

Expert Examination Analysis on Knowledge Integration Model in Business Organization

¹Nur Ilyana Ismarau Tajuddin, ²Yusmadi Yah Jusoh, ³Rusli Abdullah, ⁴Marzanah A. Jabar
^{1,2,3,4}Faculty of Computer Science and Information Technology,
Universiti Putra Malaysia
ilyanaismarau90@gmail.com, {yusmadi, rusli, marzanah}@upm.edu.my

Article Info

Volume 81

Page Number: 3207- 3211

Publication Issue:

November-December 2019

Abstract:

Knowledge Integration (KI) has been significant concern in analyzing the organization performance. Social media also are widely adopted by organizations to enhance the effectiveness of KI practices. The purpose of this paper is to present the findings of expert opinion in verifying the KI and social media factors in developing of proposed model. The study approach was conducting to verify from 3 academicians and 2 industry experts who has experienced in knowledge integration and social media. The findings from expert has verified the content of 12 factors include technology dimension (social network, IT capability, media interactive, media richness) organization dimension (credibility, specialization, coordination, inter-learning organization) Environment dimension (technology turbulence and market turbulence) were suitable for proposed KI model. Descriptive analysis has been used to interpret the frequency, mean, and standard deviation which represent the factors. The proposed model will be validated and conduct through survey in the future work.

Article History

Article Received: 5 March 2019

Revised: 18 May 2019

Accepted: 24 September 2019

Publication: 14 December 2019

Keywords: Knowledge Integration, social media, business organization, expert review

1. INTRODUCTION

Knowledge integration is the most important approaches of knowledge applications to sustainable competitive advantages and gain the business value (Grant, 1996). Only the organization that has the capabilities of integrating inside and outside resources so that it can innovate in faster way and able to succeed under the ultra-competitive environment (Gao Wei et al., 2007). Some organizations cannot possess all the required knowledge by themselves because knowledge is continually changing and

depreciating. Knowledge integration (KI) is the key to utilize expertise that is spread within the enterprise (Grant, 1996). KI is required in many situations due of coherent combining of disparate sources and levels of information for some enterprise is essential (Hustad, 2007). In addition, technological cooperation among firms is important due of a large part of the knowledge needed in innovation processes is tacit, and can be transferred through social media interactions (Raban, 2008).

The adoption of technologies in firms is effective and it is much depending on technology characteristics, project and organizational characteristics, user and social characteristics, and task characteristics (Petter et al., 2003). On the other hand, these factors are much neglected by organizations; especially among small companies in reality. In this case, social media tools have the ability and effective to integrate all information and knowledge that can be obtained (Fung & Hung, 2013). Even though reports had suggest the social media tools can enhance the development of SMEs, there is still little empirical evidence on their adoption and usage from the category of firms (Dixon, 2010) especially in the KI (Cao et al., 2013).

2. RELATED WORK

2.1 Technology Dimension

Technology dimension is adaption of social media supported by media interactive, media richness, social network and IT capability. Media interactive refers to user can participate in modifying the form and content of a mediated environment with an immediate response (Hong & Liang, 2015). Media richness describes as a medium's ability to communicate effectively (Hong & Liang, 2015). Meanwhile, social network refers level of connectivity and access between individuals in organization to enable communication, dialogue and interaction between organizations to integrate knowledge (Hong et al., 2010). IT Capability is the ability to effectively manage hardware and software that have different types and levels of knowledge (Kim et al., 2011).

2.2 Organization Dimension

Organization dimension is performing the KI is considering the credibility, specialization, coordination and inter-organization learning. Credibility is defined as trust in other's knowledge (Hong & Zhang, 2017). Specialization defined as Understanding of member's expertise (Ling et al., 2011). Coordination is describes as process by which

organization utilize held the knowledge by other organization (Hong & Zhang, 2017). Meanwhile, inter-organization learning refers as different organizations in an alliance collaborate, share knowledge, and learn from one another (Kim et al., 2011).

2.3 Environment Dimension

Environment dimension is considering two factors in proposed model which are technology turbulence and market turbulence. Technology turbulence is the rate of change in technologies involved in knowledge integration (Tsai et al., 2015). Meanwhile, market turbulence is the rate at which customer composition and customer preferences change (Tsai et al., 2015).

2.4 Service Quality

Service Quality refers to measurement of meet organization needs and expectations by the service (Javadeinm, 2013) are include factors such as tangible, reliability, responsive, assurances and empathy. Service quality will be as mediator in proposed model

2.5 Theoretical background

The implementation of KI and social media can be involved many theories to be apply. Tornatzky and Fleischer (1990) introduces the theoretical framework for the purpose of developing the conceptual framework which were consisted technology, organization and environment (TOE) framework. The theory has three contexts: technology, organizational and environmental. Beside, Transactive Memory System (TMS), Organization Learning Theory (OLT), Social Network Theory (SNT), Resource-based-view (RBV), Delone-Mclean theory also adopt in propose model.

