

# Global Aspects and Cultural Perspectives on Knowledge Management: Emerging Dimensions

Murray E. Jennex  
*San Diego State University, USA*

Information Science  
**REFERENCE**

# Detailed Table of Contents

<b>Preface</b> .....	xvi
----------------------	-----

## Section 1

### Chapter 1

Measuring Knowledge Management Outcomes at the Individual Level: Towards a Tool for Research on Organizational Culture .....	1
--	---

*Shahmawaz Muhammed, The American University of Middle East, Kuwait*

*William J. Doll, The University of Toledo, USA*

*Xiaodong Deng, Oakland University, USA*

Extant literature has mostly focused on defining knowledge management success at an organizational or project level. The literature lacks a framework for measuring knowledge management success at the individual level. Individual knowledge innovation and performance make organizations more productive. This research proposes a model of the interrelationships among individual level knowledge management success measures (outcomes) including conceptual, contextual and operational knowledge, innovation, and performance. The model is tested using a sample of 252 individuals engaged in managerial and professional knowledge work. The results suggest that conceptual knowledge enhances operational and contextual knowledge. Contextual knowledge also improves operational knowledge. Contextual knowledge is the key predictor of innovations that, along with operational knowledge, enhance work performance. The results provide a model for defining and measuring knowledge management success at the individual level.

### Chapter 2

Using Agent Based Simulation and Game Theory Analysis to Study Knowledge Flow in Organizations: The KMscape.....	19
--	----

*Richard Jolly, Portland State University, USA*

*Wayne Wakeland, Portland State University, USA*

Knowledge sharing in organizations, especially the impact of sharing freely versus not sharing, was studied using game theoretic analysis and a Netlogo agent-based simulation model. In both analyses, some agents hoarded knowledge while others shared knowledge freely. As expected, sharing was found

to greatly increase the overall amount of knowledge within the organization. Unexpectedly, on average, agents who share acquire more knowledge than hoarders. This is in contradiction to the conclusion from the prisoner's dilemma analysis. This is due to the synergy that develops between groups of agents who are sharing with each other. The density of the agents is important; as the density increases, the probability increases that an agent with a large amount of knowledge to share happens to be organizationally nearby. The implications are that organizations should actively encourage knowledge sharing, and that agent-based simulation is a useful tool for studying this type of organizational phenomena.

### **Chapter 3**

A Comprehensive Model for Assessing the Organizational Readiness of Knowledge Management ..... 30

*Babak Sohrabi, University of Tehran, Iran*

*Iman Raeesi, University of Tehran, Iran*

*Amir Khanlari, University of Tehran, Iran*

*Sakineh Forouzandeh, Shahid Beheshti University, Iran*

Implementing knowledge management or knowledge-sharing projects in an organization require significant organizational prerequisites. Lacking proper infrastructures and prerequisite, not only make the knowledge management process unprofitable, but might incur harmful effects as well. To decrease such risks, it is proposed to introduce the readiness assessment, in order to gauge a company's appetite for the work involved in implementing the knowledge management. In this research, critical success factors have been extracted from literature reviews and surveyed through a questionnaire, distributed among 130 knowledge management experts. Then, to validate the measurement of the multi-item constructs, exploratory factor analysis (EFA) was used. Identifying effective variables and their grouping onto related factors, the second questionnaire was employed for readiness assessment of an IT firm working in Iran and its results were presented with Radar diagrams. Finally, promoting propositions were provided based on the firm's current state.

### **Chapter 4**

Knowledge Management Toolkit for SMEs ..... 49

*Kerstin Fink, University of Innsbruck, Austria*

*Christian Ploder, University of Innsbruck, Austria*

The discipline of knowledge management is no longer emerging in large organizations, but also small and medium-sized enterprises (SMEs) are focusing on finding the right process that will allow them to make advantages of their intellectual capital. Using survey data from 219 small and medium-sized enterprises in Austria and Switzerland, this article illustrates the four key knowledge processes (1) knowledge identification, (2) knowledge acquisition, (3) knowledge distribution, and (4) knowledge preservation for SMEs and also reports the findings of the empirical study designed to allocate cost-efficient software products to each of the four knowledge processes. As a result a knowledge toolkit for SMEs that integrates knowledge processes, methods and software tool for decision support making is given. Finally, the social view of knowledge management to SMEs is discussed, showing that the use of information technology is currently far more important than the integration of a social-cognitive perspective.

