A Model Development of Causal Structural Relationship of Factors Influencing the Effectiveness of Staff Knowledge Management Khonkaen, Primary Education Service Area Office 1

Phraathikan Boonchuay Chotivongso, Dr.[*]

Abstract

The objectives of this research were: 1) Development of causal struc tural relation of factors influencing the effectiveness of staff knowledge management in basic education schools in the office of the primary education service area 1 in Khonkaen province, 2) To test the consonance of the model, 3) To study the factors influencing the effectiveness directly and indirectly of the whole effected the knowledge management. The samples in this research were 580 personnels in basic education schools. The instruments where 5.level raiting scale questionnaires with the overall reliability value of 0.97 and the IOC value between 0.85-1.00. Analyzing the data by AMOS computer program.

The research findings were as follows:

1. Development of causal structural relationships of factors influencing the effectiveness of staff knowledge management in basic education schools in the office of the primary education service area 1 in Khonkaen province consisted of 5 latent causal variables and 17 manifest variables. The latent variable was 1 the consequential variable and 5 latent manifest; the total of 28 variables.

2. In testing the fit between factors influencing the effectiveness of knowledge management of personals in the office of primary educational service area 1 in Khonkaen

*   Lecturer Department of Education Administration, Mahachulalongkornrajavidyalaya University, Khon Kaen Campus

province which was developed with the empirical data significance (P-value=1.97) significantly at 0.5 margin error, chi-square divided by free degree (X^2/df) below or equal 2 (X^2/df =1.134) RMSEA = 0.015;. AGFI > 0.90; GFI = 0.982 and AGFI = 0.965.

3. The factors, influencing directly the positive effectiveness to the change leaders significantly at 0.001 margin error, were culture and organizational atmosphere with the influencing value at .790, the followings: strategy management at .281, knowledge management and ICT = .235 and .082.

Keywords: Model Development, Knowledge Management

1. Introduction

Developing countries in the direction of the national economic and social development plan no. 10 (2550-2554 BC), which aims to develop thai people and social in Thailand, covering three areas:

1. To ready into step of work world and quality competition : Development of moral knowledge, mind, and together lifelong learning in order to strong basic knowledge. Development of performance skills of workforce with their demand.

2. Create and develop excellence manpower specializing in the creative and innovative knowledge.

3. Encourage thai people to learn continuously throughout their lives. Knowledge Management for both traditional and modern knowledge from communities to nation. Can be used in the educational development[1] in the content of process to be completed hum and wisdom by inherited culture and society. Therefore the education is base and an important tool in development of economy, society, culture and politics of country. The development of nation relies on these achievement of goals to keep pace with the rapid change,[2] which developed bureaucracy in Thailand.[3]Primary educational service area office 1 has role

---

[1] Office of Nationak Education, **Culture and Education in the Direction of Change**, (Bangkok : V.T.C Communications, 2003), p. 5.

[2] Keingsak Chareonwongsak, **Sculpture National Brain : The Strategic Reform of Education**, (Bangkok : Success Media, 2000), p 19.

[3] Prayad Jeraworraphong, **Principles and Theories of Educational Technology**, (Bangkok : M.P.T. ,1987), p. 46.

and responsibility in management of basic education in three areas (Muang district, Ban Fang district and Yuen district). These areas were managed by doing the policy, development plan and educational standard of them, according with policy, development plan and educational standard of ministry of education in Bangkok.

For that reason, As the research staffs in Basic Education Schools in the office of the primary education service area 1 in Khonkaen province used their created policy, focusing on increased educational efficiency (according to the goal of the national education, communities need and the spirit of education reform) by doing in the practice in these areas.[4]

2. The objective of this research

1. To develop a structural model of the factors that affect the staffs knowledge management in basic education, Khonkaen primary educational service area office

2. To ensure the consistency of the linear model of factors that affected the staff knowledge management in basic

education, primary educational service area office no. 1 in Khonkaen province.

3. To study the factors that influence directly & indirectly and total influential factor, affecting to staff knowledge management in basic education, primary service area office no. 1 in Khonkaen province.

3. The research in questions

This study focused on the factors that affect to the staff knowledge management in basic education, primary educational service area office no. 1 in Khonkaen province, which were the questions of this research, following as:

1. The development of linear model factors, affecting the staff knowledge management in basic education, primary educational service area office no. 1 in Khonkaen province. How were there for their steps of process?

