

Summer 6-27-2016

AN EMPIRICAL STUDY OF THE EFFECT OF ENTERPRISE SOCIAL MEDIA USAGE ON ORGANIZATIONAL LEARNING

Cong Qi

the Hong Kong Polytechnic University, cong.qi@polyu.edu.hk

Patrick Y. K. Chau

The University of Hong Kong, pchau@business.hku.hk

Follow this and additional works at: <http://aisel.aisnet.org/pacis2016>

Recommended Citation

Qi, Cong and Chau, Patrick Y. K., "AN EMPIRICAL STUDY OF THE EFFECT OF ENTERPRISE SOCIAL MEDIA USAGE ON ORGANIZATIONAL LEARNING" (2016). *PACIS 2016 Proceedings*. 330.

<http://aisel.aisnet.org/pacis2016/330>

This material is brought to you by the Pacific Asia Conference on Information Systems (PACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in PACIS 2016 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

AN EMPIRICAL STUDY OF THE EFFECT OF ENTERPRISE SOCIAL MEDIA USAGE ON ORGANIZATIONAL LEARNING

Cong Qi, Department of Management and Marketing, Faculty of Business, the Hong Kong Polytechnic University, Hong Kong, cong.qi@polyu.edu.hk

Patrick Y. K. Chau, School of Business, The University of Hong Kong, Hong Kong, pchau@business.hku.hk

Abstract

Nowadays, organizations are experiencing revolutionary change due to the advent of Enterprise 2.0 or enterprise usage of social networking tools. Practitioners and researchers are in their early stages experimenting with social media in organizational contexts. The central concern is how the enterprise usage of social media could be converted into the improved organizational performance. Organizational learning has long been considered as one of the measures of organizational performance. In this paper, we would like to understand how the enterprise social media could foster knowledge management processes and further influence the organizational learning. Theories from sociology and strategic management were used to build the hypotheses in the research model. An online survey was conducted to empirically test the model. Our study results show that Enterprise Social Networking Systems usage directly and indirectly influence organizational learning; and knowledge management processes (knowledge creation and sharing) mediate the path between Enterprise Social Networking Systems usage and organizational learning. The results give implications for both practitioners and scholars who are interested in further studies on organizational social media research.

Keywords: Social media, Enterprise Social Networking Systems, knowledge creation, knowledge sharing, organizational learning

1 INTRODUCTION

Enterprise social media or Enterprise 2.0 is described as the use of emergent social software platforms within companies or between companies and their partners or customers to help employees, customers and suppliers collaborate, share, and organize information via Web 2.0 technologies (McAfee, 2009). The major organizational purposes of employing social media tools include: spur innovation, access new market, engage workforce, improve customer and supplier relationship, increase sales and revenues, create brand awareness, and improve knowledge management initiatives (e.g., Mangold and Faulds, 2009; Waters et al., 2009; Bradley and McDonald, 2011; Culnan et al., 2010, Kietzmann et al., 2011; Sinderen and Almelda, 2011, Harden, 2012). Companies may use applications like wikis, blogs, social tagging systems, social bookmarking systems, microblogs, and Enterprise Social Networking Systems (ESNS) to perform various organizational functions. Regarding to the specific format of enterprise social media, this research will only focus on the application of ESNS (e.g., Jive, Yammer, IBM Connections, Socialcast, Chatter). ESNS are social networking systems implemented inside the boundary of organizations with a major purpose to support social networking within the organization and only organizational members can access these systems. ESNS focuses on knowledge exchange through social interaction and collaboration among employees mediated by social media. It is believed to be most relevant to the current research context since ESNS is directly related to knowledge management processes, and many previous studies have shown that ESNS has a significant effect on organizational consequences (Monge and Contractor, 2003; Fulk and Yuan, 2013).

Enterprise social media usage has positive effects on various work-related outcomes. Knowledge management processes and workplace learning are among the most important two (Thomas and Akdere, 2014). Knowledge management is defined as a systematic and integrative process of coordinating organization-wide activities of acquiring, creating, storing, sharing, developing, and deploying knowledge, value information, and expertise by individuals and groups in pursuit of organizational goals (Rastogi, 2000). Traditionally, knowledge management is a formal, collective, top-down organizational process which allows employees to contribute and continuously retrieve the knowledge from knowledge bases or knowledge repositories. Compared with knowledge management, enterprise social media usage is more informal, personal, bottom-up and voluntary (Annabi and McGann, 2013). This paper treats knowledge management and social media usage as different constructs and proposes that social media usage is a significant enabler of knowledge management processes due to its low cost and interactive nature. Enterprise social media not only promotes the knowledge activities, but also enhances organizational learning directly and/or indirectly via the knowledge management processes. Learning activities under social media context is believed to be an “informal learning” (Marsick and Volpe, 1999) or “new social learning” (Bingahm and Conner, 2010). It is predominantly unstructured, experiential, and noninstitutional that happens as employees carry out their daily work; it also encourages knowledge transfer and connects people in a way consistent with how they naturally interact. The learning activities with social media are the new generation of learning in the open organizations where social media is not only used as a tool for communication or marketing purposes but also a means to improve organizational learning (Huang, et al., 2010).

