# A CAUSAL RELATIONSHIP MODEL OF FACTORS AFFECTING INNOVATION LEADERSHIP OF SCHOOL ADMINISTRATORS UNDER PRIMARY EDUCATIONAL SERVICE AREA OFFICES IN THE NORTHEAST

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# ABSTRACT

This research article has the objectives; (1) To develop a causal relationship model of factors affecting the innovative leadership of school administrators. (2) To examine the coherence of the causal relationship model of factors affecting the innovative leadership of school administrators developed with empirical data. This study studied schools under the Office of Primary Education Service Areas, Northeastern Thailand. This research is mixed-method research which is divided into two phases as follows; The first phase was to develop a model by studying concepts, theories, and research papers related to factors affecting the innovative leadership of school administrators, interviewing experts. of 7 people, and case studies of 3 outstanding schools. The second phase was to examine the conformity of the model, the sample group was 360 school administrators, obtained by multistage randomization. Data were collected using a 5-level estimation scale questionnaire = 0.80-1.00, the discriminating power between 0.37 - 0.85, and the reliability of the whole copy are 0.99. The data were analyzed by frequency, percentage, mean, standard deviation, Pearson's correlation coefficient, and structural equation modeling using the packaged program. The results showed that: (1) The causal relationship model of factors affecting the innovative leadership of school administrators under the Primary Education Service Area Office in the Northeastern region consisted of 5 factors: leadership, climate change, promotion of innovation, empowerment, learning initiatives and the innovative leadership of school administrators. (2) The developed model is consistent with the empirical data, with Chi*square*=78.68,*df*=93,*p*-value=0.85 greater than .05 indicating that the model is consistent,  $\chi^2/df = 1.19$  in RMSEA = 0.00, GFI = 0.98, AGFI = 0.96. The empowerment variable has a direct influence on the innovative leadership of school administrators. The influence size was 0.38 in a statistically significant positive direction at the level of .05. The transformational leadership variable had a direct influence on the innovation-promoting climate variable. Having an influence size of 0.97, the empowerment variable had an influence size of 0.76 in a statistically significant positive direction at the .01 level. The learning initiatives variable had an influence size of 1.89 in a positive direction

with statistical significance at the .05 level. The model variable accounted for 91% of the variance of innovative leadership among school administrators.

*Keywords:* Causal Relationship Model, Innovation Leadership, School Administrators

# **INTRODUCTION**

Education plays an important role and is of great importance in the development of a country, especially in the modern world where the most important resource is "knowledgeable human resources" because the capacity and production potential of each country depends on the organization. Knowledge of well-educated people in a nation that has a well-educated citizen will always have a competitive advantage in the present and future world. "Education" is not limited to schools only. But it is a lifelong education that everyone will have the opportunity to learn from birth until death. To help the learner to be well educated requires the introduction of innovation in teaching and learning. Thailand has set the 20-year national strategy as a goal for the country's long-term development by defining the vision of "The country is secure, prosperous and sustainable, a developed country through the development of the Sufficiency Economy Philosophy", and develops into a "Thailand 4.0". Education is therefore an important factor that has been defined as the main policy for national development because education is one of the tools for human resource development that directly affects the development of society and the nation. Therefore, education in the 4.0 era will be educational management that focuses on students to create innovations by focusing on production and development of manpower, research, and innovation to build the competitiveness of Thailand (Education Council Secretariat, 2017: 16).

The key players in improving the quality of education at the educational level are the school administrators, the leaders directly involved in the development and driving of change in the school setting. Leaders use their positional roles to administer the organization and are a key factor in bringing the organization towards its goals. For educational institutions or schools, educational institution administrators play an important role in driving education to develop following the

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educational development guidelines of the country. At present, the emphasis is on "innovation". Educational administrators should have innovative leadership which will result in innovation or something beneficial to educational institutions that can develop quality education based on global change. Innovation is now essential to education in many respects, as the globalized world is changing rapidly in all areas, especially advances in technology and information like any change in education, there is a need for educational innovations to be used to address some educational problems. For example, problems related to the number of learners, the development of modern curricula, the production and development of new media to meet human learning to increase in a shorter period. Therefore, the use of innovations in the educational management system facilitates the efficient use of learning resources (Chaiprasit, S., 2010: 60).

