Preface: Knowledge Management as a Layered Multi-Disciplinary Pursuit

WHY AN ENCYCLOPEDIA OF KNOWLEDGE MANAGEMENT—AND WHY NOW?

Albert Einstein once said, “Whoever undertakes to set himself up as a judge of truth and knowledge is shipwrecked by the laughter of the Gods.” Fortunately Einstein did not extend that fate to those who limit their judgmental activities to the management of knowledge.

But an encyclopedia? The very term brings to mind images of heavy dusty tomes documenting centuries of study. So when Mehdi Khosrow-Pour of IGI approached me with the idea for an encyclopedia of knowledge management (KM), my initial reaction was one of skepticism. Would it not be presumptuous, I thought, to take a field as young as knowledge management and compile an encyclopedia?

Then I took a good look at what has been going on in KM-related research over the past two decades. Over 15 peer-reviewed research journals with major aspects of KM as a primary focus (Table 1) producing over 500 articles per annum as well as major annual conferences such as KMEurope (http://www.kmeurope.com) and smaller events covering everything from practical aspects of knowledge management (http://www.dke.univie.ac.at/pakm2004/) to the knowledge and argument visualization (http://www.graphicslink.demon.co.uk/IV05/).

Table 1. KM-focused research journals

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<th>#</th>
<th>Journal Title</th>
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<tr>
<td>1</td>
<td>Data and Knowledge Engineering</td>
<td>Elsevier Science</td>
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<td>2</td>
<td>Data Mining and Knowledge Discovery</td>
<td>Springer-Verlag</td>
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<td>3</td>
<td>IEEE Transactions on Knowledge and Data Engineering</td>
<td>IEEE Computer Society</td>
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<td>4</td>
<td>Int. J. of Intellectual Property Management</td>
<td>Inderscience Publishers</td>
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<td>5</td>
<td>Int. J. of Knowledge and Learning</td>
<td>Inderscience Publishers</td>
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<td>6</td>
<td>Int. J. of Knowledge Management</td>
<td>Idea Group Publishing</td>
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<td>7</td>
<td>Int. J. of Knowledge Management Studies</td>
<td>Inderscience Publishers</td>
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<td>8</td>
<td>Int. J. of Learning and Intellectual Capital</td>
<td>Inderscience Publishers</td>
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<td>9</td>
<td>Int. J. of Software Engineering and Knowledge Engineering</td>
<td>World Scientific</td>
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<td>10</td>
<td>Journal of Information and Knowledge Management</td>
<td>World Scientific</td>
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<tr>
<td>11</td>
<td>Journal of Intellectual Capital</td>
<td>Emerald Publishers</td>
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<td>12</td>
<td>Journal of Knowledge Acquisition</td>
<td>Academic Press</td>
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<td>13</td>
<td>Journal of Knowledge Management</td>
<td>Emerald Publishers</td>
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<td>14</td>
<td>Knowledge and Information Systems</td>
<td>Springer-Verlag</td>
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<td>15</td>
<td>Knowledge, Technology, and Policy</td>
<td>Transaction Publishers</td>
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<td>16</td>
<td>Knowledge-Based Systems</td>
<td>Elsevier Science</td>
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<td>17</td>
<td>Organizational Learning</td>
<td>Sage Publications</td>
</tr>
<tr>
<td>18</td>
<td>The Knowledge Engineering Review</td>
<td>Cambridge University Press</td>
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Burden’s (2000) KM bibliography, which encompasses both research and industry/trade publications, cites over 900 books and a whopping 8,000 articles devoted to the field. In Rollett’s (2003) KM bibliography we are treated to over 1,000 academic research articles on KM.

During the period this volume was being compiled at least two new peer-reviewed KM research journals were announced:

- **International Journal of Knowledge Management Studies** (Inderscience Publishers)
- **International Journal of Knowledge Management** (Idea Group Publishing)

All this, in addition to the established list of more general information systems and information science journals and conference venues that serve as a forum knowledge management research. And of course an abundance of industry magazines and newsletters dedicated to the understanding, development, and adoption of organizational knowledge management have been established.