Based on the Knowledge-based view, knowledge management is identified as a critical capability providing organizations with a source of competitive advantage (Sabherwal and Sabherwal, 2007). The ability of continuous learning is one of the organizational advantages that knowledge management can help to obtain. Learning is much more effective if a system (e.g., enterprise social media) is put in place by which knowledge can be captured, shared, and understood. There are many knowledge management processes in the literature, however, for the purpose of the current research, only knowledge creation and knowledge sharing are included since they have been proved to be the most critical knowledge management initiatives under the “social” context (Parise, 2009; Thomas and Akdere, 2014; Ray, 2014).

In sum, this research focuses on studying the effect of ESNS on the effectiveness of knowledge management processes and organizational learning. Social media usage and knowledge management processes are regarded as two distinctive factors leading to the effective organizational learning

independently and collaboratively. Several theories will be used to support the hypotheses in the research model. The paper will be organized as below: in the next section, literature review of the key concepts will be introduced first; this is followed by the discussions of the research hypotheses and the research model. The data analysis and results discussions will be presented at last.

2 LITERATURE REVIEW

For years, knowledge management has been tagged as a mechanistic process where people contribute to the knowledge base, and retrieve it when needed. With the emergence of Web 2.0 or Enterprise 2.0, knowledge management as a concept is being re-energized through people connecting, creating and distributing user generated content via informal networks and communities. The concepts of enterprise social media and knowledge management are therefore closely related with each other. Regarding to the relationship between knowledge management and enterprise social media usage, recent studies have dichotomic opinions on the “marriage” between the two knowledge related initiatives: some purport that social media is the cure for knowledge management (e.g., Bradley and McDonald, 2011) and knowledge processes are essentially social processes (Cross and Parker, 2004); some others argue that social media and knowledge management are incompatible based on the differences in generational values (Rao, 2008), and tensions could arise (Ford and Mason, 2014). Due to the importance of social media usage in enterprise and the ambiguity in the relevant literature, it is critical to investigate the possible impact of enterprise social media tools on the formal knowledge management processes.

Learning is identified as a quantifiable improvement in activities, increased available knowledge for decision-making or sustainable competitive advantage (Cavaleri, 1994). From the definition, it can be seen that organizational learning is related to knowledge and knowledge management efforts. Prior studies have addressed the contribution of enterprise social media usage toward spurring innovation, accessing new market, engaging workforce, increasing sales and revenues and creating brand awareness, et al. (e.g., Mangold and Faulds, 2009; Waters et al., 2009; Bradley and McDonald, 2011; Culan et al., 2010; Kietzmann et al., 2011; Sinderen and Almelda, 2011, Harden, 2012); however, few (Monge and Contractor, 2003; Fulk and Yuan, 2013) of them intended to study specifically the effect of ESNS on knowledge activities and learning internally.

In sum, though the prior studies have explored the impact of social media on knowledge management and organizational learning, most of them investigate social media’s influence on the two dependent variables separately, and most of such studies are qualitative or conceptual in nature (e.g., Wagner et al., 2014; Razmerita et al., 2014; Jeon et al, 2011; Paroutis and Al Saleh, 2009; Roblek et al, 2013). Few efforts were paid to understand the causal relationship between social media, knowledge management and organizational learning. What is more, even few studies have tried to explore specifically the influence of ESNS on organizational level of outcomes. For knowledge management processes, many researchers pointed out that knowledge creation and knowledge sharing are the most critical factors under the “social” context, however, few of them have tested the mediating role of knowledge management between organizational social media usage and organizational performance. This research helps to address the above gaps in the literature. It is among the first empirical studies to explore the impact of ESNS usage on knowledge management processes and organizational learning; and to verify the specific role of knowledge management in organizational learning or new social learning.

3 RESEARCH HYPOTHESES AND MODEL

3.1 Social media and knowledge management

3.1.1 ESNS usage and knowledge creation

Knowledge is socially constructed and meaning is created through ongoing social interaction (Eisenhardt and Santos, 2002). Social capital theory, widely used to explain the importance of social networks in influencing knowledge processes (Parise, 2009) is borrowed to explain the first hypothesis.

