

# Knowledge Capital:

*How Knowledge-Based Enterprises Really Get Built*

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*To my wife Barbara,  
the partner who makes me know  
that all things are possible.*

## Preface

This idea for this book began with a conversational interview with one of the foremost theoreticians and practitioners of the knowledge movement. The goal was to quickly and easily get a sense of his understandings, practices, and ideas. In short, the aim was to get a working sense of his world, how he developed his views, and the directions that he saw the field taking. I was taken by the wealth and richness of understanding that emerged in that session. I felt that by holding similar sessions with others that have shaped and led the fields of intellectual capital and knowledge management, a body of knowledge and experience would be become available that would be remarkably accessible, extremely powerful, and highly useful.

This has been exactly the kind of hard-won knowledge that anyone interested in the fields of intellectual capital and knowledge management could sorely use. People at conferences and those searching through books want to know how things really work and how those ideas and approaches came into being. The conversations in this book provide precisely that kind of knowledge capital. It is authentic, broadly embracing, clear and dynamic.

These systemically linked sessions reflect the major learning principles of the field, most centrally that knowledge is not separate from people. The contributors to these chapters are remarkably candid in sharing with readers how they developed their knowledge strategies and initiatives. They are outspoken in articulating their tacit knowledge about what is important to them concerning how to craft and implement strategies, as well as their views on the role that values, learning, performance, relationships, innovation, and change play in the development of usable knowledge environment.

One of the remarkable aspects of this book is that while all contributors begin from their own unique perspective and background, as they work their way through their experience and practices, they each began to move towards a convergence of understanding. As they pushed the limits of what their understandings allowed them to accomplish, they began to reexamine their premises, crossed boundaries, and forged the next stage of responses. Reaching the edge of what is currently possible has then led to the marking out a new generation of the field.

Engineers, like Karl Wiig, are turning their mental model on its head and saying that learning and education are what we need to focus on. Hubert Saint-Onge, who is rooted in a human resources background, sees that the traditional human resource perspective has become too balkanized and obsolete and views that we must reframe our

efforts to focus on developing strategic capabilities. Stephen Denning, a lawyer with a strong analytic and administrative background, has discovered that storytelling, something that is experiential, often anecdotal, and highly emotional, provides exactly the springboard for knowledge sharing that people and their institutions need. These are fresh and new understandings. The value of this book is that all of these dynamic perspectives are brought directly to the reader for review. All of these views are, in a sense, works in progress. With the benefit feedback ever broadening experience and the incorporation of new ideas these perspective will go through additional iterations, and at an ever-rapid pace. This means that all of these conversations will be significantly different three or five years from now, as people continue to experiment in continuously changing conditions. Yet, at the same time, these conversations are some of the best collections of insights and experience available to readers and they are, simultaneously, the seeds of the new era in the knowledge field.

One of the opportunities afforded by this collection of knowledge perspectives is that the reader can try them all out individually in their own lives and in their organizational work. A second opportunity is that readers can take elements of any or all of these perspectives and fuse them together to create their own new and unique approach.

Readers are encouraged use to bring this material into a new focus and to synthesize it to meet their needs. This book is designed as a beginning of a conversation on creating knowledge capital, rather than a set of pre-packaged prescriptions, where one size fits all and the world does not change. Please forward your questions, issues and outcomes to the Progressive Practices website, [www.progressivepractices.com](http://www.progressivepractices.com), where you can participate in a forum for your reactions, experiments, insights and questions.

As in any complex, novel, and fruitful effort, this book is an outcome of many people's contributions. I would like to firstly acknowledge each of the contributors that have participated in these conversations. All have devoted extensive amounts of their time in making sure that these materials as fully as possible reflect their experience and perspectives. They have shared their insights, experience, and perspectives, contributed their graphics, given critical and valued feedback, and in all cases inspired me by their courage, authenticity, ability to articulate their ideas, willingness to get their hands dirty, intelligence and devotion to their disciplines. The debt I owe them is immeasurable. They are: Vince Barabba, Alex Bennet, Jim Botkin, Thomas O. Davenport, Stephen Denning, Leif Edvinsson, Jac Fitz-enz, Kent Greenes, Jonathan Low, Dorothy Leonard, Brook Manville, Sharon Oriel, Göran Roos, Don Tyler, Hubert Saint-Onge, Steven Wallman, and Karl Wiig.

I would like to thank Rory Chase, my editor at the *Journal of Intellectual Capital* and the *Journal of Knowledge Management*, for encouraging and supporting these explorations. Excerpts of several of these chapters have appeared in both journals.

I would also like to acknowledge Martha Cooley of Oxford University Press for her enthusiasm about the value of this book to readers and for shepherding it through the

publication process. The value of a good editor cannot be understated in moving a book from stage to stage and into publication.

Finally, I need to express boundless appreciation to my wife, Barbara Chatzkel, for her unwavering support, patience, editing, focus, and just good company throughout this extensive process.

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## Introduction: *Why Knowledge Capital?*

# 1

### Knowledge for What?

In 1939, Robert S. Lynd, in *Knowledge For What?*<sup>1</sup>, wrote that people need to rebuild their organizations so that knowledge flows freely to create opportunities and solve problems. This view of knowledge as key for significant change is as relevant for those leading and operating enterprises today as it was then. Knowledge inputs are increasingly valuable not only in all goods and services offered by any kind of organization, but also for how that enterprise does its business day-to-day. The ability of an organization to effectively nurture, capture, leverage, and share its knowledge resources can be the key that provides an enterprise with its strategic power advantage in the world.

Knowledge is not detached from the people, processes, or infrastructure of an organization and its network. It is part of all of these things, and progressively a more pivotal part. The ability to mobilize knowledge resources has become even more critical than the ability to control and amass physical and financial resources. As physical and financial resources have started to take on the character of commodities, the ability to capitalize on knowledge resources is becoming the creator of uniqueness and the differentiator of value.

When an organization develops its ability to build, access and leverage its knowledge resources it is creating its knowledge advantage. It is learning how to most effectively bring to bear its “know-how” and “know-what” to yield substantial gains in performance so that it can achieve its strategic outcomes. By understanding the role of knowledge in the enterprise and enabling itself to use its knowledge resources for advantage, it is in the process of becoming a knowledge-based enterprise, able to transform its knowledge capabilities into wealth.

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<sup>1</sup> Robert S. Lynd, *Knowledge For What?: The Place Of Social Science In American Culture* (Princeton, Princeton University Press, 1967).

## Creating Knowledge Capital

The ability to leverage knowledge to create value has grown significantly over the past two decades, with much of this enhanced capability tied to the rise of the disciplines of knowledge management and intellectual capital. While each started out from markedly different backgrounds, both have gone through several stages of development of maturity to the point that they have major areas of overlap. Enterprises can now weave together powerful strands of both intellectual capital and knowledge management to yield substantial increases in day-to-day performance *and* the related achievement of strategic outcomes.

The term *knowledge capital* is used here as a way to bridge the differences between these two disciplines. *Knowledge* is the resource and *capital* speaks to generating wealth. The central question is: How can enterprises mobilize their knowledge resources to produce wealth?

A way of looking at the knowledge capital equation is to say that intellectual capital is the “stock” or content of knowledge, and knowledge management deals with the “flow” of knowledge. Each play a critical role, and neither is complete by itself. Amassing sizable amounts of intellectual capital without being able to access, share, or capture value from that resource can be costly and wasteful. For example, the expense of maintaining the best know-how, or keeping the richest patent portfolio, can exceed the ongoing return on the value of those resources. Similarly, not developing and bringing into play the knowledge resources of any staff person, whether leader or frontline, marginalizes their value to the enterprise, sub-optimizing knowledge capital. On the other side of the coin, focusing on investing in technologies and approaches to enable the flow of knowledge resources when their quality and relevance are of barely usable to enterprise networkers is just as questionable.