## Chapter 5

A Framework for Managing the Life Cycle of Knowledge in Global Organizations..... 64

*Mark Salisbury, University of New Mexico, USA*

This article describes a framework for managing the life cycle of knowledge in organizations. The framework emerges from years of work with the laboratories and facilities that are under the direction of the United States Department of Energy (DOE). The article begins by describing the background of the work from which the framework emerged; this is followed by describing the problem of identifying the “right” knowledge for the “right” people at the “right” time and how the use of performance objectives addresses this problem. Next, the phases in the life cycle of knowledge in an organization, the theoretical foundation for the framework, and the other aspects of the framework (Work Processes, Learning Processes, and Methodologies) are described. Finally, a discussion section summarizes the framework and discusses future directions for enhancing and extending the framework.

## Chapter 6

Social Network Structures for Explicit, Tacit and Potential Knowledge..... 81

*Anssi Smedlund, Helsinki University of Technology, Finland & Tokyo Institute of Technology, Japan*

The purpose of this conceptual article is to develop argumentation of the knowledge assets of a firm as consisting of three constructs, to extend the conventional explicit, tacit dichotomy by including potential knowledge. The article highlights the role of knowledge, which has so far not been utilized in value creation. The underlying assumption in the article is that knowledge assets can be thought of as embedded in the relationships between individuals in the firm, rather than possessed by single actors. The concept of potential knowledge is explained with selected social network and knowledge management literature. The findings suggest that the ideal social network structure for explicit knowledge is centralized, for tacit knowledge it is distributed, and for potential knowledge decentralized. Practically, the article provides a framework for understanding the connection between knowledge assets and social network structures, thus helping managers of firms in designing suitable social network structures for different types of knowledge.

## Section 2

## Chapter 7

A Simulation System for Evaluating Knowledge Management System (KMS) Implementation Strategies in Small to Mid-Size Enterprises (SME) ..... 92

*Robert Judge, San Diego State University, USA*

Companies create and use information and knowledge every day. The problem all companies have is figuring out how to efficiently discover that knowledge, capture it, share it, and use it to gain competitive advantage in the marketplace. This article describes a simulation model designed to provide small to midsized enterprises (SME) with a means to understand the impact of barriers and value accelerators on the flow of organizational information. The simulation model reports the throughput of information

(number of information packets received per day) and its timeliness (average duration until packet arrival) and provides for sensitivity analysis of the parameters describing a strategy. Comparisons among model instantiations allow an organization to determine the appropriate strategy for current and future KMS efforts.

## **Chapter 8**

Knowledge Sharing Behavior of Graduate Students ..... 113

*Shaheen Majid, Nanyang Technological University, Singapore*

*Sim Mong Wey, Nanyang Technological University, Singapore*

The concept of knowledge sharing is gaining popularity due to increased awareness and new initiatives in knowledge management. However, its implications in the educational arena have been relatively unexplored. The purpose of this study was to investigate perceptions, nature and extent of knowledge sharing among graduate students in Singapore. A questionnaire was used for data collection and 183 students from two public universities in Singapore participated in this study. The study revealed that the participants were primarily motivated to share knowledge in an attempt to build relationships with their peers and email was the preferred communication channel. However, intense competition among the students to outperform their classmates and the lack of depth in relationship were the two most cited factors hindering knowledge sharing. The study suggests that academic institutions should review their instruction approaches to make the learning process less competitive which would help improve knowledge sharing among students.

## **Chapter 9**

Cocreating Corporate Knowledge with a Wiki ..... 126

*Joseph A. Meloche, University of Wollongong, Australia*

*Helen Hasan, University of Wollongong, Australia*

*David Willis, BlueScope Steel Research, Australia*

*Charmaine C. Pfaff, University of Wollongong, Australia*

*Yan Qi, University of Wollongong, Australia*

Wikis have a growing reputation on the open Internet for producing evolving stores of shared knowledge. However, such democratic systems are often treated with suspicion within corporations for management, legal, social, and other reasons. This article describes a field study of a corporate Wiki that has been developed to capture, and make available, organisational knowledge in a large manufacturing company as an initiative of their Knowledge Management (KM) program. As this approach to KM is a controversial and rapidly changing phenomenon, a Q Methodology research approach was selected to uncover employees' subjective attitudes to the Wiki. Activity Theory was used to provide a deeper interpretation of the findings of the Q-study. The results are enabling the firm to more fully exploit the potential of the Wiki as a ubiquitous tool for successful tacit and explicit knowledge management as more employees are encouraged to participate in a process of cocreating the store of corporate knowledge. The article also demonstrates how meaningful and rigorous research on this new democratic direction of corporate KM should continue.

