operational methods, activities, and factors to success, and the policy proposals and practical proposals consisted of role of administrators, goals, operations, measurement and evaluation of success, and guidelines to direct and audit.

3. The researcher found that transformational leadership affected school management in digital era under The Secondary Educational Service Area Office Kanchanaburi, as a whole, with statistical significance at the .05 level. This showed that transformational leadership of school administrators consisting of creating and maintaining shared decision-making structures and processes, building a shared vision, creating high performance expectations, providing individualised support, and developing consensus about goals had significant influence on school management in digital era. The result was linked to the findings of the study of Suyudi and others which found that the leadership models of the six articles show similar similarities, namely transactional, transformational, charismatic, bureaucratic, and democratic leadership that have a positive and significant effect on the performance of educational institutions, and also the researching findings of Panhinkong and Phuangsomjit which discovered that transformational leadership of school administrators had significant influence on the being of learning organization of basic education schools under the Secondary Educational Service Area Office 7 at the .05 level, and transformational leadership of school administrators could predict learning organization of the schools by 72.0 percent, and also the researching findings of Damanik and Aldridge which indicated statistically significant and positive relationships between leadership style, school climate, and teacher self-efficacy, and with the exception of individual support, the relationships between principal leadership and teacher self-efficacy were largely indirect, mediated through staff collegiality and goal consensus, and also the researching findings of Francisco which found that all eleven variables of the transformational leadership styles of school principals affect teachers' self-efficacy to a different extent and effectiveness and contingent reward significantly affect teachers' self-efficacy that for every unit improvement in effectiveness and contingent reward, teachers' self-efficacy can be expected to increase by 0.08 and 0.06 respectively, and the rest of the variables also affect the teachers' self-efficacy but not to a significant extent, and also the researching findings of Kimani which denoted a positive relationship between performance and transformational leadership style and discovered that responsive and supportive transformational leadership behaviours have a positive impact on

organizational growth; furthermore, the study also recommended that leaders need to adopt transformational leadership to achieve organizational performance, and an organization should embrace transformational leadership and sound policies that will strengthen their position as a fundamental sector in generating human capital for the country's developmental and economic needs as well as the development of training programmes in leadership skills and competences in transformational leadership for the leaders.

According to analysing the findings of transformational leadership that affected each aspect of school management in digital era under The Secondary Educational Service Area Office Kanchanaburi, the discussions were as follows.

Transformational leadership on creating and maintaining shared decision-making structures and processes, building a shared vision, and creating high performance expectations affected school management in digital era of the school administrators under The Secondary Educational Service Area Office Kanchanaburi on shaping and selecting digital technologies and managing enthusiasm with a statistical significance at a .05 level. This was because the school administrators provided opportunities for personnel of the school to participate in decision making about issues that affected them and about which their knowledge was crucial. The administrators also provided personnel with an overall sense of purpose and engaged them in the collective development of a shared vision. Besides, the directors expected their personnel to be innovative, hardworking and professional and they espoused norms of excellence and quality of service. As a result, the schools shaped and selected digital technologies efficiently and effectively, understood how to apply technology, shaped how technology could be used to enhance the schools and outcomes for students, had development of new technologies and had careful mentoring of the effects of the technologies on teaching practice, student outcomes and school costs, and managed the enthusiasm of personnel to acquire and use every new piece of technology.

Transformational leadership on creating and maintaining shared decision-making structures and processes, culture building, building a shared vision, developing consensus about goals, creating intellectual stimulation and modelling

important values and practices affected school management in digital era of the school administrators under The Secondary Educational Service Area Office Kanchanaburi on achieving digital integration with .05 level of statistical significance. This was because school administrators allowed personnel of the school to participate in decision making, developed school norms, beliefs, values and assumptions that are student centred, had the potential to enhance personnel's motivation to change through their influence on personnel's beliefs in their school, used all available opportunities to communicate the school's vision to personnel, students, parents and other members of the school community, provided personnel with a process through which to establish school goals, assisted personnel in developing consistency between school visions and personnel's goals, encouraged personnel to pursue their own goals for professional and school improvement, and acted as a role model by leading by doing than only by telling and involving in all aspects of school activities. Consequently, the schools had efficient and effective action on digital integration and facility and engaged personnel in achieving digital integration across the schools.

Transformational leadership on creating and maintaining shared decision-making structures and processes, culture building, and creating high performance expectations affected school management in digital era of the school administrators under The Secondary Educational Service Area Office Kanchanaburi on balancing internal and external control with statistical significance at the .05 level. This was because the school administrators provided opportunities for personnel of the school to participate in decision making about issues that affected them and about which their knowledge was crucial, had the potential to develop school norms, beliefs and values and to enhance personnel's motivation to change through their influence on personnel's beliefs in their schools, motivated personnel to be innovative, hardworking and professional, and espoused norms of excellence and quality of service. Therefore, the schools balanced internal and external control appropriately and had clear contractual arrangements and obligations agreed between the relevant education authority and the external agency to control the use of the school's information and services.

Transformational leadership on creating and maintaining shared decision-making structures and processes, building a shared vision, modelling important values and practices, culture building, and providing individualised support affected school management in digital era of the school administrators under The Secondary Educational Service Area Office Kanchanaburi on managing risk with statistical significance at the .05 level. This was because school administrators allowed personnel of the school to participate in decision making about issues that affect them, assisted personnel in understanding the relationship between external initiatives for change and the school's vision and the larger social mission of which their vision of the school was a part, involved in all aspects of school activity, worked alongside personnel to plan special events, modelled problem-solving techniques that personnel could adapt for their own work, encouraged collaborative problem solving to developed school norms, beliefs and values, and knew individual personnel to understand their problems and to be aware of their particular skills and interests and listened fully to personnel's ideas. As a result, the schools had management and awareness of any risks that would occur and had efficient and effective risk management.

Transformational leadership on creating and maintaining shared decision-making structures and processes, providing individualised support, developing consensus about goals, creating high performance expectations, and culture building affected school management in digital era of the school administrators under The Secondary Educational Service Area Office Kanchanaburi on securing school information assets with statistical significance at the .05 level. This was because the school administrators provided opportunities for personnel of the school to participate in decision making about issues that affected them, had an 'open-door' policy for individuals to understand their problems and to be aware of their particular skills and interests, expected teams of personnel to review progress toward school goals, worked towards the development about consensus about school and group goals and the priority to be awarded such goals, espoused norms of excellence and quality of service, encouraged collaborative problem solving in the school, and had the potential to enhance personnel's motivation to change through

their influence on personnel's beliefs in their school. Due to these, school information assets were secured and efficiently and effectively managed and were systematically archived and ready for use.

Transformational leadership on building a shared vision, creating and maintaining shared decision-making structures and processes, providing individualised support, creating intellectual stimulation, and creating high performance expectations affected school management in digital era of the school administrators under The Secondary Educational Service Area Office Kanchanaburi on managing information and financing the technology with statistical significance at the .05 level. This was because the school administrators clarified the meaning of the school's vision in terms of its practical implications for programmes and instruction, used all opportunities to communicate the school's vision to personnel, students, parents and other members of the school community, encouraged personnel of the school to participate in decision making, treated everyone equally by understanding their problems and being aware of their particular skills and interests, encouraged personnel's efforts toward professional and school improvement, and demonstrated an unflagging commitment to the welfare of students. Therefore, the school's valuable information on the workings and outcomes are well-organized and had the information and knowledge management systems in place to obtain a ready insight into the short and long-term efficiency and effectiveness of their operation.

Transformational leadership on creating and maintaining shared decision-making structures and processes and building a shared vision affected school management in digital era of the school administrators under The Secondary Educational Service Area Office Kanchanaburi on overseeing the technology and education direction with statistical significance at the .05 level. This was because the school administrators encouraged personnel of the school to participate in decision making about issues that affected them and the school, provided personnel with an overall sense of purpose, engaged personnel in the collective development of a shared vision and assisted personnel in understanding the relationship between external initiatives for change and the school's vision. As a result, the technology chosen was consistent with the school's goals, the school had the information of the

educational and digital landscape in which the school was situated and possessed the procedures that enhance school outcomes and student learning.

Transformational leadership on creating and maintaining shared decision-making structures and processes, providing individualised support, transformational leadership as a whole, and building a shared vision affected school management in digital era of the school administrators under The Secondary Educational Service Area Office Kanchanaburi on networking with the home technology with statistical significance at the .05 level. This showed that transformational leadership of school administrators consisting of creating and maintaining shared decision-making structures and processes, building a shared vision, creating high performance expectations, providing individualised support, and developing consensus about goals had significant influence on networking with the home technology. As a result, the school's technology was suitable for the level of students' technology, the school's design of the instructional program was suitable for the level of technology in students' homes or hands, and the school was be able to work with parents and provide advice about management and choice of hardware and software to support the students' education; therefore, the students could learn and access the school's service efficiently and effectively.

Recommendation

From the result of the research Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi which found that the overall of the transformational leadership of school administrators under The Secondary Educational Service Area Office Kanchanaburi was at a high level; however, when considering each aspect individually, the arithmetic mean of the aspect providing individualised support was the least, and overall of the school management in digital era of school directors under The Secondary Educational Service Area Office Kanchanaburi was at a high level. Yet, when considering each component

individually, the arithmetic mean of financing the technology was the least. According to the research findings, the recommendations are as follows.

General Recommendations

1. The Secondary Educational Service Area Office Kanchanaburi should promote the school administrators to possess transformational leadership and provide them trainings or seminars about effective ways to provide individualised support in order that the administrators are able to systematically plan and figure out ways to provide support to personal needs of staff and get to know individual teachers well enough to understand their problems and to be aware of their particular skills and interests more.