As an organization remakes itself as a nurturing, leveraging and knowledge sharing enterprise it starts to base its understandings, strategies and actions on its knowledge capital, and begins to be a *knowledge-based enterprise*. It cultivates usable knowledge resources and makes them readily accessible and actionable, putting itself and its people in the best position to create and capture value.

## Conversations and the Building of Knowledge Capital

This volume is an integrated and structured set of interactive sessions with thought leaders and key practitioners in the fields of intellectual capital and knowledge management that map out how knowledge organizations really get built. These sessions are in the form of conversations that explore the multiple dimensions necessary for creating and implementing a knowledge-based enterprise. Each of these dimensions

needs to be effectively addressed for the enterprise to make a successful transition from an activity-based organization to a knowledge-based, intelligent enterprise.

The real work of organizations is in conversations such as these. Listen to conversations in any organization and you will find out what the enterprise takes seriously, what its strategy is, how well it is executing, what works for it and what does not. It is in these conversations that the enterprise recreates itself everyday. This is true for any type or size of enterprise, whether it is a for-profit, a not for-profit, or a government organization.

As participants engage in these conversations they reflect on their experience, share understandings, and in that process create knowledge capital. The questions are starting points. In the back-and-forth, the conversations start to take on a life of their own, taking on directions that the participants are most concerned about. In doing so they reveal how participants are continuously reexamining their own views in light of accumulated experiences and emerging conditions. As owners of their knowledge capital, they feel free to review new inputs and rework them as they see necessary. They are driven by their own curiosity and the need to respond to the challenges in front of them, as well as the ones that are well beyond the next hill. The conversations demonstrate the major elements of what innovative knowledge capital is about: reflecting on the past, incorporating what will make a difference in the present, and remaking oneself and the enterprise, without hesitation, for the future.

## **Activity-Based versus Knowledge-Based**

*Activity-based* organizations focus on particular activities people carry out in the course of doing their work. These activities can be any mixture of large or small, simple or complex. The important thing is that in an activity-based organization there is an unending stream of “things to do.” The execution of these activities may require having the skills, processes, and the resources for a mission, but there is little acknowledgement that knowledge and know-how may be the essential, and even critical inputs for a successful outcome. When the goods and services are fairly standard and practices are essentially repeatable, this might not be a significant problem. However, in our rapidly changing world, standardized outcomes are less and less valuable as conditions, requirements, technologies, and partners are in constant flux and customer requirements are dynamically growing in complexity and variety.

The new conditions, highlighted by the advent of the Internet and globalization, have spawned the demand for rapid response, knowledge-based enterprises. The creators of knowledge-based enterprises understand that the intangibles of knowledge and know-how are at the core of all processes. They are aware that their main role is to frame an environment that supports the access, flow, and use of knowledge. They know that rather than controlling resources, they need to facilitate the appropriate flow of the necessary knowledge resources to the right place at the right time to the right people for the right

outcomes, and many of these resources are intangible. They have to have trusting relationships since employees now own the most important capital in the enterprise, the human capital.

Part and parcel of their responsibility is the building of strategic competencies that can leverage knowledge throughout the extended enterprise. The extended enterprise includes everyone inside the organization, along the supply chain and the entire customer network, as well. The knowledge-based enterprise is uniquely suited to take advantage of know-how that is scattered in the nooks and crannies of the organization to reach any where in the world, twenty-four hours a day. It can instantly and interactively link computer programmers in India with a project team in South Africa, a branding group in New York, and a customer in Japan, in a venue where each party takes on the role of being a co-creator of the outcome.

In essence, then, the knowledge-based enterprise is a sense-and-respond, intelligent organization and its work is ongoing conversation, characterized by building new knowledge capital with new players, new information, new perspectives, new possibilities, and responses to new customer needs.

## **Dimensions of a Knowledge Capital Strategy**

Conversations involving an enterprise knowledge capital strategy need to incorporate these dimensions:

- human
- financial
- research and development
- process
- physical and technological infrastructure
- legal
- measurement
- relationship to customers and suppliers

Each of these dimensions is addressed in the sessions that compose this book in a first-hand manner since the participants in the conversations have had to effectively deal with them in order to create viable, successful knowledge-based organizations.

## **Knowledge Management as a Practice Field**

The advantage of carrying out these explorations using the conversations approach is that the thought leaders and practitioners are fully engaged in what matters most to them. They have experimented and often created the basic ideas and practices of their fields. They know what works and what does not, what is essential and what is hype. With them

as guides, the reader gets a unique set of understandings, not only of particular points of theory and lessons learned, but also gets to know the people who are creating these fields. The knowledge and know-how in these sessions comes from their lifelong experience and learning. By bringing the whole person into the equation the reader gets a strong sense of their whole worldview. The reader has the opportunity to directly experience the main points in these conversations, as well as to learn about the context, learning process, and values of the participant. The result is not only a knowledge transfer but a context transfer as well.

There is often a fine line between the theory and its practice, since the development of both is such an interconnected, evolutionary process. The reality is that thought leaders partner with practitioners, who use their organizations as practice zones to build their knowledge-based enterprises. Their informed practices and learnings provide the immediate feedback that contributes so strongly the continuous shaping and reshaping of the field.

These sessions are with many of the most outstanding creators and practitioners in the fields of knowledge management and intellectual capital. Participants were extremely candid and broad ranging in their comments. As a result, the reader will get a clear and unvarnished set of insights into what is involved in developing a knowledge-based organization.

One core lesson to be learned from these conversations is that there is no right, mechanistic cookbook way of building a knowledge-based enterprise. Rather there is an evolving way, but one that is grounded in principles, and illuminated and expanded through practice.

While each of the participants started with their own unique purview, as the conversations evolved, all began to show a much more common perspective and set of concerns. This led to the most remarkable outcomes of the sessions -- a group of indicators that, when clustered together, form the next stage of the common field of intellectual capital and knowledge management.

## **Who Can Use Knowledge Capital Conversations**

*Knowledge Capital* has several purposes:

- *Enterprise CEO's and senior leaders* will have an easily accessible set of perspectives for them to learn what a knowledge-based enterprise is and what is involved in creating and sustaining such an organization in the twenty-first century. This understanding is critical to decisions-makers in any type of organization. Just as organizational leaders had to learn how to create an efficient bureaucracy in the early twentieth century, they will have to learn how to become skillful in creating and managing knowledge-based enterprises in the twenty-first century.

- *Middle managers and front line staff* will find an important set of reference points and guidelines for action. In the knowledge-based enterprise, everyone is a leader and everyone is a decision-maker. Autonomy replaces dependency in the knowledge-based organization. In the electronic and Internet era there is immediate interface and feedback with customers, as well as all along the supply chain. Middle managers and front line staff are increasingly in situations where they do not have time to move up and down the hierarchy when rapid decisions and actions need to take place. They need a model where the glue that holds the knowledge-based enterprise together is made up of knowledge, communications, and values, supported by technology. They can use these sessions to understand the behaviors, relationships and knowledge capabilities they need to master in order to have a future in a knowledge-based environment.
- *Students* are the next generation of organizational leaders and need to build their ground on next generation ideas and practices. The sessions give a very full range of perspectives, and while several of them are academically rigorous, they are unvarnished and not at all pedantic. Rather, they are very much common sense, and, in most cases, materials that can be easily shared. *Knowledge Capital* will give students a head start in alternative ways of thinking about organizations as they embark on their professional careers.
- *Practitioners* will gain direct access to many of the founders and shapers of the knowledge-based enterprise. These conversations provide a concentrated experience of the participants and a systematic exploration of the major issues they are working through. Any practitioner who is developing a knowledge strategy for his or her organization needs this kind of unfiltered, concentrated information. One of the most valuable aspects of *Knowledge Capital* is that practitioners can clearly see the pathways that an array of thought leaders and advanced practitioners have taken, how they have reconsidered some of their earlier stances, what they see as the essentials for effectiveness, and their views on the evolution of the field. The broader and fuller perspectives found in these sessions can save enormous amounts of time, and money and put an organization on a sound footing as a knowledge-based enterprise.

