

ARTÍCULOS DE REVISIÓN

TENDENCIAS

Revista de la Facultad de Ciencias
Económicas y Administrativas.
Universidad de Nariño
Vol. XV. No. 2 – 2do. Semestre 2014,
Julio-Diciembre – Páginas 151-170

EVALUACIÓN DE LA GESTIÓN DEL CONOCIMIENTO: UNA REVISIÓN SISTEMÁTICA DE LITERATURA

Por: Ernesto Galvis-Lista¹ - Jenny Marcela Sánchez-Torres²

RESUMEN

La evaluación de la gestión del conocimiento (GC) es un tema importante para aquellas organizaciones que quieran saber “qué está pasando” con sus estrategias de GC. No obstante, no existe un consenso sobre qué evaluar y cómo evaluarlo. Por esta razón, el propósito del artículo es presentar una revisión sistemática de literatura de 43 artículos publicados en la última década. La revisión comprende un análisis cuantitativo básico y un análisis de contenido relacionado con varios aspectos de los modelos como su estructura, la función y objetivo de la evaluación, los métodos de investigación utilizados, los sectores económicos de aplicación, y la ubicación de los aspectos evaluados respecto de una taxonomía de escuelas de pensamiento de la GC y una clasificación de las capacidades organizacionales de GC. Como principal hallazgo se muestra la predominancia del enfoque de GC como codificación de conocimiento. Además, se presentan varias brechas susceptibles de investigación futura.

Palabras clave: Gestión de Conocimiento, Modelos de Evaluación, Revisión Sistemática.

Clasificación JEL: M1 Business Administration - D8 Information, Knowledge, and Uncertainty.

-
1. Profesor Asociado - Universidad del Magdalena - Estudiante de Doctorado en Ingeniería - Sistemas y Computación – UNAL - egalvis@unimagdalena.edu.co
 2. Profesora Asociada - Universidad Nacional de Colombia UNAL - jmsanchezt@unal.edu.co

KNOWLEDGE MANAGEMENT EVALUATION: A SYSTEMATIC LITERATURE REVIEW

By: Ernesto Galvis-Lista - Jenny Marcela Sánchez-Torres

ABSTRACT

The evaluation of knowledge management (KM) is an important concern for those organizations that want to know “what is happening” with their KM strategies. Nevertheless, there is no consensus on what to evaluate and how to evaluate it. For this reason, the purpose of this paper is to present a systematic literature review of 43 papers published within the last decade. The review is composed by a basic scientometric analysis and a content analysis. The content analysis is related to various aspects of the models of KM evaluation: their structure, function and purpose of the evaluation, the research methods used in the construction of the model, the industry of application, and the location of the evaluated aspects regarding to a taxonomy of KM schools of thought and a classification of the KM organizational capabilities. The main finding is the predominance of a knowledge codification approach. In addition, various gaps, susceptible for future research, are identified.

Keywords: Knowledge Management, Evaluation Models, Systematic Review.

JEL Classification: M1 Business Administration - D8 Information, Knowledge, and Uncertainty.