Creating and exchanging knowledge through social network could bring individual, structural, cognitive and relational capital to the knowledge creator (Jones et al., 1997). The more the person creates and shares knowledge, the more social resource he/she could get from the social relationships. Regarding to the knowledge creation process, knowledge creation can be facilitated by understanding the knowledge conversion processes between tacit and explicit knowledge. The socialization, externalization, combination and internalization (SECI) model helps to understand this process (Nonaka, 1994). Under the social media context, Wagner et al. (2014) investigated specifically how social media and their affordances could affect the SECI model in the knowledge creation process. Their finding suggested that these four dimensions of SECI are supported by different social media affordances under various contexts. Similarly, Razmerita et al. (2014) proved that via using social media, personal and collective knowledge can be connected in a symbiotic manner, and the integration can effectively encourage knowledge creation at different levels.

H1: ESNS usage will be positively related to knowledge creation.

3.1.2 ESNS usage and knowledge sharing

The internal use of social media (via ESNS) can help employees fulfil their knowledge tasks in a relatively informal way (Paroutis and Al Saleh, 2009). The unrestricted sharing of knowledge is one of the good examples. Social media technologies allow knowledge sharing through the creation of informal users' networks, thus allowing users to collaborate with each other by freely expressing their own opinions (Constantinides and Fountain, 2008). This kind of organization-wide knowledge sharing is described by Majchrzak et al. (2013) as an online communal knowledge conversation instead of an intermittent, centralized knowledge management process (in the traditional KM process). Social media tools have been said to enhance intra-organizational knowledge sharing in general (Jeon et al, 2011); unleash passion among employees to engage in knowledge sharing (Paroutis and Al Saleh, 2009) and change the way individuals are engaged in knowledge sharing (Majchrzak, et al. 2013). The relationship between ESNS usage and knowledge sharing can be best explained by Information Public Goods theory (Hollingshead et al., 2002; Fulk, et al., 2004), which focuses on the motivational aspect of knowledge management processes. It believes that knowledge as an organization-level public good is produced through collective action (Hollingshead et al., 2002). It is based on a calculation that balances the benefits of the collective good against the cost of participating in it (Marwell and Oliver, 1993). In the social context, since the experts and novices can feel free to engage in the "knowledge conversations" rather than paying extra cost of codifying knowledge for input to a formal repository; they tend to find more benefits in collective knowledge sharing, e.g., reduce social loafing, encourage interactive and positive conversational context and have a feeling of emotional closeness with colleagues (Fulk and Yuan, 2013).

H2: ESNS usage will be positively related to knowledge sharing.

3.2 Social media and organizational learning

With social media, the importance of continued learning, rather than knowledge itself, is critical for the organization (Hemsley and Mason, 2014). There are two types of learnings in an organization: formal learning and informal learning. Formal learning involves a higher degree of organizational control and informal learning is most self-directed and incidental (Efimova and Swaak, 2002). The informal learning represents up to 70% of job related learning (Center for Workforce Development, 1998), and the learning behavior via social media belongs to this category. Based on the Social Cognitive theory, Janowica-Panjaitan and Noorderhaven (2008) found that informal learning behaviors characterized by "collegiality [and] reciprocity" (Wenger, 2000, p. 243) have a consistently positive effect on the learning outcome, but formal learning behavior does not have. Social cognitive theory purports observational learning, and ESNS usually has the function of "reviewability" and "visibility" (Wagner, et al., 2014), which allow the coworkers to observe other's behavior via the social platform. After the cognitive process, individual employee learned from the modeling effect, and the learning ability will be spread

out to the entire organization through online and/or offline, formal and/or informal social network. Alternatively, it will pass through the knowledge spiral process (Nonaka, 1994) – learning flows from individual, to the group and to the organizational level. No matter which path it may go through, the usage of ESNS will eventually leads to organizational level of learning. Empirical support could also be found in Huang, et al. (2010) that social media is not only a tool to increase communications and broaden branding efforts but also a means to improve learning within their organizations; and in Jennex (2009)'s knowledge pyramid model that, social networks are external contributors to the knowledge generation processes leading to organizational learning.

H3: ESNS usage will be positively related to organizational learning.

