

Exploring source of the variety in organizational innovation adoption issues – An empirical study of managers' label on knowledge management project issues in Taiwan

Hsiu-Ju Chen ^{a,*}, Tung-Ching Lin ^b

^a Department of Information Management, I-Shou University, Kaohsiung County 840, Taiwan, ROC

^b Department of Information Management, National Sun Yat-sen University, Kaohsiung 804, Taiwan, ROC

Abstract

Knowledge management enhances organizational competitiveness. However, its adoption in many enterprises is not as integrated as emphasized. Without managers' initiating discussion of innovation issues in organizational meeting, no further organizational action will be taken because managers have the right to decide resources allocation on organizational meeting. Furthermore, the benefits of knowledge management adoption are not so obvious when comparing with ERP, but it still takes cost. Therefore, this study explored managers' label, being beneficial or burdening to enterprises, toward knowledge management project issues and its impact on their intention to discuss on organizational meeting.

A total of 161 valid returned questionnaires from managers were analyzed with PLS. The results showed significant impact of managers' label on their intention to discuss the issues. To enterprises intending to broaden knowledge management adoption, solving the problem of managers' label before discussing the issues on organizational meeting facilitates both the initiation and adoption.

© 2007 Elsevier Ltd. All rights reserved.

Keywords: Knowledge management scope definition; Issue salience; Label; Benefits visibility; Intention to discuss

1. Introduction

Knowledge management is important toward organizations. It makes enterprises integrate traditional resources and capabilities in a unique innovative way, and provides more customer value than competitors. For example, by sharing individual employee's knowledge in the organization, the knowledge of individual organization becomes organizational knowledge and arouses organizational innovation. This keeps organizations competitive. Many researches also focus on knowledge management performance (Grevesen, 2007; Tseng, 2008). However, the adop-

tion of knowledge management in Taiwan enterprises is not as common and integrated as the academic research might have emphasized. Without the initiating discussion of the innovation issues in organizational meeting, no further organizational action will be taken. Managers have the right to attend organizational meeting and decide organizational resources allocation. Therefore, it is important to understand managers' attitude toward the innovation of knowledge management and their intention to discuss the innovation issues on organizational meeting when enterprises intend to adopt more integrated knowledge management.

In organizational innovation adoption, managers play an important role, especially in deciding organizational resources allocation. If an organization is viewed an individual, it will be doubtless that managers play the role of thinking (Daft & Weick, 1984). Managers have rights to attend managerial meeting, discuss the issues, and decide

* Corresponding author. Tel.: +886 7 6577711; fax: +886 7 6578491.
E-mail addresses: hjchen@isu.edu.tw (H.-J. Chen), tclin@mis.nsysu.edu.tw (T.-C. Lin).

organizational resources allocation. Managers not only filter unimportant and unrelated information, but they keep important information in mind and make further process to respond adequately. For example, managers might discuss important issues on organizational meeting and decide their response for the important information they process. This action makes these issues legal in the organization, and these issues even further become organizational strategy (Dutton, 1986). However, resources in organizations are limited. In deciding which issues enter organizational agenda, many other issues also compete for the possibility to enter the agenda to gain organizational resource allocation. If the issues are not discussed on organizational agenda, the issues do not have legality given by organizations and no further related actions will be taken. Therefore, managers' attitude toward the issues is of importance.

Nevertheless, with limited ability in information process, humans, including managers, label their different categories toward information to simplify information and to minimize information burdening from outer environment. From the psychological view that cognition affects behavior, Dutton and Jackson (1987) propose proposition that managers' labeling toward issues influence the actions organizations take because managers' labeling represents their meaning-giving processes toward the issue and represents organizations' view. Therefore, this study explores the label of managers toward knowledge management and the impact of their label on their intention to discuss the issues.

And about managers' labels, Dutton and Jackson (1987) propose that opportunities and threats are the basic categorization because they include both importance and future-orient. However, from our frequent interactions with some senior managers and CEOs in Taiwan, we found many of them viewed the investment in information management and technology as costs and burdening, rather than benefits. Besides, with the development of computer and internet, it allows organizations to use information technology to facilitate knowledge management activities. But it has also been long a problem for organizations to measure the benefit brought by information technology (Santhanam & Hartono, 2003). Therefore, this study adopts 'beneficial' and 'burdening' as managers' label of the knowledge management project issues.

This study focuses on issues of knowledge management and intends to understand managers' label toward knowledge management. However, about the definition of knowledge management, there are no unique definitions of knowledge management (Quaddus & Xu, 2005). The various definitions of managers toward knowledge management may influence managers' evaluation of knowledge management project issues. Therefore, this study also explores the impact of managers' knowledge management scope definition on their label of the issues.

In organizations, managers play the role to process information and decide how organizations make reactions. As a result, managers' label toward innovation issues,

knowledge management project issues, affects organizations' following adoption of knowledge management. Therefore, this study explores managers' label toward knowledge management project issues from the perspectives of agenda-building and message-learning, and also explores the influence of their label toward their intention to discuss the issues on organizational meeting.

2. Literature review

2.1. Label and message-learning approach – connection between managers' label and behavioral intention

The existence of organizations is to achieve organizational aim. And to achieve the aims, managers in organizations need to transform their knowledge to form concept and solve problems through the process of memory and thinking. But to reduce information loading, managers label messages. Labeling is humans' meaning-giving construction process, and labels are the results that humans categorize things or messages in outer environment and are expressed through language. Many studies of artificial intelligence also explore the impact label. For example, Aharoni and Fridlund (2007) explore how participants' label of computers and human interviewers, as a social agent, affect participants' responses toward the interviewer during an online interview for a competitive mock job. Participants show more interpersonal displays when the interviewer is identified as human. Cong and Tong (2008) build patent classification expert system to facilitate automatic classification of patent documents with issues of multi-label classification and class imbalance addressed.

