

**Knowledge Management:
An Emerging Discipline and a Professional Society for Facilitating Adaptive
Change to a Stable World Order in the 21st Century**

Invited Paper

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by

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“We need systematic work on the quality of knowledge and the productivity of knowledge--neither even defined so far. The performance capacity, if not the survival, of any organization in the knowledge society will come increasingly to depend on those two factors. But so will the performance capacity, if not the survival, of any individual in the knowledge society.”

**Peter F. Drucker, The Age of Social Transformation,
The Atlantic Monthly, November, 1994**

Abstract: The emergence of rapidly expanding technologies for distribution and dissemination of information and knowledge has brought to focus the opportunities for development of knowledge-based networks, knowledge dissemination and knowledge management technologies and their potential applications for enhancing productivity of knowledge work. The challenging and complex problems of the future can be best addressed by developing the knowledge management as a new discipline based on an integrative synthesis of hard and soft sciences. A knowledge management professional society can provide a framework for catalyzing the development of proposed synthesis as well serve as a focal point for coordination of professional activities in the strategic areas of education, research and technology development. Preliminary concepts for the development of the knowledge management discipline and the professional society are explored. Within this context of knowledge management discipline and the professional society, potential opportunities for application of information technologies for more effectively delivering or transferring information and knowledge (i.e., resulting from the NASA’s Mission to Planet Earth) for the development of policy options in critical areas of national and global importance (i.e., policy decisions in economic and environmental

areas) can be explored, particularly for those policy areas where a global collaborative knowledge network is likely to be critical to the acceptance of the policies.

As we approach the dawn of the 21st century we are humbled by the scale of challenges our world faces at the global scale. The unprecedented development and growth of knowledge during the 20th century notwithstanding, the evolution of a peaceful 21st century will depend on our ability to address three interdependent global challenges of prosperity, security, sustainability. The new world order, though far from being fully defined and agreed to, is beginning to already point at some of the strategic threats and opportunities that would be determining factors in our ability to help shape a new century that we can look back as symbolic of the human spirit and its collective accomplishment at its best and most current stage in the evolution.

As it begins to dawn on us that for the first time in human history we may be able to see the impact of human decisions on the evolution of our society in our own lifetime, we become acutely aware of the unprecedented responsibility and the de-facto power we all possess to influence the path of our evolution. Traditional disciplinary knowledge is limited in its ability to support the challenging decisions that lie ahead. Global stability in the future will depend upon our ability as a society to simultaneously address the three fundamental issues of prosperity, security and sustainability. Today, well over three billion people across the globe earn less than two dollars a day. As they move toward achieving prosperity they are likely to emulate our past over-emphasis on material wealth, which has enormous consequences for the environment and global sustainability. At the same time, a vast number of citizens of the world remain illiterate, posing an enormous challenge for us in providing the necessary education and training to create global prosperity in the knowledge-based economy. We must find effective ways for capitalizing on emerging information technology to help the citizens of the world to gain access to education and opportunities for adapting and prospering in the next century.

We are entering into an era where the future will be essentially determined by our ability to wisely use knowledge, a precious global resource that is the embodiment of human intellectual capital and technology. As we begin to expand our understanding of knowledge as an essential asset we realize that in many ways our future is limited only by our imagination and ability to leverage the human mind. The future of the world lies in front of us

unexplored and uncharted, and is full with great opportunities for expanding peace and prosperity in the next millennium through the responsible use of the knowledge.

As knowledge increasingly becomes the key strategic resource of the future our need to develop comprehensive understanding of knowledge processes for the creation, transfer and deployment of this unique asset are becoming critical. In the face of a globally expanding and highly competitive knowledge-based economy the traditional organizations are urgently seeking fundamental insights to help them nurture, harvest and manage the immense potential of their knowledge assets for capability to excel at the leading edge of innovation. Schools (K-12), universities, and training organizations (traditional suppliers of knowledge); and businesses and knowledge based organizations in public sector (growing users of knowledge) are in need of an integrative discipline for studying, researching and learning about the knowledge assets – human intellectual capital and technology. This would be similar to the development of Operations Research as an integrative discipline during the Second World War. An international society of knowledge professionals (as proposed in the Appendix I) can provide the necessary focus for fostering collaboration among the best minds and organizations of our time on study, research and learning dedicated to the underlying disciplines and their integrative evolution in to the emergence of Knowledge Management as a new discipline.