Referencias Bibliográficas

- ANANTATMULA, V., & SHIVRAJ, K. (2006). *Structuring the underlying relations among the knowledge management outcomes*. *Journal of Knowledge Management*, 10(4), 25–42. doi:10.1108/13673270610679345
- BJØRNSON, F. O., & DINGSØYR, T. (2008). *Knowledge management in software engineering: A systematic review of studied concepts, findings and research methods used*. *Information and Software Technology*, 50(11), 1055–1068. doi:10.1016/j.infsof.2008.03.006
- CHECKLAND, P., & HOLWELL, S. (1998). *Action Research: Its Nature and Validity*. *Systemic Practice and Action Research*, 11(1), 9–21. doi:10.1023/A:1022908820784
- CHEN, M.-Y., HUANG, M.-J., & CHENG, Y.-C. (2009). *Measuring knowledge management performance using a competitive perspective: An empirical study*. *Expert Systems with Applications*, 36(4), 8449–8459. doi:10.1016/j.eswa.2008.10.067.
- CHIN, K.-S., LO, K.-C., & LEUNG, J. P. F. (2010). *Development of user-satisfaction-based knowledge management performance measurement system with evidential reasoning approach*. *Expert Systems with Applications*, 37(1), 366–382. doi:10.1016/j.eswa.2009.05.051
- CHUA, A. Y. K., & GOH, D. H. (2007). *Measuring knowledge management projects: Fitting the mosaic pieces together*. In *Proceedings of the 40th Annual Hawaii International Conference on System Sciences 2007 - HICSS 2007* (p. 192b – 192b). Hawaii, USA: IEEE. doi:10.1109/HICSS.2007.337
- CHUA, A. Y. K., & GOH, D. H. (2008). *Untying the knot of knowledge management measurement: A study of six public service agencies in Singapore*. *Journal of Information Science*, 34(3), 259–274. doi:10.1177/0165551507084139
- CMMI Product Team. (2010). *CMMI® for Development, Version 1.3* (CMU/SEI-2010th-TR-033 ed.). Pittsburgh, PA, USA: Carnegie Mellon University.
- DINGSØYR, T., BJØRNSON, F. O., & SHULL, F. (2009). *What Do We Know about Knowledge Management? Practical Implications for Software Engineering*. *Software, IEEE*, 26(3), 100–103.
- DWIVEDI, Y. K., VENKITACHALAM, K., SHARIF, A. M., AL-KARAGHOULI, W., & WEERAKKODY, V. (2011). *Research trends in knowledge management: Analyzing the past and predicting the future*. *Information Systems Management*, 28(1), 43–56.
- DYBÅ, T., & DINGSØYR, T. (2008). *Empirical studies of agile software development: A systematic review*. *Information and Software Technology*, 50(9-10), 833–859. doi:10.1016/j.infsof.2008.01.006
- Earl, M. (2001). *Knowledge Management Strategies: Toward a Taxonomy*. *J. Manage. Inf. Syst.*, 18(1), 215-233.
- FAN, Z.-P., FENG, B., SUN, Y.-H., & OU, W. (2009). *Evaluating knowledge management capability of organizations: a fuzzy linguistic method*. *Expert Systems with Applications*, 36(2), 3346–3354. doi:10.1016/j.eswa.2008.01.052
- FANG, J., PEIDE, L., & XIN, Z. (2007). *The evaluation study of knowledge management performance based on Grey-AHP method*. In *Proceedings of the Eighth ACIS International Conference on Software Engineering, Artificial Intelligence, Networking, and Parallel/Distributed Computing- SNPD 2007* (Vol. 3, pp. 444-449). Qingdao, China: IEEE. doi:10.1109/SNPD.2007.534