Mervis and Rosch (1981) propose the existence of human categorization capability, and view labels as the results that human categorize different objects or events. In categorization, an object can be classified in different hierarchy of categorization and these categorizations form taxonomy in humans' mind. In the taxonomy, the most basic classification is the attribute clusters of maximum information value which make the similarity of objects or events in the same category greater than the similarity of objects or events in different categories. With limited information-processing capabilities, humans categorize information for simplification and reduce information loading from outer environment.

The categorization theory assumes that individuals use schema to understand the world (Dutton & Jackson, 1987). It discusses how individuals form and use their natural and social concepts toward objects to construct the world they recognize. The categorization theory also assumes that the message itself is not of meaning, and only provides listeners or readers directions to withdraw their memorized knowledge and construct meaning. Thus, schema will guide the receiving of new message and the withdrawing of old message (Moates & Schumacher, 1980; Pichert & Anderson, 1977). For example, the 'cold current' schema includes the drop in temperature, cold

wind, cold disaster, and flu, etc. Consequently, if hearing the coming of cold current in weather reports, people will make corresponding preparations, such as wearing thicker clothes, gloves, thick socks and preparing heating, et al. Empirical research shows that if there are no adequate schemas to use, humans' understanding and memory will be very poor (Bransford & Johnson, 1972).

In 1950s, Hovland and his peer colleagues emphasize that the information which the individual holds toward the issues or objects he or she cares will affect the change in his or her attitude (Petty & Cacioppo, 1981). This message-learning approach points out that individuals are affected by the message source, message itself, message recipients, and transmitting channels (Hovland, Janis, & Kelley, 1953). According to the message-learning approach, to achieve persuasive communication, the communication has to first gain attention and comprehension of individuals, and individuals must be able to rehearsal the discussion and the conclusion. This rehearsal builds the connection between the issues and his or her response, and also builds the memory tracks of the discussion. The tracks are especially important toward these Yale scholars because they argue that communication shall be first memorized by individuals before they are persuaded. As a result, labeling plays an important role in individuals' message receiving. People do not give meaning to a message until they memorize the message, and labels of the message not only reduce people's information loading but also provide message recipients directions to withdraw the communication he or she memorizes and build meaning (Adams & Collins, 1979). As a result, the labels of objects or issues build the connection between the objects or issues and individuals' behavioral intention. Therefore, this study explores the impact of managers' label toward knowledge management project issues on their intention to discuss the issue.

2.2. Agenda-building perspective – factors affecting managers' label

Agenda-building perspective has been long in issue management of public policy making. For example, Kingdon (1984) has proposed in his book that why the appearances of some issues are paid attention but some are not. Issues of the same importance are not treated equally also. Even some issues which are not important are listed on the agenda, but the issues of importance are excluded.

Different from the emphasis on rational optimization of decision making in psychology, Dutton (1986) proposes agenda-building perspective. She describes that strategic issues do not look like strategic issues themselves. And decision makers have their personal unique cognitive choices in information-processing. Therefore, there exist reasonable forces that make some issues not paid attention to, and, as a result, some issues are more easily accepted than other issues. This makes the processes through which organizations filter issues look like social or political processes.

In Dutton's (1986) view, internal organizational factors affect organizational issue discussion, including the issue-specific context and the organizational context. However, she also proposes that only through the manipulation of issue salience, sponsors characteristics, and agenda structure, issues gain the force of exposure and interest, and thus the manipulation enhances issues' probability to enter agenda. Dawkins (2005) also discusses issue management and proposes a conceptual model with case study. He describes the influence of the existence of issue pacesetter on organizational issue management. Therefore, in this study, we mainly discuss the impact of issue salience and the existence of sponsor(s) on managers' label of knowledge management project issues. And about agenda structure, we argue that with the more limited and fewer resources than nations, environmental pressures will force organizations to notice issues of strategic influence, or organizations will face existence crisis in the long run. A nation is a huge organization, and its direction of resource allocation is decided through the discussion of legislative organizations. Enterprises are also organizations, but their resources are more limited. Naturally, the resource allocation of these organizations needs to be more cautious. Therefore, this study focuses on the impact of issue salience and the existence of sponsor(s) on the agenda entrance of knowledge management project issues from the perspective of agenda-building.

2.3. Research hypotheses

2.3.1. The impact of managers' label of knowledge management project issues on their intention to discuss the issues

The research about intention mainly sources from Fishbein and Ajzen (1975). They view behavioral intention as the strength that whether people conduct specific behavior, and the behavioral intention can predict or explain real behavior. Researches about intention have been long and extensive. For example, Davis (1989) proposes TAM model which argue that individual behavior intention is mainly affected by his or her attitudes toward the behavior and the attitudes include perceived usefulness and perceived ease of use. However, in this study we explore managers' label of knowledge management project issues because labels of the message provide message recipients directions to withdraw the communication he memorizes and build meaning (Adams & Collins, 1979) and affects individuals' change in belief, attitudes, and behaviors. Therefore, this study explores the impact of managers' label of knowledge management project issues on their intention to discuss the issues, and the label refers to the degree that managers view knowledge management as beneficial or burdening. Hypothesis 1 is as follows.

Hypothesis 1. Managers' label of knowledge management project issues has positive impact on their intention to discuss the issues.

