A Knowledge Innovation Kaleidoscope
KM Coming of Age

Change is anything but predictable. Every dimension of the management enterprise has been transforming – moving towards an integration of performance measures, behavioral outcomes and technology to support collaboration required in 21st Century management. No longer can changes be viewed exclusively. It is the compounding effect – similar to the completely new images in a kaleidoscope – which must be taken into consideration as an organization charts its new direction. Once these forces are understood and embraced, they can become linchpins for the process rather than hindrances to success.

In the memory of man, no invention, and no work, whether addressed to the imagination or to the understanding, ever produced such an effect. A universal mania for the instrument seized all classes, from the lowest to the highest, from the most ignorant to the most learned, and every person not only felt, but expressed the feeling that a new pleasure had been added to their existence.

Imagined for a moment that you are peering through a kaleidoscope, with many vibrant colors of glass, elaborate pearls and a variety of precious metals: silver, gold and copper. As you turn the barrel, the images change shape...a little. You turn the barrel again the same amount and the image changes again...a little. Then, you touch it ever so slightly and the entire image takes a new form. For some reason, the combination of your movement and the natural laws of physics have changed the reflection...forever. At that moment, you realize that you cannot return to the previous shape and you must move forward.

Similarly, enterprises have undergone unprecedented change. Some adjustments have been by design; the remainder has naturally evolved. Each has had an impact on the other. Some adjustments – however carefully constructed – have not produced anticipated results. In many instances, the reverse effects may have occurred. Then, there are those times when the unexpected just happens and you cannot seem to trace the roots of a successful venture. Who would have predicted the success of Google, E-Bay, I-Phone or The orb-like Tata Nano...even a few years ago? These are breakthroughs of sorts; the effect of a multiplicity of factors which, coming together, produce a certain result.

Breakthroughs can come in the form of a research discovery which so catapults the application possibilities that even current R&D seems obsolete. It can be in the form of a market acceptance which demands more of the technology than product engineers

ever imagined. It can come in the form of a managerial set of experiences during which the collective insights of a team produce something far beyond what any combination of individuals might otherwise have designed. I would argue, these developments are also the result of excellent Knowledge Management (KM) practices and programs that have been employed from the strategic technology investments to the shop floor.

Fifth Generation Management practices must be knowledge-based. Systems must be collaborative and not competitive or even cooperative and the focus upon the entire innovation system must include suppliers, distributors and other stakeholders including customers and even competitors. Such strategic business innovation systems operate amidst kaleidoscopic change, the dynamics of which will accelerate over time. (See Exhibit 1)

Business performance will be measured in terms of intellectual assets and the ability to create and apply new ideas in a volatile marketplace. Symbiotic learning networks electronic and human are as essential to today’s operations as they are to business strategy formulation.

All participants in the innovation system are self-motivating and responsible for creating new knowledge as a way of contributing value to the corporation and customers.

Managers will learn to monitor the flow of knowledge with the same rigor as they previously managed the flow of capital, parts and materials. Information technology, with sophisticated computer and communications systems, will embody knowledge processing capabilities which learn and feed forward intelligence to all participants throughout the enterprise. Knowledge is the asset to be managed and a new focus upon customer success provides a progressive way to together innovate a future.

In 20 short years, an agenda that was in the minds and hearts of a few has become the dominant theme of deliberations for the new Millennium. Knowledge often defined in terms of Intellectual Capital2 is clearly the source of new economic wealth. Innovation is the process by which that...

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Knowledge is valuable; but knowledge of understanding: to create value. There are three dimensions of knowledge innovation: of new and reused ideas. Innovation is the creation and application of new ideas, ultimately creating value.

Knowledge Innovation Zone
A geographic region, product/service, industry segment, or community of practice in which knowledge flows from the point of origin to the point of need or opportunity to improve economic performance and socio-political well-being. A zone of innovation can be any type of enterprise, profit or non-profit, or virtual community and can include stakeholders depending upon the intended scope of reach.

The variables for sustainability, economics, education, environment and more are interdependent. Similarly, we represent nations that are interdependent and new ones more effectively to enhance economic growth and collaboration.

Knowledge Innovation
The creation, evolution, exchange and application of new ideas into marketable goods and services for the success of an enterprise, the vitality of a nation's economy, and the advancement of society.

Innovation Agenda (Finally)
On the Radar Chart
We've all become actors in the exploration of the new innovation frontier.

