Factors affecting knowledge management of organizations in Thailand

Roongrasamee Boondao
Management Information System Program,
Faculty of Management Science,
Ubon Ratchathani University,
Warinathamrap, Ubon Ratchathani, Thailand.
rboondao@hotmail.com

Abstract—Knowledge management has played a critical role in improving organizations’ effectiveness and efficiency. Certain factors affect this knowledge management. This research aimed to study the personal and organizational factors that influence it in Thai organizations. A questionnaire was used to collect data from 200 staff from 25 Thai companies. Statistics were used for data analysis. The results revealed that 1) the effects of the personal factors of gender, age, position, and level of education on the knowledge management of the organizations were not statistically significant at a level of 0.05, and 2) the organizational factors of measurement and infrastructure affected the knowledge management of the organizations at the statistically significant level of 0.01.

Keywords—Knowledge management: Personal factors: Organizational factors

I. INTRODUCTION

Knowledge has been recognized as a valuable asset of organizations. Knowledge management can increase organizational performance, improve quality of service, and sustain competitive advantage [1]. Currently organizations widely apply knowledge management to improve knowledge in their companies. To utilize knowledge for organizations’ competitiveness, it is important to know the factors that affect knowledge management.

In Thailand, there have been many attempts to implement knowledge management in private and government organizations but many initiatives have not been successful. This research aimed to study the factors that affect knowledge management in the country.

The paper presents a literature review of the study of knowledge management. This is followed by the research methodology and results of the survey and discussion. Finally, a conclusion and future directions are presented.

II. LITERATURE REVIEW

A. Knowledge Management

Knowledge management is a process to capture, acquire, organize, and disseminate employees’ knowledge for tacit and explicit knowledge [2]. Tacit or implicit knowledge entails knowledge that is difficult to express or share with others. On the other hand, explicit knowledge is knowledge that can be articulated, codified, stored, and easily transmitted to others [3]. Knowledge management is a conscious effort to get the right knowledge to the right person at the right time so that staff in the organization can share and put information into action in ways that improve organizational performance [4].

B. Knowledge Management Processes

The management of tacit and explicit knowledge may involve activities in different frameworks to that offered by many researchers. Nonaka and Takeuchi [5] proposed the Socialization, Externalization, Combination, and Internalization (SECI) model concerned with knowledge creation and the transfer of both tacit and explicit knowledge between individuals, groups, and organization levels. Socialization involves tacit to tacit knowledge transfer, externalization includes tacit to explicit knowledge transfer, combination entails explicit to explicit knowledge transfer, and internalization consists of explicit to tacit knowledge transfer.

Heisig [6] highlighted the six most frequently discussed knowledge management activities, knowledge transfer, creation, application, storage, identification, and acquisition. Marquardt and Reynolds [7] presented the model to emphasize the processes of knowledge acquisition, knowledge creation, knowledge storage and retrieval, and knowledge transfer and utilization. Each of these leads to successful knowledge management in an organization. The activities in each step are explained below.

1) Knowledge Acquisition. This step identifies and describes the existing knowledge and the future knowledge requirements of the organization. At this stage, staff in the organization are forced to view reality in new perspectives. Knowledge workers are encouraged to share their best practices, new skills, and lessons learned with their colleagues.

2) Knowledge Creation. In this step an organization selects a simple way by the acquisition of knowledge from external sources and adapts it for internal use. Staff involved in the knowledge management process usually try to organize and transform acquired knowledge into written material.
3) **Knowledge Storage and Retrieval.** In this step, a knowledge database is created to store knowledge in the organization for the staff’s retrieval for future use.

4) **Knowledge Transfer and Utilization.** This step encourages staff to distribute and utilize knowledge to improve their work.

C. **Factors Affecting Knowledge Management**

Choi [8] stated that a knowledge management program needs to identify critical performance indicators of success to measure its performance. Research has highlighted several of these indicators. Davenport et al. [9] nominated technology infrastructure, organizational infrastructure, balance of flexibility and ease of accessibility to knowledge, knowledge-sharing, knowledge-friendly culture, motivated workers who develop, share, and use knowledge, means of knowledge transfer using various information technology infrastructure, and senior management support and commitment. Moffett et al. [10] identified ten key factors in successful knowledge management. These are a friendly organizational culture, senior management leadership and commitment, employee involvement, employee training, trustworthy teamwork, employee empowerment, information systems infrastructure, performance measurement, benchmarking, and knowledge structure. Hasanali [11] stated that the success of the implementation of knowledge management depends on many factors, for example, leadership, culture, structure, roles and responsibilities, information technology infrastructures, and measurement. Thailand Productivity Institute [12] proposed five success factors, leadership and strategy, culture, information technology, measurement, and infrastructure.

III. **RESEARCH METHODOLOGY**

This research used a quantitative methodology approach that involved the use of a stratified-sampling method to choose 200 staff from 25 organizations engaged in knowledge management in Thailand. A questionnaire was designed to assess the factors that affect knowledge management in an organization. It was divided into three sections, personal factors, knowledge management factors, and knowledge management processes. A 5-point Likert scale was used to assess the questionnaire items (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree).

Tests of validity and reliability were carried out on the questionnaire. The validity of the questionnaire was controlled using the content-analysis method [13]. Items for the questionnaire were reviewed and tested by 30 staff involved in knowledge management. Items were deleted, added, and/or modified based on information obtained from these critiques.