## Chapter 10

Reaching for the Moon: Expanding Transactive Memory's Reach with Wikis and Tagging..... 144

*Mark B. Allan, NASA Ames Research Center, USA*

*Anthony A. Korolis, IBM Corporation, USA*

*Terri L. Griffith, Santa Clara University, USA*

Transactive memory systems (TMS) support knowledge sharing and coordination in groups. TMS are enabled by the encoding, storage, retrieval, and communication of knowledge by domain experts—knowing who knows what. The NASA Ames Intelligent Robotics Group provides an example of how TMS theoretical boundaries are stretched in actual use. This group is characterized as being highly innovative as they routinely engage in field studies that are inherently difficult due to time and technology resource constraints. We provide an expanded view of TMS that includes the technology support system available to this group, and possible further extensions to NASA's or other such dynamic groups' practice.

## Chapter 11

Assessing the Impact of Knowledge Transfer Mechanisms on Supply Chain Performance ..... 157

*Stephen McLaughlin, National University of Ireland Maynooth, Ireland*

With the complexity of organizations increasing, it is becoming vitally important that organizations understand how knowledge is created and shared around their core business processes. However, many organizations deploy technology without due consideration for how their employees access, create, and share information and knowledge. This article explores the subject empirically through the study of how employees work with information and knowledge around a core business function—in this case a supply chain process. In order to do this, the organization needs to be viewed from a network perspective as it relates to specific business processes. Viewing the organization in this way enabled the author to see how employees' preferred knowledge and information transfer mechanisms varied across the core process. In some cases, the identified transfer mechanisms were at odds with the prescribed organization wide mechanisms. However, when the organization considered the employees' preferred transfer mechanisms as part of an overall process improvement, the E2E supply chain performance was seen to improve significantly.

## Chapter 12

Capturing Tacit Knowledge from Transient Workers: Improving the Organizational

Competitiveness..... 172

*Salah Eldin Adam Hamza, SOFCON Consulting Engineering Co., Saudi Arabia*

This article studies the way tacit knowledge is dealt with in a high turnover business environment through a qualitative research approach in an engineering organization with respect to organizational culture and values and the effect in competitive stance. The study found peer review process and managerial/supervisory style to be effective in enabling new employees in a short time with knowledge critical for them to do a successful job, core values, and open-door policy to be necessary factors in forming a fertile environment for a quick tacit knowledge harvesting. The study also showed that a good competitive stance and customer satisfaction can be achieved and maintained through implementation of a

rigorous peer review process. The study revealed noneffective utilization of knowledge management (KM) technical resources. The study directs future research towards evaluating possible objectives for utilization of KM technological resources, timeline for effective codification of tacit knowledge, and responsibilities for handling resources.

### Section 3

#### Chapter 13

Organization of Lessons Learned Knowledge: A Taxonomy and Implementation .....	190
<i>Subramanian Rama Iyer, Oklahoma State University, USA</i>	
<i>Ramesh Sharda, Oklahoma State University, USA</i>	
<i>David Biro, Oklahoma State University, USA</i>	
<i>Joyce Lucca, Oklahoma State University, USA</i>	
<i>Upton Shimp, Oklahoma State University, USA</i>	

With knowledge management systems (KMS) containing large repositories, a major issue is content organization. The ease of finding relevant information depends on the effectiveness of knowledge organization. Ontology, thesauri, and taxonomy are some of the key words that relate to knowledge organization. In this article we propose a schema for organizing knowledge that represents lessons learned from prior experience. Such knowledge from lessons learned has distinct characteristics so that it can be organized in specific ways for ease of discovery, retrieval, and also possible incorporation in formal learning. The proposed taxonomy includes concepts from domain related hierarchy, sources of lessons learned, formal learning, and collaborative inputs (Web 2.0). We describe the proposed taxonomy for organizing the lessons learned knowledge (also termed as knowledge nuggets) and provide details of a specific implementation of this taxonomy in a military organization. Such approaches to knowledge organization have the potential to be useful in many other knowledge management (KM) projects.