2.3.2. The impact of issue salience on managers' label of knowledge management project issues

According to Dutton (1986), through the manipulation of issue salience, issues could gain the force to enter organizational agenda. From message-learning approach, the manipulation of issue salience could be viewed as the influence of message itself on individuals' attitudes. Therefore, this study explores the impact of issue salience on managers' labeling of knowledge management project issues. The issue salience includes importance, abstractness, simplicity, and immediacy. However, both abstractness and simplicity indicate the understandability toward the issue; this study adopts understandability to measure the issue salience. Besides, organizations often use information technology to facilitate knowledge management and information technology has long been argued the profitability on organizations. Therefore, this study also includes benefit visibility to measure the issue salience of knowledge management project issues. Further descriptions are as follows.

About the importance, it refers to the influence of the issue on organizational strategic aim, i.e. the magnitude. The differences in organizational strategy and the former organizational investment make the issue vary in its importance. As a result, even the same issue has different importance in different organizations. During recent years, more and more research emphasizes the strategic importance of knowledge management. For example, Klaila (2000) proposes knowledge strategy to more effectively implement organizational knowledge management and achieve organizational aim. Jones (2000) also emphasizes the importance of organizational knowledge management. With the importance of knowledge management in organizations, Hypothesis 2 is inferred.

Hypothesis 2. The importance of knowledge management project issues has positive impact on managers' label of knowledge management project issues.

Besides importance, abstractness and simplicity also indirectly influence issues' entrance into organizational agenda (Dutton, 1986). Different degree of abstractness attracts different supporters. Too concrete issues attract limited supporters, but too abstract issues are less persuasive to the supporters. Also, simple issues are easily understood, but complicate issues suffer the same situation as too abstract issues and have less chance to enter agenda. Because both abstractness and simplicity indicate the degree that people understand the issues, this study adopts understandability to explore its impact on managers' label toward knowledge management project issues. Hypothesis 3 is inferred.

Hypothesis 3. The understandability of knowledge management project issues has positive impact on managers' label of knowledge management project issues.

Time pressure is also an important factor which affects managers' attitudes toward issues. It strengthens individuals' willing to invest resources on the issue Dutton (1986).

If it is very urge to deal with the issue, some organizations even treat it as crisis and use different way to solve the issue, rather use the standard procedures. Therefore, the immediacy has positive impact on managers' labels toward issues. Hypothesis 4 is inferred.

Hypothesis 4. The immediacy of knowledge management project issues has positive impact on managers' label of knowledge management project issues.

The last issue characteristic is benefit visibility. Organizations often adopt information technology to facilitate knowledge management. With the development of computer and internet, it allows organizations to use information technology to help the knowledge management activities. The building up of internet social community and knowledge bases are examples. However, it has been long a problem for organizations to measure the benefit brought by information technology (Santhanam & Hartono, 2003). The investment in information technology often indicates more cost and more burdening. Therefore, we argue benefit visibility is an important characteristic that affect managers' label toward knowledge management project issues. Hypothesis 5 is inferred.

Hypothesis 5. The benefit visibility of knowledge management project issues has positive impact on managers' label of knowledge management project issues.

2.3.3. The impact of issue sponsor(s) on managers' label of knowledge management project issues

Lots of literature discusses the impact of champions or sponsors. For example, about organizational innovation adoption, Schön (1963) has defined the role of innovation champion. He proposes that only through the sponsoring of innovation champions, new ideas can survive in the organizations. Because champions take the new ideas as his ideas, he will actively use different ways, such as trying informal channels or assuring the ideas with his own credibility, to persuade other organizational members to support the ideas. Reich and Benbasat (1990) also propose that information technology champions not only promote the information technology in the early stage, but overcome various obstacles to make organizations decide to adopt the information technology. These champions also play the role to solve organizational resistance in the later implementation stage.

However, different from innovation advocates who advocate the adoption of new technology, Dutton (1986) proposes issue sponsors and she argues that issue sponsors focus on strengthening the force of issues to make the issues enter agenda. Issue sponsors play the role that controls definitions of issues and therefore affect issue entry into organizational agenda. From the perspective of message-learning approach, issue sponsors who promote issues to make other members accept the issues are important message sources and have impact on message recipients' attitudes. Nevertheless, not every organization has issue

sponsors for knowledge management project issues. Therefore, this study examines the impact of issue sponsor existence on managers' labels toward the issues. Hypothesis 6 is inferred.

Hypothesis 6. The existence of issue sponsor(s) of knowledge management project issues has positive impact on managers' label of knowledge management project issues.

2.3.4. *The impact of managers' knowledge management definition scope on issue salience of knowledge management project issues*

There are no unique definitions of knowledge management (Quaddus & Xu, 2005). For example, Davenport and Prusak (1999) find three common aims in knowledge management from the observed 31 knowledge management projects in 24 organizations. Ruggles (1998) empirically concludes the key KM activities from 431 organizations which adopt knowledge management in Europe and America. The key KM activities include creating an Intranet, creating knowledge repositories, data warehousing; creating internal networks of knowledge workers, implementing groupware to support collaborative, mapping sources of internal expertise, launching new knowledge-based products or services, establishing new knowledge roles, and implementing decision support tools. Marwick (2001) also classifies the information technologies according to the knowledge creating model proposed by Nonaka and Takeuchi (2001), including e-conferencing, groupware facilitators, document auto-classification, and document searching, etc.

The definition scope of knowledge management is various (Alavi & Leidner, 2001; Marwick, 2001; Ruggles, 1998; Davenport and Prusak, 1998). However, without identical definition scope of knowledge management, managers' evaluation of issue salience may vary. The scope variance of managers toward knowledge project issues could influence their evaluation about the issues. Therefore, this study explores the impact of knowledge management definition scope of managers on their issue salience evaluation.