It became clear that not only is there a need to create an authoritative repository of knowledge management concepts, issues, and techniques; but an even stronger compelling need to create a logical structure that maps out the field of knowledge management across its diverse disciplines.

**THE SIGNIFICANCE OF ARTICLES IN THE VOLUME**

How does this differ from a traditional encyclopedia? Every scientific and intellectual pursuit presents a spectrum of knowledge ranging from the speculative to the experimental to the proven to the well-established. An encyclopedia traditionally presents definitive articles that describe well-established and accepted concepts or events. While we have avoided the speculative extreme, this volume does include a number of entries that may be closer to the ‘experimental’ end of the spectrum than the ‘well-established’ end. The need to do so is driven by the youth of the discipline and the desire to not only document the established, but to provide a resource for those who are pursuing the experimental and speculative.

Alavi and Leidner, in their oft-cited *Review of Knowledge Management and Knowledge Management Systems* (2001) bring three pointed conclusions to the fore:

*There is no single clear approach to the development of knowledge management systems—it is a multi-faceted endeavor.*

*Knowledge management is a dynamic, continuous organizational phenomenon of interdependent processes with varying scope and changing characteristics.*

*Information technology can be used to extend knowledge management beyond traditional storage and retrieval of coded knowledge.*

Not only does this encyclopedia reinforce those conclusions, it relishes and thrives in the complexity and diversity to which they allude. The systems and technology perspective is but one of many that have been dealt with in this volume. While we do not wish to lose focus on our main goal of managing knowledge in organizations, in order to better achieve that goal it is necessary to look at areas of study as diverse as epistemology and anthropology in order to map the future directions of knowledge management.

With that goal in mind, a wide net was cast in the Call for Papers in an attempt to attract researchers from many relevant disciplines. The resulting articles that appear in this volume were selected through a double-blind review process followed by one or more rounds of revision prior to acceptance. Treatment of certain topics is not exclusive according to a given school or approach, and you will find a number of topics tackled from different perspectives with differing approaches. A field as dynamic as KM needs discussion, disagreement, contradiction—and of course wherever possible, consensus. But we must not sacrifice any of the former on the altar of the latter.

To that end, each author has provided a list of key terms and definitions deemed essential to the topic of his or her article. Rather than aggregate and filter these terms to produce a single “encycledic” definition, we have preferred instead to let the authors stand by their definition and allow each reader to interpret and understand each article.
according to the specific terminological twist taken by its author(s). The comprehensive Index of Key Terms provided at the back of this volume provides pointers to each concept and term in its multiple incarnations.

VOLUME STRUCTURE

The Encyclopedia of Knowledge Management is divided into six logical categories:

1. Theoretical Aspects of Knowledge Management
2. Processes of Knowledge Management
3. Organizational and Social Aspects of Knowledge Management
4. Managerial Aspects of Knowledge Management
5. Technological Aspects of Knowledge Management
6. Application-Specific Knowledge Management

The Table of Contents by Category will help you find articles based on this logical section structure. Within each of the six major categories are one or more articles on each of the topics that comprise that category—often multiple articles on different aspects of a given topic.

Even though the articles appear in alphabetical order based on the title of the article, the Table of Contents by Category gives our readers a content-oriented logical map to this publication.

PEELING BACK THE LAYERS

The first five sections are the result of what I would characterize as a layered approach to the discipline of knowledge management. It is this layered view, as shown in Figure 1 that I have sought to reinforce with this encyclopedic volume.

Consider the view presented in Figure 1 giving a holistic view of knowledge management and its foundations. The central core of philosophies (the middle) must inform our choice of practical knowledge management processes (the first ring). These processes must be implemented and adapted to address managerial, social and organizational needs (the second ring). Finally the implementation of KM process to meet our organizational needs must be supported by and implemented through a set of relevant information technologies (the outer ring).