Reliability means that the set of latent construct indicators (scale items) were consistent in their measurements. Cronbach’s coefficient was used to measure the reliability as it did not require multiple administration of the survey instrument and avoided the weakness inherent in the split-half method resulting from the variety of possible combinations that existed [14]. The questionnaire’s Cronbach’s coefficient was 0.87.

IV. **RESULTS AND DISCUSSION**

A. **Demographic Information**

The participants were 63.5% male and 36.5% female. In terms of age, 16.7% were 21 to 30, 41.0% were 31 to 40, and 30.3% were 41 to 50, 12.0% were 51 up. Regarding work positions, 19.0% were middle managers, 16.5% were senior managers, 29.5% were Knowledge Management Coordinators, and 35.0% were operational staff. Over half (53%) of the respondents had bachelor degrees, 42.0% had master degrees, and 5% held doctoral degrees. Distribution of the respondents by industry showed that 12% were in construction, 26% in wholesale trade, 14% in retail trade, 33% in communication services, 11% in finance, and 14% in property and business services.

B. **Factors that Affect Knowledge Management**

This research studied the organizational factors and personal factors that affected knowledge management. The organizational factors consisted of leadership and strategy, culture, information technology, measurement, and infrastructure. The results are shown in Table I.

Table I shows the average Likert scores regarding the organizational factors after the completion of the questionnaires by the respondents. The factors and average scores were infrastructure 3.59, information technology 3.52, culture 3.43, leadership and strategy 3.27, and measurement 3.21.

Table II shows the average Likert scores related to the knowledge management processes of the organizations, knowledge acquisition, knowledge creation, knowledge storage and retrieval, and knowledge transfer and utilization.

### TABLE I. ORGANIZATIONAL FACTORS AFFECTING KNOWLEDGE MANAGEMENT

<table>
<thead>
<tr>
<th>Factors</th>
<th>Opinion Level</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership and Strategy</td>
<td>3.27</td>
<td>0.34</td>
<td></td>
</tr>
<tr>
<td>Culture</td>
<td>3.43</td>
<td>0.26</td>
<td></td>
</tr>
<tr>
<td>Information Technology</td>
<td>3.21</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>Measurement</td>
<td>3.52</td>
<td>0.42</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td>3.59</td>
<td>0.53</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE II. KNOWLEDGE MANAGEMENT PROCESSES

<table>
<thead>
<tr>
<th>Knowledge Processes Management</th>
<th>Opinion Level</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Acquisition</td>
<td>3.09</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td>Knowledge Creation</td>
<td>3.32</td>
<td>0.75</td>
<td></td>
</tr>
<tr>
<td>Knowledge Storage and Retrieval</td>
<td>3.28</td>
<td>0.53</td>
<td></td>
</tr>
<tr>
<td>Knowledge Transfer and Utilization</td>
<td>3.25</td>
<td>0.82</td>
<td></td>
</tr>
</tbody>
</table>
The knowledge management processes and the average scores were knowledge creation 3.32, knowledge storage and retrieval 3.28, knowledge transfer and utilization 3.25, and knowledge acquisition 3.09.

Table III shows that the effect of the personal factors of gender, age, position, and level of education on the knowledge management of the organizations were not statistically significant at a level of 0.05. The organizational factors of measurement and infrastructure management affected the knowledge management of the organizations at the statistically significant level of 0.01.

Many researchers found that measurement affects the implementation of knowledge management [15, 16, 17, 18, 19, 20, 21]. Pearson [22] claimed that effective implementation can be achieved by finding the right system of measurement. It was also found that infrastructure is important for successful knowledge management. This implies that the establishment of a set of roles and teams to perform knowledge management tasks is critical [6].

V. CONCLUSION

The purpose of this paper was to examine the personal and organizational factors that affected knowledge management of organizations in Thailand. It was found that effects of the personal factors of gender, age, position, and level of education on the knowledge management of the organizations were not statistically significant at a level of 0.05. The organizational factors of measurement and infrastructure management affected the knowledge management of the organizations at the statistically significant level of 0.01.

A limitation of this study was that it only focused on personal and organizational factors. Further development of knowledge management requires the study of other factors that can affect the implementation of knowledge management, for example, individual variables (positive and negatives effects) and context variables (perceived organizational support and communication climate).

REFERENCES


### TABLE III. FACTOR ANALYSIS RESULTS

<table>
<thead>
<tr>
<th>Factors</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>2.83</td>
<td>0.064</td>
</tr>
<tr>
<td>Age</td>
<td>1.55</td>
<td>0.078</td>
</tr>
<tr>
<td>Position</td>
<td>4.97</td>
<td>0.053</td>
</tr>
<tr>
<td>Level of Education</td>
<td>3.25</td>
<td>0.044</td>
</tr>
<tr>
<td>Leadership and Strategy</td>
<td>2.21</td>
<td>0.124</td>
</tr>
<tr>
<td>Culture</td>
<td>2.34</td>
<td>0.058</td>
</tr>
<tr>
<td>Information Technology</td>
<td>2.62</td>
<td>0.075</td>
</tr>
<tr>
<td>Measurement</td>
<td>3.12</td>
<td>0.002</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>2.47</td>
<td>0.006</td>
</tr>
</tbody>
</table>

*p<.05 **p<.01 ***p<.001