The task of developing the Knowledge Management as a new discipline is a challenging endeavor. This new discipline must successfully respond to the diverse needs of Knowledge based organizations and the knowledge professionals in a timely fashion. The pioneers of Knowledge Management must recognize that a great many of the organizations of today are primarily run largely on the basis of insights gained from the successes of the manufacturing based capital intensive industrial economy of the past. These organizations have fallen or are rapidly falling out of alignment with the evolutionary direction of the future as the economy transitions from the industrial economy to one that is rapidly becoming an intellectual capital and technology based global knowledge economy.

The problems of the future will be open-ended, complex, global and adaptive in nature. As academics we must look for a new synthesis of knowledge, integrating hard and soft sciences, to create the knowledge assets necessary for addressing the challenges in a rapid evolutionary era. The participation of experts from traditional academic disciplines (i.e., information technology,

management, cognitive sciences, economics, finance, policy, law, social sciences), and business and government will be essential to the cohesion of an integrative body of knowledge leading to the formation of Knowledge Management discipline and a community of scholars, teachers and professionals associated with this new discipline. The professional society can serve as a home for enabling the development of the Knowledge Management discipline. However, it must be created as a hybrid, independent and entrepreneuring organization with strong global participation and ties to leaders in academia, industry and government.

In order to fulfill its mission the professional society need to foster three functions: academic education, research and advanced technology program. These three interconnected set of functions need to be pursued in a hybrid way by combining the strengths of the distinct institutional methods of academia, industry and thinktanks. The professional society may become an incubator for implementing new 21st century models of operations for each of the three functions: an experiential learning based academic environment; a collaborative research community dedicated to life-long knowledge based learning; and a multimedia and information technology based knowledge-era tools development program for supporting the performance of the knowledge professionals and organizations.

The professional society needs to foster the developments in the three strategic areas through the establishment of founding partnerships with innovative universities, premier research universities/institutes and a group of leading edge industry and government collaborators from the United States and abroad. One of these founding partners needs to step up and become the founding home of the professional society, where the society's activity will be coordinated. Beyond the founding partners, opportunity for participation in the society should be open to all credible academic, government, NGOs and industrial organizations worldwide, including students, research fellows and professionals across a range of disciplines.

The first strategic development focus for the professional society needs to be in the area of education. There is need for a comprehensive executive education program in Knowledge Management for leaders, executives, knowledge professionals and policy makers. The program may offer an executive Master of Science degree, and should be designed to include the state-of-the-art topics addressed through scholarly rigor - enabling it to earn support of faculty members at the leading universities as well as accreditation. This degree program, in collaboration with the leading edge developers of

multimedia and information technology based knowledge-delivery-tools, can serve as an alpha site for testing and implementing state-of-the-art innovations in global instruction and learning delivered through the distance learning technology (including learning and instruction delivered locally in real life settings at a representative set of host organizations who are the leaders in applying knowledge management). The post graduate educational commitment should be explored as a means for testing and implementing network based tools for delivering just-in-time learning to the graduates of the masters degree programs throughout their professional careers. The knowledge network consisting of student, faculty and graduates across the globe can form the prototype of a knowledge community/university of the future where on-going learning, resident in the network, will be the true competitive advantage. The educational function, by convening annual real/virtual conferences addressing the topics at the frontiers of the Knowledge Management, by serving as a knowledge resource network for sharing the latest research insights, and by providing professional advice and mentoring to instill the career self-management philosophy, can serve as a basis for facilitating the formation of a network based global knowledge management professional society.

The second strategic development area of research also needs to be carried out collaboratively with the university, government and industry partners, and research fellows/interns, addressing the foundational topics in Knowledge Management through the basic and applied research work. These topics will aim to understand the processes and practices for generation, identification, assimilation, and distribution of knowledge as an asset for use by knowledge professionals and organizations, as well as, to study the key knowledge sector policy innovations at the individual, organizational and societal levels. The economics of knowledge, addressing the accounting, valuation, depreciation of knowledge assets, should be considered as one of the core theme on the overall research agenda. The initial research will lead to the formulation of specific and significant Knowledge Management research topics, some of these will be topics leading to the MS theses and Ph.D. dissertations. The results of research (in the form of best practices, case studies, papers, thesis and dissertations) should be published and can be relevant inclusions in the instructional material used in the degree programs under the educational strategic development area.

Some research topics should be considered to leverage the uniquely global knowledge network represented by the professional society. Two areas are

outlined below for the purposes of illustration, further development require broader participation by the professional society members:

1. A global-change knowledge network as an experiment in the formation of a global community of student, scholars and professionals to facilitate the co-emergence of stability, based on prosperity, security, and sustainability, in the twenty-first century. This concept is outlined in the Appendix II.
2. Research on global intellectual capital investment to explore assistance based on knowledge, skills and technologies that flow from investments in learning and development as global aid imperative rather than aid based on charity or altruism.