2. The Secondary Educational Service Area Office Kanchanaburi should encourage the school administrators to be ready for any changes and challenges of school management in digital era and provide them trainings or seminars about efficient ways to finance the school's technology in order that the schools are able to systematically plan to develop the capability for funding investments in digital more effectively and efficiently and channel the scarce resources towards the use of technology that will lead the schools and systems into the digital era.

Recommendations for further study

1. There should be comparative research on transformational leadership of school administrators affecting school management in digital era under other service area offices.

2. There should be research of other possible factors that affect school management in digital era.

3. There should be qualitative research of factors that affect school management in digital era.

REFERENCES

References

Agih, A. Allen. "Effective School Management and Supervision: Imperative for Quality Education Service Delivery." **An International Multidisciplinary Journal, Ethiopia** 9, 3 (July 2015).

Altinay, Fahriye, Gokmen Dagli, and Zehra Altınay. "Digital Transformation in School Management and Culture." In **Virtual Learning**. Edited by Dragan Cvetkovic. Rijeka: InTech, 2016.

Bagul, M.M. "Education by the Application of Technology in Digital Era." In **Developing the Next Generation Learners in This Digital Era**. Edited by P. Suresh Prabu. North Carolina: Lulu Publication, 2020.

Bass, Bernard M. **Leadership and performance beyond expectations**. New York: Free Press, 1985.

Bass, Bernard M. "Two Decades of Research and Development in Transformational Leadership." **European Journal of Work and Organizational Psychology** 8, 1 (March 1999).

Bass, Bernard M., and Bruce J. Avolio. **Improving Organization Effectiveness Through Transformational Leadership**. California: Sage Publications, 1994.

Bennis, Warren G., and Burt Nanus. **Leaders: The strategies for taking charge**. New York: Harper & Row, 1985. Quoted in Peter G. Northouse. **Leadership: theory and practice**. 7th ed. London: Ashford Colour Press, 2015.

Best, John W. **Research in Education**. Englewood Cliffs: Prentice-Hall Inc., 1970.

Boonduang, Kowit, Kritsana Dararuang, and Somsak Supirak. "Academic Leadership of the Administrators of Schools Affecting to Performance Motivation of Teachers and Educational Personnel under Vocational Education Commission Nakhorn Sawan." **The Journal of Research and Academics** 4, 3 (July-September 2021).

Burns, James M. **Leadership**. New York: Harper & Raw, 1978.

Chaemchoy, Sukanya. **School Management in Digital Era**. Bangkok: Chulalongkorn University Press, 2018.

Cronbach, Lee J. **Essential of Psychological Testing**. New York: Harper & Row

Publishers, 1987.

Daft, Richard L. **The New Era of Management**. Ohio: Thomson/South-Western, 2006.

Damanik, Enceria, and Jill Aldridge. "Transformational Leadership and Its Impact on School Climate and Teachers' Self-Efficacy in Indonesian High Schools." **Journal of School Leadership** 27, 2 (March 2017).

Danahoo, Saran, and Richard C. Hunter. "Introduction: Teaching Leaders to Lead Teachers: Educational Administration in The Era of Constant Crisis." In **Teaching Leaders to Lead Teachers: Educational Administration in The Era of Constant Crisis**. Edited by Saran Donahoo and Richard C. Hunter. Oxford: JAI Press, 2007.

De Moura, Elton Oliveira, and Marcelo de Souza Bispo. "Understanding the Practice of School Management through the Perspective of Sociomateriality." **Organizações & Sociedade** 28, 96 (2021).

Efendi, Nur, and Ahmad Qolfathiriyus. "Management of Salafiyah Islamic Boarding School towards Quality Enhancement of Formal Education Institution in the Digital Era." **Psychology and Education** 58, 2 (2021).

Fullan, Michael. **Leading in a Culture of Change: Personal Action Guide and Workbook**. San Francisco: Jossey-Bass, 2004.

Francisco, Christopher DC. "School Principals' Transformational Leadership Styles and Their Effects on Teachers' Self-efficacy" **International Journal of Advanced Research** 7, 10 (2019).

Intaramanee, Sangob. "School Management in Digital Era." **UMT Poly Journal** 16, 1 (January – June 2019).

Jantzi, Doris, and Kenneth Leithwood. "Toward an Explanation of How Teachers' Perceptions of Transformational School Leadership are Formed." Paper presented at The Annual Meeting of the American Educational Research Association, San Francisco, CA, April 18-22, 1995.

Kimani, James. "Influence of transformational leadership styles on performance - A Critical Literature Review." **International Journal of Leadership and Governance** 1, 4 (2021).

Kouzes, James M., and Barry Z. Posner. **The Leadership Challenge**. San Francisco: Jossey-Bass, 1989.

Kouzes, James M., and Barry Z. Posner. **The Leadership Challenge**. 3th ed. San Francisco: Jossey – Bass, 2002.

Lee, Mal, and Michael Gaffney. "Leading schools in a digital era." In **Leading a digital school.** Edited by Mal Lee and Michael Gaffney. Camberwell Victoria: ACER Press, 2008.

Leithwood, Kenneth. "Leadership for School Restructuring." **Educational Administration Quarterly** 30, 4 (1994). Quoted in Wayne K. Hoy and Cecil G. Miskel. **Educational Administration: Theory, Research, and Practice**. 6th ed. New York: McGraw-Hill, 2001.

Leithwood, Kenneth, Doris Jantzi, and Rosanne Steinbach. **Changing leadership for changing times**. Buckingham: Open University Press, 1999.

Likert, Rensis. **New Pattern of Management**. New York: McGraw-Hill, 1961.

Lunenburg, Frederick C., and Allan Ornstein. **Educational Administration: Concepts and Practices**. 7th ed. California: SAGE Publications, 2022.

Mano, Pitsini. "The Impact of Digital Disruption to the Education." **Journal of Industrial Education** 18, 1 (January – April 2019).

Ministry of Education. "Education Development Plan of Ministry of Education 12 (2017 – 2021)." December, 2016.

Ministry of Education. "Information and Communication Technology Master Plan Ministry of Education, B.E. 2557-2559 (2014-2016)." February 22, 2014.

Mulawarman, Widyatmike Gede. "The Effect of Smart Management and School Efficiency on School Performance in the Digital Era." **Eurasian Journal of Educational Research** 100 (2022).

Murphy, Joseph, and Patrick B Forsyth. **Educational administration: A decade of Reform**. California: Corwin Press, 1999.

Najampa, Tanyaporn, Apithee Songbanditand, and Yothin Srisopha. "The Development of Educational Management Model in The Digital Era for Secondary School in The Central Region Under the Office of The Basic

Education Commission." **Journal of Arts Managemen**t 6, 4 (October-December 2022).

National Institute of Educational Testing Service. "The Report of The Ordinary National Education (O-NET) Results Academic Year 2016-2017." 2017.

Northouse, Peter G. **Leadership: theory and practice**. 7th ed. London: Ashford Colour Press, 2015.

Office of the Education Council. **Education in Thailand 2018**. Bangkok: Prigwhan Graphic, 2019.

Office of the Education Council. **Education in Thailand 2019-2021.** Bangkok: Prigwhan Graphic, 2021.

Office of the National Education Commission. **National Education Act B.E. 2542 (1999) and Amendments (Second National Education Act B.E. 2545 (2002))**. Bangkok: Office of the National Education Commission, 2003.

Panhinkong, Jackkrapan, and Choochat Phuangsomjit. "Transformational leadership of school administrators affecting the being of learning organization in basic education schools under the Secondary Education Service Area Office 7." **Silpakorn University Journal** 39, 5 (September-October 2019).

Rahman, Mohd Rahimi A., and others. "The Relationship between Educational Transformational Leadership and Teacher Quality at Secondary School: Total Quality Management as Mediator." **Universal Journal of Educational Research** 8, 12 (2020).

Ratnasari, Desi, Roemintoyo, and Winarno. "Community Participation in School-based Management at SDN 02 JETIS to Face The Digital Era." **Scientific Journal of Preschool and Early School Education** 3, 3 (November 2018).

Sakonthawat, Seksan, Pongsin Viseshsiri, and Pruet Siribanpitak. "Management Strategies of Saint Gabriel Foundation's Schools in Thailand according to the Concept of Enhancing Digital Citizenship in Students." **Scholar: Human Sciences** 10, 2 (2018).

Salaman, Graeme. "The new corporate leadership." In **Leadership in organizations :**

current issues and key trends. Edited by John Storey. New York, NY: Routledge, 2016.

Senge, Peter M. **Leading learning organizations: the bold, the powerful, and the Invisible**. Cambridge, Mass: Center for Organizational Learning, Massachusetts Institute of Technology, 1996). Quoted in Kenneth Leithwood, Doris Jantzi, and Rosanne Steinbach. **Changing Leadership for Changing Times**. Buckingham: Open University Press, 1999.

Sheninger, Eric. **Digital Leadership: Changing Paradigms for Changing Times**. California: Corwin, 2019.

Sirifak, Nongluk. "Transformational Leadership of Administrators and Information and Communication Technology of Secondary School in Kanchanaburi." **Journal of Educational Administration and Leadership** 10, 2 (July–December 2019).

Srichaingam, Thawil, and Sirinthorn Sinjindawong. "The Development of Transformational Leadership Model of School Administrators under the Secondary Educational Service Area Offices 1 and 2." **EAU Heritage Journal Social Science and Humanity** 5, 3 (September-December 2015).

Sunarto, E. Handayani Tyas, and Lamhot Naibaho. "Effective School Management in Industrial Revolution Era 4.0." In **Proceeding of the 2nd Annual Conference on Blended Learning, Educational Technology and Innovation (ACBLETI 2020)**. Padang, Indonesia, October 23-24, 2020. Paris: Atlantis Press, 2021.

