

**DEVELOPMENT OF A KNOWLEDGE CREATION
SYSTEM USING AN APPRECIATIVE INQUIRY
APPROACH FOR HEAD NURSES IN
A THAI PUBLIC HOSPITAL**

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Abstract

The purpose of this article is to outline the development of a system of creating new knowledge using the Appreciative Inquiry (AI) approach for head nurses in a Thai public hospital. The research results demonstrated that the Knowledge Creation (KC) system consisted of 4 stages and 12 steps, which were effective in raising KC skill levels and was able to be used by head nurses at a regional public hospital in Thailand. The significant factors in the KC system using AI were the core elements of infrastructure factors (i.e., people, culture, communication, leadership, trust and facilities) and knowledge enabler factors (i.e., top manager support, care for KC, climate, collaboration, teamwork and empowerment). This research has produced a body of new knowledge in KC, which has been validated by five knowledge management (KM) experts, whose features of quality, reliability, benefits and application were found to be statistically and practically significant.

Keywords: knowledge creation, appreciative inquiry, knowledge management

Introduction

The rapid pace of change in the fields of economics and sociology has caused holistic knowledge to become a valuable commodity. It is especially valuable to

public hospitals in Thailand. The primary practitioners of holistic knowledge are the head nurses who act as primary administrators in the hospital and play an important role in administration, service-oriented detail and academic affairs (Tappen, 1995). Many nurses are continuously faced with the challenge of dealing with complex tasks and urgent care processes, with ever-increasing expectations of customers and their families. Consequently, it is necessary for head nurses to create and develop new knowledge in order to adapt and survive the many challenges, given the uncertain conditions at the present time. The knowledge creation (KC) process of an organization is important for encouraging challenges for survival and advancement of strategies that ensure future success, improved performance and building the knowledge base of the nursing profession (Krogh et al., 2000; Nonaka & Takeuchi, 1995) within a Thai hospital. Head nurses need to create and develop new knowledge with other head nurse teams throughout their hospital in their roles as leaders. There are many factors involved in the process of sharing and creating knowledge, which include trust, communication, the skills of advocacy and inquiry (Dixon, 2000), culture (De Long & Fahey, 2000), active participation, care for KC and especially, competence to share and create leadership knowledge.

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Appreciative Inquiry (AI) plays a critical role in defining and helping to alleviate problems inherent in many nursing organizations. Specifically, the power of AI may help them to create new knowledge (Bushe & Kassam, 2005) to develop and improve critical factors affecting KC within the nursing profession (Keefe et al., 2004; Havens et al., 2006), to enhance the learning culture (Barrett, 1995) and to improve their communication and collaboration (Havens et al., 2006) and create dialogue to foster shared images (Cooperrider et al., 2003), to build high performance teams (Bushe and Coetzer, 1995), as well as transforming leadership (Keefe & Pesut., 2004; Hart et al., 2008). Healthcare organizations also need to develop sharing skills and to create new knowledge using the AI approach for head nurses with their leadership team in order to adapt and survive the many challenges. This article aims to present the development of a new KC system using the AI approach that was found to be effective and feasible for head nurses in a Thai hospital context.

Research methodology

This study was conducted in four phases: 1) To identify factors and activities in each step of KC; 2) To design a prototype and validate a KC system using AI; 3) To implement and evaluate a KC system using AI; and 4) To propose a comprehensive system of KC using AI for head nurses in a Thai public hospital context.

Phase I involved the analysis and synthesis of the infrastructure and other factors relating to KC, the AI procedure and the context of quality development of Thai public hospitals, using in-depth interviews. The target groups were nine head nurses selected from seven Thai public hospitals using purposive sampling. As these target groups

had experience in creating and developing knowledge in the hospital, the responses of the nine head nurses were analyzed and synthesized by content analysis.

In phase II, the results of phase I were used to design a draft of the prototype model of KC using AI. This draft was then submitted to eight experts using the focus group method. The prototype model was modified according to the suggestions of the experts.

In phase III, the prototype model of KC using the AI system was implemented at Pichit Hospital on a trial basis in order to be improved and evaluated over a period of nine months. The target groups comprised the Chief of the Nursing Division, seven facilitators, 10 knowledge creators and 10 knowledge practitioners. The instruments included in-depth interviews, focus groups, participant observation, new knowledge evaluation, the skill test of KC using AI in practice, a system of KC using AI evaluation process and an opinion evaluation form. Data were analyzed using content analysis, descriptive statistics of means and standard deviations, and inferential statistics of t-tests for dependent groups.

