

The Factors and Influences of Integrating Knowledge Management -- Management Consultant Service Industry as an Example

L. Y. Melody Wen, Ph.D. (Professor/Chair)

National Changhua University of Education

Department of Business Education

Add: No.2, Shi-Da Rd, Changhua City, Taiwan, R. O. C.

Tel: 011-886-4-7211276 Fax:011-886-4-7211290

e-mail:bumelody@cc.ncue.edu.tw

Abstract

“Knowledge-based economy” has played one of the most important factors to support a country to survive and success in the competitive century. “Knowledge” is considered as the most essential resource in organizations now; therefore, how to acquire, create, spread, and storage knowledge has caught great attention. As a result, knowledge management is perceived one of major business strategies to promote the value of an organization and competitive power in the new century. Management consultant service is one of the earlier industries using knowledge management to provide information and methods for customers to do decision- making and problem-solving. However, there is a need to know how they provide high quality service to customers through knowledge management, and gain experiences from the process and feedback.

The major purposes of the research study were 1) to acquire the overview of management consultant service industry adapting knowledge management, 2) to acquire the considerable factors of integrating knowledge management, and 3) to provide the concrete suggestions for management consultant service industry adapting knowledge management.

In order to accomplish the purposes, the author used documentation analysis and Delphi technique research methods to gather and analyze the information and establish five domains (organization and leadership, organizational culture, information technology, evaluation index, and knowledge management process) with 38 factors of integrating knowledge management. Finally, the recommendations based on the findings and conclusions of the study would be made for management consultant services and further study.

Keywords? Knowledge Management, Management Consultant Service Industry

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Introduction

The year two thousand and one is the first year of promoting knowledge-based economy in Taiwan. Knowledge-based economy is the vision of a country. One of key successful factors of a knowledge-based society is human capital not machines or factories. According to the researches, knowledge management has captured the attentions of many developed countries leaders. Especially, enterprises had high perceptions of knowledge management, and it has become a new competitive indicator (Davenport, De Long, & Beers, 1998; Liebowitz & Suen, 2000; Tiwana, 2000; Duffy, 2001, Award, 2004). However, most of papers focused on the related issues or trends of knowledge management, such as the knowledge concepts, perceptions of knowledge management, information technology application, and etc., and only few papers mentioned practical aspect—the considerate factors while integrating knowledge management. The practical aspect is the most critical part of whether an enterprise implementing knowledge management would be successful or not.

On the other hand, Organization for Economic Cooperation and Development (OECD) indicated knowledge intensive industry is grouped into knowledge dense manufacture industry and knowledge dense service industry. Council for Economic Planning and Development pointed out that knowledge dense manufacture industry had increased 12.6% higher than 11.3% increase of knowledge dense service industry. On the contrary, knowledge dense service industry was five times higher than knowledge dense manufacture industry was in GDP (Taiwan SMB Statistics, 2001).

Therefore, knowledge management service industry should not be neglected. Management consultant service industry plays one of most essential roles in knowledge dense service industry. Compared to the United States, knowledge management related topics in management consultant service industry were few in Taiwan. Actually, management consultant service is one of the earliest industry integrated knowledge management. Produce knowledge and sale knowledge are the core work of consultants. How to integrate knowledge management to provide high quality service for consumers, gain the experiences from the service processes, and then feedback to the knowledge management system become a positive circle and have more competitive advantages.

Purposes

The major purposes of the study were to 1.) explore the current situations and influences of integrating knowledge management; 2.) explore the successful factors

integrating knowledge management of management consultant service industry; and 3.) provide some concrete suggestions for the related enterprises and industries.

Research Methodology

After literature review, the draft of questionnaire was made. In order to gather information from experts, modified Delphi Technique was used. The major contents of questionnaire included the successful factors of integrating knowledge management in management consultant service industry and demographic information.

The Delphi Technique is originally conceived as a way to obtain the opinion of experts without necessarily bringing them together face to face. Each expert's contributions are shared with the rest of the experts by using the results from each questionnaire to construct the next questionnaire (Award, 2004). The Delphi Technique is a calculated method some committees use to achieve "consensus." The goal of the Delphi Technique is to lead a targeted group of people to a predetermined outcome, while giving the illusion of taking public input and under the pretext of being accountable to the public (Whitman, 1990). The total number of experts is around 15 to 30, and had better include different groups of experts as well as 5 to ten each group (Lin, 1992). Therefore, there were 15 experts to participant the study including enterprises, scholars, and governors. All of the experts totally went through 3 rounds.

The completed questionnaires were processed utilizing the statistical analysis packages of SPSS for Windows. The descriptive statistics, t-test, Kruskal-Wallis one-way analysis of variance, and reliability analysis were used to analyze the returned valid data.

Findings and Discussion

Demographic Information Analysis

The experts' demographic information included five items: gender, age, the highest education degree, number years of working experience, educational background (Table 1).