The 20-year national strategy for improving the quality of education focuses on enabling learners to create innovations and apply innovations to improve the quality of education. School administrators must be developed with innovative leadership qualities and competencies. Innovative leadership is one of the attributes that executives must have, school administrators, must learn and change their attitudes to become innovative leaders by adopting new approaches to leadership and innovative leadership that focuses on creating a working environment. conducive to creativity and innovation. Innovative leaders are responsible for transforming organizational culture into an innovation culture. (Ministry of Education, 2016: 63-64) In addition, Tanpraphat, C. (2013: 44) states that executives who focus on creativity Promote and support innovation in educational institutions can develop the quality of education with quality. Therefore, school administrators must have innovative leadership in line with Nanthasri, T. (2020: 5) who said; An effective or successful educational establishment requires principles, concepts, and theories as guides. It requires dedication in every aspect from the person involved. Must rely on unity, requires clear goals and challenges, has sufficient resources and quality, requires leadership of the school administrators, management plays the most important role in creating, developing, and driving the transformation of effective and successful operations.

Numerous educators have studied the innovative leadership of executives, for example, Wutthirong, P. (2012: 37) has studied the innovative leadership of executives, which is the application of an executive's ability to lead an organization concerning factors, including Creating a Transformational Vision, creativity, organizational climate, risk management, executive ethics, teamwork, and participation. In addition, Tumtool, V., and Ariratana, W. (2014: 141) examined the elements of innovative leadership, including changing vision creative thinking Teamwork, and participation Ethical and verifiable risk management Innovation organization atmosphere. And leaders must use these factors as an important process for organizational development. It can be seen that the innovative leadership of school administrators plays an important role in enabling school administrators to change and develop sustainable education. However, from the research synthesis about innovative leadership in the past, Most of the research focuses on the characterization, indicators, and components of innovative leadership, But no studies have looked into the details of what attributes or factors affect the innovative leadership of school administrators, which influence school administrators in improving the quality of their education.

As mentioned above, the researcher, as an administrator of an educational institution under the Office of Primary Education Service Area, Therefore, it is interesting to research on the causal relationship model of factors affecting the innovative leadership of school administrators under the Office of Primary Education Service Areas in the Northeastern Region. This is to create a causal relationship model. and examine the factors affecting the innovative leadership of school administrators under the Primary Education Service Area Office in the northeast developed with empirical data. The research findings will be useful for further use as a framework for developing the innovative leadership of school administrators under the Office of the Basic Education Commission.

# **OBJECTIVES**

1. To develop a causal relationship model of factors affecting the innovative leadership of school administrators under the Primary Education Service Area Office in the Northeastern region.

2. To examine the coherence of the causal relationship model of factors affecting the innovative leadership of school administrators under the Office of Primary Education in the Northeastern Region developed with empirical data.

# Hypothesis

The causal relationship model of factors affecting the innovative leadership of school administrators under the Primary Education Service Area Office in the Northeastern region was consistent with the empirical data.

# **Research conceptual framework**

This research studied the definitions, principles, concepts, theories, and research results, and synthesized them to determine the factors affecting the innovative leadership of school administrators as follows:

1. Study the definitions, principles, concepts, theories, and research results of the transformational leadership as factors affecting the innovative leadership of school administrators as follows: Sivapitak, S. (2011); Tanpraphat, C. (2013); Phongsichomphu, W., et al (2015); Petchouy, S, and Sittipongpitttaya, S. (2017); Wongtongluea, P., (2017); Chatchawan, R., et al (2018); Parker, Williams, and Turner (2006); Koen Nijenhuis (2015); Wongtongluea, P., 2017); Shibin, Wang and Liu (2016) From the synthesis of research on the transformational leadership, which is the factor affecting the innovative leadership of school administrators. The researcher has put together a similar composition that covers transformational leadership has 4 sub-components as follows: 1) ideological influence, 2) inspirational, 3) intellectual stimulation, and 4) individual consideration.