Supising, Jiraporn, and others. "School management paradigm in digital disruption era." **Interdisciplinary Research Review** 16, 2 (March-April 2021).

Sutarni, Nani, and others. "Change Management of Education Institutional in the Digital Era." **International Journal of Advanced Science and Technology** 29, 5 (2020).

Suyudi, and others. "Effect of Leadership Style toward Indonesian Education Performance in Education 4.0 Era: Aschematic Literature Review." **Systematic Reviews in Pharmacy** 11, 10 (October-November 2020).

The Secondary Educational Service Area Office 8. "Overall Operation Report of Fiscal Year 2017." Document number 4/25561, 2018.

The Secondary Educational Service Area Office 8. "Overall Operation Report of
Fiscal Year 2020." Document number 16/2563), 2020.

Tillman, Linda C., and James Joseph Scheurich. **Handbook of Research on
Educational Leadership for Equity and Diversity**. New York: Routledge,
2013.

Ugah, John O., and Stephen C. Nwali. "Enhancing the 21th Century School
Management through ICT." **International Journal of Computer Engineering
and Information Technology** 11, 5 (May 2019).

Wiruchnipawan, Wiruch. **Digital Era Administration**. Bangkok: N4 Proprint, 2018.

Yamamoto, Yukiko, and Shinobu Yamaguchi, "Relationships between ICT
Implementation at Schools and Factors Related to Transformational
Leadership: A Case of primary school in Mongolia." **International Journal of
Education and Development using Information and Communication
Technology** 15, 2 (2019).

Yukl, Gary, and William L. Gardner, III. **Leadership in Organizations**. 9th ed. Boston:
Pearson Education, 2020.

Zacharo, Kouni, Koutsoukos Marios, and Panta Dimitra. "Connection of Teachers'
Organizational Commitment and Transformational Leadership: A Case Study
from Greece." **International Journal of Learning, Teaching and Educational
Research** 17, 8 (August 2018).

Appendix
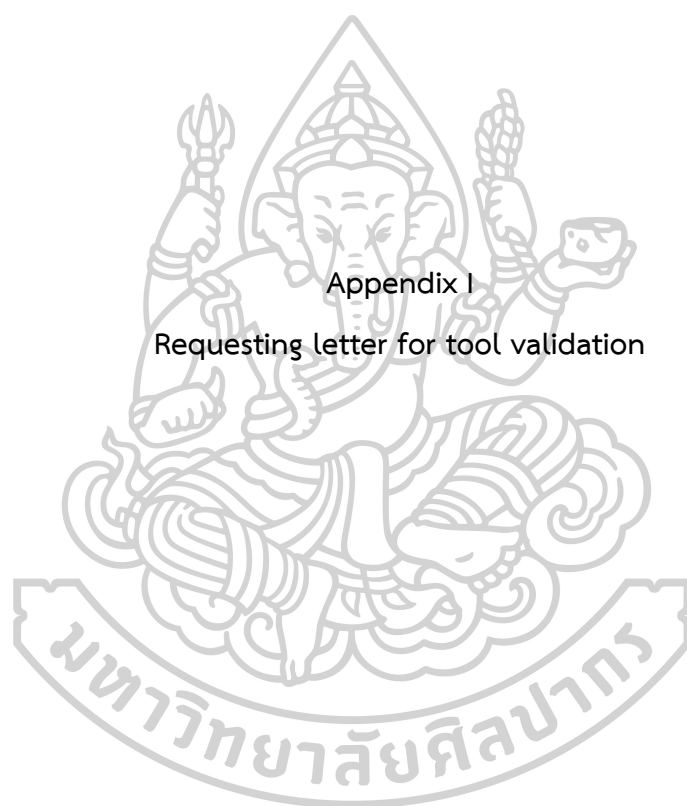
Appendix I

Requesting letter for tool validation

ที่ อว 8612.2/ 117

ภาควิชาการบริหารการศึกษา
คณะศึกษาศาสตร์ มหาวิทยาลัยศิลปากร
พระราชวังสนามจันทร์ นครปฐม 73000

24 สิงหาคม 2565

เรื่อง ขอความอนุเคราะห์เป็นผู้เชี่ยวชาญตรวจเครื่องมือวิจัย

เรียน ผู้ช่วยศาสตราจารย์ ดร.พงษ์ศักดิ์ รวมชมรัตน์

สิ่งที่ส่งมาด้วย แบบตรวจสอบความตรงของแบบสอบถาม จำนวน 1 ฉบับ

        ด้วย นายตะวัน แสงทอง รหัสประจำตัว 620620009 นักศึกษาระดับปริญญาโท สาขาวิชาการบริหารการศึกษา ภาควิชาการบริหารการศึกษา คณะศึกษาศาสตร์ มหาวิทยาลัยศิลปากร ได้รับอนุมัติให้ทำวิทยานิพนธ์ เรื่อง "ภาวะผู้นำการเปลี่ยนแปลงที่ส่งผลต่อการบริหารสถานศึกษาในยุคดิจิทัลของผู้บริหารสถานศึกษา สังกัดสำนักงานเขตพื้นที่การศึกษามัธยมศึกษากาญจนบุรี" ในการนี้ ภาควิชาการบริหารการศึกษา ใคร่ขอความอนุเคราะห์จากท่านในการตรวจสอบความตรงของเครื่องมือเพื่อการวิจัยที่แนบมาพร้อมหนังสือฉบับนี้

        จึงเรียนมาเพื่อโปรดพิจารณา ภาควิชาการบริหารการศึกษาขอขอบคุณในความอนุเคราะห์ของท่านมา ณ โอกาสนี้

ขอแสดงความนับถือ

(รองศาสตราจารย์ ดร.มัทนา วังถนอมศักดิ์)
หัวหน้าภาควิชาการบริหารการศึกษา

ภาควิชาการบริหารการศึกษา
โทร. 09 3979 3455

รายนามผู้เชี่ยวชาญตรวจเครื่องมือวิจัย

1. ผู้ช่วยศาสตราจารย์ ดร.พงษ์ศักดิ์ รวมชมรัตน์

      วุฒิการศึกษา ปรัชญาดุษฎีบัณฑิต สาขาวิชาการบริหารเพื่อการพัฒนาการศึกษา

      ตำแหน่ง   1. อาจารย์สาขาวิชาการบริหารการศึกษา คณะครุศาสตร์

                      มหาวิทยาลัยราชภัฏกาญจนบุรี

                      2. ผู้อำนวยการโรงเรียนสาธิตมหาวิทยาลัยราชภัฏกาญจนบุรี

2. รองศาสตราจารย์ ดร.ไชยยศ ไพวิทยศิริธรรม

      วุฒิการศึกษา การศึกษาดุษฎีบัณฑิต สาขาวิชาวิจัยและพัฒนาหลักสูตร

      ตำแหน่ง   รองศาสตราจารย์ ดร. ภาควิชาพื้นฐานทางการศึกษา คณะศึกษาศาสตร์

                      มหาวิทยาลัยศิลปากร

3. ดร.ดำรงค์ รอดสิน

      วุฒิการศึกษา ปรัชญาดุษฎีบัณฑิต สาขาวิชาการบริหารการศึกษา

      ตำแหน่ง   รองผู้อำนวยการสำนักงานเขตพื้นที่การศึกษามัธยมศึกษาสมุทรสาคร

                      สมุทรสงคราม

4. ดร.สายฝน ภานุมาศ

      วุฒิการศึกษา ปรัชญาดุษฎีบัณฑิต สาขาวิชาการบริหารการศึกษา

      ตำแหน่ง   ผู้อำนวยการโรงเรียนบรมราชินีนาถราชวิทยาลัย จังหวัดราชบุรี

5. ดร.ชยพล เพชรพิมล

      วุฒิการศึกษา ปรัชญาดุษฎีบัณฑิต สาขาวิชาการบริหารการศึกษา

      ตำแหน่ง   ศึกษานิเทศก์ชำนาญการพิเศษ สำนักงานเขตพื้นที่การศึกษามัธยมศึกษา

                      กาญจนบุรี

(Translation)

MHESI 8612.2/417

Educational Administration Department

Faculty of Education

Silpakorn University

Sanamchandra Palace,

Nakhon Pathom 73000

24 August 2022

Title Requesting for tool validation

Dear Assistant Professor Pongsak Ruamchomrat, Ph.D.,

Attachment The index of item objective congruence (IOC) form of the opinionnaire

        I am pleased to inform you that Mr Tawan Sangthong is a M.Ed. candidate of the Department of Educational Administration at Faculty of Education under Silpakorn University at Sanamchandra Place Campus in Nakhon Pathom province. He is working on his thesis entitled "Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi" and a questionnaire as instrument will be used in the research. In view with this, the researcher would like your expertise to validate the attached self-made questionnaire to qualify for conduction. I have attached the questionnaire and the validation sheet.

        Your support and assistance should be highly appreciated. Thank you very much for your consideration.

Yours sincerely,

Mattana Wangthanomsak

(Associate Professor Mattana Wangthanomsak, Ph.D.)