The primary processes that make up knowledge management in practice should ideally derive from the core theories. Figure 1 illustrates a number of the philosophers whose theories of knowledge, economics, and business form the core of knowledge management. Understanding these philosophies is fundamental to our common endeavor. Without grounding our processes in their theoretical soil we run the very real risk of simply cobbling together processes on an opportunistic basis. We must, in a disciplined manner, turn to our theoretical core in determining the essential processes of KM. In cases where experience begets a process that has yet to be identified with a core theory one must not belittle the need to eventually discover that grounding. At the end of the day this is what will help distinguish fad from enduring science.

The layer of processes presents one view of the different stages, activities, and cycles that comprise knowledge management. Processes need to be pragmatic, in terms of our ability to implement them, comprehensive so that we can achieve end-to-end solutions, replicable and generalizable so they can be applied across a wide range of organizations.

That is not to say that these processes should be devoid of organizational context. On the contrary, it is the function of the third layer, that of organizational, social and managerial considerations, to mold, combine, and innovate using the KM processes in order to meet their well-defined theory-driven goals.

Encasing all is the outer ring—that of the enabling technologies that so often seem to be driving KM rather than facilitating it. Figure 1 is, of course, representative rather than exhaustive. Additional technologies and new applications of existing technologies will continue to expand this layer.

Being driven by technology is not necessarily negative. Consider how the development of the electron microscope led to the discovery of a plethora of atomic and elemental behaviors. The observation of these behaviors led to the development of new theories upon which those discoveries were validated and new discoveries predicated. So too the
computing, storage, and communications technologies available today are enabling the implementation and study of new types of knowledge representation, sharing, communications, and interactions. As the theoreticians among us deepen their understanding of the many diverse technologies that have a positive impact on KM, they can experimentally apply those technologies more effectively and in innovative ways. As the technologists among us are enriched with a solid theoretical foundation they can focus their efforts on the most promising application areas and most difficult theoretical challenges. And our social scientists provide us with lenses through which we can view both theory and technology, and perhaps build the bridge between theory and praxis. Everyone benefits from a richer more constructive research and development environment.

**HOW TO USE THIS BOOK**

**As a Research Reference**

The primary purpose of this volume is to serve as a research reference work. To that end extensive indexing has been undertaken to allow the reader quick access to primary and secondary entries related to keywords and topics. The six logical sections and the list of topics provided for each section will enable the reader to locate and delve deeply into any given area of knowledge management from their desired perspective.
As a Course Reference

The sheer comprehensiveness combined with the logical structure of this volume also lends itself towards use as a reference for knowledge management courses. Selecting two to three articles from each of the six section results in many possible study sequences for a comprehensive introductory course in knowledge management. Alternatively, the first five logical sections of this volume can be used individually as the curricular foundation for courses in: knowledge management theory, designing KM processes, organizational KM, managing KM, and technologies for knowledge management respectively.

CONCLUSION

The need for an Encyclopedia of Knowledge Management is driven by the tremendous growth and diversity that has become associated with knowledge management. Whether treated as an emerging discipline (Jennex & Croadsell, 2005; Schwartz, 2005), or a possibly recycled concept (Spiegler, 2000), knowledge management will continue to make its mark on organizations of all forms and sizes. The need to help organizations manage their knowledge has been extolled in nearly two decade’s worth of management literature. In order to truly understand and appreciate what goes into making knowledge management work, we need to approach it from theoretical, procedural, social, managerial and technical perspectives. The layered approach can help us achieve those objectives.

The process of editing this encyclopedia has been enlightening. Most enjoyable has been the interaction with the authors, some of whom have appeared from the most unexpected of places, and others who have come forward from established bastions of knowledge management research.

It is my sincere hope that this volume serves not only as a reference to KM researchers, both novice and veteran, but also as a resource for those coming from the hundreds of disciplines and organizations upon which knowledge management has, should, and will have an everlasting impact.

REFERENCES


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