And among the various definitions of knowledge management project scope (Alavi & Leidner, 2001; Marwick, 2001; Ruggles, 1998; Davenport and Prusak, 1998), this study adopts the key KM activities concluded by Ruggles (1998). The key KM activities of Ruggles (1998) are empirically studied. The key KM activities include (1) creating an Intranet; (2) creating knowledge repositories; (3) data warehousing; (4) creating internal networks of knowledge workers; (5) implementing groupware to support collaborative; (6) mapping sources of internal expertise; (7) launching new knowledge-based products or services; (8) establishing new knowledge roles; (9) implementing decision support tools. And they include both the technical elements and the managerial elements. These activities also cover important activities of organization knowledge management, rather than focus on the role of information technology. Furthermore, McKeen and Staples (2003) also

refer the key KM activities in their study. Therefore, the knowledge management scope in this study refers to the definition of the key KM activities proposed by Ruggles (1998).

Different from innovations such as ERP, the definition of knowledge management is vague and is more incremental rather than radical. Without absolute definition, the perceived issue salience of managers toward knowledge management project issues may vary. Besides, the benefits knowledge management can bring are not so apparent comparing with ERP. Therefore, this study explores the impact of managers' knowledge management definition scope variance on issue salience they evaluate. Hypotheses 7a–7d are inferred.

Hypothesis 7a. The knowledge management definition scope of managers has positive impact on their perceived importance of knowledge management project issues.

Hypothesis 7b. The knowledge management scope definition of managers has positive impact on their perceived understandability of knowledge management project issues.

Hypothesis 7c. The knowledge management scope definition of managers has positive impact on their perceived immediacy of knowledge management project issues.

Hypothesis 7d. The knowledge management scope definition of managers has positive impact on their perceived benefit visibility of knowledge management project issues.

3. Research methodology

This study use quantitative survey to empirically test inferred hypotheses. The analysis method adopts PLS (partial least square) to examine relationships of variable. About the measurement of managers' label, because Fishbein and Ajzen (1975) suggests attitude toward behavior refers to the integral evaluation of individual intending behavior, the scale of label toward knowledge management projects issues measures the degree to which managers thought the project issues is between beneficial and burdening. 'Beneficial' refers to the perceived degree of real benefits that the knowledge management project issues can bring to the enterprise; 'burdening' refers to the perceived degree of costs that the knowledge management project issues can cause the expense to the enterprise. The measurement is developed based on the suggestion of Fishbein and Ajzen (1975) toward behavioral attitudes.

About the issue salience measurement of knowledge management project issues, this study adopts the definition of Dutton (1986). About importance and immediacy, we consult the measurement of issue salience of Lin, Chen, and Chang (in press). However, because most definition of knowledge management (Alavi & Leidner, 2001; Marwick, 2001; Ruggles, 1998; Davenport and Prusak, 1998)

covers the use of information technology and the benefits that information technology can bring are not identical, this study includes the measurement of benefit visibility of knowledge management issues. And because both abstractness and simplicity indicate the degree that people understand the issues, this study adopts understandability to explore its impact on managers' label toward knowledge management project issues. Besides, about issue sponsors, the measurement only asks respondents if there are any sponsor(s) existing in their enterprise. The scope definition of knowledge management is measured as the degree to which managers thought the key KM activities proposed by Ruggles (1998) should be covered in the knowledge management project issues. Finally, managers' intention strength to discuss the knowledge management project issue measure the degree to which managers intend to discuss the issues when the issues are on organizational agenda.

To assure the content validity of measurement, a content evaluation panel, composed by three managers, three professors, and four Ph.D. students, reviewed the measurement. A total of three items then were adapted; the scale was measured on Likert's seven-point scale.

3.1. Data gathering

A total of 161 valid questionnaires were returned from 499 questionnaires sent out in Taiwan. Chin (1997), Majchrzak, Beath, Lim, and Chin (2005), and Marcoulides and Carol (2006) suggest that when analyzing with PLS, the sample size comparing with the greatest path number of the testified model shall be at least 5–10 times large to assure analysis result stability. The greatest path number of the model in this study were 10 and the total sample size was 161; therefore, it was adequate to adopt PLS for data analyzing.

Among the respondents, 80 of them were top-level managers, and 81 were middle and lower level managers. And

Table 1
Work years at current job of respondents

Work years at current job	Number	Percentage (%)
Below 1 year	5	3.1
1–3 years	17	10.6
4–6 years	15	9.3
7–9 years	22	13.7
More than 10 years	102	63.4
Total	161	100

Table 2
Respondents' managerial levels

Managerial levels	Number	Percentage (%)
Executive and senior managers	117	72.7
Middle-level managers	27	16.8
Low-level managers	17	10.5
Total	161	100

Table 3
Employee number of respondents' organizations

Employee number	Number	Percentage (%)
Below 50 employees	35	21.7
51–100 employees	21	13.0
101–500 employees	36	22.4
501–1000 employees	18	11.2
1001–5000 employees	32	19.9
More than 5000 years	19	11.8
Total	161	100

102 of them worked at current job more than 10 years; the percentage was 63.4. And most respondents are executive and senior managers. The profile of the respondents was shown in Tables 1–3.

4. Data analysis

4.1. Factor analysis

To ensure the convergent validity of the constructs of developed and adapted measurement, factor analysis was analyzed with varimax rotation. However, because the scope definition of knowledge management was to measure to which degree managers think the key KM activities shall be covered in their definition of knowledge management. Therefore, the average score of the key KM activities was used for further data analysis.

About factor loading, according to Hair, Anderson, Tathan, and Black (1998), the factor loadings of constructs depend on the sample size, as shown in Table 4. The sample size of our study was 161. Thus, the factor loadings shall be at least 0.45. Cronbach's α were also provided for construct reliability.