## A Little History

We all use knowledge every day to make a difference. It might be to leverage power, generate wealth, or simply to get the job done. The core question is: Are we using that knowledge well or poorly?

While the question of whether we are effectively using our knowledge has become increasingly important over the last fifty years, it has been vital throughout human history. Every culture and society from our cave dwelling ancestors onward has carried out its version of knowledge capture, sharing, and leveraging to survive and prosper.

One of the greatest achievements in the strategic use of knowledge took place in the fifteenth century when the Portuguese Prince Henry the Navigator began the process that enabled Portugal to move from being a small, unremarkable kingdom on the fringe of Europe to becoming the wealthiest trading empire in the world. At the time, Portugal was far from the centers of trade in the Mediterranean and Near East. It did not have access to the land and sea routes that would let it compete in the traditional ways. The way for it to create power and wealth was to find other, unknown pathways.

Prince Henry saw that the opportunity lay in the sea route around Africa. He began a step-by-step, collaborative national program for advancing into the unknown, a program that turned out to be a century and a half long enterprise. Being on the outside edge of Europe, the Portuguese were less captive of the entrenched prejudices against the new ways or new knowledge that they needed for their breakthrough. Rather, their way was to test their own limits and over time forge new understandings.

To accomplish this Prince Henry built an early version of a center for research and development. He assembled the most experienced mapmakers, seafarers, shipbuilders, and instrument makers at Sagres, in the isolated, southwest corner of Portugal. It was at Sagres that Henry began his “conversation” to build his knowledge-based enterprise. His premise was that the unknown could only be discovered by extending the boundaries of the known.

His experiments in shipbuilding produced a new ship design, the caravel, which could sail against the wind. This design gave the caravel the unique ability to not only go out on voyages of discovery, but be able to return as well. Caravels were not designed to bring back a vast physical wealth, but rather the more valuable, intangible wealth of “news”. This new knowledge was continuously synthesized in Sagres, and eventually became the congealed wealth that produced the capacity to sail further and further down and around the African coast. The outcome of the leadership, strategic thinking, courage, skills and innovation at Sagres was the discovery of the sea route to India and then southeast Asia, which led to a trading empire and the generation of enormous wealth for Portugal. For almost two hundred years this small, but archetypical, knowledge-based enterprise, with little physical resources and limited numbers of people, became the dominant, richest trading power in the world.

Prince Henry’s experiment demonstrates that in any era, in almost any conditions, the strategic power of a knowledge-based enterprise has the capacity to yield a huge difference. Our challenge is to harness our advanced technology and newly possible networked enterprises to use those same principles familiar to Prince Henry for outcomes that go far beyond our own expectations.

## How to use this book

*Knowledge Capital* is designed from the reader's point of view. Pick the perspective that best meets your needs. You can read *Knowledge Capital* from cover-to-cover to get an overview of the field. You can seek out a section that emphasizes particular set of themes. Or simply, you can turn to the end of each chapter for a summary of Key Learning Points. Each Key Learning Points is more fully explored in that chapter.

The conversations are clustered by major theme or practice area, and are followed by an Epilogue, which anticipates what the next stage of the field will look and feel like. The major themes are:

- Starting Points
- Strategic Issues
- Human Capital, Values, and Learning
- Drivers and Accounting for Intangibles
- Putting It All Together in Practice

Return to the chapters often. The different perspectives will provide ever broader and increasingly rich insights into what is necessary for building knowledge-based enterprises to become the interactive, multi-dimensional entities that they need to be.

### Knowledge Cluster I: *Starting Points*

This cluster outlines the transition to knowledge-based enterprises, the changes of perception, relationships, and behaviors required for an organization to become a knowledge-based enterprise.

#### 2. **Dorothy Leonard:** *Operating as a Knowledge System*

The foundation for looking at the way we operate as a knowledge system enables readers can begin to see what kinds of knowledge are being brought in, what are the channels through which knowledge flows, and where we are arbitrarily closing out various kinds of knowledge assets.

#### 3. **Jim Botkin:** *The Knowledge Business*

A new business is emerging – the knowledge business. And, there is a new organization emerging, the knowledge community. These two require a new communications or management model called knowledge management. All of these elements need to be in place for a knowledge business to work.

#### 4. **Karl Wiig:** *The Knowledge Movement Emerges from its Infancy*

The amount of knowledge that people are able to capture is minimal compared to what is required to run a business. The balance resides in people's heads. The challenge is to set up the environment in which there is an understanding of knowledge needs, availability

of relevant knowledge, and new ways in which people can collaborate. If you get people together and give them the understanding and freedom to act, they will actually act in their own interests as they see it, and certainly in the organization's best interests.

### ***Knowledge Cluster II: Strategic Issues***

The goal of a knowledge initiative is to make a strategic difference. Knowledge capital strategies have a set concepts, key reference points and processes that an enterprise can use to navigate its knowledge efforts. An effective knowledge capital strategy will have an appropriate return on investment, align throughout the organization, be supported by staff and suppliers, and improve the value offered to customers. The chapters in this session examine the role of strategy in knowledge-based enterprises, suggesting methodologies, as well as raising questions that must be answered by leaders in any serious knowledge endeavor.

#### **5. Göran Roos: *Recipes for Knowledge-based Value Creation***

Intellectual capital is the science and art for dealing with how to extract maximum value from an enterprise's resources and the way it chooses to deploy them. Business recipes combine those different resources to transform them into new and more valuable outputs. Both resource stock and flow need to be fully taken into account in the transformation process.

#### **6. Leif Edvinsson: *The Intelligent Organization***

Intelligent organizations are about global intelligence, the courage to move to the next plane, the accounting for intangibles, and how to leverage knowledge recipes for effective outcomes.

#### **7. Vince Barabba: *Understanding the Enterprise as a System***

The first task in a knowledge strategy is to understand that enterprises are interactive systems with different parts that interface outward with customers and interact among themselves. That is where the opportunities are. It is corporate strategy's job to forge a process to assist management in creating a strategy to implement. This involves surfacing ideas, speculating how they will interact with the enterprise, involving management in dialogue on them, and providing the analytic tools and resources to support implementation.

### ***Knowledge Cluster III: Human Capital, Values and Learning***

Organizations are increasingly realizing that it is their human capital that is the source of renewal and innovation. Yet, the rules of engagement for human capital are changing. Human capital was thought to be something that an enterprise could control, acquire, directly manage, and come very close to owning. However, those in successful knowledge enterprises know that human capital can only be brought into full play in a

negotiation, where the enterprise and the individual determine mutually satisfying conditions and outcomes. At the same time the knowledge-based enterprise must redesign itself as an extended learning enterprise.

These are not simple changes, but they are doable changes. The conversations in this section delve into what the elements of a new framework for human capital are, the values that support that framework, and the learning structure that enables value to be both created and captured by the enterprise.

8. **Jac Fitz-enz:** *Human Capital is the Only Active Asset*

People are the differentiating factor for an enterprise, and human effort and knowledge efforts are the real levers for achieving markedly higher performance and desired outcomes. Enterprises need to recognize that people are grabbing information, mobility, and connectivity (via the world wide web and Internet) and often moving faster than management. Management needs to stay up with them or else it will be dragged along behind them.