Head of Educational Administration Department

Department of Educational Administration

Tel 09 3979 3455

List of experts of the research instrument

1. **Assistant Professor Pongsak Ruamchomrat, Ph.D.**

    Education   Doctor of Philosophy in Administration for Educational

    Development

    Position   1. Assistant Professor of Educational Administration Major,

    Faculty of Education, Kanchanaburi Rajabhat University

    2. Director of The Demonstration School of Kanchanaburi

    Rajabhat University

2. **Associate Professor Chaiyos Paiwithayasiritham, Ed.D.**

    Education   Doctor of Education in Curriculum Research and Development

    Position   Associate Professor of Department of Education Foundation,

    Faculty of Education, Silpakorn University

3. **Dr. Damrong Rodsin**

    Education   Doctor of Philosophy in Educational Administration

    Position   Deputy Director of The Secondary Educational Service Area

    Office Samutsakhon - Samutsongkhram

4. **Dr. Saifon Panumas**

    Education   Doctor of Philosophy in Educational Administration

    Position   Director of Queen College, Ratchaburi

5. **Dr. Chayapol Petpimol**

    Education   Doctor of Philosophy in Educational Administration

    Position   Senior Professional Level Supervisor at The Secondary

    Educational Service Area Office Kanchanaburi

Appendix II

The index of item objective congruence (IOC) of opinionnaire

The index of item objective congruence (IOC) of opinionnaire

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
Transformational Leadership									
Building a shared vision (X_1)									
1	School administrators provide personnel with an overall sense of purpose.	1	1	1	1	1	5	1	Reliable
2	School administrators engage personnel in the collective development of a shared vision.	1	1	1	1	1	5	1	Reliable
3	School administrators excite personnel with the school's visions of what they may be able to accomplish.	1	1	1	1	1	5	1	Reliable
4	School administrators clarify the meaning of the school's vision in terms of its practical implications for programmes and instruction.	1	1	1	1	1	5	1	Reliable
5	School administrators assist personnel in understanding the relationship between external initiatives for change and the school's vision.	1	1	1	1	1	5	1	Reliable
6	School administrators assist personnel in understanding the	1	1	1	1	1	5	1	Reliable

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	larger social mission of which their vision of the school is a part.								
7	School administrators use all available opportunities to communicate the school's vision to personnel, students, parents and other members of the school community.	1	1	1	1	1	5	1	Reliable
Developing consensus about goals (X_2)									
8	School administrators provide personnel with a process through which to establish school goals.	1	1	1	1	1	5	1	Reliable
9	School administrators expect teams of personnel to review progress toward school goals.	1	1	1	1	1	5	1	Reliable
10	School administrators assist personnel in developing consistency between school visions and their both groups and individual goals.	1	1	1	1	1	5	1	Reliable
11	School administrators work towards the development about consensus about school and group goals and the priority to be awarded such	1	1	1	0	1	4	0.8	Reliable

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	goals.								
12	School administrators encourage personnel to establish and review individual professional growth goals.	1	1	1	1	1	5	1	Reliable
13	School administrators have ongoing discussions with individual personnel about their professional growth goals.	1	1	1	1	1	5	1	Reliable
14	School administrators act as an important resource in helping personnel achieve their individual and school goals.	1	1	1	1	1	5	1	Reliable
Creating high performance expectations (X_3)									
15	School administrators expect personnel to be innovative, hardworking and professional.	1	1	1	1	1	5	1	Reliable
16	School administrators demonstrate an unflagging commitment to the welfare of students.	1	1	1	1	1	5	1	Reliable
17	School administrators espouse norms of excellence and quality of service.	1	1	1	1	1	5	1	Reliable
18	School administrators establish flexible boundaries for what personnel do.	1	1	1	1	1	5	1	Reliable

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
19	School administrators are clear about ones' own views of what is right and good.	1	1	1	1	1	5	1	Reliable
Providing individualised support (X₄)									
20	School administrators treat everyone equally.	1	1	1	1	1	5	1	Reliable
21	School administrators have an 'open-door' policy for individuals.	1	1	1	1	1	5	1	Reliable
22	School administrators protect personnel from excessive intrusions on their classroom work.	1	1	1	1	1	5	1	Reliable
23	School administrators encourage individual personnel to try new practices consistent with their interests.	1	1	1	1	1	5	1	Reliable
24	School administrators get to know individual personnel to understand their problems and to be aware of their particular skills and interests and listen fully to personnel's ideas.	1	1	1	1	1	5	1	Reliable
25	School administrators instil, in personnel, a sense of belonging to the school.	1	1	1	1	1	5	1	Reliable
Creating intellectual stimulation (X₅)									

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
26	School administrators encourage personnel's efforts toward professional and school improvement.	1	1	1	1	1	5	1	Reliable
27	School administrators require personnel to support opinions with good reasons.	1	1	1	1	1	5	1	Reliable
28	School administrators stimulate personnel to think more deeply about what they are doing for their students.	1	1	1	1	1	5	1	Reliable
29	School administrators encourage personnel to evaluate their practices and refine them as needed.	1	1	1	1	1	5	1	Reliable
30	School administrators encourage personnel to pursue their own goals for professional learning.	1	1	1	1	1	5	1	Reliable
31	School administrators provide the necessary resources to support personnel participation in change initiatives.	1	1	1	1	1	5	1	Reliable
32	School administrators stimulate personnel to search for and discuss new ideas and information relevant to school	1	1	1	1	1	5	1	Reliable

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	directions.								
33	School administrators seek out new ideas by visiting other schools, attending conferences and passing on these new ideas to personnel.	1	1	1	1	1	5	1	Reliable
34	School administrators invite teachers to share their expertise with their colleagues.	1	1	1	1	1	5	1	Reliable
35	School administrators consistently seek out and communicate productive activities taking place within the school.	1	1	1	1	1	5	1	Reliable
Modelling important values and practices (X_6)									
36	School administrators act as a role model, leading by doing than only by telling.	1	1	1	1	1	5	1	Reliable
37	School administrators involve in all aspects of school activity, work alongside personnel to plan special events, are responsible for own work.	1	1	1	1	1	5	1	Reliable
38	School administrators model problem-solving techniques that personnel can adapt for their own work.	1	1	1	1	1	5	1	Reliable

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
39	School administrators engage in practices intended to reinforce key values: the basic values of respect for others, trust in the judgement of one's colleagues, integrity, and even the value of punctuality.	1	1	1	1	1	5	1	Reliable
Culture building (X_7)									
40	School administrators develop school norms, beliefs, values and assumptions that are student centred.	1	1	1	1	1	5	1	Reliable
41	School administrators support continuing professional growth by personnel.	1	1	1	1	1	5	1	Reliable
42	School administrators encourage collaborative problem solving.	1	1	1	1	1	5	1	Reliable
43	School administrators have the potential to enhance personnel's motivation to change through their influence on personnel's beliefs in their school.	1	1	-1	1	1	3	0.6	Reliable
Creating and maintaining shared decision-making structures and processes (X_8)									
44	School administrators provide opportunities for personnel of	1	1	1	1	1	5	1	Reliable

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	the school to participate in decision making about issues that affect them.								
45	School administrators provide opportunities for personnel of the school to participate in decision making about which their knowledge is crucial.	1	1	1	1	1	5	1	Reliable
46	School administrators create discretion and autonomy for personnel to use their expertise to greatest effect.	1	1	1	1	1	5	1	Reliable
School Management in Digital Era									
Shaping and Selecting Digital Technologies (Y_1)									
1	The school has shaping and selecting digital technologies efficiently and effectively.	1	1	1	0	1	4	0.8	Reliable
2	The school has understanding of applying technology.	1	1	1	0	1	4	0.8	Reliable
3	The school shapes how technology could be used to enhance the school and education systems and outcomes for students.	1	1	1	1	1	5	1	Reliable
Managing enthusiasm (Y_2)									
4	The school has trialling and development of new	1	1	1	1	1	5	1	Reliable

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	technologies.								
5	The school has careful mentoring of the effects of the technologies on teaching practice, student outcomes and school costs.	1	1	1	1	1	5	1	Reliable
6	The school manages the enthusiasm of early adopters and their quest to acquire and use every new piece of technology, whether it is the latest communication device, educational software, or social networking facility.	1	1	1	1	1	5	1	Reliable
7	The school encourages adopters to ask and report on the hard questions about the educational appropriateness of the technology for students.	1	1	1	1	1	5	1	Reliable
Achieving digital integration (Y_3)									
8	The school has deliberate action on digital integration and facility.	1	1	1	1	1	5	1	Reliable
9	The school engages staff in achieving digital integration across the school.	1	1	1	1	1	5	1	Reliable
10	The school fosters teachers to	1	1	1	1	1	5	1	Reliable

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	work together in the hope of better outcomes for students.								
Balancing internal and external control (Y_4)									
11	The school balances internal and external control appropriately.	1	1	1	1	1	5	1	Reliable
12	The school has clear contractual arrangements and obligations agreed between the relevant education authority and the external agency to control the use of information.	1	1	1	1	1	5	1	Reliable
13	The school determines which services will be controlled by the school, and which will be delegated to outside bodies.	1	1	1	1	1	5	1	Reliable
Managing risk (Y_5)									
14	The school has management and awareness of any risks that would occur.	1	1	1	1	1	5	1	Reliable
15	The school is responsible for poor choice and loss of teaching time and inappropriate use of the technology.	1	1	1	1	1	5	1	Reliable
16	The school has good risk management.	1	1	1	1	1	5	1	Reliable

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
Securing school information assets (Y_6)									
17	School information assets are secured.	1	1	1	1	1	5	1	Reliable
18	The school has school information assets management.	1	1	1	1	1	5	1	Reliable
19	The school's extensive and valuable information resources are protected.	1	1	1	-1	1	3	0.6	Reliable
20	School information assets are systematically archived and ready for use.	1	1	1	1	1	5	1	Reliable
Managing information (Y_7)									
21	The school's valuable information on the workings and outcomes are well-organized.	1	1	1	1	1	5	1	Reliable
22	The school has the information and knowledge management systems in place to obtain a ready insight into the short and long-term effectiveness and efficiency of their operation.	1	1	1	1	1	5	1	Reliable
Overseeing the technology and education direction (Y_8)									
24	The technology chosen is consonant with the	1	1	1	1	1	5	1	Reliable