2. The development model of linear factors, affecting the staff knowledge management in basic education, primary educational service area office no. 1 in Khonkaen province. How were there for

---

[4] Phannee Suwuttee, "Analysis Health Organization's Primary School", **Doctor of Philosophy Thesis**, (Chulalongkorn : University), 1994.

their appropriate ways?

3. The factors that influence directly & indirectly and total influential factor, affecting to staff knowledge management in basic education, Primary service area office no.1 in Khonkaen province. How were there their characteristic?

4. The hypothesis of the research

1. To develop a linear structural model of factors, affecting to staff knowledge management in basic education, primary educational service area office no. 1 in Khonkaen province.

2. All formed factors had direct & indirect and total influence affecting to staff knowledge management in basic education, primary educational service area office no. 1 in Khonkaen province.

5. Scope of research

The title of research "The development of structural model factors, affecting to staff knowledge management in basic education, primary educational service area office no.1 in Khonkaen province" studied the documents, concerned researches in order to synthesize the concept as following : population and sample.

1. Population including 163 schools with the information providers, including 163 directors, 163 deputy-directors, 1,386 teachers and total 1,712 people.

2. Sample determining the sample size : According to this research would be analyzed by a computer program (SEM), therefore the appropriate sample size was between 100-150 people. In social science research fixed the sample size approximately for 20 times of formed variables. This research included 28 variables and at least 560 people, 163 directors 160 deputy-directors 237 teachers and total 560 people for minimum group size.
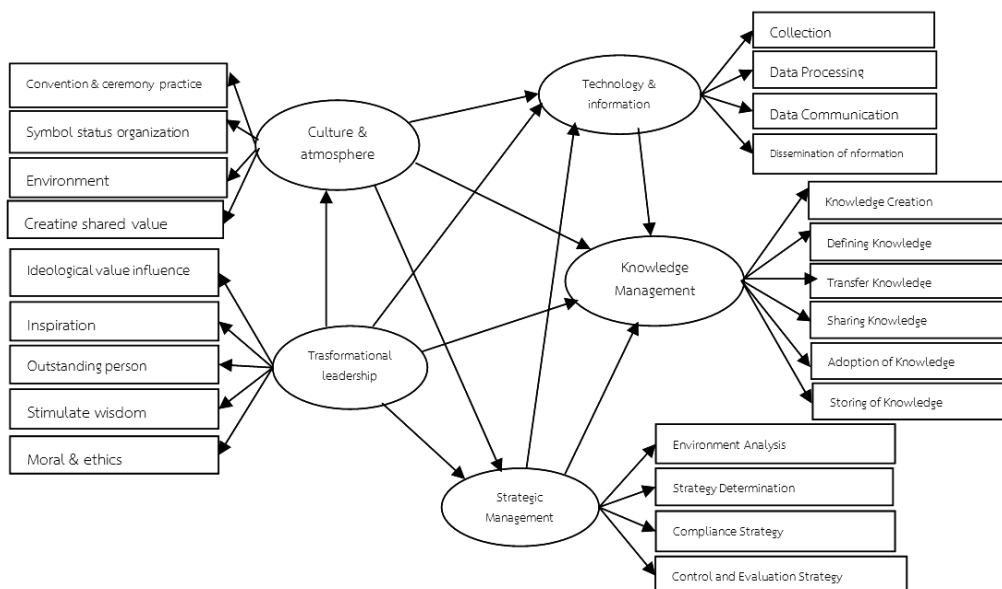
Fugure 1. Concept of research

6. Method of Research

Steps of this research

Step 1. Study the concept, theory, involed researches and composition of factors, affecting to staff knowledge management in basic education. Step 2. Creating the assumption model of factors, affecting to staff knowledge management in basic education, primary educational service area office no.1 in Khonkaen province. Step 3. Developing linear structural model of formed factors, affecting to staff knowledge management in basic education. Step 4. Check the consistency of assumption model with empirical data. Step 5. Conclusion of research and formatted presentation.

Monitoring the quality of instrument. The research instrument was questionnaire with 5 level rating scale with reliability coefficient = 0.97, IOC ranged between 0.85-1.00.

7. Results of research

The first objective is to develop a structural model of factors, affecting to staff knowledge management in basic education, primary educational service area office no. 1 in Khonkaen province.