3. MATERIAL AND METHODS

In order perform this analysis; we have to identify the expert. Next step is development of instrument for expert review. Followed by interview session which experts need to verify the factors for proposed model. Finally, we are analyzed the findings using statistical tools.

3.1 Selection Expert

In this study, expert review has been conduct in order to obtain approval, comment and suggestion on the KI proposed model. Five experts are participated in this expert review. A panel of expert is selected based on

knowledgeable and have experienced related to KI and social media. The panel of experts was chosen with at least 3 years experiences in KI, social media and business industry. The selection of KI expert is based on the focus group approach (Krueger & Casey, 2000).

Table 1: Expert Reviewer Profile

ID_Expert	Position	Working experience	Type of organization	Highest qualification
Expert_01	Senior lecturer	15 years	Public University	Phd
Expert_02	Senior lecturer	18 years	Public University	Phd
Expert_03	Manager	3 years	Business Industry	Diploma
Expert_04	Senior lecturer	17 years	Public University	Phd
Expert_05	Manager	3 years	Business Industry	Degree

3.2 Instrument Development

In order to gather feedback data from expert, an expert review form was used to confirm the factors in KI proposed model. The experts were asked to evaluate the factors of KI based of scale given. Furthermore, in purpose to measure the expert review opinion, a five point scale ranging from 1 'strongly disagree' to 5 'strongly agree' was been used.

4. RESULTS AND DISCUSSION

SPSS 21 has been used in descriptive analyses purpose to interpret the frequency, percentage, mean and standard deviation in purpose to determine the relevant factors of KI. 12 factors were evaluate by expert including social network, IT capability, credibility, specialization, coordination, inter-organization learning, technology turbulence, market turbulence, knowledge integration, media interactive, media richness and service quality. Based on the methodology that has been conducted, this section will discuss as follow.

4.1 Mean and Standard Deviation

Figure 1 and Table 2 represents the frequency, mean, and standard deviation of KI factors. The mean value represents the tendency of expert's opinion. Expert score highest mean rating (5) for social network, IT Capability, media interactive and media richness. All experts have agreed on these 4 factors are important element to be considered in KI. Followed by score mean rating 4.8 for technology turbulence, market turbulence and service quality. Inter organizational learning and knowledge integration score 4.4 for mean rating. Followed by credibility, specialization and coordination score 3.8 for mean rating. The results represents the proposed factors have score mean rating more than 2.50. It is shows all factors is consider agreed by the expert.

The standard deviation (S.D) represents the data spreading. S.D value credibility, specialization and coordination are 1.1. Followed by inter-learning organization and knowledge integration are 0.89. While, the S.D value for technology turbulence, market turbulence and service quality are 0.45.

4.2 Expert’s feedback

Expert 1 found that all three aspects of organizational, technology and environment dimension fulfill the requirement to assess KI process of organization performances. However, the significant relationships of those aspects need to identify further. Whilst the expert 2 as the second respondent found that overall factors are relevant in assessing KI process. She also suggested considering the service quality as mediating and social media factors (media

interactive and media richness) as moderator in proposed model. Expert 3 as the third respondent from industry found the overall factors are important, appropriate and suitable for proposed model. Followed by expert 4 as fourth respondent agree the overall factors are suitable in assessing the KI model. Last but not least, expert 5 as fifth respondent conclude the all factors are important, appropriate and suitable to the proposed model. The overall finding, no major improvement needed for proposed model.

Table 2: Analysis for each factors

No	Factors	Scale 1-2	Scale 3	Scale 4	Scale 5	Freq	%	Mean	S.D
1	Social Network	0	0	0	5	5	100	5	0
2	IT Capability	0	0	0	5	5	100	5	0
3	Credibility	0	3	0	2	5	100	3.8	1.1
4	Specialization	0	3	0	2	5	100	3.8	1.1
5	Coordination	0	3	0	2	5	100	3.8	1.1
6	Inter learning organization	0	1	1	3	5	100	4.4	0.89
7	Technology turbulence	0	0	1	4	5	100	4.8	0.45
8	Market turbulence	0	0	1	4	5	100	4.8	0.45
9	Knowledge Integration	0	1	1	3	5	100	4.4	0.89
10	Media Interactive	0	0	0	5	5	100	5	0
11	Media richness	0	0	0	5	5	100	5	0
12	Service quality	0	0	1	4	5	100	4.8	0.45