9. **Thomas O. Davenport:** *People are the Owners and Investors of Human Capital*

People have taken charge of their human capital and how they want to invest it. Enterprises and managers need to have a strategy to optimize the return on their investment for human capital both to their employees and to the organization. At the center of this strategy is the multiparty “deal” that forms the new social contract among the individual, managers, the organization, and co-workers. The new framework involves understanding the “deal”, acceptance by all parties, strategic alignment, competence building, and reinforcement.

10. **Don Tyler:** *Shared Values – The Prerequisite for Knowledge Sharing and Creation*

Values plus skills equal capabilities for people and their enterprises. Values provide the meaning and motivation to learn new skills. Organizational values need to be first identified and then, consistently nurtured. High levels of knowledge sharing and creation can only be sustained after meaningful relationships are established and constantly nourished. Ultimately, the challenge resides in evolving sets of values that extend across the newly networked organizations and that honor a diversity of values as part of the organization’s core ethic.

11. **Brook Manville:** *Wars of Capabilities*

Knowledge management is part of a broader and more integrated effort to manage and develop human capability for business performance. Managers will assess the gaps in their workforce and direct interventions. At the same time, individual workers will have the opportunity to take control of their learning that, in turn, moves the organization to be able to achieve its goals and objectives.

## **Knowledge Cluster IV: Drivers and Accounting for Intangible Wealth**

There has been a continuing decline in the relevance of tangible assets and earnings as predictors of stock market performance. Yet there is no decline in the needs of decision makers for transparency and understanding of market drivers in an environment where the intangibles of an enterprise are more significant than the traditional tangible ones for the operations and valuation of enterprises. These conversations delve into efforts to navigate in an environment where biases and distortions are just being sorted out and alternative methodologies for measuring intangible wealth are beginning to be formulated.

### **12. Jonathan Low: Value Drivers for Intangibles**

Traditional measures do not provide enough detail or texture to give managers or investors the information they need. With some insight and effort, we can begin to put together a clearer picture of what is going wrong in an organization, what is going well, what could go better, and how to improve it.

### **13. Steven Wallman: A Level Playing Field for Intangibles**

Financial reporting and disclosure systems are increasingly susceptible to not capturing important drivers of wealth production, and specifically knowledge-based assets. Recognition of intangibles is central in decisions involving capital allocation, financial reporting, appropriate disclosure, and volatility of the financial marketplace.

## **Knowledge Cluster V: Bringing It All Together in Practice**

Practitioners are the ones that lead the transformation from being activity-based enterprises into becoming knowledge-based enterprises. They are at the lead in determining how the concepts and practices are introduced into enterprise. They explore with leadership, middle management and frontline staff how each will benefit by identifying and using knowledge inputs to guide their work. They navigate for aligning the values, the technology, the strategies, the structure and processes, and the measures. The sessions that follow illustrate a number of different approaches that practitioners are using.

Think about your organization and envision how you could use these approaches to evolve it into more of knowledge-based enterprise. Do not feel the need to copy any of their efforts in a cookie-cutter manner. They created their methodologies through a great deal of trial and error. Learn from their experiences, try out their ideas and practices and see what will make the difference for your enterprise.

### **14. Hubert Saint-Onge: Creating and Implementing a Knowledge Strategy**

Hubert Saint-Onge understands that the knowledge strategy of an organization must be geared to build the capabilities and relationships that form the intangible assets of the

firm. The strategy needs to take into account that intangible assets are quite different from tangible assets and need to be managed quite differently. The strategy must link supporting values that align and renew the tacit knowledge of the organization and a compatible technological infrastructure.

**15. Kent Greenes: *Knowledge Management is About Change***

Kent Greenes lays out the process for creating a knowledge initiative, starting with building a business case for the knowledge initiative to get the attention of a business leader and staff, and the finding out how the knowledge effort will make a very real and personal difference in the day-to-day areas that matter most. It is their buy-in that will allow the knowledge process to have a chance to live. Greenes clearly frames key points that any practitioner must take into account to cultivate a successful knowledge enterprise.

**16. Sharon Oriel: *Finding "The Hook"***

Sharon Oriel sees that leaders in enterprises need to think in terms of managing intellectual capital assets as structural resources. The extension of this view is to align the intellectual capital effort with the enterprise business strategy. The key is to, then, find "the hook" that shows the value of managing intellectual capital to help solve a critical issue in an organization. Once that happens the practitioner has the license to operate.

**17. Stephen Denning: *The Springboard Story***

Stephen Denning tried everything at the World Bank to engage people in its knowledge initiative. Nothing worked effectively until he found that through storytelling people could identify with and co-create a vision, in their own words, of what their organization could become. Stories became the springboard for sharing knowledge across the organization and eventually with the broader community of users across the world. Storytelling made the knowledge movement alive at the World Bank and, in conjunction with the putting in place seven key structural elements, are the basis for the it to become a knowledge-based enterprise.

**18. Alex Bennet: *The Knowledge Centric Organization***

Alex Bennet was in the lead position in the development of a knowledge-centric US Department of the Navy. She demonstrates the role of knowledge in a 21<sup>st</sup> century public sector organization. A key to success for the Navy is knowledge superiority. To accomplish this meant that the Navy needed to build its basic capacities of hardware, software, and wetware. The chapter examines how knowledge is linked to and supports organizational goals. It also explores how the building blocks of a strategic vision, knowledge sharing, knowledge capture, connectivity, alignment, and metrics have been designed into the Navy's approach so that knowledge management supports the achievement of its strategic goals.

## **Epilogue: *Convergence – Towards the next stage***

As the series of conversations took place, a group of themes started to emerge that will shape of the framework for the next stage of the knowledge field. The people involved in *Knowledge Capital* are experimentalists and continuous learners. While they carried out their work on knowledge initiatives they reflected on their experience and began to better grasp both the underlying dilemmas and the new sets of issues and perspectives that they saw were in need of being addressed.

Some participants, whose roots were in the computer sciences have seen the limits of information technology at this stage, and now see human learning as they key. Others, who emphasized either knowledge creation or knowledge capture, found that both are equally important in any enterprise, with the need to create a framework in which they can be holistically integrated and form a new knowledge value chain. In addition to that, many expressed that we are in just the initial phases of learning how to nurture and use communities of practice, metrics, and how to account for intangible value in organizations. These are among the strands of issues that are synthesized in the Epilogue and become the whole cloth that will compose the next, richer, and more reality-based phase of the knowledge movement.

## **Growing the Seeds**

Every enterprise has within it the seeds of becoming a knowledge-based enterprise. Organizations already have extensive amounts of information, data, and measures in their various repositories. However, probably ninety percent of their knowledge is tacit, residing in the know-how of their staff, suppliers, and customers. The conversations that follow provide a framework and benchmarks to evaluate to what extent an enterprise is knowledge-based, what strategic capabilities it needs to cultivate to further its transformation, and how to go about doing that. The different sessions map out how to create strategies and build the vehicles, relationships and supporting environment so that knowledge capital is easily accessed, comes freely into play, is nurtured, and leveraged to achieve gains that exceed expectations.

The currency of an enterprise is increasingly based upon its knowledge capital and its ability to mobilize its knowledge resources to respond to changing conditions. The advantage of a knowledge-based enterprise comes from it being better able to understanding its resources (both intangible and tangible), its opportunities and risks, and its ability to mobilize those knowledge resources in ways that make for a distinct difference.

The future will be won by enterprises that have the capabilities to out think, out organize, out maneuver, and out perform their rivals. This means enterprises must prepare themselves for continual renewal so they can go beyond the edge of what exists

and create new passageways, just as Prince Henry the Navigator did five hundred years ago.

The convergence of networked enterprise, increasingly autonomous human capital, and advances in electronic collaboration technologies provides a unique, and perhaps historic, opportunity for knowledge-based enterprises to leverage their knowledge capital in ways that were never possible before. With these mentoring conversations as a stimulus and guide, embark on a voyage of discovery to find and capitalize on whole new fields of possibilities.