- FREEZE, R. D., & KULKARNI, U. (2005). *Knowledge Management Capability Assessment: Validating a knowledge assets measurement instrument*. In *Proceedings of the 38th Annual Hawaii International Conference on System Sciences 2005 - HICSS 2005* (p. 251). Hawaii, USA: IEEE. doi:10.1109/HICSS.2005.375
- GOLD, A. H., MALHOTRA, A., & SEGARS, A. H. (2001). *Knowledge management: an organizational capabilities perspective*. *Journal of Management Information Systems*, 18(1), 185–214.
- GOLDONI, V., & OLIVEIRA, M. (2010). *Knowledge management metrics in software development companies in Brazil*. *Journal of Knowledge Management*, 14(2), 301–313. doi:10.1108/13673271011032427
- GOONESEKERA, T., & ZYNGIER, S. (2011). *Measuring knowledge management maturity levels in organisation's production area using fuzzy linguistic variables*. In *Proceedings of the 44th Annual Hawaii International Conference on System Sciences 2011 - HICSS 2011* (pp. 1–10). Hawaii, USA: IEEE. doi:10.1109/HICSS.2011.304
- GOUROVA, E., ANTONOVA, A., & TODOROVA, Y. (2009). *Knowledge audit concepts, processes and practice*. *WSEAS Transactions on Business and Economics*, 6(12), 605–619.
- HOLT, D. T., BARTCZAK, S. E., CLARK, S. W., & TRENT, M. R. (2007). *The development of an instrument to measure readiness for knowledge management*. *Knowledge Management Research and Practice*, 5(2), 75–92. doi:10.1057/palgrave.kmrp.8500132
- HSIEH, P. J., LIN, B., & LIN, C. (2009). *The construction and application of knowledge navigator model (KNMTM): An evaluation of knowledge management maturity*. *Expert Systems with Applications*, 36(2 PART 2), 4087–4100. doi:10.1016/j.eswa.2008.03.005
- HUANG, M.-J., CHEN, M.-Y., & YIEH, K. (2007). *Comparing with your main competitor: the single most important task of knowledge management performance measurement*. *Journal of Information Science*, 33(4), 416–434. doi:10.1177/0165551506076217
- HUNG, Y.-H., CHOU, S.-C. T., & TZENG, G.-H. (2011). *Knowledge management adoption and assessment for SMEs by a novel MCDM approach*. *Decision Support Systems*, 51(2), 270–291. doi:10.1016/j.dss.2010.11.021
- HUNG, Y.-H., & SHOU, S.-C. T. (2005). *On constructing a knowledge management pyramid model*. In *Proceedings of the 2005 IEEE International Conference on Information Reuse and Integration - IRI - 2005* (pp. 1–6). Las Vegas, USA: IEEE. doi:10.1109/IRI-05.2005.1506440
- JAFARI, M., REZAEENOUR, J., AKHAVAN, P., & FESHARAKI, M. N. (2010). *Strategic knowledge management in aerospace industries: a case study*. *Aircraft Engineering and Aerospace Technology*, 82(1), 60–74. doi:10.1108/00022661011028128
- KHATIBIAN, N., GHOLAI POUR, T. H., & ABEDI JAFARI, H. (2010). *Measurement of knowledge management maturity level within organizations*. *Business Strategy Series*, 11(1), 54–70. doi:DOI: 10.1108/17515631011013113
- KITCHENHAM, B. A., DYBÅ, T., & JØRGENSEN, M. (2004). *Evidence-based software engineering*. In *Proceedings - International Conference on Software Engineering* (Vol. 26, pp. 273–281). Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-4544225764&partnerID=40&md5=e0d3d4da6b47ef5e3d9c311e31ba5be3>
- KITCHENHAM, B., & CHARTERS, S. (2007). *Guidelines for performing Systematic Literature Reviews in Software Engineering* (No. EBSE 2007-001). UK: Keele University and Durham University Joint Report. Retrieved from <http://www.dur.ac.uk/ebse/resources/guidelines/Systematic-reviews-5-8.pdf>
- KITCHENHAM, B., PEARL BRERETON, O., BUDGEN, D., TURNER, M., BAILEY, J., & LINKMAN, S. (2009). *Systematic literature reviews in software engineering - A systematic literature review*. *Information and Software Technology*, 51(1), 7–15. doi:10.1016/j.infsof.2008.09.009