4.1.1. Label

To ensure the adequacy of factor analysis of label measurement, KMO and Bartlett's test was first analyzed. The KMO value is 0.895 and the χ^2 value of Bartlett's test of sphericity is 568.388 with significant value of 0.000. Therefore, factor analysis was further analyzed. However, among the question items, question six had loading lower

Table 4
Factor loading of different sample size

Factor loading	Sample size
0.30	350
0.35	250
0.40	200
0.45	150
0.50	120
0.55	100
0.60	85
0.65	70
0.70	60
0.75	50

Sources: Hait et al. (1998).

Table 5
Factor analysis of labeling

Factor Loading Items	Labeling	Cronbach's α
Label 4	0.885	0.89
Label 3	0.875	
Label 5	0.855	
Label 2	0.821	
Label 1	0.774	
Label 7	0.692	
Eigenvalue	4.031	
Extracted variance (%)	67.186	
Cumulated extracted variance (%)	67.186	

than 0.45, and was eliminated (Hair et al., 1998) to ensure convergent validity of the constructs. The result of factor loadings was shown in Table 5, with composite reliability provided. The results showed the commonly accepted loadings and reliability in IS literature (e.g., Susarla, Barua, & Whinston, 2003). The factor scores were used in further data analysis.

4.1.2. Issue salience

The KMO value for adequacy of factor analysis of issue salience was 0.925. The χ^2 of Bartlett's test of sphericity was 2190.249 with significant value of 0.000. Therefore, factor analysis was further analyzed. However, with both high cross loadings in two factors, the first and the second item questions of benefit visibility and the first item question of immediacy were eliminated (Hair et al., 1998) to ensure convergent validity of the constructs. The result of factor loadings was shown in Table 6, with composite reliability provided. The results showed the commonly accepted loadings and reliability in IS literature (e.g., Susarla et al., 2003). The factor scores were used in further data analysis.

Table 6
Factor analysis of issue salience

Factor loading Items	Importance	Understandability	Benefit visibility	Immediacy	Cronbach's α
Importance 3	0.832	0.182	0.219	0.222	0.90
Importance 1	0.822	0.170	0.228	0.187	
Importance 2	0.764	0.200	0.089	0.347	
Importance 4	0.736	0.217	0.404	0.196	
Understandability 3	0.145	0.891	0.061	0.162	0.89
Understandability 2	0.185	0.842	0.182	0.200	
Understandability 4	0.130	0.776	0.196	0.253	
Understandability 1	0.361	0.665	0.370	0.103	
Benefit visibility 4	0.188	0.192	0.853	0.221	0.88
Benefit visibility 3	0.280	0.207	0.791	0.272	
Benefit visibility 5	0.350	0.244	0.658	0.374	
Immediacy 3	0.279	0.237	0.297	0.827	0.93
Immediacy 2	0.261	0.290	0.249	0.818	
Immediacy 4	0.396	0.224	0.315	0.720	
Eigenvalue	3.234	3.028	2.522	2.519	
Extracted variance (%)	23.099	24.625	18.011	62.735	
Cumulated extracted variance (%)	23.099	44.724	17.992	80.727	

Table 7
Factor analysis of intention to discuss

Factor loading Items	Intention to discuss	Cronbach's α
Intention to discuss 2	0.957	0.933
Intention to discuss 1	0.939	
Intention to discuss 3	0.933	
Eigenvalue	2.667	
Extracted variance (%)	88.885	
Cumulated extracted variance (%)	88.885	

4.1.3. Intention to discuss

To ensure the convergent validity of discussing intention, factor analysis was analyzed with varimax rotation. The KMO value was 0.757 and the χ^2 value of Bartlett's test of sphericity was 420.338 with significant value of 0.000. Therefore, factor analysis was further analyzed. The result of factor loadings was shown in Table 7, with composite reliability provided. The results showed the commonly accepted loadings and reliability in IS literature (e.g., Susarla et al., 2003). The factor scores were used in further data analysis.

4.2. PLS analysis

After factor analysis for construct validity and reliability, PLS was analyzed to test hypotheses. Chin (1997) and Majchrzak et al. (2005) has suggested that the sample size shall be at least 5–10 times large of largest path number in the path model. The sample size of this study was 161 and the largest path model was 10. This conformed to the suggestion. Therefore, PLS was further analyzed. Besides, when analyzing with PLS, this study adopted bootstrapping to estimate path coefficients (Bollen & Stine, 1992). The estimation was done through re-sampling of the

Table 8
Analysis result of PLS

Hypotheses	Path coefficient	t-value	R ² value
Managers' knowledge management definition scope → Importance	0.526	6.337***	0.276
Managers' knowledge management definition scope → Understandability	0.287	3.897***	0.082
Managers' knowledge management definition scope → Benefit visibility	0.250	2.774**	0.062
Managers' knowledge management definition scope → Immediacy	0.268	4.424***	0.072
Importance → Label	0.242	3.041**	0.352
Understandability → Label	0.145	2.139*	
Benefit visibility → Label	0.396	5.777***	
Immediacy → Label	0.305	4.568***	
Existence of sponsor(s) → Label	0.074	1.326	0.193
Label → Intention to discuss	0.439	6.238***	

* t-value > |1.96|, p < 0.05.
 ** t-value > |2.58|, p < 0.01.
 *** t-value > |3.29|, p < 0.001.

sample and was more precise than being estimated by limit approximation. Chin (1998) also has suggested that to test the significance of path, the sample size of bootstrapping shall be at least 500. Our analysis adopted his suggestion and bootstrapped with sample size of 500.

