Conceptual Models and Outcomes of Advancing Knowledge Management: New Technologies

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Chapter 1
Factors Affecting KM Implementation in the Chinese Community

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This paper reviews past research on KM to identify key factors affecting Chinese KM implementation. It begins with a chronological overview of 76 KM related publications, followed by two separate discussions of socio-cultural and non-socio-cultural factors affecting KM implementation within the Chinese community. A preliminary typology of these factors is proposed. In addition to individual factors that have direct impact on how people behave in the process of KM implementation, specific factors that strongly influence Chinese KM implementation are: (1) relationship networks and collectivist thinking, (2) competitiveness and knowledge hoarding, (3) management involvement and support, and (4) organizational culture that encourages knowledge sharing and learning and that minimizes knowledge hoarding. Several directions for future research are also presented.

Chapter 2
Supporting Knowledge Evaluation to Increase Quality in Electronic Knowledge Repositories

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Knowledge forms an important asset in modern organizations. In order to gain and sustain competitive advantage knowledge has to be managed. One aspect of this is to use Electronic Knowledge Repositories (EKR) to enhance knowledge sharing, reuse and learning. The success of an EKR is dependent on the quality of its content. For knowledge to be stored in an EKR, it has to be captured. One crucial part of the capture process is to evaluate whether the identified knowledge should be incorporated in the EKR or not. Therefore, to increase quality in an EKR, the evaluation stage of the capture process must be successfully carried out. Based on an interpretive field study and an extensive literature review, this paper identifies and characterizes Critical Success Factors (CSF) in the evaluation stage and presents guidance aiming to support implementation of the evaluation stage with the purpose to increase the quality of an EKR. In particular, the guidance supports the decision whether identified knowledge should be stored...
or not and it highlights the importance of performing evaluation addressing correctness, relevance, protection and redundancy. The characterization of the capture process contributes mainly to KM theory, and the guidance to KM practice.

Chapter 3
The Outcome of Knowledge Process for Customers of Jordanian Companies on the Achievement of Customer Knowledge Retention

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Organizations have increasingly recognized the importance of managing customer relationships, and Knowledge Management (KM) from the perspective of a process approaches assure positive impact on customer retention. Many organizations are turning to Customer Relationship Management (CRM) to better serve customers and facilitate closer relationships. This paper investigates how Knowledge Process for customers is used in practice by Jordanian companies to achieve Customer Knowledge Retention. The current practice is based on the data collected from 156, randomly drawn and reported from a survey of CRM applications and evaluation of CRM analytical functions provided by three software business solution companies working in the CRM area, and four companies that used the CRM system. Based on data collected from the companies, results from the analysis indicated that the knowledge process for customers had a positive effect on customer knowledge retention. The paper also verified the hypotheses of the effect of knowledge processes for customers on customer retention. The findings shed light on the potential relationship between the knowledge processes for customers and customer retention. It also provides guidance for the Information Technology (IT) industry as to how an analytical knowledge process for customers should be taken into account in developing countries to support to achieve customer knowledge retention due to cultural, social and educational differences.

Chapter 4
Using Knowledge Management to Create Self-Reliant Communities in Thailand

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Many look at knowledge management as an organizational initiative. However, can KM also be used to assist low technology situations such as rural villages? This paper describes the application of KM to the creation of a self-reliant community in Thailand. Changing demographics are threatening the ability of rural villages to sustain their viability as traditional methods of passing knowledge from one generation to the next are circumvented by the movement of the young to more urbanized areas of Thailand. KM is seen as a way of changing the traditional knowledge transfer process to something that assists those who remain in the villages. The KM approach investigated consisted of five stages: 1) Preparation, 2) Create motivation, awareness, promote participation, 3) Develop the KM plan, 4) Implement the KM plan, and 5) Evaluation. The approach was assessed and found to be successful by using eight organizations over an 8-month period.
Chapter 5
A Project Staffing Model to Enhance the Effectiveness of Knowledge Transfer in the Requirements Planning Phase for Multi-Project Environments

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When the systems analysis phase produces faulty requirements, it can often be traced to the failure of the requirements determination team and the client to communicate effectively. This failure is frequently a consequence of inadequate knowledge of the client’s domain possessed by the development team. This paper presents concepts and procedures designed to facilitate communication between requirements determination teams and clients across a full set of IS projects with potentially differing priorities. A systematic framework for staffing requirements determination teams is provided. The importance and interdependence of two types of knowledge, explicit and tacit, to the success of the requirements determination phase is extensively explored. A metric for explicit knowledge coupled with a model that captures the impact of various levels of tacit knowledge upon the acquisition rate of explicit knowledge serve as key inputs to our Project Staffing Model. The appropriately weighted area under an explicit knowledge curve captures the totality of explicit knowledge. Summing such values, weighted to reflect project importance, provides a mechanism for evaluating alternative staffing assignments. An illustrative case highlights implementation issues and suggests procedures when uncertainty exists concerning key inputs. A research agenda is recommended for the estimation of factors required by the analysis.