2. Study the definitions, principles, concepts, theories, and research results of the atmosphere promote innovation which is the factors that affect the innovative leadership of school administrators as follows: Sivapitak, S. (2011); Tanpraphat, C. (2013); Wongtongluea, P., (2017); Chatchawan, R., et al (2018); Parker, Williams, and Turner (2006); Yeoh, Sethela & Rosli (2013) From the synthesis of research related to the atmosphere promotes innovation which is a factor affecting

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the innovative leadership of school administrators. The researcher put together a similar element covering the atmosphere that promotes innovation with three subcomponents as follows; 1) Safety of Participation, 2) Efforts for Excellence, and 3) Encouraging Innovation.

3. Study the definitions, principles, concepts, theories, and research results of the empowerment as factors that affect the innovative leadership of school administrators as follows: Wongtongluea, P., (2017); Chatchawan, R., et al (2018); Parker, Williams, and Turner (2006); Hsiao (2009); Sun et al (2011); Craig (2015); Afsar, Badir, and Saeed (2014); Rahman, Panatik and Alias (2014); Koen Nijenhuis (2015); Wongtongluea, P., 2017); Shibin, Wang and Liu (2016) From the synthesis of research on the empowerment which is the factor affecting the innovative leadership of school administrators. The researcher has put together a similar composition that covers empowerment has 4 sub-elements as follows: 1) awareness, 2) competence, 3) decision-making, and 4) Affectation.

4. Study the definitions, principles, concepts, theories, and research results of the learning initiatives as factors that affect the innovative leadership of school administrators as follows: Tanpraphat, C. (2013); Phongsichomphu, W., et al (2015); Petchouy, S, and Sittipongpitttaya, S. (2017); Wongtongluea, P., (2017); Chatchawan, R., et al (2018); Wongtongluea, P., 2017). The study synthesizes research on the learning initiatives, which are factors that affect the innovative leadership of school administrators. The researchers organized a similar component covering the learning initiatives into three sub-components as follows: 1) self-starter, 2) proactive personality, and 3) perseverance. It can be defined as a research conceptual framework as shown in Figure 1.



Figure 1 Research Conceptual Framework

# **RESEARCH METHODOLOGY**

1. This research model is Mixed methods research divided into 2 phases as follows:

Phase 1: The development of a causal relationship model of factors affecting the innovative leadership of school administrators under the Office of Primary Education Service Areas in the Northeastern Region. The researcher studied concepts, theories, and research papers related to factors affecting the innovative leadership of school administrators, interviews with 7 experts, and case studies of 3 outstanding schools. The content is then analyzed and summarized as a research conceptual framework.

# Phase 2: Model congruence verification, the researcher examined the research hypothesis by doing the following:

1. Population and sample: 1) The population is the administrators of educational institutions. Under the Primary Education Service Area Office in the North-eastern region of the academic year 2021 of 12,243 people (Office of the Basic Education Commission, 2021). 2) The sample is educational institute administrators. Under the Primary Education Service Area Office in the Northeast, Academic Year 2021, 360 participants were obtained using Multi-stage Random Sampling (Srisa-ard, B., 2002: 47).

2. Research instrument; 1) Phase 1 is an interview. Data were collected with 7 experts and case studies of 3 outstanding schools for interviews. The content structure consists of Factors affecting the innovative leadership of school administrators, transformational leadership the atmosphere promoting innovation the empowerment, and the learning initiatives of administrators. 2) Phase 2 is a 5-level estimation scale model. There are 5 areas of study issues, consisting of transformational leadership, the atmosphere that promotes innovation, empowerment, the learning initiatives, and the innovative leadership of school administrators Srisa-ard, B. (2002). The quality assessment of research instruments with IOC values between 0.80 and 1.00, discriminating powers between 0.37 - 0.85, confidence in the whole version of 0.99.

4. Data Collection: 1) Phase 1 is an interview format. The researcher conducted interviews with 7 experts and case studies of 3 outstanding schools. Researchers interviewed and recorded themselves during December 2020 and June 2021. Make a summary and send the information to the thesis advisor to check the accuracy of the information, and bring it to be corrected and complete. 2) Phase 2 was a questionnaire, the researcher submitted and collected the data by himself. The questionnaire was returned 360 sets, representing 100.00%.