The result of PLS was shown in Table 8 and Fig. 1. The result of hypotheses was summarized in Table 7. The analysis result of Visualpls was shown in Appendix A. To avoid the stability of analysis result, PLS was analyzed again with bootstrapping size of 800 and the analysis result was shown in Appendix B. It did not indicate difference from the result with bootstrapping size of 500.

The result showed that managers' scope definition of knowledge management had significant impact on their evaluation of knowledge management projects issues. And their evaluation toward knowledge management projects issues showed significant on their label toward the issues and resulted in their intention to discuss the issues on organizational meetings. However, the existence of knowledge management projects sponsor(s) did not show significant impact on their label toward the issues. The results of hypotheses were listed in Table 9.

5. Discussion and conclusion

The results of this study showed that the more beneficial managers' label toward knowledge management project issues was, the stronger their intention to discuss the issues on organizational meetings was. And their label, being beneficial or burdening, toward the issues was influence by their evaluation toward knowledge management projects issues, including importance, understandability, immediacy and benefit visibility. Furthermore, managers' various scope definition of knowledge management had significant impact on their evaluation of the issues. However, the existence of knowledge management projects sponsor(s) did not show significant impact on their label toward the issues.

The industry development in Taiwan has long mainly focused on small and middle enterprises. And most enterprises have less resources comparing with larger enterprises and therefore they emphasize the saving of cost to gain competitiveness in the industry chain. Consequently, their investment in information technology which does not bring direct revenue becomes unnecessary, or even becomes only

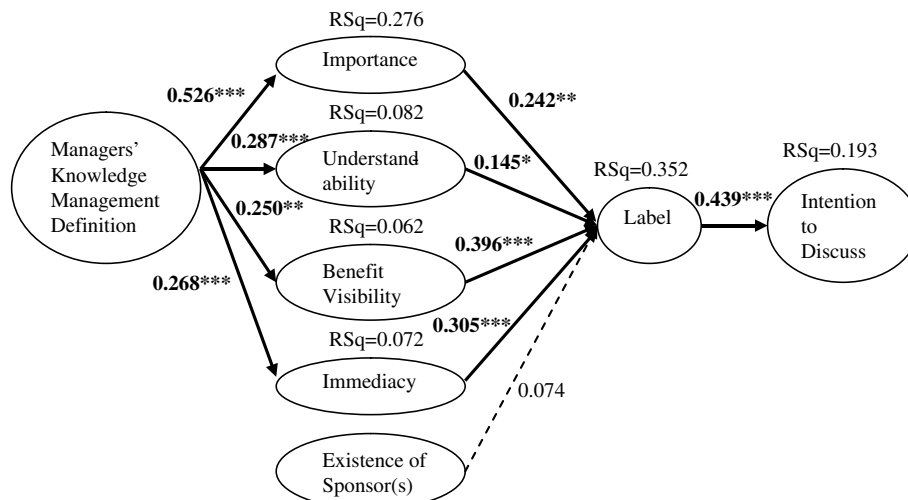


Fig. 1. Path result of PLS.

Table 9
Summary of hypotheses result

Hypotheses	Content	Result	Sig.
Hypothesis 1	Managers' label of knowledge management project issues has positive impact on their intention to discuss the issues	Supported	6.238***
Hypothesis 2	The importance of knowledge management project issues has positive impact on managers' label of knowledge management project issues	Supported	3.041**
Hypothesis 3	The understandability of knowledge management project issues has positive impact on managers' label of knowledge management project issues	Supported	2.139*
Hypothesis 4	The immediacy of knowledge management project issues has positive impact on managers' label of knowledge management project issues	Supported	4.568***
Hypothesis 5	The benefit visibility of knowledge management project issues has positive impact on managers' label of knowledge management project issues	Supported	5.777***
Hypothesis 6	The existence of issue sponsor(s) of knowledge management project issues has positive impact on managers' label of knowledge management project issues	Not supported	1.326
Hypothesis 7a	The knowledge management definition scope of managers has positive impact on their perceived importance of knowledge management project issues	Supported	6.337***
Hypothesis 7b	The knowledge management scope definition of managers has positive impact on their perceived understandability of knowledge management project issues	Supported	3.897***
Hypothesis 7c	The knowledge management scope definition of managers has positive impact on their perceived immediacy of knowledge management project issues	Supported	4.424***
Hypothesis 7d	The knowledge management scope definition of managers has positive impact on their perceived benefit visibility of knowledge management project issues	Supported	2.774**

increase in expense. Furthermore, the benefits that knowledge management adoption can bring are not as obvious as enterprise resource planning. Besides, the definition of knowledge management often appears to be vague and is more incremental rather than radical when comparing with radical innovation, such as enterprise resource planning. As a result, it causes enterprises' less investment in knowledge management.

In this study, the empirical results indicated that when managers' definitions of knowledge management were wider, the better their evaluation of issue salience toward the knowledge management project issues they had in their companies. This indicates that when managers have more wholly recognition of knowledge management, they have better understanding toward the issues and realize the importance. Meanwhile, they also could understand better about the benefit the knowledge management project can bring to the companies and feel the immediacy to take the innovation. These perceived issue salience toward the knowledge management project issues result in managers' positive label toward the issues, in which positive label refers to being more beneficial that managers view knowledge management project issues rather than being more burdening.