3.3 Knowledge management and organizational learning

Companies should utilize organizational knowledge to enhance organizational learning and performance. Cho, Cho and McLean (2009) suggested that a primary function of learning within an organization is the sharing of existing knowledge and the creation of new knowledge. The hypotheses between knowledge management processes and organizational learning are majorly supported by the theory of knowledge-based view and social cognitive theory. Based on knowledge-based view, knowledge is identified as the most strategically significant resource of the firm (Grant, 1996), and the effective knowledge management is regarded as an organizational capability to support the organization's development, maintenance, and application of core competencies and organizational learning (Zack, 1999). Knowledge-based view believes that knowledge management processes could help organizations achieve sustainable competitive advantages, and organizational learning is identified as a quantifiable improvement in sustainable competitive advantages (Cavaleri, 1994). From the perspective of social cognitive theory, the behavior of knowledge creation and knowledge sharing can be observed by other members in both online and offline social contexts. If such behaviors are encouraged or rewarded, a gradual cognitive process could occur among the members and their behaviors will be changed. At this time, organizational learning could happen.

3.3.1 *Knowledge creation and organizational learning*

How knowledge creation and sharing can be connected with organizational learning is of fundamental significance to organizations. Knowledge is a source of creativity and innovation. Some research specifically emphasized the significance of knowledge creation in organizational learning. They argued that knowledge can be co-constructed through discussion and collaboration, in which the learning capacity is developed (Bruner, 1996). Based on Nonaka, et al. (2009), firms' performance differs largely because organizational knowledge creation gives rise to the unique organizational knowledge systems. And according to the Balance score card model and the knowledge-based view, organization's learning ability is one of the important performance indicators to evaluate organizational performance.

H4: Knowledge creation will be positively related to organizational learning.

3.3.2 *Knowledge sharing and organizational learning*

Knowledge sharing plays a critical role in organizational learning. This process occurs in different organizational settings such as informal inter-firm relations, communities of practices, and product development team (Costanzo and Tzoumpa, 2008). In the current research context, knowledge sharing could happen at any place and under any circumstance in organizations, and thus not limited to the knowledge sharing via the online social platform, e.g., ESNS. The relationship between knowledge sharing and organizational learning has been confirmed by a series of empirical research. For example, Gandhi (2004) asserted that the most important aspect of knowledge management is to encourage people to share knowledge, and the ability of knowledge sharing is one of the predictive factors of organizational learning (Cheng, 2013).

H5: Knowledge sharing will be positively related to organizational learning.

Based on the above arguments, the research model is drawn and listed in Figure 1.

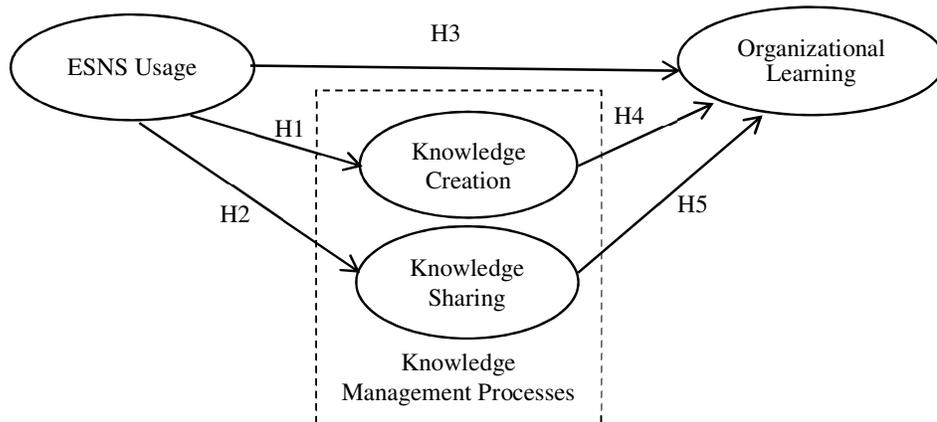


Figure 1. Research model

4 DATA COLLECTION AND DATA ANALYSIS

4.1 Data collection

To test the research model, a web-based online survey was conducted to collect the data. The invitations were sent to LinkedIn enterprise social media group members individually. About 1,500 invitations were sent out within 3 months, and 243 members responded to our survey (with a response rate of 16.2%). After the data cleansing, a total of 197 valid data points were used for the final data analysis.

4.2 Measurements

All the four constructs were measured by using a 5-point Likert scale and at the individual level of analysis. Since at the time of the study, there is no existing measurement of ESNS usage, we referred to the core features of a famous ESNS - Yammer (Yammer, 2016), and measure the frequency of ESNS usage for multiple task purposes. Similar with the situation of ESNS, no appropriate measure was found in the literature for operationalizing knowledge creation, we developed a new scale that captures different dimensions of knowledge creation activities as perceived by an internal employee. The theoretical domain for the scale items was based on Nonaka et al. (2009)'s knowledge creation theory. We further borrowed the empirical measure of the construct from Jiang and Li (2009), Bryant and Terborg (2008) and Razi and Karim (2011). Eventually, 8 items were used to measure knowledge creation in general. Knowledge sharing was operationalized by the adapted measure from Yu et al. (2013) and Bock et al. (2005). For the purpose of this research, we did not distinguish the two sub-dimensions of knowledge sharing activities, and measure knowledge sharing on an overall basis. Organizational learning is regarded more as a process than a static stock (Sinkula, et al, 1997). This study adopted Huber (1991) and Jiménez and Sanz-Valle (2011)'s approach and measured organizational learning from four sub-dimensions with 13 items. Organizational learning is thus a second-order construct in this paper.