In order to carry out these programs, the professional society should foster the creation of strategic nodes, with excellence in areas of complementary expertise, both within the United States and abroad to create a virtual knowledge network, working within a common vision, addressing problems locally but from a global perspective. The organization of the society must evolve to an inclusive shared stewardship and commitment.

The third strategic development area addresses the advanced technology. The professional society needs to carry out technology development projects to maintain the society's educational development efforts at the cutting edge and to cost effectively provide enriched learning experiences to a diverse group of learners across the world. Each of these projects needs to be pursued through partnerships with the researchers and technology developers in the multimedia and information technology industry. The use of advanced technologies and approaches including those drawn from industry, federal laboratories and intelligence community (such as artificial intelligence, data mining, knowledge representation, virtual reality, simulation, telepresence, teleoperations, Global Information Systems, distance learning and cognitive sciences) in an environment open to exploration and learning will lead to a unique knowledge-era-tools development program for supporting the needs of the knowledge professionals and organizations. In particular the professional society is in a unique position to foster the development of tools to support the strategic needs of the education function, a cost effective just-in-time knowledge delivery capability and the formation of a global Knowledge Network.

The professional society will require a strong and sustaining commitment from the home institution for an initial incubation period, a visionary leadership, an enterprising faculty/scholars and dedicated staff, a strong

advisory board and sponsors, and leading edge partners and collaborators in the industry. Since the Silicon Valley is recognized worldwide for its leadership in information technology based innovations the initial focus on the Silicon Valley may serve as an ideal test bed for the professional society's home. A Silicon Valley home node will be critical to the success of collaborations in all of three strategic development areas and therefore essential to the early launch and acceptance of the society. However, from its inception the professional society will be international in its outlook and scope.

The professional society will serve as a beacon to knowledge professionals and organizations in the emerging knowledge-based economy. In order for the professional society to accomplish this challenging mission it must be developed as a highly entrepreneuring, enterprising, innovative and integrative catalyst organization. It must bring together the important components of Knowledge Management education and research, and the development of learning technology to significantly increase the productivity of knowledge-based performances and innovation (of professionals and organizations), to enable significant advancements in the capabilities for just-in-time knowledge delivery and in knowledge sector policy innovations.

The understanding of knowledge processes and its management* will provide valuable insights to the policy makers, learning organizations, knowledge professionals, individual citizens (including those in K-12) to focus their investment in learning, unlearning and life-long learning. In short, the challenge is to help provide the decision makers at all ages, at all levels and at all places with the necessary intellectual capital to be competent performers and proactive opportunity creators in the evolution of the global knowledge based economy of the 21st century.

* At the personal level, in the future, knowledge professionals must learn to "slow down to go fast"--we need to create a personal and shared perspective within which we can operate as a community. The essence of knowledge work that is worth anything amounts to the creation of perspectives, contexts or frameworks -- we need to learn and teach ways for becoming less reactive and more proactive, to pioneer "sense making" and to become "sense makers."

Appendix I

The Knowledge Executives Society**

A Draft Proposal Presented at
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Macau, July 2-4, 1997

Motivation: As we approach the dawn of the 21st century we are humbled by the scale of challenges our world faces at the global scale. The unprecedented development and growth of knowledge during the 20th century notwithstanding, the evolution of a peaceful 21st century will depend on our ability to address three interdependent global challenges of prosperity, security, sustainability. The new world order, though far from being fully defined and agreed to, is beginning to already point at some of the strategic threats and opportunities that would be determining factors in our ability to help shape a new century that we can look back as symbolic of the human spirit and its collective accomplishment at its best and most current stage in the evolution.

The knowledge management affords knowledge professionals an opportunity to influence the policies and practices which will define the next generation of management principles and standards. Unlike its predecessors, the new society is based upon bountiful resources, which - when shared - only increase in size and scope. Professionals across all functions, industries and countries are embracing this new global agenda with a spirit of motivation, learning and collaboration. Indeed, the changes are kaleidoscopic, the movement is pervasive and the fundamental opportunity is to facilitate adaptive change to a stable world order in the 21st century.

Purpose: Each society member is an interactive knowledge node in a global network of knowledge professionals. Society members can play a strategic

** This Appendix is prepared in collaboration with Debra Amidon. A proposed alterate name for the professional society is: the League of Knowledge Executives (LKE).

role in facilitating adaptive change to a stable world order in the 21st century by simultaneously addressing the three fundamental issues of prosperity, security and sustainability through the advancement of the state-of-the-art and the state-of-the-practice in the knowledge based management of organizations and institutions across the world.