Dutton and Jackson (1987) propose theoretical proposition that managers' label toward issues influence the actions organizations take because managers' label represents their meaning-giving processes toward the issue and represents organizations' view. The empirical results in this study indicates that the better perceived issue salience toward knowledge management project issues, the more beneficial managers' label toward the issues. It not only represents organizations view but causes managers' intention to discuss the issues on organizational agenda. This

action could cause organizations' following adoption action. However, lots of IS researches focus on the implementation of organizational innovation, but without the initiating discussion of the innovation issues in organizational meeting, no further organizational action will be taken. In the organizational innovation process proposed by Rogers (1995), he also emphasizes the importance of initiation stage, including agenda-setting. The former initiation stage will affect the latter implementation stage. This study explores the source of variety in organizational knowledge management adoption, managers' label toward the issues and their intention to discuss the issues. It helps to understand the present station of enterprises' adoption in knowledge management and figures out the source that affects enterprises' adoption of knowledge management.

Knowledge management is important toward organizations. It makes enterprises integrate traditional resources and capabilities in a unique innovative way, and keeps organizations competitive. And managers have the right to attend organizational meeting and decide organizational resources allocation. To enterprises, to make adequate communication, formally or informally, before discussing the issues of knowledge management on organizational meeting is of importance and will help more integrated initiation of knowledge management within organizations.

Acknowledgement

The authors thank I-Shou University for the financial support under Grants ISU-96-01-24.

Appendix A. PLS with bootstrapping size of 500

See Fig. 2.

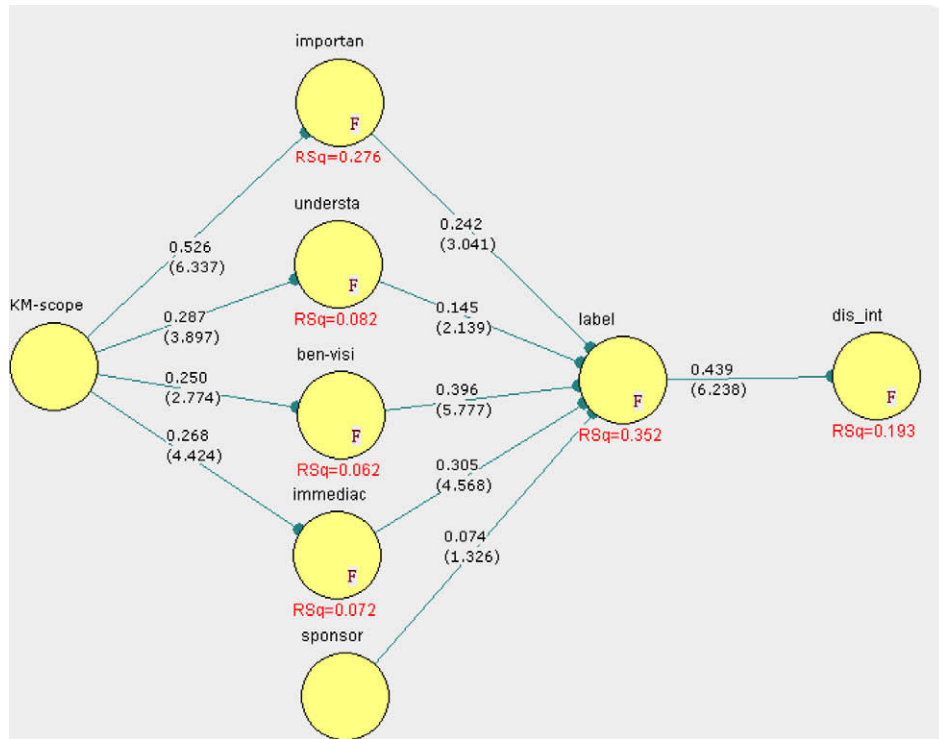


Fig. 2.

Appendix B. PLS with bootstrapping size of 800

See Fig. 3.

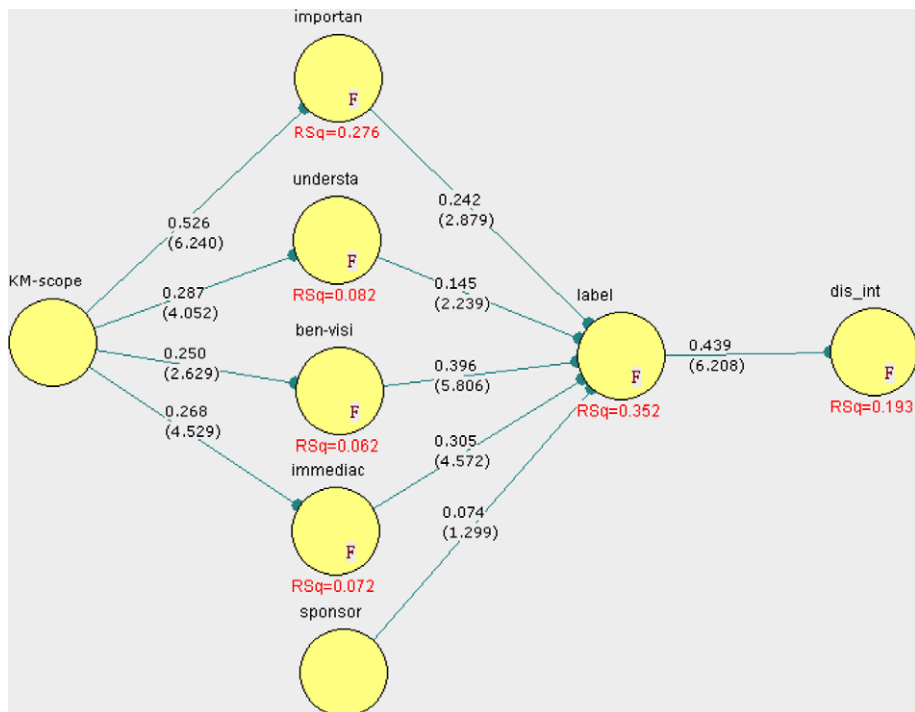


Fig. 3.