4.3 Assessment of the measurement model

At the exploratory stage, SPSS 22.0 was run to assess the reliability and factor dimensions. The refined instruments were input to the SmartPLS 3.0 (Ringle, et al., 2015) for the test of measurement model and structural model. Since the model contains one second-order variable (organizational learning), we created superordinate second-order construct using factor scores for the first-order constructs (Chin, et al., 2003). The second-order construct was treated as a formative variable measured from four different

dimensions (IA, II, ID and OM). After the tests, all the refined measures satisfied the requirements of reliability, convergent validity and discriminate validity tests. The composite reliability and AVE of each construct are presented in Table 1. A full version of the data analysis results will be shown in the follow-up journal paper.

Measures		Items	Composite reliability	AVE
ESNS usages (ESNSU)		4	0.772	0.560
Knowledge creation (KC)		6	0.808	0.513
Knowledge sharing (KS)		6	0.792	0.509
Organizational learning	Information acquisition (IA)	3	0.841	0.639
	Information distribution (ID)	4	0.855	0.596
	Information interpretation (II)	2	0.806	0.589
	Organizational memory (OM)	3	0.851	0.657

Table 1. Reliability and AVEs

4.4 Assessment of the structural model

As shown in Figure 2, all the path coefficients between the major constructs are significant at 0.01 level. The R square values of the two mediators (KC and KS) are 0.123 and 0.153 respectively and the R square of the dependent variable – organizational learning is 0.326. This means all the independent variables in the model explained 32.6 percent of the variance in the dependent variable.

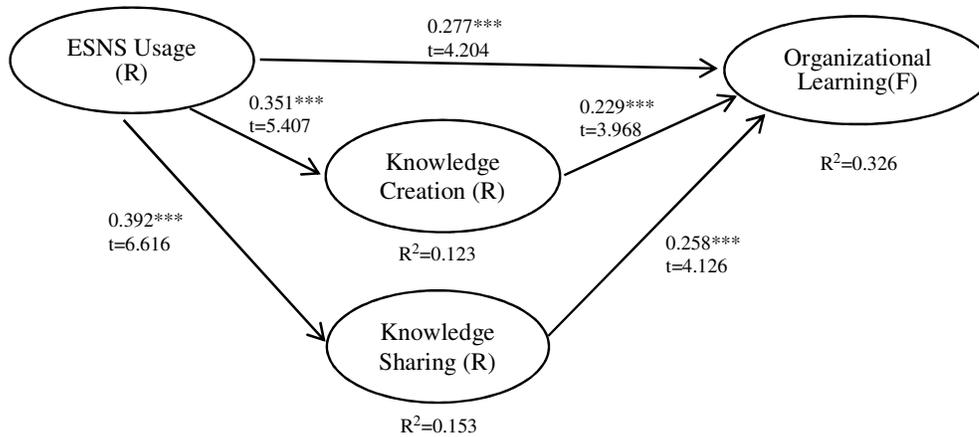


Figure 2. Results of PLS Analysis

Notes: Solid lines mean path coefficients are significant; dotted lines mean not significant.

R=Reflective; F=Formative *** p<0.01

5 DISCUSSION

The objective of this study is to understand the factors likely to influence organizational learning under the new social context. To test the conceptual model, five hypotheses were used to investigate the causal relationship between ESNS usage and organizational learning, and the mediating effect of the knowledge management processes in the path. The data analysis results supported all the hypotheses in the research model. First, the frequent ESNS usage will stimulate employees' creativity and innovation toward knowledge (H1, T-value: 5.407). This result is sufficiently explained by the Social Capital Theory that creating and exchanging knowledge through social network could bring benefits and rewards to the knowledge creator (Jones et al., 1997). This is also consistent with Wagner et al. (2014) and Razmerita et al. (2014) that social media helps with knowledge creation instead of diminishes