3. Data analysis: 1) Phase 1 is used to analyze the data by analyzing the content and checking for completeness. Methodological triangulation, where the main points are grouped into an analytical description. 2) The second phase studied the characteristics of the samples by frequency distribution. and the percentage value is used for analyzing information about the status of the respondents. Mean and standard deviation analyses were used to analyze the level of awareness of the factors affecting the innovative leadership of school administrators. Pearson correlation coefficient analysis and significance test with statistical T-test to study the relationship between factors affecting the innovative leadership of school administrators. and Path Analysis to show the relationship of variables studied, to test their significance with a statistical t-test to study the innovative leadership model of the school administrators (Wiratchai, N., 1999).

# RESULTS

1. The causal relationship model of factors affecting the innovative leadership of school administrators under the Primary Education Service Area Office in the Northeast consists of the following variables:

1.1 The transformational leadership variables consist of four observable variables: 1) ideological influence, 2) inspirational, 3) intellectual stimulation, and 4) individual consideration.

1.2 The atmosphere promotes innovation variable consists of three observable variables: 1) Safety of Participation, 2) Efforts for Excellence, and 3) Encouraging Innovation.

1.3 The empowerment variable consists of four observable variables: 1) awareness, 2) performance, 3) decision-making, and 4) Affectation.

1.4 The learning initiatives variables consisted of three observed variables: 1) self-starter, 2) proactive personality, and 3) persistence.

1.5 The innovative leadership of school administrators consists of four observable variables: 1) having an innovative vision, 2) having innovative teamwork and participation, 3) having creative thinking skills, and 4) having an innovative personality.

2. The causal relationship model of factors affecting the innovative leadership of school administrators under the Primary Education Service Area Office in the Northeastern region was consistent with the empirical data, with statistical values measuring the harmonization of the model as follows: Chi-square=78.68,df=93,p-value=0.85, is greater than .05, it was shown that the pattern is consistent with the relative chisquare values ( $\chi^2/df$ ) = 1.19, RMSEA = 0.00, GFI = 0.98, AGFI = 0.96. The empowerment variable had a direct influence on the innovative leadership of school administrators with an influence size of 0.38 in a positive direction with a statistical significance at the .05 level. The transformational leadership variable had a direct influence on the atmosphere promotes innovation variable with a magnitude of 0.97. The empowerment variable had a statistically significant positive effect of 0.76 at the .01 level. and the learning initiatives variable had an influence size of 1.89 in a positive direction with statistical significance at the .05 level. Those variables accounted for 91% of the variance

in the innovative leadership among school administrators, as figure 2:



Figure 2. Research hypothesis model consistent with empirical data

Explanation of symbols used in place of variables.

1) External latent variables are transformational leadership (A).

2) Internal latent variables are: the atmosphere promotes innovation (B), the empowerment(C), the learning initiatives (D), and the innovative leadership of school administrators (E).

3) Observable variables are: ideological influence (A1), inspiration (A2), intellectual stimulation (A3), individual consideration (A4), Safety of participation (B1), Effort for Excellence (B2), Innovation Support (B3), Awareness (C4), competency (C5), decision-making aspect (C6), affectation (C7), self-starter (D8), proactive personality (D9), Perseverance (D10), Having an innovative vision (E11), Teamwork and Innovation Engagement (E12), Innovative Creativity Skills (E13), Having an innovative personality (E14). And the results of examining the magnitude of direct influence, indirect influence, and the total influence of factors influencing the innovative leadership of school administrators, are shown in Table 1.

Dependent		influence	independent variable											
variable	R <sup>2</sup>		А			В			С			D		
			γ	S.E.	t	β	S.E.	t	β	S.E.	t	β	S.E.	t
E	0.91	DE	0.06	0.64	0.09	- 0.13	0.32	- 0.41	0.38	0.19	2.04*	0.65	0.49	1.33
		IE	0.89	0.65	1.36	- 0.53	0.80	- 0.66	-	-	-	-	-	-
		TE	0.95	0.05	17.22**	- 0.66	0.69	- 0.96	0.38	0.19	2.04*	0.65	0.49	1.33

**Table** 1 shows the influence of variables influencing the innovative leadership of school administrators.

\*Statistically significant at .05 level, \*\*Statistically significant at .01 level.