## Knowledge Cluster I: Starting Points

This cluster sets out the parameters for what a knowledge-based enterprise is. It explores: the elements of a knowledge-based enterprise, what difference it will make to become one, where and how to begin, as well as the role of innovation and continuous renewal in such an enterprise.

Dorothy Leonard, Jim Botkin and Karl Wiig map out how being knowledge-based is an outlook or a perspective, as much as it is a certain kind of structure. They share their understandings that we can look at a knowledge-based enterprise as a system with various kinds of knowledge being brought in. They chart out the channels through which knowledge flows, and note where and how knowledge is converted into goods or service outcomes. The knowledge that is brought in and cultivated is the knowledge that is necessary for building the core capabilities of the enterprise, and, at the same time knowledge-based enterprises are aware of the hazard, that, if not regularly reevaluated, core capabilities can change into becoming inflexible, core rigidities that constraining the organization.

### The Continually Renewing Enterprise

*Dorothy Leonard* points out that that a knowledge-based enterprise is in a process of constant renewal. It starts with a stock of knowledge resources that the enterprise is able to be renew by recombining and fusing with other existing knowledge assets, as well as with novel approaches to create new outcomes.

Leonard asserts that since the world is changing so rapidly we cannot really see far enough into the future to know what is in store for our enterprises. This dynamic requires that a knowledge-based enterprise and its people to have a high degree of flexibility, the ability to leverage what it knows, and the capacity to redeploy assets rapidly and in new directions. The enterprise needs to nurture its people so that they feel free to move about in their organizations, to group and regroup in different configurations as needed, and to rework themselves and their resources in concert with their new conditions.

### Knowledge Businesses, Knowledge Communities and Knowledge Networking

*Jim Botkin* focuses on how knowledge is changing the ways organizations create value as they become increasingly knowledge-based enterprises. This transition is tied to the growing reality that knowledge has become the new factor of production, one that is emerging as an even more significant to the enterprise than the traditional factors of

production of land, labor, and financial capital. A powerful indicator of this shift is that the use of knowledge as a factor of production is creating such a competitive advantage that its dominance allows an enterprise to redefine and transform not only itself, but its entire industry.

According to Botkin, we first have to understand that "knowledge products and smart services" are those offerings that embody learning and the capacity to create new knowledge in them. The next step is to grasp that we are dealing with creating knowledge businesses and new forms of organization, which he calls "networked knowledge communities." Keeping the knowledge offerings and knowledge communities ecology healthy and performing at the highest levels then requires a new communications or management model that we call, in its broadest meaning, knowledge management.

In Bodkin's view, in order to understand the role of knowledge in business we have to consider that the business, the organization, and the management model are parts of a whole cloth – and look at them in the new light of being knowledge businesses, knowledge communities, and knowledge networking. This requires a shift in perception, but it also means that enterprises have to build the infrastructure that supports the flow of knowledge, and educates staff, suppliers and customers on how to operate in this knowledge grounded environment.

Part of this change involves knowledge-based enterprises redesigning themselves using the format of communities and networks of communities. Community allows the kind of governance that enables a company to be both centralized and decentralized at the same time. Word of new conditions and requirements can be quickly dispersed throughout the communities, with necessary responses generated to provide feedback to develop informed, strategies, that are executed locally. In this model, individual communities are the nodes and the numbers of communities, together, form the network.

An important element of this model is that the individuals that make up these communities each understand that they have to take responsibility for developing their personal knowledge and skill sets for their own personal success as well as the success of the enterprise. This shift in responsibility pragmatically means that each person comes to act as his or her own chief knowledge officer.

## **Different Kinds of Knowledge**

*Karl Wiig* looks at the different kinds of knowledge that are necessary for a knowledge-based enterprise. One is the array of the various types of personal knowledge, a second is shared knowledge, but all strands must come together to form the structural, or institutional knowledge of the enterprise. This is a living knowledge that clusters together as people build a "synergistic orchestration environment". If the enterprise is transforming itself, people find it natural to share, collaborate, and do that as a matter of course and culture. The shared knowledge becomes part of the culture and owned by the

organization. In that sense, the shared knowledge takes on a life of its own amongst the staff, the people they hire, and is not based on any one individual's knowledge. But the challenge to the organization is that only eight to ten percent of the knowledge that is needed to operate the enterprise can be captured. The balance lies in people's heads. That means that the enterprise must recognize the value of its human capital, and then understand how to cultivate it to build the knowledge ecology where knowledge creation and sharing become the way it does its business. The enterprise must facilitate knowledge flows, knowledge migration, and the creation of knowledge pathways. Technology is an enabler here for knowledge flows and migration, but it is only part of a necessary response.

Working with knowledge is an ongoing process within the organization that is supported by a number of tools and systems and procedures, but it is also stimulates a different way of life in the organization.

A major role for leadership in the knowledge-based enterprise is looking to bring to bear all the best resources and knowledge as part of daily life. This is a leadership that understands that if you get people together and give them the understanding and freedom to act, they will actually act in the directions that are in their own interests as they see it, and certainly in the organization's best interest. An implication for the enterprise is that its knowledge effort will be built around a very small, very energetic, and visionary office, in contrast to the building of another new bureaucracy. This is a proselytizing office, as well as one that can secure the resources needed for sharing across departments. It has a flexible vision of how the knowledge management practice should be undertaken and identifying the business reasons for pursuing it. The next step for the knowledge office is to align its projects with what is on management's hotplate and to the evolution of its knowledge strategy.

While projects may be catalysts for transforming an organization into a knowledge enterprise, the more embracing object of concern is to be able to identify how an effective enterprise needs to behave intelligently, what that entails, and why knowledge management is important in this regard.

### **An Active Knowledge Network**

These three chapters frame knowledge-based enterprises as open, but structured systems that makes usable the knowledge capacity of the enterprise. The active nurturing and deployment of this knowledge capability creates innovation and the strategic advantage. Only part of this capability is the knowledge that is captured intelligence, stored for later reuse. It is also the "know-how" and "know-what" that runs through the fabric and being of the entire enterprise network.

Contributors to this cluster realize that becoming a knowledge-based enterprise involves a continuous transformation of the people *and* the enterprise. Innovation, learning, and change need to be built into all phases and processes of the enterprise network. A knowledge management or intellectual capital group can initiate and assist in the transformation, but enterprise's leadership, workforce, strategic partners and even customers each need to take on their counterpart roles as the network's co-creators.

## Dorothy Leonard: *Operating a Knowledge System*

# 2

Dorothy Leonard explores how organizations effectively build and manage knowledge. She has found that some organizations have developed a capacity for constant renewal. By fostering values and managerial systems that support key knowledge-building activities, managers in such companies continuously enhance their competitively critical core capabilities. Other organizations have not made knowledge and development important, and in fact, are structured to undermine the creation of knowledge assets. In this conversation, Dr. Leonard discusses these perspectives, mental attitudes, and behaviors that are characteristic of each type.

Dorothy Leonard is the author of *Wellsprings of Knowledge*<sup>2</sup> and co-author with Walter Swap of *When Sparks Fly*<sup>3</sup>. Both are basic books for understanding the role of how knowledge works in enterprises.

Dorothy Leonard is the William J. Abernathy Professor of Business Administration and Director of Research at the Harvard Business School. Her major research interests and consulting expertise are in organizational innovation and technology strategy and commercialization. She has worked with a wide range of private and public sector organizations around the world in innovation related areas.

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<sup>2</sup> Dorothy Leonard-Barton, *Wellsprings of Knowledge: Building and Sustaining the Sources of Innovation*, (Boston: Harvard Business School Press, 1995).