In Phase IV, after the KC using an AI system had been implemented, evaluated and improved, it was submitted for approval by five KM experts. The five experts evaluated and certified the KC using the AI system. Before submitting the final version of the KC using AI system, the researcher surveyed the opinions of the target group towards applying the knowledge system to their routine work continuously after the project had concluded.

Results

1. The results of the development of the KC system using AI in a Thai public hospital context

The results showed that the KC system consisted of core elements and processes of

KC using the AI system (4 stages and 12 steps). They were most effective and able to be used by head nurses for a Thai hospital context. The core elements that enable the development of KC using AI are: 1) infrastructure factors (i.e., people, culture, communication, leadership, trust, and facilities); and 2) knowledge enabler factors (i.e., top manager support, care for KC, climate, collaboration, teamwork and empowerment), as illustrated in Figure1.

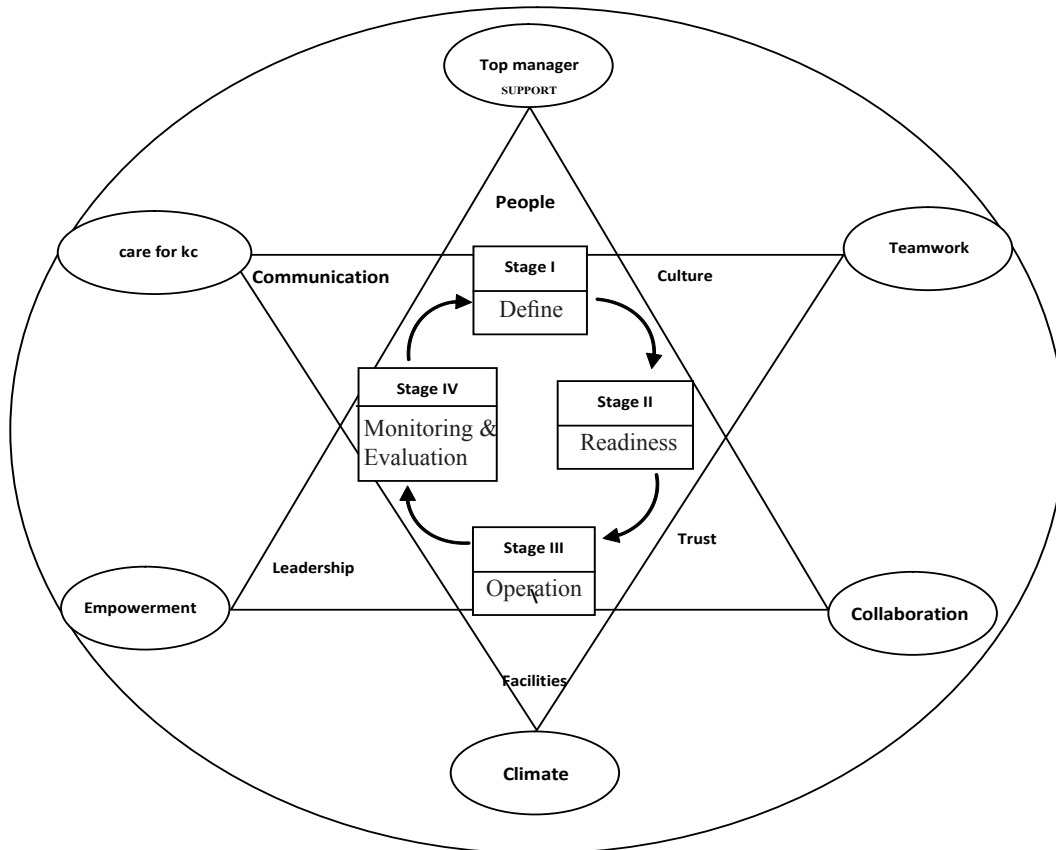


Figure 1: A system of knowledge creation using AI approach for head nurses in a Thai hospital context (Source: Developed by the researcher)

The process of KC using the AI system was conceptualized as being composed of 4 stages: 1) Define; 2) Readiness; 3) Operation; and 4) Monitoring and evaluation and 12 steps: 1) Access and analyze the contexts of KC in the organization; 2) Communicate the policy and project of KC using AI; 3) Identify and select the facilitator team; 4) Develop facilitators' competence; 5) Identify and select the KC team; 6) Identify and select the KC topic; 7) Dream and generate ideas; 8) Design KC using AI; 9) Build a prototype for KC using AI; 10) Implement KC using AI pilot project; 11) Monitor and improve a

prototype of KC using AI; and 12) Evaluate the KC using AI system.