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	educational goals of the school.								
25	The school has the information of the educational and digital landscape in which the school is situated.	1	1	1	1	1	5	1	Reliable
Networking with the home technology (Y_9)									
26	The school's technology is suitable for the level of technology in students' homes or hands.	1	1	1	0	1	4	0.8	Reliable
27	The school's design of the instructional program relates to the level of technology in students' homes or hands.	1	1	1	1	1	5	1	Reliable
28	The school can work with parents and provide advice about management and choice of hardware and software to support the students' education.	1	1	1	1	1	5	1	Reliable
Financing the technology (Y_{10})									
29	The school develops the capability for funding investments in digital	1	1	1	1	1	5	1	Reliable

No.	Questions	Expert view					Total score	Average score	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	technology.								
30	The school has strategic investment decisions that maximise the benefits that digital technology holds for the students.	1	1	1	1	1	5	1	Reliable
31	The school sets clear operational parameters.	1	1	1	1	1	5	1	Reliable
32	The school reviews the use of existing technology.	1	1	1	1	1	5	1	Reliable
33	The school questions the return on investment.	1	1	1	1	1	5	1	Reliable
34	The school channels the scarce resources towards the use of technology that will lead their school and systems into the digital age.	1	1	1	1	1	5	1	Reliable

Appendix III

Requesting letter for pilot testing

ที่ อว 8612.2/450

ภาควิชาการบริหารการศึกษา
คณะศึกษาศาสตร์ มหาวิทยาลัยศิลปากร
พระราชวังสนามจันทร์ นครปฐม 73000

19 กันยายน 2565

เรื่อง   ขอความอนุเคราะห์ให้นักศึกษาทดลองเครื่องมือวิจัย

เรียน   ผู้อำนวยการโรงเรียนรัตนราษฎร์บำรุง

สิ่งที่ส่งมาด้วย   แบบสอบถาม จำนวน 8 ฉบับ

        ด้วย นายตะวัน แสงทอง รหัสประจำตัว 620620009 นักศึกษาระดับปริญญาโท สาขาวิชาการ
บริหารการศึกษา ภาควิชาการบริหารการศึกษา คณะศึกษาศาสตร์ มหาวิทยาลัยศิลปากร ได้รับอนุมัติให้ทำ
วิทยานิพนธ์ เรื่อง "ภาวะผู้นำการเปลี่ยนแปลงที่ส่งผลต่อการบริหารสถานศึกษาในยุคดิจิทัลของผู้บริหาร
สถานศึกษา สังกัดสำนักงานเขตพื้นที่การศึกษามัธยมศึกษากาญจนบุรี" ในการนี้ ภาควิชาการบริหารการศึกษา
ใคร่ขอความอนุเคราะห์ให้นักศึกษาทำการทดสอบความเชื่อมั่นของเครื่องมือในหน่วยงานของท่าน เพื่อนำไป
ปรับปรุงแก้ไขก่อนนำไปใช้ในการวิจัยกลุ่มตัวอย่าง

        จึงเรียนมาเพื่อโปรดพิจารณา ภาควิชาการบริหารการศึกษาขอขอบคุณในการอนุเคราะห์ของท่านมา
ณ โอกาสนี้

ขอแสดงความนับถือ

(รองศาสตราจารย์ ดร.มัทนา วังถนอมศักดิ์)
หัวหน้าภาควิชาการบริหารการศึกษา

ภาควิชาการบริหารการศึกษา
โทร. 09 3979 3455

รายชื่อโรงเรียนที่ใช้ในการทดลองเครื่องมือวิจัย

สังกัดสำนักงานเขตพื้นที่การศึกษามัธยมศึกษา ราชบุรี

1. โรงเรียนรัฐราษฎร์อุปถัมภ์

2. โรงเรียนโพธาวัฒนาเสนี

3. โรงเรียนรัตนราษฎร์บำรุง

4. โรงเรียนโสภณศิริราษฎร์

(Translation)

MHESI 8612.2/450

Educational Administration Department

Faculty of Education

Silpakorn University

Sanamchandra Palace,

Nakhon Pathom 73000

19 September 2022

Title Requesting for trying out the opinionnaires

Dear Director of Ratanaratbumrung School

Attachment Eight opinionnaires

        I am pleased to inform you that Mr Tawan Sangthong is a M.Ed. candidate of the Department of Educational Administration at Faculty of Education under Silpakorn University at Sanamchandra Place Campus in Nakhon Pathom province. He is working on his thesis entitled "Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi" and he would like to request assistance from you to try out his opinionnaires with your personnel. Enclosed herewith please find the opinionnaires of his thesis.

        Your support and assistance should be highly appreciated. Thank you very much for your consideration.

Yours sincerely,

Mattana Wangthanomsak

(Associate Professor Mattana Wangthanomsak, Ph.D.)

Head of Educational Administration Department

Department of Educational Administration

Tel 09 3979 3455

List of schools for trying out the opinionnaires

1. Ratanaratbumrung School

2. Ratrard-upathum School

3. Phothawatthanasenee School

4. Sophonsiriraj School

The Secondary Educational Service Area Office Kanchanaburi
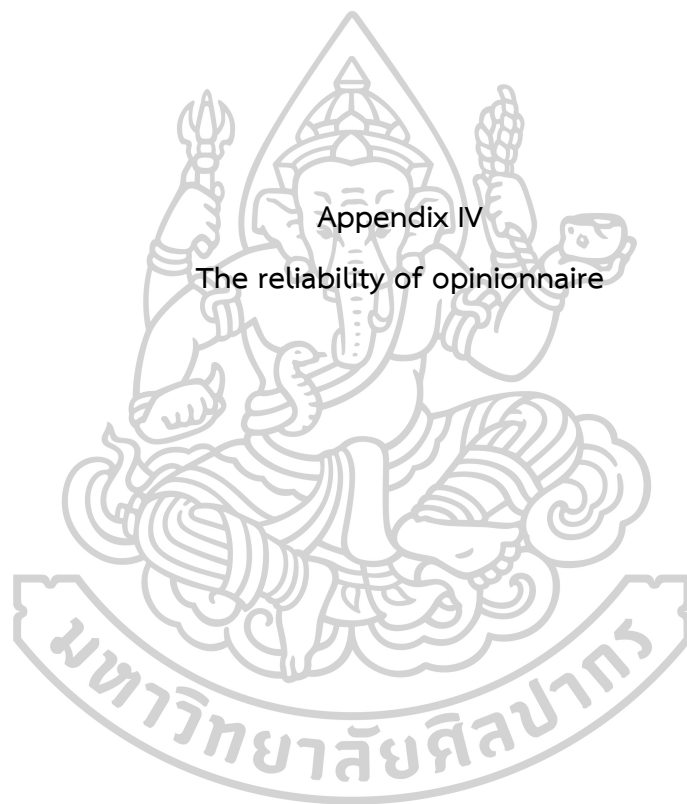
Appendix IV

The reliability of opinionnaire

RELIABILITY ANALYSIS – SCALE (ALPHA)

Case Processing Summary

		N	%
Cases	Valid	32	100.0
	Excluded[a]	0	.0
	Total	32	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.985	85

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Sex	347.2188	1867.144	-.021	.986
Age	346.5000	1863.484	.031	.986
Education	346.9375	1858.512	.129	.986
job	345.6563	1887.459	-.238	.986
Year experience	346.6563	1881.459	-.159	.986
X1.1	344.4375	1845.931	.280	.985
X1.2	344.5938	1831.217	.519	.985
X1.3	344.5313	1829.547	.593	.985
X1.4	344.5625	1832.448	.555	.985
X1.5	344.6250	1831.016	.604	.985
X1.6	344.6563	1839.330	.472	.985

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X1.7	344.6563	1834.233	.611	.985
X2.1	344.7500	1826.323	.668	.985
X2.2	344.7188	1816.273	.767	.985
X2.3	344.9688	1819.257	.608	.985
X2.4	344.8438	1822.201	.557	.985
X2.5	344.6563	1810.749	.817	.985
X2.6	344.8438	1830.265	.583	.985
X2.7	344.7188	1815.628	.736	.985
X3.1	344.6875	1815.964	.799	.985
X3.2	344.7500	1834.065	.578	.985
X3.3	344.6563	1819.007	.779	.985
X3.4	344.5625	1816.706	.728	.985
X3.5	344.4063	1811.668	.903	.985
X4.1	344.5938	1823.023	.727	.985
X4.2	344.8125	1821.964	.743	.985
X4.3	344.6563	1820.491	.754	.985
X4.4	344.5938	1827.281	.704	.985
X4.5	344.6250	1820.242	.856	.985
X4.6	344.5313	1823.870	.795	.985
X5.1	344.5000	1809.935	.903	.985
X5.2	344.6875	1814.609	.775	.985
X5.3	344.6875	1811.706	.778	.985
X5.4	344.7188	1808.983	.760	.985
X5.5	344.7813	1810.951	.803	.985
X5.6	344.6875	1817.964	.766	.985
X5.7	344.7188	1814.531	.844	.985

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X5.8	344.5938	1809.797	.895	.985
X5.9	344.6563	1816.104	.778	.985
X5.10	344.5000	1815.419	.814	.985
X6.1	344.4375	1817.931	.805	.985
X6.2	344.5625	1796.706	.898	.985
X6.3	344.4375	1800.125	.857	.985
X6.4	344.5313	1790.709	.899	.985
X7.1	344.7813	1802.176	.759	.985
X7.2	344.5313	1811.741	.791	.985
X7.3	344.5313	1812.064	.944	.985
X7.4	344.5625	1826.964	.694	.985
X8.1	344.5625	1803.996	.835	.985
X8.2	344.2188	1815.789	.823	.985
X8.3	344.2813	1814.660	.838	.985
Y1.1	344.3750	1818.371	.784	.985
Y1.2	344.6563	1826.943	.693	.985
Y1.3	344.5313	1815.612	.775	.985
Y2.1	344.5313	1838.580	.445	.985
Y2.2	344.6875	1822.415	.694	.985
Y2.3	344.7188	1795.693	.870	.985
Y2.4	344.6250	1798.048	.867	.985
Y3.1	344.5938	1790.314	.921	.985
Y3.2	344.5625	1819.802	.681	.985
Y3.3	344.5000	1799.097	.849	.985
Y4.1	344.4063	1819.217	.776	.985
Y4.2	344.3438	1829.136	.645	.985