<sup>3</sup> Dorothy A. Leonard and Walter Swap, *When Sparks Fly: Igniting Creativity in Groups*, (Boston: Harvard Business School Press, 1999).

## *The Conversation*

### **Wellsprings of Knowledge**

**JC:** *What do you mean by “wellsprings of knowledge” and what are the conditions for wellspring renewal?*

**DL:** *Wellsprings of knowledge* refers to a constant process of renewal. That is, having enough knowledge assets that you can constantly renew them.

One of the first requirements of renewal is that managers understand what the knowledge assets of their particular organization are. Then, they have to understand how to expand and leverage those assets.

Let me give you some examples. Knowledge assets can be technological. For instance, 3M has deep knowledge about great abrasives, adhesives and coatings. We would not have a product such as masking tape, were the engineers at 3M not able some time ago to be able to combine what they knew about putting paper on the back of things, (for example, in sandpaper) with their knowledge of adhesives. Combining those basic knowledge assets gave them a new product.

Recently I was asked by a reporter whether a Kodak foray into using their software capability to improve underwater photography using traditional film, was an unwise use of resources, because after all this was merely enhancing---using digital means to enhance analog technology. My feeling was “No. That was extremely wise.” What we do is take what we know best and combine that with what is new and exciting in the market, and often that synergy gives us a boost. So renewal can come from the fusion of existing technological knowledge assets. Or it may come from simply looking at what we do best. One last example. At Harvard Business School, the core capabilities are its ability to deliver experiential learning and provide top-notch classroom experiences. Now, we happen to be the first business school that ever delivered that experiential learning through case studies.

If we were to say that is all we know how to do is case studies, we would be selling short the more important basic capability of delivering experiential learning, which we now need to interpret in new ways. We need to think in terms of multimedia, electronic simulations, and distance learning. We need to incorporate new technologies into the delivery of our core capability.

We do not want to confine our definition of our knowledge assets to written case studies. We want to think about the core capability of experiential learning. If you define your competitive advantage narrowly by describing exactly how you operationalize your core capabilities today, then you will not have room for renewal. If you define them generically then you have more room to morph, to change and adapt.

## Perspectives That Make the Difference

**JC:** *What difference does it make that managers view everyday activities from the perspective of knowledge management and growth?*

**DL:** It makes as much difference as any other perspective or screen through which you habitually look at your activities. Let's consider the Toyota production system, which is viewed as one of the most interesting, efficient, and effective learning processes in manufacturing today. It is a very complex system that people have tried to imitate piecemeal without understanding the philosophy and viewpoint behind it. Yet, considering the manufacturing process through the lens of the Toyota production system philosophy fundamentally affects everything that a manager at Toyota does.

Let me give you an example. The purchasing manager of a particular Toyota plant set up in the United States came out of traditional U.S. manufacturing. He was accustomed to selecting suppliers on the basis of lowest *price*. Toyota taught him to look for the lowest *cost* supplier and to work with that supplier to increase their knowledge about how to hold costs down. Now, consider the difference in investment and long term payoff in terms of partnership and cost advantage you get if you partner with a supplier with the idea in mind that you are going to transfer some knowledge assets to them about holding their costs down so that they can, in turn, reliably deliver components to you at the lowest cost. There is a big difference in mental attitude as to whether one seeks low *cost* versus low *price*. Your relationship with your suppliers is based on how much they know and how much you can help them learn.

Every little decision can be viewed from the perspective of whether it helps us learn, helps increase the knowledge assets of the expanded enterprise, which is what Toyota was doing--or, whether it simply represents an expedient way to get something done for the moment, which is the way the purchasing manager had been educated in his prior job.

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### Key Learning Points

- First, managers need to understand what the knowledge assets of their particular organization are. Then, they have to understand how to expand and leverage those assets.
- Renewal can come from the fusion of existing technological knowledge assets.
- If you define your competitive advantage narrowly by describing exactly how you operationalize your core capabilities today, you will not have room for renewal. If

you define them generically, then you have more room to morph, to change and adapt.

- Every little decision can be viewed from the perspective of whether it helps us learn, helps increase the knowledge assets of the expanded enterprise.
- Measurement is tremendously important. People are smart they respond to the incentive systems and the rewards systems that we put in place. If you reward people for creating knowledge and developing other people, transferring knowledge to other people, you will get a certain outcome.
- Looking at the way that we operate as a knowledge system, will allow us to see what kinds of knowledge are being brought in, what are the channels through which knowledge flows, and where we are closing out various kinds of knowledge assets.
- The only way we can tell whether we are initiating the right knowledge creation activities is to measure our progress along some dimensions and one way to measure your progress is to hold extremely high standards for a particular function.
- If you are really interested in the right knowledge creation activities, you'll always be looking for the root causes of problems rather than treating the symptoms.
- Managers function as gatekeepers because they become extremely aware of the knowledge building or destroying implications of anything they do.
- The upper management is not the only gatekeeper of how an organization learns, but, in fact, that ability to learn and accrue knowledge, especially from mistakes or failures is also controlled by people at the supervisory level.
- The most important things to focus on are:
  - Valuing knowledge assets at least as much as we do financial assets,
  - Understanding the importance of unstructured learning and encouraging learning, and
  - Having a value system that supports a certain degree of risk taking and innovation.

## Jim Botkin: *The Knowledge Business*

### 3

This conversation with Jim Botkin explores a variety of issues on how knowledge is changing how organizations create value as knowledge-based enterprises. Jim Botkin argues that the knowledge framework is actually the larger context for organizations and that e-business is actually a subset of its operations. Botkin also shares how knowledge has come to be a new factor of production in organizations. This is become true for both "new economy" organizations and "old economy" legacy organizations. Even so, the acceptance of the *knowledge movement* is still tentative. The very name "knowledge management" is still often implies information technology "applications" to key organizational visionaries and is not always well received. The controversies over nurturing knowledge communities within the framework of knowledge initiatives are also examined in the dialogue.

Jim Botkin has an excellent perspective for delving into these issues as cofounder and president of InterClass, the International Corporate Learning Association. InterClass is a knowledge community of Fortune 500 companies seeking to improve its members' organizational learning and enhances their knowledge assets. For the last decade Botkin has led InterClass as it has grappled with the future of work, organizational learning, intellectual capital, virtual organizations, managing change, knowledge management, and new leadership styles. While still a Senior Advisor to InterClass, he now devotes most of his time to launching a personal and professional coaching service called NaturalVOICE-Venture Out: Innovative Coaching for Executives. Natural VOICE seeks to link learning and coaching with Nature experiences.

Botkin is the author of *Smart Business: How Knowledge Communities Can Revolutionize Your Organization*. He is an expert on corporate learning and knowledge and a student of the ideas and practices involved in successful innovations in legacy companies. He is also co-author of *No Limits to Learning* and of *The Monster Under the Bed*.

Botkin is an IC2 Fellow of the University of Texas in Austin and has taught at the Harvard Graduate School of Education. His Doctorate is from the Harvard Business School.

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## *The Conversation*

### **The Knowledge Organization and E-Business**

**JC:** *Can you comment on how the knowledge organization or k-organization goes beyond e-business?*

**JB:** In a way e-business, e-commerce, and the dot.com companies have become such a big deal that it obscures the fact that they are only part of the picture. Some would say e-business is basically a new business and a new business model, but I am skeptical about that. To understand the role of knowledge in business, you have to consider the business, the organization, and the management model – or the knowledge business, knowledge communities, and knowledge networking – which are, respectively, the New Economy companies' basic business, organizational mode, and management models.