- KITCHENHAM, B., PRETORIUS, R., BUDGEN, D., PEARL BRERETON, O., TURNER, M., NIAZI, M., & LINKMAN, S. (2010). *Systematic literature reviews in software engineering - A tertiary study*. *Information and Software Technology*, 52(8), 792–805. doi:16/j.infsof.2010.03.006
- KURNIAWATI, A., & ANTHONY, L. (2010). *A framework for measuring performance faculty knowledge management program*. In *Proceedings of the 2010 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)* (pp. 1087–1091). Macao, China: IEEE. doi:10.1109/IEEM.2010.5674251
- LAN, T., ZHONG, R., & DAI, H. (2008). *Performance evaluation of tacit knowledge management based on multiple indicator ideal interval methods*. In *Proceedings of the 2008 IEEE International Conference on Service Operations and Logistics, and Informatics, IEEE/SOLI 2008* (Vol. 1, pp. 858–864). Beijing, China: IEEE. doi:10.1109/SOLI.2008.4686519
- LEE, J.-H., & KIM, Y.-G. (2001). *A stage model of organizational knowledge management: a latent content analysis*. *Expert Systems with Applications*, 20(4), 299–311. doi:10.1016/S0957-4174(01)00015-X
- LEE, K. C., LEE, S., & KANG, I. W. (2005). *KMPI: Measuring knowledge management performance*. *Information and Management*, 42(3), 469–482. doi:10.1016/j.im.2004.02.003
- LI, H.-B., & LI, L. (2008). *DEA-based project knowledge management performance evaluation*. In *Proceedings of the 2007 International Conference on Management Science and Engineering, ICMSE'07* (pp. 1561–1566). Harbin, China: IEEE. doi:10.1109/ICMSE.2007.4422065
- MEHTA, N. (2008). *Successful knowledge management implementation in global software companies*. *Journal of Knowledge Management*, 12(2), 42–56. doi:10.1108/13673270810859505
- PEE, L., KANKANHALLI, A., & TEAH, H. (2006). *Development and Application of a General Knowledge Management Maturity Model*. In *Proceedings of the 2006 Pacific Asian Conferencen on Information Systemas - PACIS 2006* (p. Paper 12). Kuala Lumpur, Malasya: AIS. Retrieved from <http://aisel.aisnet.org/pacis2006/12>
- QI, R.-G., & LIU, S.-J. (2010). *Research on comprehensive evaluation of enterprises knowledge management capabilities*. In *Proceedings of the 2010 International Conference on Management Science and Engineering, ICMSE 2010* (pp. 1031–1036). Melbourne, Australia: IEEE. doi:10.1109/ICMSE.2010.5719925
- RAZI, M. J. M., & KARIM, N. S. A. (2010). *Assessing knowledge management readiness in organizations*. In *Proceedings of the 2010 International Symposium on Information Technology - System Development and Application and Knowledge Society, ITSIM'10* (Vol. 3, pp. 1543–1548). Kuala Lumpur, Malasya: IEEE. doi:10.1109/ITSIM.2010.5561631
- SERENKO, A., BONTIS, N., BOOKER, L., SADEDDIN, K., & HARDIE, T. (2010). *A scientometric analysis of knowledge management and intellectual capital academic literature 1994*. *Journal of Knowledge Management*, 14(1), 3 – 23. doi:10.1108/13673271011015534
- SMITS, M., & DE MOOR, A. (2004). *Measuring knowledge management effectiveness in communities of practice*. In *Proceedings of the 37th Annual Hawaii International Conference on System Sciences, 2004 (HICSS'04)* (Vol. 37, pp. 3677–3685). Hawaii, USA: IEEE. doi:10.1109/HICSS.2004.1265570
- SUO, B., WANG, J.-B., DONG, F., & ZHAO, Z. (2008). *The fuzzy evaluation on enterprise knowledge management capability based on knowledge audit*. In *Proceedings of the 2008 IEEE International Conference on Service Operations and Logistics, and Informatics, IEEE/SOLI 2008* (Vol. 1, pp. 792–796). Beijing, China: IEEE. doi:10.1109/SOLI.2008.4686506
- TSENG, M.-L. (2010). *Using linguistic preferences and grey relational analysis to evaluate the environmental knowledge management capacity*. *Expert Systems with Applications*, 37(1), 70–81. doi:10.1016/j.eswa.2009.05.020