Chapter 6
Sustaining Organizational Innovativeness: Advancing Knowledge Sharing During the Scenario Process

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This paper aims to provide a conceptual basis for creating semi-virtual communities that facilitate knowledge creation and sharing that seeks to promote organizational innovativeness. In addition, based on the theoretical discussion, the paper proposes a concrete context that supports and stimulates the conversion of personal knowledge into new innovations and organizational decisions. As a methodological means, scenario driven innovation process is employed as a way to enhance creativity and knowledge convergence within an organization. The authors discuss that in its deepest sense knowledge is the capability to make decisions. Scenarios aim to increase that capability, and are thus a piece of organizational knowledge. The practical implementations of the contexts and the experiences with these implementations are evaluated by two real case studies in real life contexts.

Chapter 7
A Viewpoint-Based Approach for Understanding the Morphogenesis of Patterns

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An understanding of knowledge artifacts such as patterns is a necessary prerequisite for any subsequent action. In this article, as an initial step for formulating a theoretical basis for patterns, a conceptual model of primitive viewpoints is proposed and, by exploring one of the viewpoints, a conceptual model for stakeholders of a pattern is presented. This is followed by the description of a conceptual model of
a process, namely P3, for the production of patterns. The workflows of P3 highlight, as appropriate, the interface of patterns to humans and/or machines. The implications of the Semantic Web and the Social Web towards P3 are briefly discussed.

Chapter 8
Qualitative Analysis of Semantically Enabled Knowledge Management Systems in Agile Software Engineering

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In many agile software engineering organizations there is not enough time to follow knowledge management processes, to retrieve knowledge in complex processes, or to systematically elicit knowledge. This chapter gives an overview about the human-centered design of semantically-enabled knowledge management systems based on Wikis used in agile software engineering environments. The methodology – developed in the RISE (Reuse in Software Engineering) project – enables and supports the design of human-centered knowledge sharing platforms, such as Wikis. Furthermore, the paper specifies requirements one should keep in mind when building human-centered systems to support knowledge management. A two-phase qualitative analysis showed that the knowledge management system acts as a flexible and customizable view on the information needed during working-time which strongly relieves software engineers from time-consuming retrieval activities. Furthermore, the observations gave some hints about how the software system supports the collection of vital working experiences and how it could be subsequently formed and refined.

Chapter 9
Critical Success Factors and Outcomes of Market Knowledge Management: A Conceptual Model and Empirical Evidence

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In this paper, the authors examine critical success factors and outcomes of market knowledge management, which is the management of knowledge pertaining to a firm’s customers, competitors, and suppliers. Using data collected from 307 managers in 105 businesses across Canada, the authors show that a firm’s extent of information technology adoption, its analytical capabilities, and market orientation are critical success factors for the firm’s market knowledge management. An important outcome of market knowledge management is the organization’s financial performance, mediated by customer satisfaction and customer loyalty. Results of this study indicate that superior business performance depends not only on the effective management of knowledge, but also on what type of knowledge is managed. Finally, implications of results and avenues for future research are discussed.

Chapter 10
Linking Business Strategy and Knowledge Management Capabilities for Organizational Effectiveness

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The effective management of knowledge resources is a key imperative for firms that want to leverage their knowledge assets for competitive advantage and improved performance. However, most firms do not attain the required performance levels even when programs are in place for managing knowledge resources. Research suggests this shortcoming can be addressed by linking knowledge management to business strategy. This study examines a model that links business strategy to knowledge management capabilities and organizational effectiveness. Using data collected from 189 managers, the results suggest that business strategy is a key driver of knowledge capabilities, and that both business strategy and knowledge capabilities impact organizational effectiveness. Additionally, the authors' findings indicate that knowledge infrastructure capability is a key imperative for effective knowledge process capability. Managerial implications, limitations and opportunities for future research are also discussed.

Chapter 11
The Impact of Supporting Organizational Knowledge Management through a Corporate Portal on Employees and Business Processes

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Due to corporate portal playing a major role on organizational knowledge management (KM), this study was conducted to assess the impact of supporting KM processes through a corporate portal on business processes and employees at an academic institution. This paper specifically assesses the impact of knowledge acquisition, knowledge conversion, knowledge application and knowledge protection on business processes' effectiveness, efficiency and innovation, and employees' learning, adaptability, and job satisfaction. Findings suggest that the ending KM process, knowledge application, produces the highest impact on business processes and employees. First, supporting knowledge application through a corporate portal was positively associated with business processes' effectiveness and innovation and employees' learning, adaptability, and job satisfaction. Second, supporting knowledge conversion was positively associated with business processes' effectiveness and employees' learning, whereas supporting knowledge protection was positively associated with business processes' effectiveness and efficiency but negatively associated with employees' learning. Finally, supporting knowledge acquisition was positively associated with only business processes' innovation.