References

- Adams, M. J., & Collins, A. (1979). A schema-theoretic view of reading. In R. O. Freedle (Ed.), *New direction in discourse processing* (pp. 1–22). Ablex, NJ: Norwood.
- Alavi, M., & Leidner, D. E. (2001). Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, 25(1), 107–136.
- Bollen, K. A., & Stine, R. A. (1992). Bootstrapping goodness-of-fit measures in structural equation models. *Sociological Methods & Research*, 21(2), 205–229.
- Bransford, J. D., & Johnson, M. K. (1972). Contextual prerequisites for understanding: Some investigations of comprehension and recall. *Journal of Verbal Learning and Verbal Behavior*, 11, 717–726.
- Chin, W. W. (1997). Overview of the PLS method. <<http://discnt.cba.uh.edu/chin/PLSINTRO.HTM>>.
- Chin, W. W. (1998). Issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1), vii–xvi.
- Cong, H., & Tong, L. H. (2008). Grouping of TRIZ inventive principles to facilitate automatic patent classification. *Expert Systems with Applications*, 34(1), 788–795.
- Daft, R. L., & Weick, K. E. (1984). Toward a model of organizations as interpretation systems. *Academic Management Review*, 9(2), 284–295.
- Davenport, T. H., & Prusak, L. (1999). *Working knowledge: How organizations manage what they know*. Harvard Business School Press.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
- Dawkins, E. D. (2005). First to market: Issue management pacesetters and the pharmaceutical industry response to AIDS in Africa. *Business & Society*, 44(3), 244–282.
- Dutton, J. E. (1986). Understanding strategic agenda building in organizations and its implications for managing change. *Scandinavian Journal of Management Studies*, 3(1), 3–24.
- Dutton, J. E., & Jackson, S. E. (1987). Categorizing strategic issues: Links to organizational action. *The Academy of Management Review*, 12(1), 76–90.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Addison-Wesley Publishing Company.
- Grevesen, C. W. (2007). Performance implications of organisational structure and knowledge sharing in multinational R&D networks. *International Journal of Technology Management*, 38(1/2), 113–136.
- Hair, J. F., Anderson, R. E., Tathan, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). New Jersey: Prentice Hall.
- Hovland, C. I., Janis, I. L., & Kelley, J. J. (1953). *Communication and persuasion*. New Haven: Yale University Press.
- Jones, P. H. (2000). Knowledge strategy: Aligning knowledge programs to business strategy. Knowledge management world 2000, Santa Clara, CA, September 12–15.
- Kingdon, J. W. (1984). *Agendas, alternatives and public policies*. New York: Parper Collins Publisher.
- Klaila, D. (2000). Knowledge as a transformation agent. *Journal of Knowledge Management*, 4(2), 138–144.
- Lin, T. C., Chen, H. J., Chang, B. H. (in press). Issue placement affecting factors for knowledge management systems initiation. *International Journal of Innovation and Learning*.
- Majchrzak, A., Beath, C. M., Lim, R., & Chin, W. W. (2005). Management client dialogues during information systems design to facilitate client learning. *MIS Quarterly*, 29(4), 653–672.
- Marcoulides, G. A., & Carol, S. (2006). PLS: A silver bullet?. *MIS Quarterly* 30(2), 1–7.
- Marwick, A. D. (2001). Knowledge management technology. *IBM System Journal*, 40(4), 814–830.
- McKeen, J. D., & Staples, D. S. (2003). Knowledge managers: Who they are and what they do. In C. W. Holsapple (Ed.). *Handbook on knowledge management band* (Vol. 1, pp. 21–41). Berlin: Springer-Verlag.
- Mervis, C. B., & Rosch, E. (1981). Categorization of natural objects. *Annual Review of Psychology*, 32, 89–115.
- Moates, D. R., & Schumacher, G. M. (1980). *An introduction to cognitive psychology*. Belmont, CA: Wadsworth.
- Nonaka, I., & Takeuchi, H. (2001). A dynamic theory of organizational knowledge creation. *Organizational Science*, 5(1), 14–37.
- Petty, R. E., & Cacioppo, J. T. (1981). *Attitudes and persuasion: Classic and contemporary approaches*. Dubuque, Iowa: Wm.C. Brown Company.
- Pichert, J. W., & Anderson, R. C. (1977). Taking different perspectives on a story. *Journal of Educational Psychology*, 69, 309–315.
- Quaddus, M., & Xu, J. (2005). Adoption and diffusion of knowledge management systems: Field studies of factors and variables. *Knowledge-Based Systems*, 18, 107–115.
- Reich, B. h., & Benbasat, I. (1990). An empirical investigation of factors influencing the success of customer-oriented strategic systems. *Information System Research*, 1(3), 325–347.
- Rogers, E. M. (1995). *Diffusion of innovation* (4th ed.). New York: The Free Press.
- Ruggles, R. (1998). The state of the notion: Knowledge management in practice. *California Management Review*, 40(3), 80–89.
- Santhanam, R., & Hartono, E. (2003). Issues in linking information technology capability to firm performance. *MIS Quarterly*, 27(1), 125–153.
- Schön, D. A. (1963). Champions for radical new inventions. *Havard Business Review*, 41(2), 7–86.
- Susarla, A., Barua, A., & Whinston, A. B. (2003). Understanding the service componebt of application service provision: An empirical analysis of satisfaction with ASP services. *MIS Quarterly*, 27(1), 91–123.
- Tseng, S. M. (2008). Knowledge management system performance measure index. *Expert Systems with Applications*, 34(1), 734–745.