Moreover, the results of the system implementation, validated by 5 KM experts, demonstrated that the KC system using AI consisting of core elements was appropriate, effective and able to be used by head nurses in a Thai hospital context. The evidence for this conclusion was that 11 of the 12 steps in the KC system recorded an Index of Consistency (IOC) of 1, while only step 2 had a lower IOC of 0.9.

2. Results of an analysis and assessment of new knowledge

This research project produced a body of new knowledge which had been validated and confirmed by five experts in the field of KM. It was found that the features of quality, reliability, benefits, and the application of the body of new knowledge were statistically and practically significant. The evidence for this conclusion is that the new knowledge of the target group of 10 head nurses was at a higher-than-average level for each of the items on the new knowledge evaluation test, as well as for the total score (i.e., = 2.95), where the possible range of scores was from 1 to 5.

3. Results of skills gained from the knowledge creation system using AI

Moreover, the target group's KC skills improved, after implementing the prototype of KC, improved. There was significant improvement from pretest to posttest for all the 14 skills measured, as well as a highly significant level of total improvement. The mean skills of KC using AI increased from an average of 97.1 to 146.2 ($t=7.91$, $p<0.001$), as shown in Table 1. It was concluded that KC using the AI system was an effective method for developing KC skills in head nurses who were the leaders of the knowledge creator team in Pichit Hospital.

Table 1: Comparison of mean scores and standard deviations of skills before and after implementing the KC intervention project.

Skills used in KC using AI		Change in Skill of KC using AI Scores					
		Pre-test Mean	Pre-test S.D	Post-test Mean	Post-test S.D	t-test	P-Value
1	Interviewing	9.10	3.35	12.80	3.12	6.40	<.001
2	Storytelling	7.50	4.50	10.80	2.86	3.97	<.01
3	Active Listening 8.60	4.14	12.50	2.59	5.29		<.001
4	Observation	7.10	2.73	11.10	1.97	7.75	<.001
5	Discovery	8.00	3.46	11.50	2.99	10.25	<.001
6	Analytical Thinking	6.80	2.66	11.20	2.62	7.83	<.001
7	Asking Positive Questions	7.50	2.59	11.10	2.47	5.66	<.001
8	Using Appreciative approach	9.00	3.43	12.70	2.83	6.40	<.001
9	Mentoring	8.50	2.64	11.20	2.39	4.52	<.001
10	Positive thinking 9.40	2.80	14.00	1.56	5.20		<.001
11	Design Prototype	3.00	1.70	5.60	1.58	8.51	<.001
12	Building a prototype	4.70	2.31	7.70	1.70	5.81	<.001
13	Implementing the system of KC using AI	4.90	2.02	8.50	2.27	9.00	<.001
14	Monitoring and Evaluation	3.00	1.41	5.50	1.43	9.30	<.001
Total		97.10	32.77	146.20	22.11	7.91	<.001

4. Results of the opinion evaluation of the participants in the system of KC using AI

The results of the evaluation participants' opinions in the system of KC using AI revealed six important findings. The head nurses believed that the following six factors were important contributors to a successful KC system in their hospital: 1) encouraging and supporting head nurses in sharing their tacit knowledge; 2) suitable learning culture for the head nurses; 3)

developing the potential of all head nurses in the hospital; 4) creating an appreciative climate; 5) creating new knowledge, and; 6) building relationships and trust. Additionally, the results of the evaluation of the participants' opinions after using and applying their knowledge from the system of KC using AI's head nurses in Pichit Hospital found that they applied various methods of KC in their routine work. They reported that they regularly used such skills as implementing the Excellence Communication Model, knowledge arising from learning the appreciative inquiry approach, interview technique, posing Spell out term After action review(AAR) questions, observation and positive thinking techniques. Through the lessons learned in the trial, they used their knowledge of KC using the AI system to establish a plan for continuously developing new holistic knowledge. As the results demonstrated, it can be said with confidence that KC using AI system is a system that is appropriate for a Thai public hospital context.