#### Chapter 14

Investigating the Impact of Knowledge Management Factors on New Product Development Performance .....	210
<i>Belbaly Nassim, GSCM–Montpellier Business School, France</i>	

Knowledge is recognized as an important weapon for new product development (NPD) performance, and many firms are beginning to manage the knowledge detained by their new product development processes. Researchers have investigated knowledge management factors such as enablers, creation processes, and performance. However, very few studies have explored the relationship between these factors in the context of new product development (NPD). To fill this gap, this article develops a research model which applies the knowledge management factors to the NPD context. The model includes five enablers: collaboration, trust, learning, team leadership characteristics, and t-shaped skills with an emphasis on the knowledge creation processes such as socialization, externalization, combination, and internalization. The results confirm the strong support of the research model and the impact of the independent variables (knowledge management enablers) on the dependent variables (knowledge creation and NPD performance). In light of these findings, the implications for both theory and practice are discussed.

## **Chapter 15**

Knowledge Strategy and its Role in the Organization: An Exploratory Study.....	227
<i>Joseph E. Kasten, Dowling College, USA</i>	

Knowledge strategy is defined as the set of guidelines and philosophies that guide an organization's knowledge-based activities, such as knowledge gathering, development, storage, and utilization. Much of the early literature describing knowledge strategy suggests that its role in the organization is to drive, and be driven by, organizational structure and the human resources and technology strategies. The present research utilizes semi-structured interview data to determine that knowledge strategy is less of a formal structure and more of a lens through which knowledge-based decisions are viewed and focused, resulting in organizational actions that align with the knowledge strategy of the organization.

## **Chapter 16**

Zooming in on the Effect of National Culture on Knowledge Sharing Behavior.....	243
<i>Wei Li, Freddie Mac, USA</i>	

This study investigates what are the national cultural factors that influence employees' cross-cultural knowledge sharing in online environments and in what way. The article draws on findings from 41 in-depth interviewees conducted with 20 Chinese and 21 American employees who worked for a large multinational corporation. The rich interview data identified three national cultural differences that impacted Chinese and American participants' knowledge sharing through an online system, namely, language, differences grounded in collectivism/individualism, and different levels of uncertainty avoidance. English created a barrier for Chinese users to post their ideas, but it did not seem to stop them from consuming knowledge. Differences grounded in collectivist/individualist values were mainly reflected in these two cultural groups' different logic regarding the relationship between different working contexts and the necessity to share. Chinese also showed a higher level of uncertainty avoidance than Americans. Together these cultural differences could explain why Chinese shared knowledge less frequently than their American peers. Despite these reported cultural differences, findings from this research suggest that the actual cultural differences were smaller than what literature would predict. Possible explanations for fewer cultural differences are explored. Practical implications for knowledge management practitioners are also provided.

## **Chapter 17**

Utilizing the Rasch Model to Develop and Evaluate Items for the Tacit Knowledge Inventory for Superintendents (TKIS).....	264
<i>Christian E. Mueller, University of Memphis, USA</i>	
<i>Kelly D. Bradley, University of Kentucky, USA</i>	

Tacit knowledge was originally introduced into the professional literature by Michael Polanyi and later made popular by researchers in a variety of domains. Measuring this implicit form of procedural knowledge requires multiple approaches to adequately "capture" what is often known, but not easily articulated. The present study combines use of Sternberg et al.'s framework for capturing domain-specific tacit knowledge with that of Rasch modeling to develop and validate items for use on a newly developed tacit knowledge inventory. Development of the Tacit Knowledge Inventory for Superintendents (TKIS)

occurred in three phases, including two phases of piloting and Rasch analysis. For illustrative purposes, presentation of results is limited to the Rasch analyses conducted on interpersonal tacit knowledge items. However, the methodology extends its usefulness to researchers and practitioners to guide the development process of similar assessments.