knowledge creation. Second and similarly, ESNS usage will also encourage employees to share the existing knowledge via various means (H2, T-value: 6.616). The existence of this relationship is best explained by the Information Public Goods Theory, since the usage of ESNS is in a relatively informal environment, people do not need to pay extra cost in knowledge conversations; on the other hand, they could also enjoy the benefits from the collective knowledge sharing. Third, ESNS usage is proved to be positively related with organizational learning (H3, T-value: 4.204). This is consistent with the prior literature (Huang, et al., 2010; Jennex, 2009), and well explained by the Social Cognitive theory - the informal learning via social media first happens at the individual level and spreads out to the entire organization. Last, H4 (T-value: 3.968) and H5 (T-value: 4.126) were supported by our empirical study, both knowledge sharing and knowledge creation will lead to organizational learning. Theoretical foundation could be found from the Knowledge-based View and Social Cognitive theory. The mediating effects of knowledge sharing and knowledge creation were tested using a series of regression models (Baron and Kenny, 1986), the results showed the significant mediating effects of both constructs (Due to the page limitation, the mediating effect of knowledge management processes will be presented in a full paper later on). To conclude, our data analysis results were inspiring: over 30% of the organizational learning attributes to employees' ESNS usage and knowledge management activities; and ESNS usage (as an informal learning process) and knowledge management activities (as a formal learning process) are compatible during the organizational learning process.

6 LIMITATIONS AND FUTURE RESEARCH

While efforts were made to minimize potential problems in the present study, several limitations still exist. First, as a cross-sectional survey, this study shares the same potential problem with other similar type of the survey studies (depict a phenomenon (e.g., KC, KS, OL) that evolve overtime), therefore, a longitudinal study is suggested in the future studies. Second, this study suffered from the common problem of data collection via a web survey. The participants were recruited via email invitations and the survey was administrated online. The nonprobability sampling methods of online survey ignored the people who have ESNS practices in their companies, but did not participate in the survey. Third, organizational learning was reported by the perception of the individual employee, while personal perception on the organizational issues may not accurately reflect the organizational reality. For the ideal case and future research, we suggest collecting data in the real organizational setting, and inviting both ordinary employees and managers (who are more knowledgeable on organizational issues) to participate in the survey. By doing this, we can not only more precisely measure the constructs but also avoid a certain level of common method bias. Last, as mentioned by prior research (e.g., Jiménez - Jiménez and Cegarra-Navarro, 2007), measuring organizational learning as a dynamic process is a challenging task itself. In the future, we would like to call for suitable measures designed specifically for the "informal" organizational learning process under the Enterprise 2.0 context.

7 CONCLUSION AND IMPLICATIONS

Based on the four theories in sociology and strategic management, this paper built a conceptual model to understand the predictive factors of organizational learning in the new social context. Specifically, it investigates the causal relationships between ESNS usage, knowledge management processes and organizational learning. The theoretical contribution of this paper lies in: (1) the usage of multiple theories to understand the effects of enterprise social media usage; (2) the empirical test of ESNS usage on organizational level of outcomes (organizational learning); and (3) the verification of the mediating role of knowledge management process in the organizational learning. For the practical implications, this study somehow eliminates the management's concern on the frequent usage of enterprise social networking systems, since the usage could stimulate knowledge creation and knowledge sharing, and eventually help organizations to learn in the long run.

