

KNOWLEDGE AND INNOVATION:

JOURNAL OF THE KMCI

A Publication of the
Knowledge Management Consortium International

Volume One, Number Two

January 2001

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EDITOR'S INTRODUCTION

The inaugural issue of "Knowledge and Innovation" emphasized issues of theory, scope, and technology rather than practice. These aspects of KM are well-represented again in this issue in many of our articles. Our concern with "second generation" KM also continues as an important thread in all of our articles. What is new in this issue is our introduction of more practical-oriented KM project or solution-oriented subjects. This theme will be of increasing importance in future issues of K & I. It is introduced here through a lengthy article on KM Process Methodology, and through a case study of a project implemented in a Small and Medium sized business Environment (SME). This issue also introduces K & I's book review section with two reviews by K & I's Associate Editor, Robin Holland.

Our second issue begins with a ground-breaking article by Paul Prueitt on "Grounding Knowledge Technology." Paul develops a fundamental position on how knowledge is generated as an emergent phenomenon produced by stratified complexity in systems characterized by a tri-level architecture. The process of knowledge generation is not determined by, and therefore cannot be explained or accounted for in terms of rules. Beginning with neurophysiological evidence at the individual level, Paul argues that the emergent, non rule-governed nature of knowledge generation implies the necessity of human participation in knowledge production. And further that knowledge technologies must be evaluated from the point of view of their consistency with this "ground" truth of knowledge generation. This view is in contrast to the perhaps dominant view that an account of knowledge generation can be given in terms of rules and that, in particular, it can be accounted for by connectionist approaches found in neural network modeling. It is important that these two views be clearly stated and articulated in the KM community. Paul has made a great contribution here in articulating the viewpoint of "knowledge emergence" in terms of current scientific evidence and an engaging theory. I hope K & I will be honored to carry an equally strong statement of the connectionist position in a future issue.

Our second article, by Francisco Javier Carrillo, Vice President of KMCI and Director of the KMCI Institute, on "Meta-KM" is an exploration of the direction of KM as a discipline, its basic assumptions, reflexive knowledge (knowledge about knowing), and the likely impact on the global community of a reflexive KM movement. Javier plumbs basic assumptions in this article, and shows how they can make a difference in the development of KM. The third article is one of mine providing an overview of Knowledge Management Process Methodology. It's an attempt to provide an overview of practice from a viewpoint of solutions development, maintenance, enhancement, and re-development. The methodology is based on some old ideas in social science methodology, some very recent and current ideas developed for implementing software processes, and some of the perspectives developed at the KMCI on Knowledge Life Cycles,

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Knowledge Management, and emergent, self-organizing patterns in knowledge production. The article is long, but still only scratches the surface the methodology.

In our fourth article Alex and David Bennet again grace our pages with further development of their thinking on Next Generation Knowledge Organizations. Their article in the inaugural issue of K & I left the question of optimal performance in such organizations unexamined. Here they introduce that concept, relate it to the ICAS model, and within that model investigate the important relationships among its eight emergent characteristics and its four major processes, eventually showing how these relationships support organizational intelligence and optimal performance in the ICAS.

Ibrahim Kuscu contributes the fifth article of this issue, a paper presenting an adaptive approach to KM. His adaptive view of organizational knowledge makes use of CAS theory to present a vision of the organization as an adaptive organic living entity having a set of basic properties of organizational knowledge. The paper follows the theoretical framework with "a computational model to explore knowledge dynamics within intranets using these properties." The computational model presents the concept of "the adaptive knowledge portal."

Ramon Barquin's article takes up the critical question "What is Knowledge Management?" But his treatment is not merely the normal definitional survey. Rather, it is a wide-ranging treatment of definitions, historical perspective on KM and its relation to certain areas of information technology, analysis of key factors in knowledge processing, and also provides a survey of KM-related tools including communities of practice, data warehousing, enterprise knowledge portals, document management, and story-telling.

The final full-length article in this issue is Jose Albors "Knowledge Creation and Management in a SME." It discusses the efforts of a group of small firms to develop an expert software application to optimise and manage a complicated printing process. A printing firm led the project and five other *SMEs* participated in it. The firms belonged to different industries such as machine and material manufacturers, a technology user and manufacturer of sweets, and finally, two research institutes. These organisations were based in Spain, Italy and Germany. A mixture of industries and cultures were involved in the project. The case study illustrates the interplay of tacit and explicit knowledge in implementing the printing process. It also catalogs the difficulty of capturing, developing and implementing procedural knowledge in a multi-cultural environment. The project applied the Nonaka-Takeuchi spiral model of knowledge creation and management, and the article uses it to explain the details of the case study.

The second issue ends with the initiation of the book review section by Associate Editor Robin Holland. Robin reviews Mihaly Csikszentmihalyi's Creativity: Flow

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and The Psychology of Discovery and Invention, and Georg Von Krogh's, Kazuo Ichijo's and Ikuro Nonaka's Enabling Knowledge Creation: How to Unlock the Mystery of Tacit Knowledge and Release the Power of Innovation. Both are important recent works focusing on innovation.

Knowledge and Innovation: Journal of the KMCI publishes original articles relating to any part of the Knowledge Life Cycle (KLC) of organizations or to the Knowledge Management Process and its impact on the Knowledge Life Cycle. Articles can focus on

- Innovation,
- The Knowledge Life Cycle and its subprocesses: Information Acquisition; Individual and Group Learning; Knowledge Claim Formulation; Knowledge Claim Validation, broadcasting, searching/retrieving, teaching, and sharing
- the Natural Knowledge Management System of organizations,
- their Artificial Knowledge Management Systems (IT-related aspects of KM),
- the relationship between the two, or
- the impact of knowledge management processing on the KLC or any of its components, and
- normative or philosophical issues related to the KLC and the Knowledge Management Process.
- critical commentaries on articles appearing in the Journal or in other sources

A particular emphasis of the Journal is on complex adaptive systems (*cas*) approaches to knowledge management issues. Human organizations exhibit *cas* behavior. Knowledge management in such organizations must adapt itself to this behavior, if it is to be successful. Without such adaptation, or alternatively, the complete restructuring of the organization, KM initiatives are bound to fail. It is at the nexus of knowledge management, *cas* and organization theory that the means to success in knowledge management will be found. ***Knowledge and Innovation*** is the only *Knowledge Management* periodical that has this nexus as its focus.

Another way in which ***Knowledge and Innovation*** is very different from other journals devoted to KM is in our emphasis on the whole knowledge life cycle. This journal does not equate sharing tacit knowledge, or electronic search and retrieval, or document management, or other singular activities with KM. For us, KM is about what we do to manage the swirl of problem solving, knowledge production, innovation, and knowledge integration, in our organizations. Knowledge sharing is part of that process, electronic search and retrieval, document management, and a hundred other activities are also part of it. The trick is not to look at activities in isolation but to analyze them in their broader *cas* organizational context. We see ***Knowledge and Innovation*** as a forum for doing that sort of systems analysis.

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The Journal is published quarterly by the KMCI and will be distributed to corporate and organizational sponsors, to subscribing individuals, and to KMCI members. It is a refereed Journal with articles reviewed by members of the Editorial Board. Its readers will include professors and students, government professionals, private sector knowledge workers and practitioners, and knowledge managers in all areas. Welcome again to our new community. We hope you'll join the party by submitting articles for our consideration and by reading us faithfully every quarter. For our part, we will supply you with the authoritative source of articles on Knowledge Management.

JOSEPH M. FIRESTONE, Ph.D.
EDITOR-IN-CHIEF