Discussion

The key findings of this study revealed that KC using AI system encouraged head nurses to move towards the creation of new knowledge and a change in the appreciative learning culture (Cooperrider et al., 2003; Barrett, 1995). In addition, this system facilitated an effective environment for sharing and creating tacit knowledge by people in the organization (Cooperrider et al., 2003). Through the process of taking the positive core, as well as the strong points of the original relationship system of members in their organizational culture to be used as a baseline, the assessment criteria to select and search for team members enhanced the potential of the head nurses (Cooperrider & Srivastva, 1987).

Specifically, this system was designed as an underlying force in the Thai cultural infrastructure, one that involves the use of the relationship system, with special care being given for the team's selection in Thai hospitals. The senior-junior relationship is quite important, as well as a belief in working together closely in Thai society. Many factors, such as thinking about others' minds, showing kindness, concern and caring for each other, are included in this context. All these factors underly the basic relationships of Thai people. Particularly important is the strong seniority system of the nursing profession that includes loving, concern, sympathizing, thinking of others' minds and assisting in creating knowledge successfully (Sangpracha, 2001; Mulder, 2000; Komin, 1990). Additionally, values are expressed through the culture, where caring for each other is the strong point that the researcher used to design the system of KC.

The process of collaboration brought together the team's ideas to employ the buddy system in order to design a small group pattern and activities in the steps of development. Such relationships enabled successful creativity in KC using AI. This can lead to a desire and passion for new knowledge, which is the collaborative target of the dream to have learning development. Future expectations will include an environment of learning together through practicing together.

Moreover, this system is designed as an underlying force of a critical infrastructure for Thai hospitals. This knowledge system is facilitated within a Thai culture and integrated with an appreciative process (Vickers, as cited in Thatchenkery & Chowdhry, 2007, p.36; Checkland, 1985). Both vertical and horizontal communication within the clique relationship system of strong Thai values (Komin, 1990), based on trust, will aid the development of transformational leadership

in a Thai style (Yukl, 1989). This will enable the facilities to be run more efficiently and effectively. This system will also allow time to be used more efficiently and maximize the effectiveness of the facilities (i.e., tools, time, and techniques) at the head nurse's disposal (Krogh, 2000). Moreover, the process of implementing this system is critical. There must be constant practice and action, together with follow-ups and improvements for caring and appreciating nurses, as well as supporting and encouraging team learning to maximize the benefits for the organization.

Furthermore, this process is essential to create both new tacit and explicit knowledge, as well as an appreciative learning culture change (Barrett, 1995). During the implementation period of the project, six critical elements are needed within the two core factors of infrastructure and knowledge enabling factors. These six critical elements are: culture, an appreciative communication process, trust, leadership, people and facilities. Development of new knowledge is dependent on all six elements functioning efficiently. Additionally, the KC procedure comprises four stages and 12 steps. This is to be used as a companion with the KC system. The results arising from KC using the AI system were a combination of new knowledge and the ability to develop learning involving the increases in the 14 skills of the head nurses' potential to create knowledge and to change the learning culture within the organization. The overall result was increased happiness arising from task development and the increased enthusiasm of the members in the organization of Pichit hospital.

Practical implications

The practical implications were drawn for two main stakeholders:

1. Administrators should specify clearly their support and participate in

directing of the KC using the AI system in the hospital. By pushing for the creation of specific KC strategies, policies and plans that use the potential of people in the organization and that give them active practice, as well as by communicating their support of the KC system using the appreciative process technique, they help to integrate it at every step of its development in the hospital.

2. Head nurses and the Chief of the Unit should integrate and apply KC using AI into their daily routine job. In applying KC to be used in the unit, the head nurses will have the important roles as facilitators and managers of learning, as well as to give their support in terms of resources and time. Also, head nurses must be leaders to guide the staff to perform the creation of knowledge by themselves in simple ways. This will create close relationships in the unit and induce personal development on the job, creating new knowledge continually.

Conclusion

This study developed and implemented a system of KC using AI in a Thai Public hospital by head nurses by employing a developmental research approach. The results demonstrated that the KC system, consisting of 4 stages and 12 steps, was effective in raising the KC skill levels of head nurses and was able to be used by head nurses at Pichit Hospital. The significant factors in a KC system using AI were found to be six core elements. The research has produced and extended a body of new knowledge about KC using AI that is statistically and practically significant by showing the important role of a relationship system and good trust between the members of the organization, based on infrastructure factors and the cultural strength of Thai society. In the follow up of knowledge to be used in task development,

future research should be conducted to study the factors that are effective in using and applying knowledge to nurses' daily work in the hospital.