The results of studying the development of structural model of factors, affecting to staff knowledge management in basic

education, primary educational service area office no. 1 found that the variables composed of 1) transformational leadership 2) culture and atmosphere of organization 3) technology and information 4) strategic management 5) knowledge management.

The second objective is to investigate the conformation of linear structural model, affecting to staff knowledge management in basic education, primary educational service area office no. 1 in khonkaen province. The results of investigation in validity of formed factors, affecting to staff knowledge management in basic education, primary educational service area office no. 1.

Researcher presented the results of analyzed information, dividing into steps as following; The validity investigation of factors, affecting to staff Knowledge Management in basic education, primary educational service area office no. 1 analyzed confirmatory elements in each factor. In first researcher analyzed correlation to investigate the relation of variables. Were they related together? How were their direction and size of relation with correlation? showing in below.

The third objective is to study the factors that influence directly & indirectly

and total influential factor, affecting to staffs knowledge management in basic education, primary service area office no. 1 in Khonkaen province with empirical data. The linear structural relation of factors, affecting to staff knowledge Management in basic education, primary service area office no. 1 in Khonkaen province were in hamony with the empirical data. Considering the chi-square was not statistically significant (p-value=.121, Chi-square dividing with degree of freedom (X^2/df) ≤2 (X^2/df = 1.133) accepted the format as hypothesis of research in hamony with the empirical data. Furthermore, there was some statistics in hamony with other such as the index level of hamony (GFI) and the index measuring level of hamony, modified (AGFI) = .974 and .954 respectively, the index measure the percentage harmony (NFI) =.989. Compare harmonized measure (CFI) = .999 Index root mean square error of approximation (RMSEA) =. 015 (RMSEA < 0.05). These were showing that the farmat of linear structural relation in harmony with the empirical data.

Conclusions The researcher concluded this research as its specific purposes as following : 1) The results of this study and developed the linear

structural model, affecting to staff knowledge management in basic education, primary service area office no.1 in Khonkaen province. From education the concepts, theories, researches and focus group discussion, Researcher improved variables as expert's suggestions in discussion as 23 observed variables, 5 latent variables total 28 variables. They were showed in below after adjustment as following:

8. Discussions

1. Factors influencing staff Knowledge Management in basic education was the most as strategic management, followed by transformational leadership, culture and atmosphere. The variance of staff knowledge management in basic education was 76.50% according to staff in basic education focused on strategic management in first. That means the process consisted of an analysis environment and business critical information used in the decision. Planning guideline Strategic and operational control of the organization in order to that confidence. Organizations were able to operate in accordance with the conditions and situations that could be occur and involed into development and completely effective competition in indus-

try. The priority was the determination and strategic management helped executive leaders to understand global change and vision in future. They could determine completely the objectives, the direction of their organizations in harmony with the practice. strategic management focus on defining application inspection and control strategy of the organization.

These were progress in ready of education organizations. Analysis of environment and strategy determination assisted the executive-leaders, manager and staff in organization understand in the whole, potentiality of business as well as the influence of environmental factors on the organization. The administrators could do timely their future plan, effectively complete competition, analysis of external & internal environment, effective strategy determination in all level (senior executive, middle executive and staff). They could operate their responsibility in the same direction, increasing effective products as their goal. Their objective and direction determination for future were clear to operate in present & future. The strategy management was a major priority to manage for changed environment and unstable direction. The administrators

should understand the dynamic of change, predict the future and determine the direction of organization as follow as supanee sareedwanit "The Principles of strategic management is concerned with decision management and actions will be determined the performance of organization in long run" and chen's research studied the elements, affecting to achievement of Knowledge Management found that successful organization had to be managed by know ledge management in these day and the executive promoted & supported the knowledge management process and strategy into its vision. It was the most significant component for achievement. And chamchuree- chammuang studied format of leadership, successful administration in schools at Bangkok in order to develop the format of successful leadership. The results of study found that the format of effective leadership, school administrators at Bangkok, composed of 6 items ; 1) Vision : should create vision, determine vision, adjust vision and present vision, 2) Learning and teaching: should have the way of practices such as technology and resources, improve student's learning and design and development of teaching, 3) Learning Environment : should have organizing,

operation organizing, resourse organizing, 4) Community : should be coordinated with their parent and people in community for their need, and then mobilizing their resourses for utilization, 5) Moral : should be operated for moral behavior with justice and ethics, 6) Social development : should be an clear understanding and responding the contex of the school and developing it and society from its potentiality.