The dramatic effects of the acceleration of technology, its receptivity and promise, are providing an infrastructure within which our knowledge can be created, shared and applied — real-time.

Terms such as Web 2.0, Serious Gaming and notions of Singularity were not even in the management nomenclature 5 years ago. It never mind on the cover of BusinessWeek and the focus of workshops in corners of the globe, such as Muscat, Oman, which hosted the World Summit for Innovation and Entrepreneurship (WSIE) in 2006.

How does one manage in such an environment subject to so many interdependent variables known and unknown? In some respects, effective leaders seem to revel in the wonder of it all, control what they are able and leave the rest to human and Mother Nature. This is the essence of a dynamic global economy in constant motion, shaping and being reshaped by daily and strategic decision making at every economic level. As described by Margaret Wheatley: amidst the apparent chaos, there is a natural order of things. Patterns emerge from which we can discern the next step forward. She speaks of the constant weaving of relationships...energies that merge by daily and strategic decision making, shaping and being reshaped by daily and strategic decision making...a ballet of chaos and order...change...a ballet of chaos and order, of change and stability, as two complementary aspects in the process of growth.

Exhibit I
5th Generation Innovation

<table>
<thead>
<tr>
<th>Performance</th>
<th>Structure</th>
<th>People</th>
<th>Process</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Technology Transfer</td>
<td>• Quantitative • Tabulations</td>
<td>• Functionally-Driver</td>
<td>• Technology-push • Skill Dependent</td>
<td>• Linear • Sequential • Transactional</td>
</tr>
<tr>
<td>II. Technology Exchange</td>
<td>• Qualitative • Quid pro quo</td>
<td>• Functionally • Interconnected</td>
<td>• Market-Pull • Relationship Dependent</td>
<td>• Dual Communication • Mutual Exchange</td>
</tr>
<tr>
<td>III. Knowledge Exchange</td>
<td>• Qualitative • Quid pro quo</td>
<td>• Decentralized • Local Autonomy</td>
<td>• Push-Pull Balance • Learning Process</td>
<td>• Cross-Function Communication • Change-Oriented</td>
</tr>
<tr>
<td>IV. Knowledge Management</td>
<td>• Productivity • Partner Satisfaction</td>
<td>• Centralized • Command and Control</td>
<td>• Role Definition • Accountability</td>
<td>• Integrated Interaction • Transformation</td>
</tr>
<tr>
<td>V. Knowledge Innovation</td>
<td>• Investment Strategy • Partner Success</td>
<td>• Distributed Networks • Multiple, Dynamic Modes</td>
<td>• Self-Managing System • Empowerment</td>
<td>• Real-Time Global Learning • Symbolic</td>
</tr>
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3 Knowledge Innovation is a registered trademark of ENTOVATION International Ltd.

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novation Officers—the new CIO's. Now, Chief Knowledge Officers (CKO's) have morphed into Chief In-
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applied in ways that generate
as how it is put into action—shared or
This is the question. It is not the
mance, behavior and technology? This is the question. It is not the
knowledge that gets created as much as how it is put into action—shared or applied in ways that generate value—however that might be de-
ined. Now, Chief Knowledge Officers (CKO's) have morphed into Chief In-
vention Officers—the new CIO's.

Our top leadership has evolved from a past in which command-and-control was the managerial order of the day. Many are trying to manage organizations in dynamic business envi-
ronments with 50 year old manage-
ment technology. These concepts may be quite foreign and very difficult to justify. How does one create a rati-
nale and business plan for an un-
served market and unarticulated needs? The fundamental market changes of uncertainty have changed the core role of executive leadership into one of trust, learning and inspired vision.

Historically, good managers were able to create high quality products or family of products, identify the poten-
tial market, develop a strategy and lever-
age of results. The current kaleido-
scopic environment prohibits such simple, linear successes. Amidst such
dramatic change, organizations must create ways to manage stability and change simultaneously according to the management philosopher Henry Mintzberg.

We live in an interdependent world. Independence is no longer a viable managerial option. Similarly, changes do not occur in a vacuum. One change has an automatic effect on another series of variables, and subse-
direct impact on performance and pro-
ductively.

A competitor may change the whole landscape even before we reach goals.