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Y4.3	344.4688	1815.225	.762	.985
Y5.1	344.5313	1836.580	.608	.985
Y5.2	344.3438	1838.749	.636	.985
Y5.3	344.2500	1841.677	.564	.985
Y6.1	344.2188	1845.725	.383	.985
Y6.2	344.3750	1817.210	.804	.985
Y6.3	344.2813	1840.209	.597	.985
Y6.4	344.3750	1833.016	.508	.985
Y7.1	344.4063	1837.217	.554	.985
Y7.2	344.5000	1817.097	.786	.985
Y8.1	344.4375	1820.060	.722	.985
Y8.2	344.4063	1827.088	.572	.985
Y8.3	344.3125	1819.964	.805	.985
Y9.1	344.6563	1816.684	.588	.985
Y9.2	344.5938	1803.733	.783	.985
Y9.3	344.7188	1827.112	.598	.985
Y10.1	344.5938	1828.894	.627	.985
Y10.2	344.4688	1820.128	.776	.985
Y10.3	344.5625	1817.480	.864	.985
Y10.4	344.4375	1818.770	.742	.985
Y10.5	344.4688	1829.289	.620	.985
Y10.6	344.3125	1843.835	.417	.985

Reliability Statistics of the independent variables

Cronbach's Alpha	N of Items
.985	44

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Sex	347.2188	1867.144	-.021	.986
Age	346.5000	1863.484	.031	.986
Education	346.9375	1858.512	.129	.986
Job	345.6563	1887.459	-.238	.986
Year experience	346.6563	1881.459	-.159	.986
X1.1	178.7500	651.613	.682	.985
X1.2	178.7813	653.467	.642	.985
X1.3	178.8438	653.620	.667	.985
X1.4	178.8750	657.339	.573	.985
X1.5	178.8750	656.371	.654	.985
X1.6	178.9688	652.870	.670	.985
X1.7	178.9375	646.190	.787	.985
X2.1	179.1875	644.673	.697	.985
X2.2	179.0625	648.899	.589	.985
X2.3	178.8750	641.403	.874	.984
X2.4	179.0625	654.060	.617	.985
X2.5	178.9375	646.706	.732	.985
X2.6	178.9063	644.152	.871	.984
X2.7	178.9688	657.257	.588	.985
X3.1	178.8750	648.629	.778	.985

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X3.2	178.7813	647.080	.731	.985
X3.3	178.6250	645.597	.865	.984
X3.4	178.8125	651.319	.717	.985
X3.5	179.0313	651.451	.711	.985
X4.1	178.8750	650.048	.738	.985
X4.2	178.8125	653.835	.695	.985
X4.3	178.8438	648.717	.877	.985
X4.4	178.7500	650.581	.825	.985
X4.5	178.7188	642.144	.934	.984
X4.6	178.9063	644.023	.825	.985
X5.1	178.9063	641.184	.853	.984
X5.2	178.9375	638.577	.853	.984
X5.3	179.0000	640.516	.885	.984
X5.4	178.9063	646.346	.811	.985
X5.5	178.9375	644.319	.890	.984
X5.6	178.8125	642.673	.907	.984
X5.7	178.8750	646.694	.783	.985
X5.8	178.7188	646.531	.812	.985
X5.9	178.6563	650.426	.734	.985
X5.10	178.7813	637.531	.848	.985
X6.1	178.6563	640.426	.787	.985
X6.2	178.7500	632.194	.889	.984
X6.3	179.0000	635.484	.821	.985
X6.4	178.7500	641.419	.863	.984
X7.1	178.7500	644.194	.953	.984
X7.2	178.7813	654.112	.671	.985

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X7.3	178.7813	641.531	.791	.985
X7.4	178.4375	650.448	.718	.985
X8.1	178.5000	649.419	.744	.985
X8.2	178.7500	651.613	.682	.985
X8.3	178.7813	653.467	.642	.985

Reliability Statistics of the dependent variables

Cronbach's Alpha	N of Items
.978	34

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Y1.1	141.9063	342.539	.794	.977
Y1.2	142.1875	350.028	.547	.978
Y1.3	142.0625	340.641	.809	.977
Y2.1	142.0625	347.415	.599	.978
Y2.2	142.2188	342.305	.777	.977
Y2.3	142.2500	330.645	.940	.976
Y2.4	142.1563	333.943	.868	.976
Y3.1	142.1250	330.629	.923	.976
Y3.2	142.0938	338.926	.837	.977
Y3.3	142.0313	332.805	.899	.976

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Y4.1	141.9375	341.028	.859	.977
Y4.2	141.8750	345.661	.718	.977
Y4.3	142.0000	339.355	.835	.977
Y5.1	142.0625	351.867	.553	.978
Y5.2	141.8750	352.177	.610	.978
Y5.3	141.7813	349.660	.741	.977
Y6.1	141.7500	354.129	.406	.978
Y6.2	141.9063	343.507	.756	.977
Y6.3	141.8125	353.383	.540	.978
Y6.4	141.9063	348.797	.517	.978
Y7.1	141.9375	351.673	.522	.978
Y7.2	142.0313	342.483	.777	.977
Y8.1	141.9688	341.128	.809	.977
Y8.2	141.9375	342.899	.696	.977
Y8.3	141.8438	342.717	.837	.977
Y9.1	142.1875	337.254	.719	.977
Y9.2	142.1250	333.984	.855	.977
Y9.3	142.2500	341.935	.764	.977
Y10.1	142.1250	344.306	.746	.977
Y10.2	142.0000	341.484	.859	.977
Y10.3	142.0938	342.088	.879	.977
Y10.4	141.9688	340.096	.848	.977
Y10.5	142.0000	343.935	.761	.977
Y10.6	141.8438	350.007	.584	.978
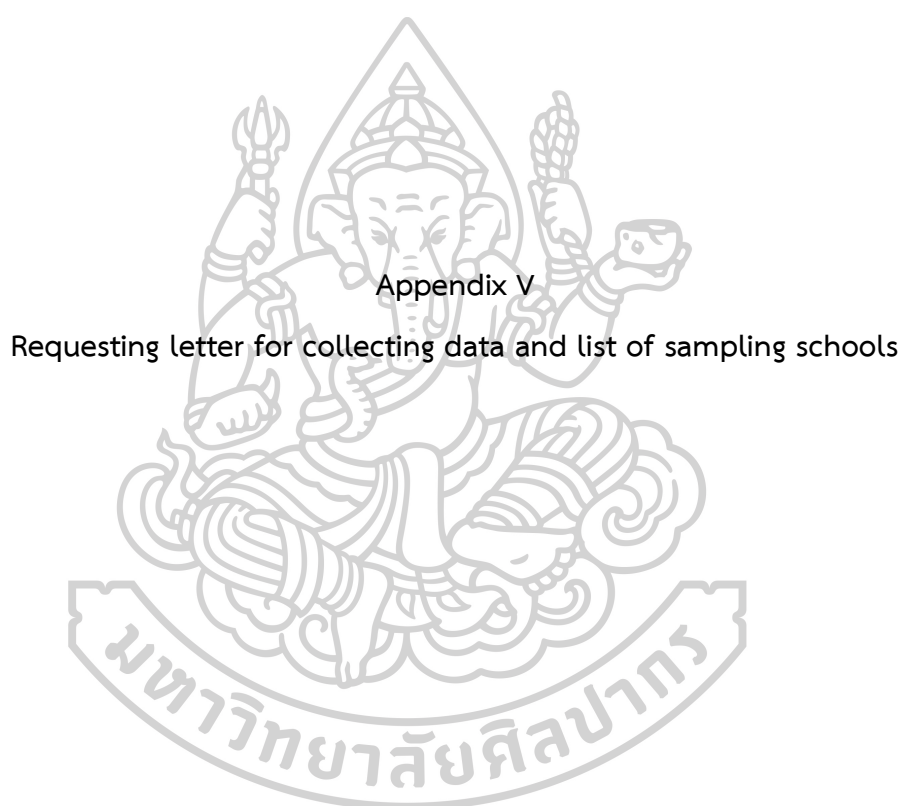
Appendix V

Requesting letter for collecting data and list of sampling schools

ที่ อว 8606 (๑๙)/พิเศษ

บัณฑิตวิทยาลัย มหาวิทยาลัยศิลปากร
พระราชวังสนามจันทร์
อ.เมือง จ.นครปฐม 73000

5 ตุลาคม 2565

เรื่อง ขอความอนุเคราะห์ในการเก็บรวบรวมข้อมูล

เรียน ผู้อำนวยการโรงเรียน**เทพมงคลรังษี**

      ด้วย นายสะวัน แสงทอง รหัสประจำตัว 620620009 นักศึกษาระดับปริญญามหาบัณฑิต สาขาวิชา
การบริหารการศึกษา บัณฑิตวิทยาลัย มหาวิทยาลัยศิลปากร กำลังดำเนินการวิทยานิพนธ์ เรื่อง " ภาวะผู้นำ
การเปลี่ยนแปลงที่ส่งผลต่อการบริหารสถานศึกษาในยุคดิจิทัลของผู้บริหารสถานศึกษา สังกัดสำนักงานเขตพื้นที่
การศึกษามัธยมศึกษากาญจนบุรี " มีความประสงค์จะขอเก็บรวบรวมข้อมูลจากท่าน รองผู้อำนวยการโรงเรียน
หัวหน้ากลุ่มสาระการเรียนรู้ จำนวน 2 คน และข้าราชการครู จำนวน 4 คน เพื่อประกอบการดำเนินการวิทยานิพนธ์
      ในการนี้ บัณฑิตวิทยาลัย มหาวิทยาลัยศิลปากร จึงขอความอนุเคราะห์จากท่านโปรดแจ้งผู้ที่เกี่ยวข้องทราบ
เพื่อขอความร่วมมือในการเก็บรวบรวมข้อมูลให้แก่นักศึกษาดังกล่าวด้วย