## Section 4

### Chapter 18

Exploring Qualitative Differences in Knowledge Sources: A Study of Hierarchical Effects of Judgmental Confidence and Accuracy Performance..... 286

*Carina Antonia Hallin, University of Stavanger, Norway*

*Torvald Øgaard, University of Stavanger, Norway*

*Einar Marnburg, University of Stavanger, Norway*

Focusing on knowledge management (KM) and strategic decision making in service businesses through the constructs of strategic capital and knowledge sharing, the study investigates qualitative differences in domain-specific knowledge of frontline employees and executives. The study draws on cognitive theory and investigates the extent to which the knowledge of these subject groups is correct with respect to incorporating intuitive judgments by various employee groups into forecasting and following strategic decision making. The authors carried out this investigation through an exploratory study of the subject groups' confidence and accuracy (CA) performance in a constructed knowledge-based forecasting setting. The groups' intuitive judgmental performances were examined when predicting uncertain business and industry-related outcomes. The authors surveyed 39 executives and 38 frontline employees in 12 hotels. The analysis is based on a between-participants design. The results from this setting do not fully confirm findings in earlier CA studies. Their results indicate that there are no significant differences in the accuracy of executives (as experts) and frontline employees (as novices). Although executives demonstrate overconfidence in their judgments and frontline employees demonstrate under confidence, in line with earlier CA theory of experts and novices, the differences we find are not significant. Similarly, the CA calibration performance difference between the two groups is not significant. They suggest, among other reasons, that our findings differ from earlier CA studies because of organizational politics and culture by power distance, social capital, misuse of knowledge and the size of the business.

### Chapter 19

An Experiment of Information Elaboration in Mediated Knowledge Transfer ..... 311

*Kelly J. Fadel, Utah State University, USA*

*Alexandra Durcikova, The University of Arizona, USA*

*Hoon S. Cha, Salisbury University, USA*

Understanding knowledge transfer in computer mediated contexts is becoming essential given that organizations are spread more and more globally. In this article, the authors adopt elaboration likelihood theory to investigate knowledge transfer processes in a Knowledge Management System (KMS). They report the results of an exploratory experiment conducted to examine the impact of argument

quality, source credibility and validation on knowledge usefulness of a document in a KMS. Their findings indicate that while validation of knowledge in KMS positively affects perceptions of knowledge usefulness, higher argument quality was associated with lower usefulness ratings. Surprisingly, source credibility has no effect on perceptions of knowledge usefulness. The implications of these results for both researchers and practitioners are discussed.

**Chapter 20**

Facilitating Knowledge Transfer and the Achievement of Competitive Advantage with Corporate Universities: An Exploratory Model Based on Media Richness and Type of Knowledge to be Transferred ..... 329  
*M. Suzanne Clinton, University of Central Oklahoma, USA*  
*Kimberly L. Merritt, Oklahoma Christian University, USA*  
*Samantha R. Murray, Lubbock Christian University, USA*

The knowledge literature suggests that transferring knowledge leads to synergistic cost advantages, better implementation of organizational strategies, and competitive advantage. Organizations are implementing corporate universities to aid in knowledge transfer. There is no standardized definition for corporate universities, but rather models that allow organizations to customize them to meet their training needs. Building on recent work of managing the knowledge transfer process (Murray & Peyrefitte, 2007) and on seminal work on media richness theory (Daft & Lengel, 1986), the authors propose that the type of knowledge to be transferred, and the appropriate media to transfer that knowledge, determine the most beneficial generation of corporate university to achieve competitive advantage. The article presents a model and propositions concerning relationships between the type of knowledge to be transferred, appropriate media selection, and generation of corporate university to implement.

**Chapter 21**

Knowledge Management Utilization: A Case Study of Two Jordanian Universities ..... 346  
*Dalal M. Zoubi, Al-Balqa' Applied University, Jordan*

The interest in KM in Jordan is relatively new, since about 2003. Many Jordanian institutions, including universities are working to understand issues related to this field in order to use KM and achieve excellence and competitiveness. This study tries to highlight some of the factors affecting KM utilization at universities, such as KM awareness and the exercising of its operations, because failure to utilize KM is often due to a lack of awareness, and incorrect exercise of its operations. This study aims at identifying the impact of the workers KM awareness at YU and ANU, and exercising its operations on KM utilization. Data was collected from workers at senior and middle management levels, using a questionnaire consisting of three sub-measures. Several conclusions have been reached, and it is expected that they will contribute to helping universities utilize the KM system successfully.

**Compilation of References** ..... 376  
**About the Contributors** ..... 420  
**Index**..... 430