Table 1 found that; (1) Direct influence, it was found that the innovative leadership of school administrators was most influenced by the variables. empowerment had a statistically significant positive effect of 0.38 at the .05 level. It was also found that the transformational leadership, the atmosphere promotes innovation, the learning initiatives did not affect the innovative leadership. (2) Indirect influence It was found that the innovative leadership of school administrators was not indirectly influenced by any variables in the model. And (3)

The overall influence found that the innovative leadership of school administrators most influenced by the transformational leadership has an influence value of 0.95, and the empowerment has an influence value of 0.38. In addition, the innovative leadership of school administrators is not influenced by the atmosphere that promotes innovation and learning initiatives.

# DISCUSSIONS

1. The causal relationship model of factors affecting the innovative leadership of school administrators under the Northeastern Primary Education Service Area Office developed by the researcher is consistent with the empirical data. It was found that the model consisted of one endogenous variable, transformational leadership. The four intrinsic variables where the atmosphere promotes innovation the empowerment, learning initiatives, and the innovative leadership of school administrators. However, The causal relationship model of factors affecting the innovative leadership of school administrators consisted of such variables because the researchers studied relevant documents and research, interviewed experts, and studied outstanding schools as a conceptual framework for the preliminary study. After synthesizing the content of the issues that need to be studied for the thesis advisors for preliminary examination before creating an interview form for interviews with 7 experts, and studying 3 outstanding schools. This research also found that

# **1.1 The direct influence found that:**

1.1.1 The innovative leadership of the school administrators was most directly influenced by the empowerment variables, having an influence of 0.38 in a positive direction with statistical significance at the .05 level. This may be because school administrators reflect on their goals, roles, and selfefficacy, including rationalization and self-control related to work, expressing feelings, empathy, The apprehension recognizes the value of the work and assesses the situation that arises about oneself, taking responsibility for oneself and others. By conditions, time, events, or environment, educational institution administrators recognize their abilities that have knowledge, expertise, and ability to work towards goals, able to solve problems arising from work and to overcome obstacles until Accomplishing, recognizing that one is free to initiate and to recognize that the work performed has an impact on the work within the school or the performance of the school. Consistent with Wongtongluea, P., (2017:154-155), research on the influencing factors and approaches to enhancing innovative working behaviors of small and medium-sized food industry employees: combined method research found that Innovative work was directly influenced by psychological empowerment, with a combination of psychological empowerment variables explaining 54 percent of innovative work behaviors. Parker, Williams, and Turner (2006) studied the variables influencing innovative working behavior and found that the variable influencing innovative working behavior is psychological empowerment. Hsiao (2009) examined the factors affecting innovative working behaviors and found that psychological empowerment is an intermediate variable between transformational leadership and innovative work behavior. Sunetal (2011) studied the factors affecting innovative working behavior and found that transformational leadership affects the innovation behavior of employees through psychological empowerment. Afsar, Badir, and Saeed(2014) investigated factors affecting innovative working behavior and found that psychological empowerment is a variable between transformational leadership and innovative work behavior.

1.1.2 transformational leadership had the highest impact on the learning initiatives with a statistically significant positive influence of 1.89 at the .05 level. It shows that transformational leadership is an extremely important factor in the formation of learning initiatives for school administrators. The school administrators focus on the individual's individual needs for success and advancement opportunities, including providing advice on improving personnel development and mentoring to promote learning and confidence in personnel to work for them. Successful and efficient, pursuing further knowledge in other areas, ability to perform one task in one's jurisdiction without prompting, ability to express opinions to improve or prosper on one's own, trying to learn to achieve self-determined goals by foresight and acting within the scope of authority and roles without waiting for orders, The courage to do things differently in new ways and to constantly take the initiative to change the environment on my own in my way to achieve my goals. Corresponding to Chatchawan, R., et al(2018:190) research on the Structural Equation Model for Innovation Behavior of Local Administrative Organization Employees in Southern Thailand: Test for Invariance across Organization Types found that transformational leadership had a statistically significant positive direct influence on learning focus at the .01 level. Consistent with Foumany (2015, cited in Chatchawan, R., et al, 2018:190), a study of the transformational leadership affects innovation with a knowledge management model as an intermediate variable found that transformational leadership has a positive effect on knowledge management. Consistent with Widiartanto and Suhadak (2013, cited in Chatchawan, R., et al, 2018:190), a study on transformational leadership, market-focused learning, organizational innovation affects organizational efficiency, the study found that transformational leadership had a statistically significant influence on the learning focus.