The ratio of female to male experts was 1: 4. Over 80% of experts' age was between 30 to 50 years old. Nearly half (46.7%) of experts had Ph.D. degrees. Approximately one-fourth of experts' number of working experiences was over than 21 years. Two-thirds (66.7%) of experts' educational background were business major.

Table 1 Demographic Information Analysis

Variables	Category	Number	Percentage
Gender	Male	12	20.0%
	Female	3	80.0%
Age	31~40 years old	7	46.7%
	41-50 years old	6	40.0%
	51 years old and above	2	13.3%
The highest education degree	Bachelor Degree	5	33.3%
	Master Degree	3	20.0%
	Doctoral Degree	7	46.7%
Number years of working experience	5 years and below	3	20.0%
	6 to 10 years	3	20.0%
	11 -15 years	2	13.3%
	16-20 years	3	20.0%
	21 years and above	4	26.7%
Education background	Industry	3	20.0%
	Science	1	6.7%
	Literature	1	6.7%
	Business	10	66.7%

Delphi Technique Questionnaire Analysis

The study adapted modified Delphi Technique with three-round questionnaire. The major work was to collect the 15 experts' (enterprises, scholars and governors) opinions and analyze the successful factors of integrating knowledge management in management consultant service industry.

The first round Delphi Technique questionnaire was based on literature review including 38 items. Ten items were modified after the first round and increase 4 items as well as left out one item. The second round Delphi Technique questionnaire including five domains and 41 items was sent out to the experts. Eight items were modified and two items were deleted after the second round Delphi Technique questionnaire. After the third-round Delphi Technique questionnaire, the opinions of 15 experts were stable. t-test showed that there was no statistically significant difference between the 2nd round and the 3rd round ($p>0.05$), and only one item (1-9, AVG=3.133) was below 3.5, so it was deleted. Therefore, the study completed the

survey (Table 2). On the other hand, in order to confirm the experts' opinions were consistence, Kruskal-Wallis one-way analysis of variance was used to test the average of three groups of experts' opinions whether there was no significant difference (Chang, 2001; Lin, 2001). The results showed that each item of the questionnaire had no significant difference.

Reliability presents the consistence of questionnaire. Five-point Likert's Scale was applied in this study. Nunnally (1978) indicated that Cronbach's α value between 0.5~0.6 presents good. Churchill (1979) pointed out that α value needs greater than 0.7, and present high reliability. The Cronbach's α of the study was .9246 that meant the reliability was very high. Validity presents the questionnaire whether test what suppose to be tested. If validity of questionnaire were not high enough, the questionnaire wouldn't reach the purposes. The validity was based on the literature review and went through three-round of Delphi Techniques questionnaire survey. Finally, the result showed that the 15 experts had stable opinions. Therefore, the questionnaire had a good content validity.

Table 2 Analysis of Consistence of Experts' Opinions between the 2nd and 3rd Rounds Delphi Technique Questionnaire

Factors	2 nd round AVG	3 rd round AVG	t value	p value
I. Organization and Leadership				
1. Enterprises expect knowledge management could promote organizational performance and value.	4.6667	4.7333	-1.000	0.334
2. Knowledge management needs to connect with enterprises' vision, mission, goals and strategies.	4.9333	5.0000	-1.000	0.334
3. Management levels should participant and provide necessary resources.	4.9333	5.0000	-1.000	0.334
4. The input resource of knowledge management is perceived as enterprises' future investment.	4.7333	4.8667	-1.468	0.164
5. Knowledge management needs to accompany with reorganization.	4.6667	4.7333	-0.564	0.582
6. Enterprises and knowledge workers need to build up human relations network.	4.5333	4.6000	-0.564	0.582
7. Performance appraisal needs in accordance with consultants' contribution of knowledge management.	4.1333	4.0667	1.000	0.334
8. Innovation has more chances to be	3.8667	3.9333	-0.564	0.582

Factors	2 nd round AVG	3 rd round AVG	t value	p value
successful.				
9. Consultants need to absorb the relative domain knowledge.	3.9333	4.0000	-0.564	0.582
II. Organizational Culture				
10. Enterprises have suitable motivation system increase knowledge sharing.	4.8000	4.8667	-1.000	0.334
11. Organizational culture is open, and employees trust each other.	4.8667	4.8667	---	---
12. Enterprises have patience and tolerate toward research and development failure.	4.4000	4.3333	0.564	0.582
13. One of the main purposes of knowledge management is to provide customers higher values.	4.4667	4.7333	-1.740	0.104
14. Organizations fulfill flexible and innovative learning culture.	4.6667	4.8000	-1.468	0.164
15. Consultants view self-development and learning are important tasks.	4.8000	4.8000	---	---
16. Knowledge communities are willing to share experiences and knowledge.	4.8000	4.9333	-1.468	0.164
17. Knowledge workers are proactively willing to share experiences.	4.6667	4.8000	-1.468	0.164
III. Information Technology				
18. Enterprises have suitable knowledge management information platform and software.	4.6667	4.7333	-1.000	0.334
19. The design of information technology is human- centered.	4.7333	4.8000	-1.000	0.334
20. Information system provides instant, integrated and smart interface platform.	4.0667	4.1333	-1.000	0.334
21. Consultants use information technology connecting inside and outside.	4.2667	4.2667	---	---
22. Consultants use information technology to learn and share one another.	4.5333	4.6667	-1.468	0.164
23. Information technology makes an organization and customers much closer.	4.2000	4.2667	-1.000	0.334
24. Information technology can support leadership, organizational culture, and performance appraisal of knowledge management.	4.2667	4.3333	-1.000	0.334
25. Information technology is the tool of	4.3333	4.3333	0.000	1.000