8 REFERENCES:

- Annabi, H., and McGann, S.T. (2013). Social media as the missing link: connecting communities of practice to business strategy. *Journal of Organizational Computing and Electronic Commerce*, 23(1-2), 56-83.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Bingham, T., and Conner, M. (2010). *The New Social Learning: A Guide to Transforming Organizations through Social Media*. San Francisco, CA: Berrett-Koehler.
- Bock, G-W, Zmud, R. W., Kim, Y-G, and Lee, J-N (2005). Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social-psychological forces and organizational climate, 29(1), 87-111.
- Bradley, A. J., and McDonald, M. P. (2011). Social media versus knowledge management, in HBR blog network. Boston: Harvard Business Review.
- Bruner, J. (1996). *The Culture of Education*. Cambridge, MA: Harvard University Press.
- Bryant, S. E., and Terborg, J. R. (2008). Impact of peer mentor training on creating and sharing organizational knowledge. *Journal of Managerial issues*, 20 (1), 11-29.
- Cavaleri, S. (1994). Soft systems thinking: a pre-condition for organizational learning. *Human Systems Management*, 13(4), 259-267.
- Center for Workforce Development (1998). *The Teaching Firm Where Productive Work and Learning Converge: Report of Research Findings and Implications*, Newton: Education Development Center.
- Cheng, E. C. K. (2013). Enhancing school learning capacity by conducting knowledge management. *Procedia – Social and Behavioral Sciences*, 93, 281-285.
- Chin, W. W., Marcolin, B. L., and Newsted, P. R. (2003). A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects: Results from a Monte Carlo Simulation Study and an Electronic-Mail Emotion/Adoption Study, *Information Systems Research*, 14 (2), 189-217.
- Cho, Y., Cho, E., and McLean, G. N. (2009). HRD's role in knowledge management. *Advances in Development Review*, 8, 350-381.
- Constantinides, E. and Fountain, S. (2008). Web 2.0: Conceptual foundations and marketing issues. *Journal of Direct, Data, and Digital Marketing Practice*, 9, 231-244.
- Costanzo, L. A. and Tzoumpa, V. (2008). Enhancing organizational learning in teams: has the middle manager got a role? *Team Performance Management*, 14 (3/4), 146-164.
- Cross, R. L., and Parker, A. (2004). *The Hidden Power of Social Networks*. Harvard Business School Press, Boston, MA.
- Culnan, M, McHugh, P., and Zubillaga, J. (2010). How large US companies can use twitter and other social media to gain business value. *MIS Quarterly Executive*, 9(4), 243-259.
- Efimova, L., and Swaak, J. (2002). KM and e-learning: towards an integral approach? The new scope of knowledge management in theory and practice. In proceedings of the 2nd EKMF Knowledge Management Summer School, Sophia Antipolis, France, 63-69.
- Eisenhardt, K., and Santos, F. (2002). Knowledge-based view: A new theory of strategy? In A. Pettigrew, H. Thomas, and R. Whittington, *Handbook of Strategy Management*. London: Sage, 139-164.
- Ford, D. P. and Mason, R. M. (2014). A multilevel perspective of tensions between knowledge management and social media. *Journal of Organizational Computing and Electronic Commerce*, 23 (1-2), 7-33.
- Fulk, J., Heino, R., Flanagin, A. J., Monge, P. R., and Bar, F. (2004). A test of the individual action model for organizational information commons. *Organization Science*, 15, 569-585.
- Fulk, J. and Yuan, Y. C. (2013). Location, motivation, and social capitalization via enterprise social networking. *Journal of Computer-Mediated Communication*, 19, 20-37.

- Gandhi, S. (2004). Knowledge management and reference services. *The Journal of Academic Librarianship*, 30 (5), 368-378.
- Grant, R. M. (1996). Prospering in dynamically-competitive environments: organizational capability as knowledge integration. *Organization Science*, 375-387.
- Harden, G. (2012). Knowledge sharing in the workplace: A social networking site assessment. In 45th Hawaii International Conference on System Sciences, Maui, HI.
- Hemsley, J. and Mason, R. M. (2014). Knowledge and knowledge management in the social media age. *Journal of Organizational Computing and Electronic Commerce*, 23 (1-2), 138-167.
- Hollingshead, A. B., Fulk, J., and Monge, P. R. (2002). Fostering intranet knowledge sharing : An integration of transactive and public goods approach, in P. Hinds & S. Kiesler (Eds.), *Distributed work: New research on working across distance using technology*, 335-355, Cambridge, MA: MIT Press.
- Huang, J. J. S., Yang, S. J., H., Huang, Y. M., and Hsiao, I. Y. T. (2010). Social learning networks: build mobile learning networks based on collaborative services. *Educational Technology & Society*, 13 (3), 78-92.
- Huber, G. P. (1991). Organizational learning the contributing processes and the literatures, *Organization Science*, 2(1), 88-115.
- Janowicz-Panjaitan, M., and Noorderhaven, N. G. (2008). Formal and informal interorganizational learning within strategic alliances. *Research Policy*, 37, 1337-1355.
- Jennex, M. E. (2009). Re-visiting the knowledge pyramid. In Proceedings of the 42nd Hawaii International Conference on System Sciences, 1-7, Jan. 5-8, Big Island, HI.
- Jeon, S., Kim, Y.-G., and Koh, J. (2011). Individual, social, and organizational contexts for active knowledge sharing in communities of practice. *Expert Systems with Applications*, 38, 10, 12423-12431.
- Jiang, X. and Li, Y. (2009), An empirical investigation of knowledge management and innovative performance: The case of alliances, *Policy Research*, 38(2), 358-368.
- Jiménez-Jiménez, D., and Cegarra-Navarro, J. G. (2007). The performance effects of organizational learning and market orientation. *Industrial Marketing Management*, 36(6), 694 – 708.
- Jiménez-Jiménez, D., and Sanz-Valle, R. (2011). Innovation, organizational learning, and performance. *Journal of Business Research*, 64(4), 408-417.
- Jones, C., Hesterly, W. S., and Borgatti, S. P. (1997). A general theory of network governance: Exchange conditions and social mechanisms. *Academy of Management Review*, 22(4), 911-945.
- Kietzmann, J.H., Hermkens, K., McCarthy, I.P., and Silvestre, B.S. (2011). Social Media? Get Serious! Understanding the Functional Building Blocks of Social Media, *Business Horizons*, 54(1), 241-251.
- Majchrzak A., Faraj, S., Kane, G. C. and Azad B. (2013). The contradictory influence of social media affordances on online communal knowledge sharing. *Journal of Computer-Mediated Communication*, 19, 38-55.
- Mangold, G. W., and Faulds, J. D. (2009). Social media: the new hybrid element of the promotion mix. *Business Horizons*, 52, 357.
- Marwell, G., and Oliver, P. (1993). *The Critical Mass in Collective Action: A Micro-social Theory*. New York, NY: Cambridge University Press.
- McAfee, A. (2009). *Enterprise 2.0, New Collaborative Tools for Your Organization's Toughest Challenges*, Boston: Harvard Business Press.
- Monge, P. R. and Contractor, N. (2003). *Theories of Communication Networks*. New York, NY: Oxford University Press.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge. *Organizational Science*, 5(1), 14-37.
- Nonaka, I., and Von Krogh, G. (2009). Tacit knowledge and knowledge conversion: controversy and advancement in organizational knowledge creation theory. *Organization Science*, 20, 635-652.
- Parise, S. (2009). Social media networks: What do they mean for knowledge management? *Journal of Information Technology Case and Application Research*, 11(2), 1-11.