The transformational leadership effect on the atmosphere that promotes innovation was 0.97 in a statistically significant positive direction at the .01 level. Demonstrates that transformational leadership is an important factor in the formation of personnel's the atmosphere promotes innovation, communicates the perceptions of the management's expectations of the personnel, encourages the personnel to work together to look after and work together. , Create new ideas, create challenges for personnel to encourage them to try new methods, including encouraging personnel to find solutions and solutions to problems working for themselves creatively, all the time to motivate and support people, participate in decision making where personnel can perceive the warmth and expression of good interaction with each other, committed to operational excellence, which has been continuously evaluated for improvement and positive comments under an innovative atmosphere. Including the award that makes the personnel in the educational institution dare to express opinions or new methods openly. Consistent with Chatchawan, R., et al (2018:190) researching the Structural Equation Model for Innovation Behavior of Local Administrative Organization Employees in Southern Thailand: Testing the Transformational Leadership The positive effect on the team's atmosphere promotes innovation was statistically significant at the .01 level. And also, following Sivapitak, S. (2011, Abstract) researched on the innovation management of business organizations affecting the innovation behavior of employees. The results showed that the transformational leadership variable influenced the innovation behavior of employees but Influence through innovation climate variables

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The transformational leadership effect on empowerment had a statistically significant positive effect of 0.76 at the .01 level. It shows that transformational leadership is an important factor in the formation of empowerment in which school administrators behave as role models for their staff, are respected, trusted, trusted, it makes personnel want to follow the leader to achieve the goals of the school. This includes expressing feelings, opinions, appreciating the value of work and evaluating situations that arise about oneself, taking responsibility for oneself and others by time, events, or circumstances, having knowledge, expertise, and skills. Able to work to achieve goals, be able to solve problems arising from work, and overcome obstacles until successfully. Consistent with Parker, Williams, and Turner (2006), the study of variables influencing innovative working behavior found that Psychological empowerment is an interstitial variable that affects innovative working behavior. And Hsiao (2009) studied the factors affecting innovative working behaviors; Psychological Empowerment is the intermediate variable of transformational leadership and innovative working behavior.

#### **1.2 The overall influence found that:**

The innovative leadership of school administrators had the highest total influence from the transformational leadership with an influence of 0.95 and the empowerment of 0.38. This may be because some school administrators also influence changes in the attitudes of school personnel and can transform their visions into reality and put them into action. Behave as a role model for personnel to be respected, respected, trusted, making personnel want to follow the leader to achieve the goals of the school. Communicate and convince them of the expectations that executives have towards personnel, encouraging personnel to think about each other take care of each other, and work together. Instruct personnel in educational institutions to think creatively, create new challenges and encourage personnel to try new methods. Encourage personnel to find solutions and solutions to problems creatively working on their own, and school administrators pay attention to the individual personnel's needs for success and advancement opportunities. Including providing advice on improving personnel development and consultants to promote learning and confidence for personnel to work successfully and efficiently. It also includes how school administrators express their feelings, opinions, perceptions, recognize the value of their work and assess situations that arise about themselves, responsibility for oneself and others by conditions, timeliness, events or environments, recognizing one's ability to have the knowledge, expertise, and ability to achieve goals, able to solve problems that arise from work and able to overcome obstacles, have the freedom to initiate self-determination and problem solving on how to work, and to be aware that the work performed has an impact on the work within the school or the performance of the school. Following Petchouy, S, and (2017: Sittipongpitttaya, S. 193) researched the transformational leadership knowledge management Learning organization and innovative working behavior in schools under the Secondary Education Service Area Office 1,2,3,4, and 6 found that the transformational leadership knowledge management Organization of learning and innovative working behavior There was a high average in all factors. The correlation coefficient found that transformational leadership,

knowledge management The learning organization, and innovative working behaviors were statistically significantly positive at .01 and the transformational leadership, knowledge management. and learning organization It has a direct influence on innovative working behavior. Parker, Williams, and Turner (2006) studied the variables influencing innovative working behavior. is leadership. Koen Nijenhuis (2015) conducted a study of innovative working behaviors and found that leadership is a key factor affecting innovative working behavior. And Wongtongluea, P.: 2017) studied the variables that predicted the innovative working behavior of NGOs and found that transformational leadership influenced innovative working behavior.