Factors	2nd round AVG	3rd round AVG	t value	p value
knowledge management.				
IV. Evaluation Index				
26. Enterprises have established the measurement performance index	4.1333	4.0000	1.468	0.164
27. The performance evaluation index include qualitative and quantitative as well as financial and nonfinancial aspects.	4.0667	4.0000	0.564	0.582
28. Enterprises affirm the connection of knowledge management and short, medium, and long-term organizational performance.	4.1333	4.0000	1.000	0.334
29. Enterprises can monitor knowledge management performance and provide feedback.	4.6000	4.6000	---	---
30. Enterprises develop and measure the procedures and outcomes of knowledge management through team work.	4.4667	4.6667	-1.871	0.082
V. Knowledge Management Process				
31. Enterprises need to clearly define organizational key knowledge.	4.8667	4.9333	-1.000	0.334
32. Enterprises can develop a discipline of capture and learning key knowledge.	4.8000	4.8667	-1.000	0.334
33. Enterprises can develop the capture, dissemination, application and accumulation of knowledge management assets system.	4.8667	4.9333	-1.000	0.334
34. Enterprises can establish and renew knowledge based infrastructure.	4.4000	4.2667	1.468	0.164
35. Enterprises have the specific person in charge of knowledge management.	4.4667	4.4667	0.000	1.000
36. Enterprises can integrate the operation process and knowledge management.	4.6667	4.6667	---	---
37. Enterprises have a systematic way to transmit consultants' tacit knowledge to explicit knowledge.	4.4667	4.5333	-1.000	0.334
38. Enterprises plan the process of knowledge management according to industry benchmarks.	4.0667	4.0000	0.564	0.582

Note. ---t value couldn't be calculated due to the standard deviation = 0.

Conclusions and Recommendations

1. Enterprises perceived knowledge management were very important and it influenced short-term and long-term planning as well as financial and nonfinancial aspects.

According to the documentation analysis, knowledge management has been caught the attentions by enterprises. High percentages of enterprises had processed or planning knowledge management. In short term, knowledge management would influence financial benefits increasing high benefits and reducing cost. In long term, knowledge management would influence improving decision making ability, sharing best practices, transferring the knowledge of customers and suppliers, increasing innovation, assisting employees' development. As a result, knowledge management could enhance intelligent capital and raising stock value. It would increase investors' faith and raise enterprises' financial benefits.

2. The successful factors of integrating knowledge management included five domains: "Organization and Leadership", "Organization Culture", "Information Technology, Evaluation Index", and "Knowledge Management Process" including 38 factors.

3. "Organization and leadership" domain included 9 factors.

The most important factor was "Knowledge management needs to connect with enterprises' vision, mission, goals, and strategies." The least important factor was "Innovation has more chances to be successful".

4. "Organizational Culture" domain included 8 factors.

The most important factor was "Knowledge communities are willing to share experiences and knowledge." The least important factor was "Enterprises have patience and tolerate toward research and development failure.

5. "Information Technology" domain included 8 factors.

The most important factor was "Information technology design is human- centered." The least important factor was "Information systems provide instant, integrated and smart interface platform."

6. "Measurement Index" domain included 5 factors.

The most important factor was "Enterprises develop and measure the procedures and outcomes of knowledge management through team work." The least important factor was "Enterprises affirm the connection of knowledge management and short, medium, and long-term organizational performance."

7. "Knowledge Management Process" domain included 8 factors.

The most important factor was "Enterprises need to clearly define organizational

key knowledge.” The least important factor was “Enterprises plan the process of knowledge management according to industry benchmarks.”

Recommendations for Management Consultant Service Industry and Future Research

Based on the findings and conclusions of this study, the following recommendations for the management consultant service industry and further research seem apparent:

1. Enterprises faced more opportunities and challenges after participating WTO. Management consult service industry is a typical knowledge dense industry, and it promotes knowledge management that is the best strategy to increase competitive advantages. However, most of management consultant service enterprises are small and few employees. Therefore, they still hesitate to adapt knowledge management. Recently, Taiwan government has planned the budget to assist small and medium enterprises to integrate knowledge management. The management consultant service industry should have more optimistic.
2. This study was limited by time and manpower. The study only did research on management consultant service industry, and there may be different from the other industries.
3. Since Delphi Technique questionnaire only gathered the opinions of 15 experts (enterprises, scholars, and governors), there is a need to adapt qualitative research to gather more information or to conduct an in-depth interview of management consultant service industry.

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