- Paroutis, S. and Al Saleh, A. (2009). Determinants of knowledge sharing using Web 2.0 technologies. *Journal of Knowledge Management*, 13 (4), 52-63.
- Rao, V. (2008). Social media vs. knowledge management: A generational war, available at: <http://www.informationweek.com/social-media-vs-knowledge-management-a-generational-war/d/d-id/1072429?>, access date: Nov. 15, 2014.
- Rastogi, P. (2000). Knowledge management and intellectual capital: The new virtuous reality of competitiveness. *Human Systems Management*, 19(1), 39-49.
- Ray, D. (2014). Overcoming cross-cultural barriers to knowledge management using social media. *Journal of Enterprise Information Management*, 27 (1), 45-55.
- Razi, M. J. M., and Karim, N. S. A. (2011). Investigating individuals' intention to be involved in knowledge management process. *American Journal of Economics and Business Administration*, 3(3), 444-449.
- Razmerita, L., Kirchner, K., and Nabeth, T. (2014). Social media in organizations: leveraging persona and collective knowledge processes. *Journal of Organizational Computing and Electronic Commerce*, 24(1), 74-93.
- Ringle, C. M., Wende, S., and Becker, J-M. (2015). SmartPLS 3. Bönningstedt: SmartPLS. Retrieved from <http://www.smartpls.com>
- Roblek, V., Pejić Bach, M., Meško, M., & Bertoneclj, A. (2013). The impact of social media to value added in knowledge-based industries. *Kybernetes*, 42(4), 554-568.
- Sabherwal, R., and Sabherwal, S. (2007). How do knowledge management announcements affect firm value? A study of firms pursuing different business strategies. *IEEE Transactions on Engineering Management*, 54, 409-422.
- Sinderen, M. V. and Almeida, J. P. A. (2011). Empowering enterprises through next generation enterprise computing. *Enterprise Information Systems*, 5(1), 1-8.
- Sinkula, J. M., Baker, W. E., and Noordewier, T. (1997). A framework for market-based organizational learning: linking values, knowledge and behaviour. *Journal of the Academy of Marketing Science*, 24(4), 305-318.
- Thomas, K. J., and Akdere, M. (2014). Social media as collaborative media in workplace learning. *Human Resource Development Review*, 12(3), 329-344.
- Wagner, D., Vollmar, G. and Wagner, H.-T. (2014). The impact of information technology on knowledge creation a affordance approach to social media. *Journal of Enterprise Information Management*, 27(1), 31-44.
- Waters, R. D., Burnett, R., Lamm, A., and Lucas, J. (2009). Engaging stakeholders through social networking: How nonprofit organizations are using Facebook. *Public Relations Review*, 35, 102-106.
- Wenger, e. (2000). Communities of practice and social learning systems. *Organization*, 7, 225-246.
- Yammer (2016). Yammer features, available at <https://products.office.com/en-us/yammer/yammer-features?tab=GroupsV4>
- Yu, Y., Hao, J. X., Dong, X. Y. and Khalifa, M. (2013). A multilevel model for effects of social capital and knowledge sharing in knowledge-intensive work teams, *International Journal of Information Management*, 33(5), 780-790.
- Zack, M. (1999). Managing codified knowledge, *Sloan Management Review*, 40, 45-58.