#### New knowledge synthesis

The body of knowledge from this research, which was conducted in Mixed methods research, by studying related documents and research, interviewing experts, and case studies of outstanding schools. Then they synthesize and summarize the factors affecting the innovative leadership of school administrators, including transformational leadership, the atmosphere that promotes innovation, empowerment, and learning initiatives. The questionnaire was then created through expert review, and the validated questionnaire was tested, and the data was collected on a sample, then operated on statistical analysis. Research has confirmed that empowerment affects the innovative leadership of school administrators. And also found that transformational leadership affects the atmosphere promotes innovation, empowerment, and the learning initiatives factor as shown in Figure 3.



Figure 3: Research knowledge

# RECOMMENDATIONS

From the study of the causal relationship model of factors affecting the innovative leadership of school administrators under the Primary Education Service Area Office in the Northeastern region, two recommendations were made as follows:

# 1. Finding using recommendation

1. The empowerment influences the innovative leadership of school administrators.

Therefore, educational institution administrators, educational administrators, primary education district offices. These factors should be taken into account in the development of the innovative leadership of school administrators to be more effective, This will result in the management of primary schools to achieve the goals with efficiency and effectiveness.

2. transformational leadership does not influence the innovative leadership of this educational institution administrator, primary education district office, It should take into account the influence on changing attitudes of personnel in educational institutions as well as to encourage and support school administrators to change their visions into reality and bring them into practice.

3. the atmosphere that promotes innovation does not influence the innovative leadership of this school administrator. School administrators, primary education area offices. Consideration should be given to the shared perception of the school personnel on the work environment and the qualities of the team in which the members exist as an atmosphere that encourages innovation, motivates, and encourages individuals to participate in decide where personnel can perceive the warmth and good interaction expressions there is in the team about operational excellence, which has been continuously evaluated for improvement and positive comments under an atmosphere of innovation, including rewarding, enabling school personnel to openly express opinions or new approaches.

4. the learning initiatives did not influence the innovative leadership of the school administrators, the school administrators, the Primary Education Service Area Office. Consideration should be given to pursuing additional knowledge in other areas, being able to do one thing in the sphere of authority on one's own, Without having to wait for commands, there is the ability to express opinions to make things better or to grow on their own. Commit to following a self-determined path so that you can achieve your goals.

# 2. Further research recommendation

2.1 Should study other factors In addition to what this research has already studied, This may affect the innovative leadership of school administrators to use the findings as a guideline for developing the innovative leadership, such as job engagement. risk management building faith, prestige, etc.

2.2 Should study the factors transformational leadership the atmosphere promotes innovation the learning initiatives for any reason or factor that does not affect the innovative leadership of school administrators because the context of different educational institutions to compare and find a way to develop the innovative leadership of the school administrators.

#### REFERENCES

- 1. Afsar B., Badir Y. & Saeed, B. (2014). Transformational leadership and innovation work behavior. Industrial Management & Data Systems. Vol.114 (8): 1270-1300.
- 2. Chaiprasit, S. (2010). "Innovative Organization", the choice of entrepreneurs in the new era. Bangkok: Bangkok University.
- Chatchawan, R., et al.(2018). Factors Affecting Innovative Work Behavior of Employees in Local Administrative Organizations in the South of Thailand. Journal of Southern Technology,11 (1),113-124.
- 4. Craig, J.T. (2015). Antecedents of Individual Innovative Behavior: Examining Transformational leadership, Creative climate, Role ambiguity, Risk Propensity, and

Psychological empowerment. Alliant International University.