Key to developing an innovation strategy is looking at knowledge—especially new knowledge—as a re-
source. Knowledge and innovation are the key players in the path of progress. An innovation strategy is also distinct from business planning. For instance business planning is an analytic routine based on the tacit as-
sumption of continuation of current situation (status quo). Innovation strategy, on the other hand, is a syn-
thetic practice based on innovation and uncertainty—something which capitalizes upon the effects of a kalei-
doscopic economy.

The first step for an effective inno-
vation strategy is to make the process explicit. It is that simple and that com-
plex at the same time. If the process is not managed systematically, it is left to serendipity. Most organizations expect innovation from R&D, the function where new ideas are funded. With a global and interdependent perspec-
tive of the enterprise, ideas can and must come from every function and external stakeholders. (See Exhibit II)

A geographic Atlas5 provides a sys-
tematic presentation of the World or

<table>
<thead>
<tr>
<th>Exhibit II Migration to Innovation Strategy</th>
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</thead>
<tbody>
<tr>
<td><strong>Business Planning</strong></td>
<td><strong>Innovation Strategy</strong></td>
</tr>
<tr>
<td><strong>Mapping</strong></td>
<td>Facilitates the optimization of financial resources to maximize business goals; extrapolation of past performance, product/marketing and benchmarking.</td>
</tr>
<tr>
<td><strong>Scaling</strong></td>
<td>Appraisal based upon valuation with generally accepted financial principles; documents where you have been.</td>
</tr>
<tr>
<td><strong>Compass</strong></td>
<td>Based upon classifying costs—labor/material and overhead; has a direct impact on the efficiency of the business.</td>
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5 The Knowledge Innovation Atlas was a concept developed with Dr. Darius Mahdijoubi and published in the 2000 Handbook for Business Strategy (1999). For a summary of the article, see: http://www.entovation.com/whatsnew/atlas1.htm
part of it on a flat surface, although the earth is a globe. It provides a methodology needed for planning and implementing travel. It is generally considered a comprehensive resource of the world, as we might know it today. Usually, it consists of three distinct, albeit interrelated, parts: Mapping for organizing commonalities; Scaling to provide measurement and relational information; and a Compass for direction.

Shortly after the astronauts of Apollo 17 reached the moon, the world awakened to a new perspective of bringing a vision into reality. It required more collaboration and faith than anyone previously dared to dream. Results were wondrous beyond expectations. Similarly, executives today are caught in a quandary. They can continue to utilize the tried-and-true methodologies (unsuited for today’s economic environment) or they can experiment with the unknown and venture forth with management initiatives that project innovation, creativity and responsible risk.

New assumptions have formed:
1. Knowledge is the primary driver of innovation, not technology.
2. The value of human potential can and should be linked to economic results.
3. It is a system dynamic, not a cause-effect value chain that is operating.
4. A prosperous future is based increasingly on interdependence, interaction and collaboration.
5. It is the flow of knowledge that must be visualized, monitored and incentivized.

Integration of knowledge as an interdependent variable into conventional business methodologies creates a dynamic no less dramatic as the shifting from a flat earth view of the world to a global view. Initially, the world was seen as 2-dimensional similar to how many business managers perceive their business environment today. Design a market matrix, create a balance sheet and manage the process in a simple methodical linear mode. Build the better mousetrap and the market will beat a path to your door.

Similarly, Business Planning is the current representation of the process and plans necessary to position a particular enterprise with competitive advantage in a particular industry or region of the world. It provides a methodology to define business plans usually based upon a product/market portfolio.

In contrast, a 3-dimensional global view capitalizes upon the dynamics of the multiple effects of what we describe as a kaleidoscopic economy. It is not the speed of change of a variable, or the speed of change of multiple variables. It is the compounding effect of the speed of change of multiple variables creating a business environment that is difficult to understand, much less to manage. The challenge is not to make existing businesses bigger; it is to create new businesses. It is not to evolve existing technologies as much as it is to envision products and services, which meet the unarticulated needs of customers or an unserved market and to do so ahead of the competition. Today, the market operates with a system dynamic we do not yet understand.

Knowledge Innovation In Action

We need not leave the management of the process to serendipity. Given the negative results of downsizing, stock market paranoia and global economic instability, we need to manage the innovation environment more than ever. However, it is more a function of creating the conditions within which innovation can occur where ideas flow into and within the system and are converted into viable products and services that create value. Create the playground, determine the players, cultivate interaction and mind the results.