2. Factors influencing to culture and atmosphere. There had only one factor, technology and information, explained by variability 70.40%, therefore culture came up from their behavior in one group and passed down through the habituation in the same direction practice. This could be defined as a pattern of their regulation, tradition and mainly resolved conflict problems as well as responding their basic needs, organizing, gatherly practice direction for goal, creation utility in the group in organization. So that organization culture seems like a small system in society, being complicated with fuctional structure of that system. Meanwhile culture system have influence to other systems in society and being together with close relative. The people have their behaviors as following as their

culture, society and tradition through attitudes, beliefs and values in individual and assumptions about different cultures and cultural elements, including the ambiguous concept or definitions reflected from academies by values (reflected the vision), clearly organizational belifes, accepting and respecting atmosphere between administrators and teachers said that Culture is a complex ensemble that compose of knowledge, belife, art, moral, law, customs & traditions, abilities and behaviors that act as a habit. The man had come on as a member of society. As well as the concept of Rashchawon Kanjana-parnyachom[5] mentioned that the success factors include. 1) Culture and behavior of people in the organization must have good attitude for sharing knowledge and then create it as knowledge base to new generation. The organization must be a culture within the trust, honor and respect in their rights and idea of co-operation at all levels. Learning can occur for many items even something for error or mistake in the past. 2) Leadership and strategy :

executives must have faith in human's value and knowledge in the organization., understanding in problems & mission, promoting &supporting experts by searching and incouraging the process in development the knowledge management inside with the appropriate strategy to succeed. 3) Technology : the availability of modern equipments and technology support the operation in work and learning with information base and its system. 4) Evaluation and implementation : There are completely evaluation and motoring system of Knowledge Management for adaptation. 5) Infrastructure : Setting a executive system, data collection and reporting the results for supporting the knowledge management Plan to succeed. Successful factors have not onlya excellent knowledge management system, but also executive structure for change in cultural learning and sharing inpersonnel management through evaluation and reward (budget or something) is necessary. And suceessful factors in executive secondary schools were harmonized in the reporting for

---

[5] Cranny C.J., Smith, P.C. & Stone, E.F., **Job Satisfaction : How People Feel about Their Jobs and How it Affects Their Performance**, (New York : Maxwell Macmillan International, 1994), p. 13.

self-assessment with accepted atmosphere and respected together between administrator and teachers.

   3. Factors influencing in strategic management : The only one factor, technology & information, being explained in variability of knowledge management = 69.90%, owing to its necessary is adopted to searching, evaluating, collection and easy & wide dissemination in terms of alphabets, numbers, figures and voice with computer system and telecommunications. There is systemly knowledge collection in organization in owing to be convenient for searching. People in the schools worked with technology and information through knowledge management. Schools provided a computer programs for working wisely in order to learning and organization development by promoting & supporting. So everyone in the organization is linked together (person to person and data to data) with their computers in inside & outside. In these day computer and technology are very important to rapidly sending their information for communication with data or information in a second. They

seems like to be used by everyone for more communication and increasing in the short future in spite of their enormous utilization computer and technology. They could communicate their communicators together in any time without voyage or travelling so that saving money, reduce the time and distance barriers anyway. In the past the people in anywhere communicated together with telephone or letter, spending the time to understand what they want for many days and paying a lot of money but nowadays a computer and technology come up rapidly to commucate together for necessary and saving their budget and time. According to collection of data in system for work in organization by computer and information will be resulted to access the information or data and increasing and effective product. The same concept[6] their openion concerned about elements of technology 3 items as 1) Processor system : according to there is a complex working and several type of information needs in organization so that the management and processor the information with manual are failure and taking times for many days.

---

[6] Cuban, L, **How School Change Reforms : Redefining Reform Success and Failure**, (Teachers : College Record, 1998), p. 21.