Objectives:

- Create and communicate a shared vision of knowledge community that could foster stable world order in the 21st century through adaptive change.
- Catalyze the development of Knowledge Management as an integrative synthesis of traditional disciplines to address problems of the future.
- Link theorists and practitioners involved in the emerging community of knowledge practices to share successful strategic practices in the knowledge community and to help evolve the managerial standards for the knowledge economy.
- Initiate pre-competitive collaborative projects on topics in the knowledge management education, research and technology development.
- Encourage and foster a spirit of volunteerism through ability to give “gift of knowledge” on collaborative projects in the areas of critical needs .

Membership: Participation in the society is based upon professional responsibilities related to knowledge, learning, intellectual capital, innovation and other declinations related to the creation and prosperous flow of ideas in support of the KES purpose. In addition to general membership, participants will have the opportunity to be organize according to functions, sectors, industries and/or geography. Special focus on the projects in education, research and technology will be developed and coordinated according to particular topics of common concerns. In order to become a member of the society professionals would need recommendation from two current KES members.

Appendix II

Global Change Knowledge Network: An experiment in the formation of a global community for facilitating the co-emergence of Prosperity, Security and Sustainability in the 21st century

“ The rising tide does not lift all boats. Three billion people live on the equivalent of \$2.00 a day.”

Ismail Serageldin, VP for Environmentally Sustainable Development, World Bank, *Virtual Diplomacy Conference*, U. S. Institute of Peace, April 1-2, 1997

The possibility for achieving future peace and prosperity is highly dependent on the creation of an emerging synthesis of knowledge as we know it today and our ability to engage in the creation of new knowledge through participation in an innovative Global Change Knowledge Network (GCKN) for research and experimentation. Such a network, if successfully carried out, would not only be able to provide new insights addressing the intrinsic interdependence of the three critical global areas of challenges but may also emerge over time as a trusted community, an intellectual asset, for effective communication and coordination of important ideas during critical times.

The principal charter of the GCKN will be an experiment in the formation of a global community for facilitating the co-emergence of prosperity, security and sustainability in the 21st century. The areas of research would focus on proactive assessment, development and integration of knowledge in global change processes. Research areas would include:

- How do the prosperity, security and sustainability co-depend in regional contexts and how these interdependencies may manifest into international or global conflicts?
- What are the intellectual capital (human skills), institutional and infrastructure (both physical and technological) requirements for the

region/nation to be able to achieve a sufficient level of prosperity in the global economy to ensure peace and security?

- What knowledge needs to be developed and integrated in the economic development process to ensure that the prosperity would lead to an environmentally safe and sustainable future?

- What research and developments needs to be undertaken to bridge the gaps in knowledge exchange processes to identify and facilitate mitigation of emerging threats to security likely to be caused by environmental conflicts?

- How best a Global Change Knowledge Network can be formed to facilitate knowledge exchanges among members and provide a framework for an emerging knowledge based international aid/assistance paradigm?

The global regions of the world can be identified and invited to join the Global Change Knowledge Network. In each selected region a university based research group subscribing to a common charter and ability to carry out the integrative synthesis of knowledge for addressing the interconnectedness of the three challenges will be invited to become part of the network. A list of candidates members for the global change knowledge network would include recognized institution from Brazil, Canada, China, India, Japan, Korea, Mexico, Portugal, Singapore, South Africa, Spain, Sweden, Taiwan and USA.

The GCKN member organization will create a common framework for the development, exchange and integration of knowledge in their respective regions. Under a joint GCKN vision each member will develop an agenda for research, education and knowledge dissemination programs that would incorporate the interests of scholars, students, regional organizations and institutions in their region. The GCKN will be designed to electronically link the members through internet, video conferencing and distance learning capabilities. This will serve as the GCKN infrastructure and main communication mechanism for forming a virtual research community and a testbed for evaluating information technology based concepts for developing global research and educational communities as well as mechanism for knowledge dissemination.

The GCKN members will develop research agendas by identifying their respective regional topics on prosperity, security and sustainability as well as by incorporating research topics that would lead to development and sharing of a global synthesis. The GCKN community will provide opportunity for creating a virtual learning laboratory for scholars and students alike. It will also serve as a testbed, developed and managed by students, for incorporating emerging information technologies to create a round the clock live virtual environment for the members.

One of the desired outcome of GCKN, above and beyond developing a global community of scholars and students, would be for each of its member to serve as focal point for widely distributing the knowledge and insights resulting from GCKN in their respective regions (to leaders, executives, policy makers, students and public at large) through the use of emerging information technology based tools and learning environments.

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