The P7 KIZ Assessment is a social systems design methodology to manage programs from concept through full-scale implementation. Knowledge, as the asset of abundance to be managed, has a magnifying effect as represented in the P7 (i.e., P to the 7th power). P7 targets the flow of knowledge with a new mindset and systematic assessment process based upon inspiration, insight and interaction. Value is created when knowledge is in motion. P7 is an inquiry and application system an iterative process building upon the interdependence of three major phases: Design, Development and Deployment each with pre-work and instructional materials. (See Exhibit III)

With USAID Funds, the ENTÖVATION methodology was...

used across the Ministries of Egypt via the administration of the Regional Information Technology and Software Engineering Center (RITSEC) and virtually facilitated through Eurofocus International Consultants based in Germany. Results produced a Proof-of-Concept and included how 120 high potentials in 8 cohorts generated: 32 group Knowledge Innovation projects; 160 innovative and viable ideas; 320 small projects. 15 Knowledge Innovation trained high potentials developed: 5 viable Knowledge Innovation Strategy funding proposals and are moving them into incubation. Examples include:

- National Knowledge Innovation Network
- Empowerment of youth through employment
- National Cooperation Centre
- Public-Private Partnership
- SMART Centres for Youth
- Investors' Guide
- Enhancing SME competitiveness
- Commercializing The Unit of Feasibility Studies
- Empowerment of Women
- The National Council for Egyptian Expatriates (NCEE)
- Leaders of the Future
- Leading EGAS to the Knowledge Innovation Era

Early stages of the innovation process are fundamental to successful implementation. The selection of the innovation management team includes stakeholders, including sponsors and champions. Time is taken to clarify overall purpose and mission, envisioning the project/program, training the team and setting guidelines for interaction. The goals are to create a strong strategy for success with selected and invited members, set criteria for working together, state open or objective outcomes, and get a grounding of purpose to work together.

The P7 Blueprint operates more as a value system of activity than a chain of activities or events. For our purpose, the P diagram (Exhibit III) illustrates some of the connections: Purpose, Principles, Process, Performance, Policies, Practice and Prosperity through Stakeholder Innovation.

Each P segment includes a Guidebook with specific objectives, reference material, case examples, tools for analysis and in some cases instructional tools. Together, they represent a system for high-performance and sustainable innovation in the Knowledge Economy.

1. Purpose

The Triple Knowledge Lens (TKL) is the foundation for a new mindset on how to view the operations of an enterprise geographic, company or virtual. It is holistic, integrated and complete. The TKL is the balanced triangulation of successful and sustainable results across the knowledge-based economy (business and commerce), the knowledge-based society (people, communities and culture), and the knowledge-based infrastructure (organization, technology and environment). The emerging trends range from the war for talent, effect of networks, new business models for commerce and delivery, virtualization of markets, globalization, the value of visualization, and zones of innovation.

The intent is to have a shared understanding the trends of the Knowledge Economy and determining the TKL implications for the enterprise.

2. Principles

Ten prevalent KIZ principles carefully researched with intelligence analytics can be used as guideposts into the future from economic abundance, to knowledge fusion and the knowledge technology grid. A Knowledge Fundamentals Architecture (KFA) enables the development of a strategic direction and a common language to define a shared vision, understand the value system, and establish new mindsets and standards of operational excellence. Five architectural domains (performance, structure, people process and technology) allow executives to explore new financial and non-financial performance, socio-cultural development, people trust-building, the innovation process and literacy of technology.

The intent is to examine the principles, architectural considerations and options for action-based strategies suitable for enterprise planning.
3. Process for Innovation

The impetus for change in innovation begins with innovation; and innovation begins with the individual. Value is realized when joint insights are crystallized into actionable projects and services. The Knowledge Innovation Assessment (KIA) methodology provides ten dimensions of analysis: Collaborative Process, Performance Measures, Education/Development/Incubation, Networks/Culture, Innovation Intelligence, New Products/Services, Strategic Action, Quality, Model/Method, and Technology. These dimensions are designed to support knowledge management and innovation practices. 

Actions can range from creating the conditions and incentives to optimize potential futures to inspiring the imagination of sponsors for financing. The intent is to gain an understanding of which drivers and influencing variables are most germane and yield expected standards of results, and to put the plan in motion.

5. Policies

The flow of knowledge and intangible assets, not the flow of technology per se, needs to be incentivized and monitored. To enable a culture of innovation and entrepreneurship, there needs to be a clear value proposition to stakeholders, which includes customers, employees, partners, and other stakeholders. The intent is to revisit existing policies and to develop new guidelines to cultivate knowledge as an asset.