- 5. Education Council Secretariat. (2017). Innovation Management for Executives. Bangkok: Ministry of Education.
- 6. Foumany, G. H., Mehraban, M., & Gahani, S. (2015). The effect of transformational leadership on innovation with the mediating role of knowledge management among high school teachers in Saveh city. Research Journal of Fisheries and Hydrobiology, 10(13), 125-131.
- Hsiao, H.C., Chang. J.C., Tu, YL. (2009) The influence of transformational leadership and support for innovation on organizational innovation: From the vocational high school teachers' perspective. In: Industrial Engineering and Engineering Management, IEEE International Conference on IEEE. pp.1988-1992.
- 8. Koen Nijenhuis (2015). Impact Factors for Employee Innovative Work Behavior in the Public Sector. The University of Twente.
- 9. Ministry of Education. (2016). A workshop manual explaining the implementation of the Pracharath School Project, the Pracharath Power Convergence Project on Basic Education and Leadership Development. Date 2-4 May 2016.
- Nanthasri, T.(2020). The Development of Indicators on Innovative Leadership of School Directors under Offices of Primary Educational Service Areas in the Northeast of Thailand. Doctor of Philosophy Thesis: Sakon Nakhon Rajabhat University.
- 11. Office of the Basic Education Commission. (2021). Make dreams by thinking. Bangkok: Sematham.
- 12. Parker, S.K, Williams, H.M, Turner, N. (2006). Modeling the antecedents of proactive behavior at work. Journal of Applied Psychology, (91 (3):636-652.
- Petchouy, S, and Sittipongpittaya, S.(2017). Transformational Leadership, Knowledge Management, Learning Organization and Innovative Work Behavior in Secondary Education of School Office 1,2,3,4, and 6. Journal of the Association of Researchers,22 (1),193-204.
- Phongsichomphu, W., et al.(2015). Effects of State Enterprises Information Technology Utilization on Being a Learning Organization and an Innovative Organization. Journal of Interdisciplinary Research: Graduate Studies, 4 (3), 50-65.
- 15. Rahman, A., Panatik, S.A., & Alias, R.A. (2014). The influence of psychological empowerment on innovative work behavior among academia in Malaysian research universities. International Proceeding of Economics Development and Research. 78, 108-112.
- 16. Shibin, Wang & Liu (2016). The mediator role of innovative self-efficacy between person-organization fit and innovative behavior. Service Systems and Service Management. Vol.9 (14):7
- Sivapitak, S.(2011). Innovation Management of Business Organization Affecting Employees'Innovative Work Behavior. BU Academic Review,11 (1),37-51.
- Srisa-ard, B. (2002). Statistical Methods for Research, Volume 1. (4<sup>th</sup> edition) Bangkok: Suwiriyasan.

- 19. Sun LY., Zhang Z, Qi J. & Chen ZX. (2011). Empowerment and creativity: A cross-level investigation. The Leadership Quarterly. 23 (1):51-65.
- 20. Tanpraphat, C.(2013) FACTORS AFFECTING TO CREATIVITY AND INNOVATION OF PRIVATE SCHOOLS IN BASIC EDUCATION LEVEL. Journal of education, Burapha University. 7 (2),42-55.
- Tumtool, V., and Ariratana, W. (2014). Innovative Leadership of School Administrators affecting High-Performance Organization of School in the Secondary Educational Service Area Office 21. Journal of Education, 37(3), 31-38.
- 22. Widiartanto & Suhadak. (2013). The Effect of Transformational Leadership on Market Orientation, Learning Orientation, Organization Innovation and Organization Performance. Journal of Business and Management, 12(6), 8-18.
- Wiratchai, N.(1999). Lisrell Model: Analytical Statistics for Research. 3<sup>rd</sup> edition, Bangkok: Chulalongkorn University.
- 24. Wongtongluea, P.(2017). Factors Affecting the Innovative Work Behavior of Employees and Guidelines for the Enhancement of Small and Medium Enterprises in the Food Industry: A Mixed Methods Research. Dissertation, Ph.D. (Applied Behavioral Science Research). Bangkok: Graduate School, Srinakharinwirot University.
- 25. Wutthirong, P. (2012). Managing innovation from idea to best practice. Bangkok: Chulalongkorn University Press.
- Yeoh, K, Sethela J. & Rosli, M. (2013). The Determinants of Innovative Work Behavior in the Knowledge-Intensive Business Services Sector in Malaysia. Asian Social Science. Vol.9 (15):47-59.