The knowledge business can go beyond dot.coms – for example, consulting companies are knowledge businesses. The larger question is "What are knowledge products and smart services?" They are those offerings that embody learning and the capacity to create new knowledge in them. They can be Internet based or not. My favorite example is the company in Boulder, Colorado called Outlast Technologies. It has the patent rights to develop materials (cloth, fabric, clothing, car seats). They can weave micro phase-change materials (PCM's) into the fabric. The PCM is genetically engineered to sense cold, which makes it turn hot. When it senses hot, it starts to turn cold. That is a great example of a non-computer based, non-electronic, non-internet knowledge business. Your shirt literally knows better than you do what the temperature is outside and it adjusts itself, unknowing to you, to a more comfortable temperature. Here's a new a bio-chemical process knowledge product that goes far beyond the Internet. And there are other examples of those. Some are internet-based and some are not.

**JC:** *The main thrust is that there is a larger perspective beyond e-business?*

**JB:** Yes. The more a product is interactive, self-customizing, capable of remembering and improving your use of it, the more it is a knowledge product. When it has these characteristics *and* is web-based, you've got double-strength knowledge. But just because it's internet-based does not necessarily mean it's a knowledge product.

Take Nike sneakers: "The new Nike sneaker that has special material in the sole that when it feels I am running it starts to stiffen up and when I slow down it gets softer. It is interacting with me in real time." I could imagine the step further being that as soon as they get a little microprocessor in there and I could communicate to it, I could control the stiffness or looseness of the shoe as I am running. This is the basis of a knowledge

business when you are talking about products that have the ability to learn and the capacity to create new knowledge built into them.

So, as big as the whole dot.com economy movement is, it is just the tip of the iceberg. Eventually we will realize the scope of the whole knowledge business and see that the Internet part is just a subset.

## **New Business Models**

**JC:** *What will the new business model(s) look like?*

**JB:** There are two aspects implicit in your question. One concerns KM – knowledge management, or what I prefer to call knowledge networking. Another is community. I was amazed at a recent knowledge management summit that it was not just me talking about community. A lot of people were into that field.

There is a whole new movement around the word community, which generates a lot of emotions. Different people feel very differently about it. We are in a situation just like ten or twenty years ago when teams were seen as the next big thing or when quality was accepted as necessary to all companies. The next big organizational thing is going to be the community. Community allows a company to be both centralized and decentralized as the same time. Using community as your basic building block can be thought of as the new network model of organization where the nodes are communities and numbers of communities together form a network. You do not see this very many places yet. But once you tune into the concept, you will be amazed at the number of companies that describe themselves this way.

So there is a new business emerging – the knowledge business. And there is a new organization emerging – the knowledge community. These two require a new communications or management model that we call knowledge management. So I do not see KM as the be all and end all, in the sense that if you do not have the other two things, you are missing part of the bigger picture.

## Karl Wiig: *The Knowledge Movement Emerges from its Infancy*

# 4

Karl Wiig is one of the key developers of knowledge management theory and practice. He is Chairman and CEO of the Knowledge Research Institute, Inc. and the author of four books<sup>4</sup> and numerous articles that have helped define the field. He works extensively with client organizations to build internal knowledge management capabilities by focusing on business-related issues with senior management; tactical approaches and solutions with middle management; and hands-on methods and techniques with professional knowledge practitioners.

Karl Wiig sees himself as a reformed "techie". He actively integrates learning, knowledge management, intellectual capital, strategy, and process into an approach that allows for the complexity that actually reflect how people and organizations operate. He explores deeply and broadly, as well as with a curiosity that is infectious. He is continuously looking to discover what the field is and what it could be about.

Karl Wiig holds undergraduate and graduate degrees from Case Institute of Technology, and was Director of Applied Artificial Intelligence and of Systems and Policy Analysis at Arthur D. Little, Inc. He also served as a management consulting partner at Coopers and Lybrand. He is co-founder of the International Knowledge Management Network.

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<sup>4</sup> *Expert Systems: A Manager's Guide*, (Arlington, TX: Schema, 1990); *Knowledge Management Foundations: Thinking about Thinking –How People and Organizations Create, Represent, and Use Knowledge*, (Arlington, TX: Schema, 1993); *Knowledge Management: The Central Management Focus for Intelligent-Acting Organizations* (Arlington, TX: Schema,1994); *Knowledge Management Methods: Practical Approaches to Managing Knowledge* (Arlington, TX: Schema, 1995).

## *The Conversation*

### **Learning and Knowledge**

**JC:** *What is the learning challenge that knowledge workers and their organizations face as far as you see it?*

**KW:** This is a very comprehensive question because what we are really talking about is the learning of individuals on one end, and the organizational learning that might take place on the other end. Knowledge is different from information and is difficult to communicate. For example, on the personal level, the learner must internalize what he or she understands is being communicated. After that, learners try to make sense of the received information within the context in which they find themselves. When we start looking at the whole issue of the learning challenge, we realize that we mainly have focused on the provision part of it – on communicating knowledge – but not on the reception part of it. We have been talking about sharing knowledge, about telling others what we know, but we have not really focused very much on making effective learners.

**JC:** *Yes, that has not really been brought up in most knowledge management conversations so far.*

**KW:** I guess it is not surprising because, initially, we are so focused on getting the process started. If we are in the supply-push mode, to put it that way, instead of being in the demand-pull mode, we are very concerned about how we get people to participate in knowledge sharing and how we initiate capturing knowledge from the organizational perspective to make it into structural knowledge. The real learning challenge is that there are a number of culture barriers to sharing knowledge. For example: to help others, or to ask for help. In addition, many people think they are conducting knowledge management but have not yet discovered what knowledge is.

**JC:** *That would make it hard.*

**KW:** It does make it hard. It does make it very hard.

**JC:** *What are the implications of that?*

**KW:** The implications are that we are making very slick information distribution systems - computer-based and otherwise, which are available for people to access when they know they have a problem. But, of course, most people do not know they have a problem unless they have sufficient knowledge to discover that a problem exists. Providing people with knowledge or information about knowledge through the fingertips

is fine, once you know which knowledge is needed and once you know what the problem is. But often you do not know what the problem is unless you are knowledgeable in advance.

## Is All Knowledge the Same?

**JC:** *Is all knowledge the same? Or, does it need to be cultivated, shared, or accessed differently both inside and outside an organization?*

**KW:** From my perspective, there's a great difference between "know-what" and "know-how", or in other words, between theoretical knowledge and practical knowledge. We need to look at several levels of knowledge the same way that James Brian Quinn does it, in his book *Intelligent Enterprise*<sup>5</sup>. He has four categories. I have five. I look at vision and paradigm knowledge as the knowledge that motivates us and leads us. Through it we see the opportunities.

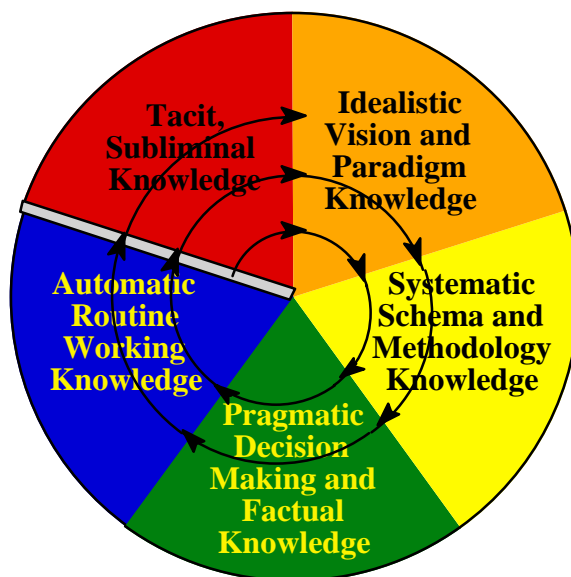


Figure 4.1 Levels of Knowledge Flow

Below that we have what Quinn calls "knowledge-why". This level is more systematic schema and methodology knowledge that we may have learned in the university and learn fairly procedurally. It is knowledge of "what", how to be, how to machines work, and what the systematic part of this process that we encounter is.