Using electronic system is more convenience and rapid for increase efficiency to collection data & information by computer & technology without manual in these days. 2) telecommunication system : communication is hugely important for management & processor and using the information for decision. The perfect information system be applied effectively technology & electronic in data communication between computer system, electronic devices and users even long distance. 3) information management : normally some people who interested in technology & information can explain clearly its meaning with a focus on components 2 items in the first and somebody who interested in information management would be concentrate on the third component, being art in format management and adopting effective technology & information. Knowledge management in basic education, primary educational service area office no. 3 in Khonkaen province. The results of this research found that the schools in basic education determined a short , clear & progress vision and hamonized with mission. Teachers had been trained to develop their skills for effective work with learning culture together between teachers and learner. Cooperation academy between institutions and center for academy development office in primary educational service area office no. 1, The learners had been developed to their full potential and kept pace in changes. Sharing knowledge: found that schools in basic education were to share the knowledge, information, data, questions, ideas, and experiences with people in institution and outside. Teachers and staff had developed into a mechanic to the principle of participatory development management by the way of educational reform and transformation process, the students shared new perspective to exchange experiences with each other. Creating knowledge : researcher found that the library system has been prepared perfectly in several books, technology's, medias, adequate number of computers on the activities of teaching for learner's learning and effective teaching in educational institutions in medium and large size. Some schools with small size in basic education had been lacked for available computers, resources and technology.

9. Suggestion

The researcher presented these suggestions to utilization as following;

1. Policy suggestions

1.1 Creating and development in schools: Should develop the administrator into leadership for learning with executive potential, technology & information, and knowledge management. This process can be used the same one the researcher mentioned that there are framework, drafting model, development model and test a causal relationship intoa effective model and then utilize it for policy determination and evaluation for working in organization.

1.2 Institutions should focus on knowledge management model, supporting for learning organization and principle that the administrator should has a vision, honest, fair, transparent, justice, management without mental bias, equality in the enterprise and review the roles of staff in each institution to participately policy determination, school development plan and monitoring management.

1.3 Steps of format development: should be together in a depth interviews and focus group and Spend the time longer for operation in research, clearer

and more complete will be found in it.

2. Practical Suggestions

2.1 Institutions should arrange a sharing conference between staff in segments or divisions for distribution the ideas, experiences and problems in each other for learning together for educational utilization.

2.2 Should develop school for stable learning organization in each items as following;

2.2.1 Development of readiness in knowledge management : should have a center of Knowledge Management in the school or institution in order to set knowledge system, develop staff potential, searching and supporting resourses of technology & information, providing sharing system and publishing innovation and providing educational radio station.

2.2.2 Development of readiness in technology & information : educational institutions should allocate the budget to providing and improving technology & information into modern and reediness to create a database of knowledge for access & integration for effective utilization. Should have a monitoring & evaluation system to improvement and continuous

progress, providing a teleconference through network, sharing in database for unity and whole one in management.

2.2.3 Development of readiness in educational staff : Should have human resource Development and learning management, improving attitude & behavior in working for preaching culture in the same direction., supporting several ways of learning & sharing knowledge such as meeting &training, discussion group, study visit in order to progress in together learning system with connecting the objectives in their organization.

2.3 Utilization the causal relation model of factors, affecting to learning organization in the Schools in order to achieve the objectives. The administers should apply to appropriate context of each schools or institutions

3. Suggestions for further research

3.1 From the results of this research found that transformation leadership factor, significantly affecting to knowledge management in educational institutions. So for further research should be study and develop casual relation model of factor, affecting to knowledge management of administers. It would be utilization for education in the whole anyway.

3.2 In this research, there was samples, specific personnel in the schools. So you should study factors, affecting to knowledge management into learning organization in multilevel. The samples should be administrators, teachers and staff in all level in order to perfectly develop into learning organization.

Reference

1. English

    (1) Book :

Cranny C.J., Smith, P.C. & Stone, E.F. **Job Satisfaction : How People Feel about Their Jobs and How it Affects Their Performance**. New York : Maxwell Macmillan International, 1994.

Cuban, L. **How School Change Reforms : Redefining Reform Success and Failure**. Teachers College Record, 1998.

Keingsak Chareonwongsak. **Sculpture National Brain : The Strategic Reform of Education**. Bangkok : Success Media, 2000.

Office of Nationak Education. **Culture and Education in the Direction of Change**. Bangkok : V.T.C Communications, 2003.

Prayad Jeraworraphong. **Principles and Theories of Educational Technology**. Bangkok : M.P.T. , 1987.

    (2) Thesis/Dissertations/Research report :

Phannee Suwuttee. "Analysis Health Organization's Primary School". **Doctor of Philosophy Thesis**. Chulalongkorn University, 1994.