Acknowledgements

This research was partially supported by an ACRC Fellowship, awarded to the author by the School of Communication, Nanyang Technological University, Singapore

References

- Barrett, F. J. (1995). *Creating appreciative learning cultures*. Organizational Dynamic, 24, 36-49. [Retrieved July 10, 2006 at www.sciencedirect.com].
- Bushe, G. R. (1995). *Advance in appreciative as an organization development intervention*. Organization Development Journal, 13, 14-22. [Retrieved December 3, 2006 at www.gervasebushe.ca/academic.htm].
- Bushe, G. R. & Coetzer, G. (1995). *Appreciative inquiry as a team-development intervention: A controlled experiment*. Journal of Applied Behavioral Science, 31, 13-30. [Retrieved December 3, 2006 at www.appreciativeinquiry.case.edu].
- Bushe, G. R. & Kassam, A. (2005). *When is appreciative inquiry transformational: A meta-case analysis*, Journal of Applied Behavioral Science, 41, 161-181 [Retrieved December 3, 2006 at www.jab.sagepub.com].
- Checkland, P. (1985). *From optimizing to learning: A development of systems thinking for the 1990's*, Journal of the Operational Research Society, 36, 305-306.[Retrieved September 13, 2006 at www.jstor.org.ezlibproxy1.ntu.edu.sg/stable/i344436].
- Cooperrider, D. L. & Srivastva, S. (1987). *Appreciative inquiry in organization life*. In Woodman, R. W. & Pasmore, W.A.(Eds.) Research in Organizational Change and Development, 1.129-169. [Retrieved December 1, 2006 at www.appreciative-inquiry.org].
- Cooperrider, D. L., Whitney, D., Stavros, Fry, R. & Trosten, B. (2003). *Appreciative Inquiry Handbook*. San Francisco, CA: Berrett-Koehler Publishers.
- Delong, D. W. & Fahey, L. (2000). *Diagnosing Cultural to Knowledge Management*. Academy of Management Executive, 14, 113-127. [Retrieved August 3, 2006 at www.management.uta.edu].
- Dixon, N. M (2000). *Common Knowledge: How companies thrive by sharing what they know*. Boston, MA: Harvard Business School Press.
- Hart, R. K., Conkin, T. A. & Allen, S. J.(2008). *Individual leader development: An appreciative inquiry approach*. Advances in Developing Human Resources, 10, 632-650. [Retrieved October 16, 2008 at www.adh.sagepub.com/cgi/content/abstract/10/5/632. Havens, D. S., Wood, S. O. & Leeman, J. (2006). Improving nursing practice and patient care: Building capacity with appreciative inquiry. Journal of Nursing Administration, 36, 463-470. [Retrieved August 8, 2006 at www.cat.inist.fr/?aModele=afficheN&cpsidt=18208472].
- Keefe, M. R. & Pesut, D. (2004). *Appreciative inquiry and leadership transitions*, Journal of Professional Nursing, 20, 103-109. [Retrieved December 20, 2006 at www.sciencedirect].
- Komin, S. (1990). *The Psychology of the Thai People: Values and behavioral patterns*. Bangkok: National Institute of Development Administration.
- Krogh, V. G., Nanaka, J. & Ichijo, K. (2000). *Enabling Knowledge Creation to Unlock the Mystery of Tacit Knowledge and Release the Power of Innovation*. New York: Oxford University Press.
- Mulder, N. (2000). *Inside Thai Society: Religion, everyday life and change*. Chiangmai: Silk worm Books.

- Nonaka, I. & Takeuchi, H. (1995). *The Knowledge Creating Company: How Japanese companies create the dynamics of innovation*. New York: Oxford University Press.
- Sengpracha, N. (2001), *Thai Living (in Thai)*, Bangkok: O. S. Printing House.
- Thatchenkery, T. & Chowdhry, D. (2007). *Appreciative Inquiry and Knowledge Management: Social constructionist perspective*. Cheltenham, UK: Edward Elgar Publishing.
- Tappen, R. M. (1995). *Nursing Leadership and Management Concepts and Practice*, (3rd ed.), Philadelphia, PA: F. A. Davis Company.
- Yukl, G. (1989). *Leadership In Organizations*. (2nd ed.), Edition, Englewood Cliffs, NJ: Prentice-Hall.