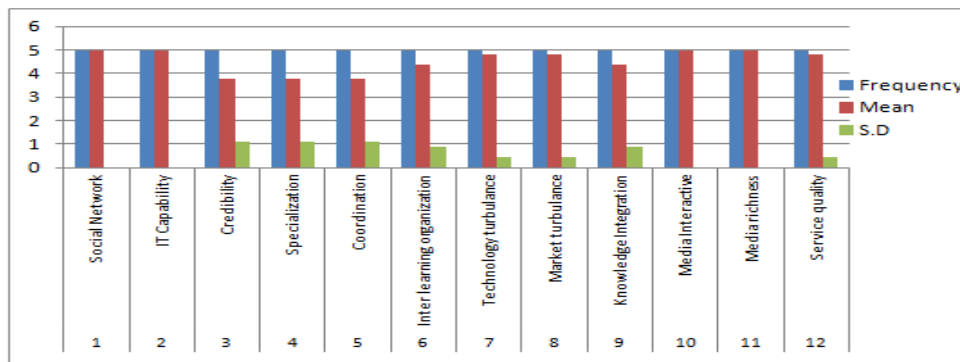


Figure 1: Frequency, mean and standard deviation of KI factors

5. CONCLUSION

In conclusion, the proposed KI model is appropriated in terms of factors. All 5 panel experts reviewers have agree on the proposed factors include social network, IT capability, credibility, specialization, coordination, inter-organization learning, technology turbulence,

market turbulence, knowledge integration, media interactive, media richness and service quality. They shared the same view and opinion. In future work, the proposed model will be validate and conduct through survey.

6. ACKNOWLEDGEMENT

The authors would like to express gratitude for the financial support provided under the Putra University Grant Scheme, Grant cost centre: 9558300

7. REFERENCES

- [1] Bhandar, M., Pan, S. L., and Tan, B. C. Y. "Towards understanding the roles of social capital in knowledge integration: A case study of a collaborative information systems project," *Journal of the American Society for Information Science and Technology* (58:2) 2007, pp 263-274.
- [2] Cao, X., Guo, X., Liu, H., & Gu, J. The role of social media in supporting knowledge integration: A social capital analysis. *Information Systems Frontiers*, 1–12 (2013).
- [3] Dixon, Brian E. Towards E-Government 2.0: An Assessment of Where EGovernment 2.0 Is and Where It Is Headed. *Public Administration & Management*, 15(2), 418-454 (2010).
- [4] Fung, C. K., & Hung, P. C. Information and knowledge management in online rich presence services. *Information Systems Frontiers*, 1–3 (2013).
- [5] Gao Wei, Wang Hengshan, N.-W. Bin. Knowledge Integration and Its Impact. In *International Conference on Management Science & Engineering*. 1517–1523 (2007).
- [6] Grant, R.M. Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17 (S), 109- 122 (1996).
- [7] Hong, D. C., & Liang, S. (2015). Media Characteristics and Social Networks-enabled Knowledge Integration in Cooperative Work. *Procedia Computer Science*, 60, 246–255.
- [8] Hong, D. C., Ling, H., Zhang, C. H., & Li, Y. M. (2010). Theoretical insight into the mechanism of knowledge integration. *ICIME 2010 - 2010 2nd IEEE International Conference on Information Management and Engineering*, 1, 696–701.
- [9] Hong, D., & Zhang, L. (2017). Does Transactive Memory Systems Promote Knowledge Integration Directly? *Procedia Computer Science*, 112, 896–905.
- [10] Hustad, E. A Conceptual Framework for Knowledge Integration in Distributed Networks of practice. *Proceedings of the 40th Hawaii International Conference on System Sciences - 2007*, 1–10 (2007).
- [11] Javadein, D. S. R. S., Ramazani, M., & Keshavarzi, S. (2013). The Effective Knowledge Management Infrastructure and Relationship with Service Quality in Insurance Company. *International Journal of Academic Research in Business and Social Sciences*, 3(12), 541–549.
- [12] Kim, Y. J., Song, S., Sambamurthy, V., & Lee, Y. L. (2011). Entrepreneurship, knowledge integration capability, and firm performance: An empirical study. *Journal of Information Systems Frontiers*, 14, 1047–1060.
- [13] Krueger, R.A. & Casey, M.A. (2000). *Focus Group: A practical Guide for Applied Research*. California: Thousand Oaks Sage.
- [14] Ling, H., Hong, D. C., & Zhang, C. H. (2011). Research on tacit knowledge integration: a synthesis of social ties and TMS. *Knowledge Management Research & Practice*, 9(3), 256–262.
- [15] Petter, S., DeLone, W., & McLean, E. R. Information Systems Success: The Quest for the Independent Variables. *Journal of Management Information Systems*, 29(4), 7-61 (2013).
- [16] R.A. Krueger and M.A Casey, *Focus Group: A practical Guide for Applied Research*. California: Thousand Oaks Sage, 2000.
- [17] Raban, Y. 12 Supporting Knowledge Integration at SMEs – Policies Profiles of KI Support Measures for SMEs. (J. K. Antonie Jetter, Ed.). *Physica Verlag - A Springer Company* (2008).
- [18] Tornatzky, L. & Fleischer, M. (1990). *The Processes of Technological Innovation*. Lexington, MA: Lexington Books
- [19] Tsai, K.-H., Liao, Y.-C., & Hsu, T. T. 2015. Does the use of knowledge integration mechanisms enhance product innovativeness? *Industrial Marketing Management*, 46, 214–223.