- TSENG, M.-L. (2011). *Using a hybrid MCDM model to evaluate firm environmental knowledge management in uncertainty*. *Applied Soft Computing Journal*, 11(1), 1340–1352. doi:10.1016/j.asoc.2010.04.006
- WANG, J., FANG, N. G., & WANG, X. (2009). *The empirical study on performance evaluation of knowledge management based on information entropy and osculating value*. In *Proceedings of the 2009 Asia-Pacific Conference on Information Processing, APCIP 2009* (Vol. 1, pp. 157–160). Shenzhen, China: IEEE. doi:10.1109/APCIP.2009.48
- WANG, Y., & ZHENG, J. (2010). *Knowledge management performance evaluation based on triangular fuzzy number*. In *Procedia Engineering - Proceedings of the 2010 Symposium on Security Detection and Information Processing* (Vol. 7, pp. 38–45). China: Elsevier. doi:10.1016/j.proeng.2010.11.006
- WEI, J.-Y., & BI, R. (2008). *Knowledge management performance evaluation based on ANP*. In *Proceedings of the 7th International Conference on Machine Learning and Cybernetics, ICMCLC* (Vol. 1, pp. 257–261). Kunming, China: IEEE. doi:10.1109/ICMLC.2008.4620414
- WEN, Y.-F. (2009). *An effectiveness measurement model for knowledge management*. *Knowledge-Based Systems*, 22(5), 363–367. doi:10.1016/j.knosys.2009.02.007
- XIA, L., PAN, J., CHEN, S., & ZHAO, Y. (2010). *Research on government knowledge management capability based on fuzzy comprehensive evaluation*. In *Proceedings of the 2nd IEEE International Conference on Information Management and Engineering - ICIME 2010* (Vol. 2, pp. 534–538). Chengdu, China: IEEE. doi:10.1109/ICIME.2010.5477676
- YANG, N. (2010). *Research on the evaluation of knowledge management performance of High-tech Enterprise*. In *Proceedings of the 2010 IEEE 2nd Symposium on Web Society, SWS 2010* (pp. 462–465). Beijing, China: IEEE. doi:10.1109/SWS.2010.5607405
- ZAIM, H., TATOGLU, E., & ZAIM, S. (2007). *Performance of knowledge management practices: a causal analysis*. *Journal of Knowledge Management*, 11(6), 54–67. doi:10.1108/13673270710832163
- ZHANG, H., & HE, Y. (2010). *Manufacturing knowledge management performance evaluation based on grey fuzzy evaluation*. In *Proceedings of the 2010 International Conference on Environmental Science and Information Application Technology, ESAT 2010* (Vol. 3, pp. 472–475). Wuhan, China: IEEE. doi:10.1109/ESAT.2010.5568310
- ZHANG, Q.-P., & SHAN, W. (2007). *Research on enterprise tacit knowledge management performance appraisal based on artificial Neural Networks*. In *Proceedings of the 2006 International Conference on Management Science and Engineering, ICMSE'06 (13th)* (pp. 1333–1337). Lille, France: IEEE. doi:10.1109/ICMSE.2006.314237
- ZHENG, W., & HU, Y. (2009). *Grey evaluation method of knowledge management capability*. In *Proceedings of the 2009 2nd International Workshop on Knowledge Discovery and Data Mining, WKKD 2009* (pp. 256–260). Moscow, Russia: IEEE. doi:10.1109/WKDD.2009.205
- ZHU, X.-Y., & WU, Y.-L. (2010). *Research on the evaluation method for enterprise knowledge management performance based on triangular fuzzy number*. In *Proceedings of the 2010 International Conference on E-Business and E-Government, ICEE 2010* (pp. 1911–1914). Guangzhou, China: IEEE. doi:10.1109/ICEE.2010.483
- ZHU, Z.-H., & XUE, D., -W. (2009). *Fuzzy evaluation model of accounting firm knowledge management performance*. In *Proceedings of the 2009 International Conference on Information Management, Innovation Management and Industrial Engineering, ICIII 2009* (Vol. 2, pp. 75–78). Xi'an, China: IEEE. doi:10.1109/ICIII.2009.176