Chapter 12
Foot-Printing E-Learners' Activity: A First Step to Help their Appropriation of the Training System?

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Information and communication technologies have invaded the field of training, though their performances have been judged by companies to be insufficient. Among the origins of this state of affairs, the author considers that the lack of knowledge of what happens in a "real use situation" plays an important role. Indeed, understanding what is involved in learners-system interactions is fundamental to improve the system appropriation and its efficient usage. This appropriation is a dual necessity for learners as they must take over the offered possibilities of interactions and acquire the necessary knowledge. As appropriation is made through offered interactions, the author considers computer interactions traces as potential appropriation facilitators. This conceptual article presents bibliographical research concerning the use of computer interactions traces and proposes a classification of ‘tracing systems’. Additionally, the links between these works and the process of appropriation in an instrumented training situation is provided, while the author also presents an experimental study conducted on the role of traces of interactions in a collaborative mediated task by using a numerical environment.
Chapter 13
A Knowledge Framework for Development: Empirical Investigation of 30 Societies
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In this article, the authors investigate the diverse dimensions of a knowledge society. First, the relevant literature on post industrial societies is reviewed to identify the key constituents of successful growth and development. The authors then propose a 10-dimension framework within political, economic, social and technological parameters that describe the state of evolution of a given knowledge society. Knowledge assessment scores, human development indices, technology readiness scores and competitiveness scores are selected as composite indicators of knowledge societies. Proxy indicators are assigned for the dimensions, and secondary data was gathered from reputed international sources. Partial Pearson Correlation Analysis was done between the proxy indicators and the composite scales to determine the direction and strength of relationships. Hygiene factors and competitive factors of a knowledge society are distilled from the empirical results and recommendations are suggested to address some areas of concern when pursuing policies for knowledge based development.

Chapter 14
Exploring the Extent and Impediments of Knowledge Sharing in Chinese Business Enterprise
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This study explores the extent and impediments of knowledge sharing in Chinese firms because they are becoming dominant entities in the global economy, yet limited research exists on this important aspect of their operations. Survey data are obtained from experienced managers of 164 Chinese firms from a wide range of industries, sizes, and ownership types. The responses indicate that knowledge sharing is not open and complete in Chinese firms. Similar to findings from developed economies in the West, a large number of factors impede knowledge sharing in Chinese firms. These range from Chinese cultural values—which had been identified as being important by prior China-based studies—to attributes of the firm (e.g., incentive system, communication channels, organizational culture), as well as those of knowledge holders and potential recipients (e.g., judgment ability, organizational commitment). Implications of these findings for practice and research are discussed.

Chapter 15
Situated Learning and Activity Theory-Based Approach to Designing Integrated Knowledge and Learning Management Systems
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Current Knowledge Management (KM) design approaches recognize the importance of integrating codification, personalization, and collaboration strategies. Incorporating various database systems, search functions, managerial support, performance appraisal, personalized widgets, and case summaries into seamless functions are exemplary efforts. However, KM is rarely integrated with organizational learning and development systems. In this article, the authors use concepts from the situated learning literature, Vygotskian cultural-historical theory of cognition, and a holistic learning and performance architecture to signify the integration of KM and organizational learning systems.
Chapter 16
Culture and Knowledge Transfer Capacity: A Cross-National Study ........................................ 305
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Increasing interest exists in understanding the factors that explain knowledge transfer capacity (KTC) at the societal level. In this paper, the authors posit that national culture may explain the differences among countries in their knowledge transfer capacities. The authors adopt House and colleagues' (2004) national culture taxonomy as the theoretical framework to derive and test eighteen hypotheses relating national culture values and practices to societal KTC. KTC correlates positively with gender egalitarianism values, uncertainty avoidance practices, and future orientation practices. KTC also correlates negatively with uncertainty avoidance values, future orientation values, institutional collectivism values, in-group collectivism values, humane orientation practices, in-group collectivism values and practices, and power distance practices. Further analysis using gross domestic product (GDP) as a control variable revealed that only humane orientation practices influence KTC. The research findings are discussed, research limitations are identified, and implications are drawn.

Chapter 17
Taking Charities Seriously: A Call for Focused Knowledge Management Research ............ 333
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The voluntary service not-for-profit sector (VSNFP), also called the charitable sector, is a neglected setting for knowledge management research. It is also an area with distinctive characteristics that preclude direct importation of knowledge management approaches developed for the for-profit sector. In this paper, the authors adapt a model for examining knowledge management research issues to the charitable sector and examine what is known about knowledge management in this important sector of society. Research and practitioner suggestions are provided.

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