      จึงเรียนมาเพื่อโปรดให้ความอนุเคราะห์ จักขอบพระคุณยิ่ง

ขอแสดงความนับถือ

(อาจารย์ ดร.อธิกมาส มากจุ้ย)
ผู้รักษาการแทนรองคณบดีบัณฑิตวิทยาลัย ฝ่ายวิชาการและวิจัย
รักษาการแทนคณบดีบัณฑิตวิทยาลัย

สำนักงานบัณฑิตวิทยาลัย
นครปฐม โทร.088-2292013

รายชื่อโรงเรียนกลุ่มตัวอย่าง

ที่	อำเภอ	ชื่อโรงเรียน
1	เมืองกาญจนบุรี	โรงเรียนกาญจนานุเคราะห์
2		โรงเรียนเทพมงคลรังษี
3		โรงเรียนเทพศิรินทร์ลาดหญ้า
4	ท่าม่วง	โรงเรียนหนองขาวโกวิทพิทยาคม
5		โรงเรียนท่าม่วงราษฎร์บำรุง
6		โรงเรียนวิสุทธรังษี
7		โรงเรียนหนองตากยาตั้งวิริยะราษฎร์บำรุง
8		โรงเรียนพังตรุราษฎร์รังสรรค์
9		โรงเรียนเฉลิมพระเกียรติสมเด็จพระศรีนครินทร์ กาญจนบุรี
10	พนมทวน	โรงเรียนพนมทวนพิทยาคม
11		โรงเรียนพนมทวนชนูปถัมภ์
12	ท่ามะกา	โรงเรียนนิวิฐราษฎร์อุปถัมภ์
13		โรงเรียนท่ามะกาวิทยาคม
14		โรงเรียนท่าเรือพิทยาคม
15		โรงเรียนพระแท่นดงรังวิทยาคาร
16	ด่านมะขามเตี้ย	โรงเรียนด่านมะขามเตี้ยวิทยาคม
17	บ่อพลอย	โรงเรียนบ่อพลอยรัชดาภิเษก
18		โรงเรียนหนองรีประชานิมิต
19	ไทรโยค	โรงเรียนไทรโยคมณีกาญจน์วิทยา
20		โรงเรียนไทรโยคน้อยวิทยา
21	ห้วยกระเจา	โรงเรียนห้วยกระเจาพิทยาคม
22	หนองปรือ	โรงเรียนหนองปรือพิทยาคม
23		โรงเรียนประชามงคล
24	เลาขวัญ	โรงเรียนเลาขวัญราษฎร์บำรุง
25	ศรีสวัสดิ์	โรงเรียนศรีสวัสดิ์พิทยาคม
26	ทองผาภูมิ	โรงเรียนทองผาภูมิวิทยา
27		โรงเรียนร่มเกล้า กาญจนบุรี
28	สังขละบุรี	โรงเรียนอุดมสิทธิศึกษา

(Translation)

MHESI 8606(NPT)/Special

Graduate School, Silpakorn University

Sanamchandra Palace,

Nakhon Pathom 73000

5 October 2022

Title Requesting for collecting data

Dear Director of Thepmongkhonrangsi School

        I am pleased to inform you that Mr Tawan Sangthong, a M.Ed. candidate of the Department of Educational Administration at Faculty of Education under Silpakorn University at Sanamchandra Place Campus in Nakhon Pathom province, is working on his thesis entitled "Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi" and he would like to request assistance from you and your personnel including a deputy school director or an acting deputy school director, two heads of departments, and four teachers to answer the opinionnaires of his thesis.

        In this regard, the Graduate School, Silpakorn University would like you to inform the administrator and teachers to cooperate in answering the opinionnaires.

        Your support and assistance should be highly appreciated. Thank you very much for your consideration.

Yours sincerely,

Atikamas Makjul

(Atikamas Makjul, Ph.D.)

Acting Vice Dean of the Graduate School,

Academic Affairs and Research

Acting Dean of the Graduate School

Office of Graduate School

Nakhon Pathom Tel 088-2292013

List of sampling schools

No.	District	School
1		Kanchananukroh School
2	Mueang Kanchanaburi	Thepmongkhonrangsi School
3		Debsirinladya Kanchanaburi School
4		Nongkhaokowitpitthayakom School
5		Thamuang Rajbumrung School
6		Visuttharangsi School
7	Thamuang	Nongtakyatangwiriyaratbumrung School
8		Pangtruratrangsan School
9		Srinagarindra The Princess Mother School Kanchanaburi
10	Phanom Thuan	Phanomtuanpittayakom School
11		Phanomthuanchanupatham School
12		Niwitratupathum School
13	Thamaka	Thamakawitthayakom School
14		Tharuapitthayakhom School
15		Prathandongrungwittayakarn School
16	Dan Makham Tia	Danmakhamtiawitthayakom School
17	Bophloi	Borphloiratchadapisek School
18		Nongreeprachanimit School
19	Saiyok	Saiyokmaneekanwitthaya School
20		Saiyoknoivittaya School
21	Huai Krachao	Huaykrajaopittayakom School
22	Nong Prue	Nongpruepittayakom School
23		Prachamongkol School
24	Lao Khwan	Laokhwanratbumrung School
25	Srisawat	Srisawatpitthayakom School
26	Thong Pha Phum	Thongphaphomwittaya School
27		Romkloa Kanchanaburi School
28	Sangkhlaburi	Udomsitthisuksa School

Appendix VI

Opinionnaire

Opinionnaire

Research title Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi

Statements

1. This opinionnaire belongs to the research entitled "Transformational Leadership of School Administrators Affecting School Management in Digital Era under The Secondary Educational Service Area Office Kanchanaburi" which aims to 1) identify the transformational leadership of school administrators under the Secondary Educational Service Area Office Kanchanaburi, 2) identify the school management in digital era of school administrators under the Secondary Educational Service Area Office Kanchanaburi, and 3) identify the transformational leadership affecting the school management in digital era of school administrators under the Secondary Educational Service Area Office Kanchanaburi

2. This opinionnaire consists of three parts presented below:

Part 1 of the opinionnaire was a checklist form and asked for the personal information of respondents,

Part 2 of the opinionnaire asked about transformational leadership of school administrators,

Part 3 of the opinionnaire asked about school management in digital era.

3. The respondents include 1) a school director or an acting school director, 2) a deputy school director or an acting deputy school director 3) two heads of departments, 4) four teachers.

4. Please complete this opinionnaire and do not leave any questions in order to be truly useful research, and individual's data will be anonymously posted and analysed.

Mr Tawan Sangthong

M.Ed. candidate

Department of Educational Administration

Faculty of Education, Silpakorn University

Tel 0816170373

Part 1 Personal information of the respondent

Statement Please check ✓ into ☐ showing your information.

No.	Personal information of the respondent
1	Gender ☐ Male ☐ Female
2	Age ☐ 21 – 30 years ☐ 31 – 40 years ☐ 41 – 50 years ☐ 51 – 60 years
3	Education level ☐ Bachelor's degree ☐ Master's degree ☐ Doctoral degree
4	Position ☐ School director or acting school director ☐ Deputy school director or acting deputy school director ☐ Head of department ☐ Teacher
5	Work experience ☐ 1 – 5 years ☐ 6 – 10 years ☐ 11 – 15 years ☐ 16 – 20 years ☐ More than 20 years

Part 2 Opinionnaire about transformational leadership of school administrators

Statement Please check ✓ corresponding to your ideas consistent with the criteria as follows.

　　　1 means transformational leadership of school administrators is in the lowest level.

　　　2 means transformational leadership of school administrators is in the low level.

　　　3 means transformational leadership of school administrators is in the moderate level.

　　　4 means transformational leadership of school administrators is in the high level.

　　　5 means transformational leadership of school administrators is in the highest level.

No.	Items	Level				
		1	2	3	4	5
Building a shared vision						
1	School administrators provide personnel with an overall sense of purpose.					
2	School administrators engage personnel in the collective development of a shared vision.					
3	School administrators excite personnel with the school's visions of what they may be able to accomplish.					
4	School administrators clarify the meaning of the school's vision in terms of its practical implications for programmes and instruction.					
5	School administrators assist personnel in understanding the relationship between external initiatives for change and the school's vision.					

No.	Items	Level				
		1	2	3	4	5
6	School administrators assist personnel in understanding the larger social mission of which their vision of the school is a part.					
7	School administrators use all available opportunities to communicate the school's vision to personnel, students, parents and other members of the school community.					
Developing consensus about goals						
8	School administrators provide personnel with a process through which to establish school goals.					
9	School administrators expect teams of personnel to review progress toward school goals.					
10	School administrators assist personnel in developing consistency between school visions and their both groups and individual goals.					
11	School administrators work towards the development about consensus about school and group goals and the priority to be awarded such goals.					
12	School administrators encourage personnel to establish and review individual professional growth goals.					
13	School administrators have ongoing discussions with individual personnel about their professional growth goals.					
14	School administrators act as an important resource in helping personnel achieve their individual and school goals.					