6. Practices

Around the world, organizations are experimenting with new models of management innovations, from communities of practice to electronic (and even mobile) conferencing. This new knowledge leadership requires an understanding of the new roles and responsibilities at all levels of the organization, and a deeper understanding of what best to guide behavior with improved metrics and incentives to put into place sustainable actions. There is consensus that innovation competence more about changing behavior — individual and group — than just developing new ideas and skills. To ensure application of knowledge requires new innovative procedures at multiple levels of economy interaction.

7. Prosperity

You have not innovated until your stakeholders place more demands on your invention. However, you define your constituency, you are dependent upon their success; not their satisfaction. Stakeholder interaction is more about a continuous Moebius strip relationship of creating mutual value. Once designed and developed initiatives need contact feedback and monitoring so that progress is inevitable and sustainable. Promotion takes many forms, such as verbal, print and multi-media, and should almost always be considered bi-directional. Treat customers and stakeholders with respect, not as sources of knowledge. They are partners in your future.

The intent is to create viable mechanisms to ensure constant iteration of new products and services to meet constituent needs and to do so while maintaining an innovative competitive positioning.

Performance Variables ñ New Capital Drivers

The heart of any innovation system is performance ñ however that might be measured. To-date, however, we mea-
sure what can be measured rather than what counts. Now, we have cover stories in the business press admitting, in a knowledge-based world, the traditional measures don’t tell the story. Intangibles like R&D are tracked poorly, if at all. Factor them in and everything changes. United Nations major reports on Knowledge Societies admit that transformation is far more a function of the human element than the technology - previously considered manageable in spite of the productivity paradox.

In a Knowledge Innovation Zone (KIZ) Initiative, we examined the plethora of new systems under development and in various stages of application. With the KIZ Inventory of Performance Measures, we’ve examined programs across the World Economic Forum, the UN, The World Bank, Milken Institute, Robert Huggins Associates, Booz Allen Hamilton, Regional Indexes, City Annual Reports, EUROSTAT, WIPO, The Economist, to mention a few.

Together with the Kaieteur Institute of Knowledge Management (Canada), we have now developed the Triple Knowledge Lens (i.e., beyond Triple Bottom Line reporting) and the 15 Value Capital Drivers that complete with the variables that influence the drivers in a fully functioning knowledge innovation system. (Exhibit V)

From this we were able to glean how each tracked elements relate to the Knowledge-based Economy (Human Capital), Knowledge-based Society (Relationship Capital) and Knowledge-based Infrastructure (Structural Capital). Imagine 20 years ago, Intellectual Capital (IC) was just a concept. Now, we have 150 variables that might impact intangible value. What was only a concept has now the potential of becoming a fully-functioning global innovation system - the kind of performance system Jay Forrester, the grandfather of Systems Dynamics, envisioned.

The benefits of knowledge management will come through when the perspectives of information management, human learning and innovation processes, and supporting technologies are fully integrated. Now that we have a better understanding of the Knowledge Value Proposition, we must also add that the performance measurement of intellectual capital can (and should) be added to the enterprise system architecture. These cross-organization processes should ensure streamlined practices that provide efficient and effective planning, review and monitoring of investment strategies. Activities will cross the boundaries of functions, businesses, industries and geographies. Knowledge capability/accountability is valued more than hierarchical authority and the system enables real-time innovation and global resource optimization.

Conclusion
Moving beyond traditional business planning practices will not be easy; but the rewards will be great. Today we measure what we can measure, rather than measuring what is important. Now we underestimate the true potential of information technology, knowledge processing and worldwide communications. Today we have little sense of how to measure the true value of social capital, which is far more a function of interaction, interdependence and collaboration. To do so and understand the relationship among the three requires multi-dimensional visioning and courageous leadership.

This kaleidoscopic Knowledge-based Economy requires a new mindset and classification schema, the scaling and measurement systems and the compass to chart new directions. Because something hasn’t been done before is no reason not to innovate. We must learn to create the business plans for emerging markets. Only then will we unleash the bountiful opportunities afforded our new Millennium managing knowledge as the resource of abundance, not scarcity. We will do so systematically and with renewed purpose.

Although much has been written on knowledge management and the knowledge economy, the reality is we know very little about the real implications of this inevitable transformation. One thing is certain - the journey into the next frontier will bring forth new value for knowledge and the innovation processes in the ways today unimagined.

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