No.	Items	Level				
		1	2	3	4	5
Creating high performance expectations						
15	School administrators expect personnel to be innovative, hardworking and professional.					
16	School administrators demonstrate an unflagging commitment to the welfare of students.					
17	School administrators espouse norms of excellence and quality of service.					
18	School administrators establish flexible boundaries for what personnel do.					
19	School administrators are clear about ones' own views of what is right and good.					
Providing individualised support						
20	School administrators treat everyone equally.					
21	School administrators have an 'open-door' policy for individuals.					
22	School administrators protect personnel from excessive intrusions on their classroom work.					
23	School administrators encourage individual personnel to try new practices consistent with their interests.					
24	School administrators get to know individual personnel to understand their problems and to be aware of their particular skills and interests and listen fully to personnel's ideas.					
25	School administrators instil, in personnel, a sense of belonging to the school.					
Creating intellectual stimulation						
26	School administrators encourage personnel's					

No.	Items	Level				
		1	2	3	4	5
	efforts toward professional and school improvement.					
27	School administrators require personnel to support opinions with good reasons.					
28	School administrators stimulate personnel to think more deeply about what they are doing for their students.					
29	School administrators encourage personnel to evaluate their practices and refine them as needed.					
30	School administrators encourage personnel to pursue their own goals for professional learning.					
31	School administrators provide the necessary resources to support personnel participation in change initiatives.					
32	School administrators stimulate personnel to search for and discuss new ideas and information relevant to school directions.					
33	School administrators seek out new ideas by visiting other schools, attending conferences and passing on these new ideas to personnel.					
34	School administrators invite teachers to share their expertise with their colleagues.					
35	School administrators consistently seek out and communicate productive activities taking place within the school.					
Modelling important values and practices						
36	School administrators act as a role model,					

No.	Items	Level				
		1	2	3	4	5
	leading by doing than only by telling.					
37	School administrators involve in all aspects of school activity, work alongside personnel to plan special events, are responsible for own work.					
38	School administrators model problem-solving techniques that personnel can adapt for their own work.					
39	School administrators engage in practices intended to reinforce key values: the basic values of respect for others, trust in the judgement of one's colleagues, integrity, and even the value of punctuality.					
Culture building						
40	School administrators develop school norms, beliefs, values and assumptions that are student centred.					
41	School administrators support continuing professional growth by personnel.					
42	School administrators encourage collaborative problem solving.					
43	School administrators have the potential to enhance personnel's motivation to change through their influence on personnel's beliefs in their school.					
Creating and maintaining shared decision-making structures and processes						
44	School administrators provide opportunities for personnel of the school to participate in decision making about issues that affect them.					

No.	Items	Level				
		1	2	3	4	5
45	School administrators provide opportunities for personnel of the school to participate in decision making about which their knowledge is crucial.					
46	School administrators create discretion and autonomy for personnel to use their expertise to greatest effect.					

Part 3 Opinionnaire about school management in digital era of school administrators

Statement Please check ✓ corresponding to your ideas consistent with the criteria as follows.

1 means school management in digital era of school administrators is in the lowest level.

2 means school management in digital era of school administrators is in the low level.

3 means school management in digital era of school administrators is in the moderate level.

4 means school management in digital era of school administrators is in the high level.

5 means school management in digital era of school administrators is in the highest level.

No.	Items	Level				
		1	2	3	4	5
Shaping and Selecting Digital Technologies						
1	The school has shaping and selecting digital technologies efficiently and effectively.					
2	The school has understanding of applying technology.					
3	The school shapes how technology could be used to enhance the school and education systems and outcomes for students.					
Managing enthusiasm						
4	The school has trialling and development of new technologies.					
5	The school has careful mentoring of the effects of the technologies on teaching practice, student outcomes and school costs.					
6	The school manages the enthusiasm of early adopters and their quest to acquire and use every new piece of technology, whether it is the latest communication device, educational software, or social networking facility.					
7	The school encourages adopters to ask and report on the hard questions about the educational appropriateness of the technology for students.					
Achieving digital integration						
8	The school has deliberate action on digital integration and facility.					
9	The school engages staff in achieving digital integration across the school.					

No.	Items	Level				
		1	2	3	4	5
10	The school fosters teachers to work together in the hope of better outcomes for students.					
Balancing internal and external control						
11	The school balances internal and external control appropriately.					
12	The school has clear contractual arrangements and obligations agreed between the relevant education authority and the external agency to control the use of information.					
13	The school determines which services will be controlled by the school, and which will be delegated to outside bodies.					
Managing risk						
14	The school has management and awareness of any risks that would occur.					
15	The school is responsible for poor choice and loss of teaching time and inappropriate use of the technology.					
16	The school has good risk management.					
Securing school information assets						
17	School information assets are secured.					
18	The school has school information assets management.					
19	The school's extensive and valuable information resources are protected.					
20	School information assets are systematically archived and ready for use.					
Managing information						

No.	Items	Level				
		1	2	3	4	5
21	The school's valuable information on the workings and outcomes are well-organized.					
22	The school has the information and knowledge management systems in place to obtain a ready insight into the short and long-term effectiveness and efficiency of their operation.					
Overseeing the technology and education direction						
23	The technology chosen is consonant with the educational goals of the school.					
24	The school has the information of the educational and digital landscape in which the school is situated.					
25	The technology chosen is consonant with the educational goals of the school.					
Networking with the home technology						
26	The school's technology is suitable for the level of technology in students' homes or hands.					
27	The school's design of the instructional program relates to the level of technology in students' homes or hands.					
28	The school can work with parents and provide advice about management and choice of hardware and software to support the students' education.					
Financing the technology						
29	The school develops the capability for funding investments in digital technology.					

No.	Items	Level				
		1	2	3	4	5
30	The school has strategic investment decisions that maximise the benefits that digital technology holds for the students.					
31	The school sets clear operational parameters.					
32	The school reviews the use of existing technology.					
33	The school questions the return on investment.					
34	The school channels the scarce resources towards the use of technology that will lead their school and systems into the digital age.					
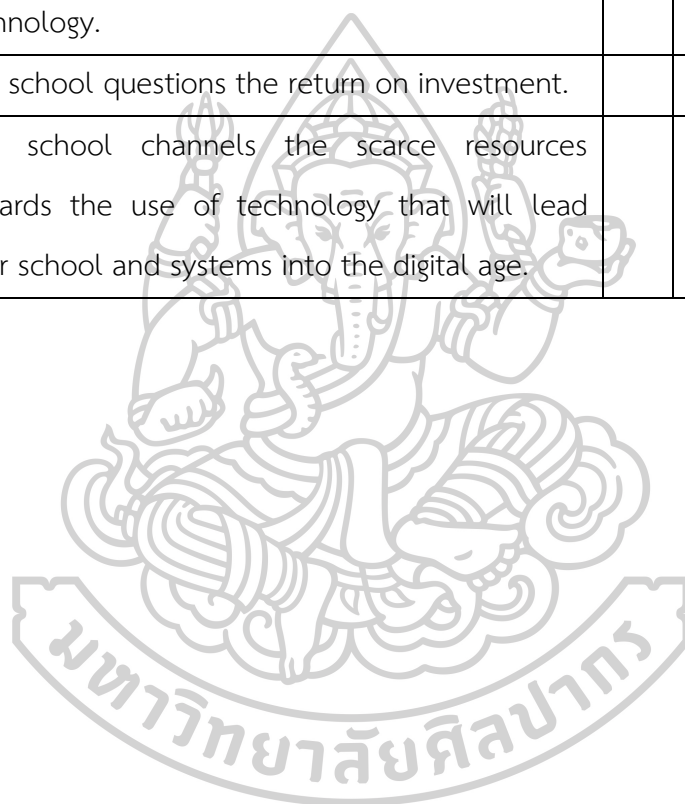
<div align="center">**Curriculum Vitae**</div>

Name-surname   Mr. Tawan Sangthong

Date of birth   30 August 1992

Birthplace   Kanchanaburi, Thailand

Education background

2004	Primary level, Thaworn Wittaya School
2010	Secondary level, Visuttharangsi School
2015	Bachelor of Arts in English, Minor in Political Science, summa cum laude, Burapha University
2018	Graduate diploma of the professional standards of the Teachers' Council of Thailand, Suan Dusit University
2019	Has studied in Master of Education (Educational Administration), Silpakorn University

Working Experience

2014	English teacher in Department of Human Resource – Education Training and Development at AutoAlliance (Thailand) Co., Ltd.
2015	Intensive English Programme (IEP) teacher at Arunvithaya School, Saeng Arun, Thap Sakae, Prachuap Khiri Khan
2016	Intensive English Programme (IEP) teacher at Anuchonsuksa School, Takram Enn, Tha Maka, Kanchanaburi
2016 - 2021	English-language teacher at Phanomtuanpittayakom School, Rangwai, Phanomtuan, Kanchanaburi
2022 - Present	English-language teacher at Kanchnanukroh School, Ban Nue, Mueng, Kanchanaburi

VITA

NAME   Mr. Tawan Sangthong

DATE OF BIRTH   30 August 1992

PLACE OF BIRTH   Kanchanaburi, Thailand

INSTITUTIONS ATTENDED   2004   Primary level, Thaworn Wittaya School

                        2010   Secondary level, Visuttharangsi School

                        2015   Bachelor of Arts in English, Minor in

                        Political

                        Science, summa cum laude, Burapha

                        University

                        2018   Graduate diploma of the professional

                        standards

                        of the Teachers' Council of Thailand,

                        Suan Dusit

                        University

                        2019   Has studied in Master of Education

                        (Educational

                        Administration), Silpakorn University

HOME ADDRESS   46 Village no.6, Thamakham, Mueang, Kanchanaburi,
                        Thailand