<sup>5</sup> James Brian Quinn, *Intelligent Enterprise: A Knowledge and Service Based Paradigm For Industry*, (Free Press: New York, 1992).

On the third level we have pragmatic decision-making and factual knowledge: "know-how". That, to some extent, is automated, yet it is also available for us to reason with in a conscious way. To some extent, we are now talking about personal knowledge.

The fourth level is tacit knowledge, the real working knowledge. We know it so well that it has become non-conscious and unavailable to us. That knowledge is the bulk of what we know and is the part of the iceberg that is below ocean level.

We have a fifth level, the tacit subliminal knowledge, which is established when we are first introduced to a new notion or concept and start forming a beginning understanding. You might say that the tacit subliminal knowledge is what started out in episodic memory. As we internalize it in our REM (Rapid Eye Movement) sleep, at 3:00 in the morning, it is being built into these other areas and we also develop association bridges between concepts and other mental models.

These knowledge levels are motivated by cognitive sciences research about how we learn and by experiences over several decades of working with knowledge workers ranging from novices to experts and grand masters.

Is all knowledge the same? No, all of this knowledge is not the same. That is just one dimension. There are other dimensions of knowledge. For example, when we think about knowledge that we use in business, we might have professional and craft knowledge, in contrast to enterprise navigational knowledge. People now tell me that they have found that the body of the enterprise navigational knowledge that is associated with delivering "work" is bigger than professional knowledge in most areas. That is, the larger body is enterprise navigational knowledge that consists of knowing how we work around here, who you consult with, what the systems and procedures are, etc.

**JC:** *Is that the environmental, cultural knowledge?*

**KW:** It is knowledge of what our customers require, who the customers are, and a myriad of practical things that might take a year or two to build up before you become fully functional.

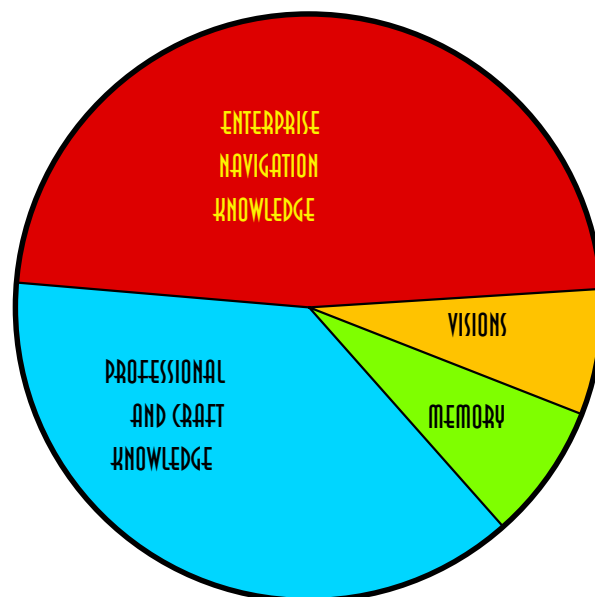


Figure 4.2 Types of Knowledge

All of this might be on the personal side. We also have the need for the organization to build as much as possible of personal knowledge into structural knowledge. It is very important to share knowledge amongst the people to build a "synergistic orchestration environment", where people find it natural to share, to collaborate, and do that as a matter of course and culture. The shared knowledge then becomes part of the culture and becomes owned by the organization - in the sense that it lives amongst the present staff, people they hire, and is not based on any one individual's knowledge. This knowledge is on the road to becoming institutional knowledge.

These days we have a strong movement to make personal knowledge become structural knowledge, in the sense that it has been captured. I think that is a very appropriate and very worthwhile set of efforts. But the amount of knowledge that people are able to capture, from what I have seen, is minimal compared to what is required to run the organization. You can obtain only a small portion – call it 8-10% – of the knowledge that required to run the organization flawlessly – knowledge that resides in people's heads.

**JC:** *Is that the documented knowledge that you are referring to, or is there more than that?*

**KW:** More than that, because, for example, engineers that design technology embed a fair bit of what they know in the technology solutions that they create. That part of knowledge is crucial for the competitiveness of the organization. What has been missing quite frequently in that area is that although we find explicitly what the decisions were and what the knowledge resulted in, we frequently have no idea, after the fact, about what led people to make those decisions. We have a number of situations where people have modified decisions of previous experts and ended up in hot water, because their modifications clashed with the principles that had led to the solutions in the first place. We see this in heat exchanger designs on one end, and very sophisticated designs of

advanced computer programs on the other end. We now see efforts to capture reasoning behind many decisions, particularly design decisions, to allow future workers to understand the context in which decisions were made, the options that were discarded, and information about blind alleys.

**JC:** *And the ground they derived, their outcomes are different?*

**KW:** That is correct. The new solutions that were thought to be improvements on the old actually clashed with the old and became non-workable. In software, we know this very well. It has been an eye opener to me to see it also is the case in what I consider relatively crude equipment - in a heat exchanger.

All of this is done within the organization. Then we ask, what about sharing and accessing knowledge outside the organization? That is a very interesting area, because when we start looking at what John Seely Brown and Paul Duguid call "networks of practices" that are between organizations in contrast to "communities of practice", which are usually internal in the organization. These networks of practices have enabled, for example, the emergence of the Route128 corridor in Boston and also the Silicon Valley. They are the result of sharing of knowledge between organizations and building up a total regional capability. From that perspective, it has elevated the capability of many places in this country and abroad.

Look at Israel, for example, which is a gleaming jewel because people are working between organizations as well as within organizations, right? We have the same thing in some of the Scandinavian countries, such as Denmark, which started out with hearing aids then went into the other areas of sound systems. We have an important societal phenomenon that is very powerful for wealth creation in many areas. And, of course, it is also very beneficial to the firms who find themselves in those locations.

## Göran Roos: *Recipes for Knowledge-Based Value Creation*

### 5

Göran Roos is continually developing some of the most advanced, and yet readily usable approaches to leveraging the interrelated roles of intellectual capital and strategy in contemporary organizations. As both a thought leader and practitioner, he has made seminal contributions to the field of intellectual capital through his writings and his implementation of practical solutions.

He has created frameworks, which enable making the intangible of intellectual capital understood as a very real asset to be cultivated, measured and appropriately exploited for competitive advantage. He works with managements to rethink how their strategies and practices to determine and utilize the drivers for intellectual capital growth, as well as how to rigorously value and effectively use their intellectual resources throughout their enterprises to make significant differences.

He is the founder of Intellectual Capital Services Ltd. (ICS), developer of its main concepts, and manager of its day-to-day operations. As a practitioner, he delivers the services of ICS to a wide variety of both private and public sector organizations around the world in a broad range of market segments. Roos holds several academic positions and he and his team are the authors and co-authors of numerous books and articles in the field of intellectual capital and strategy, and he serves on the editorial board of the *Journal of Intellectual Capital*. Mr. Roos was also named one of the thirteen most influential thinkers for the 21<sup>st</sup> century by the Spanish business magazine *Direccion y Progreso* No 167.

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## The Conversation

### Stock and Flow

**JC:** *What do you mean by saying that Intellectual Capital is any stock or flow under the control of the firm that contributes to the value creation of the firm?*

**GR:** The reason we use that statement is that we do not want to limit ourselves to predetermined structures. A given firm or organization, it can be government department, or other not-for-profit organizations, is actually a system made up of a set of resources that are deployed in a given structure. Intellectual capital is the science and art dealing with how to extract maximum value from the resources you have and the way you have chosen to deploy them.

**JC:** *What is the Intellectual Capital Process (IC) and how does that relate to “business recipes?”*

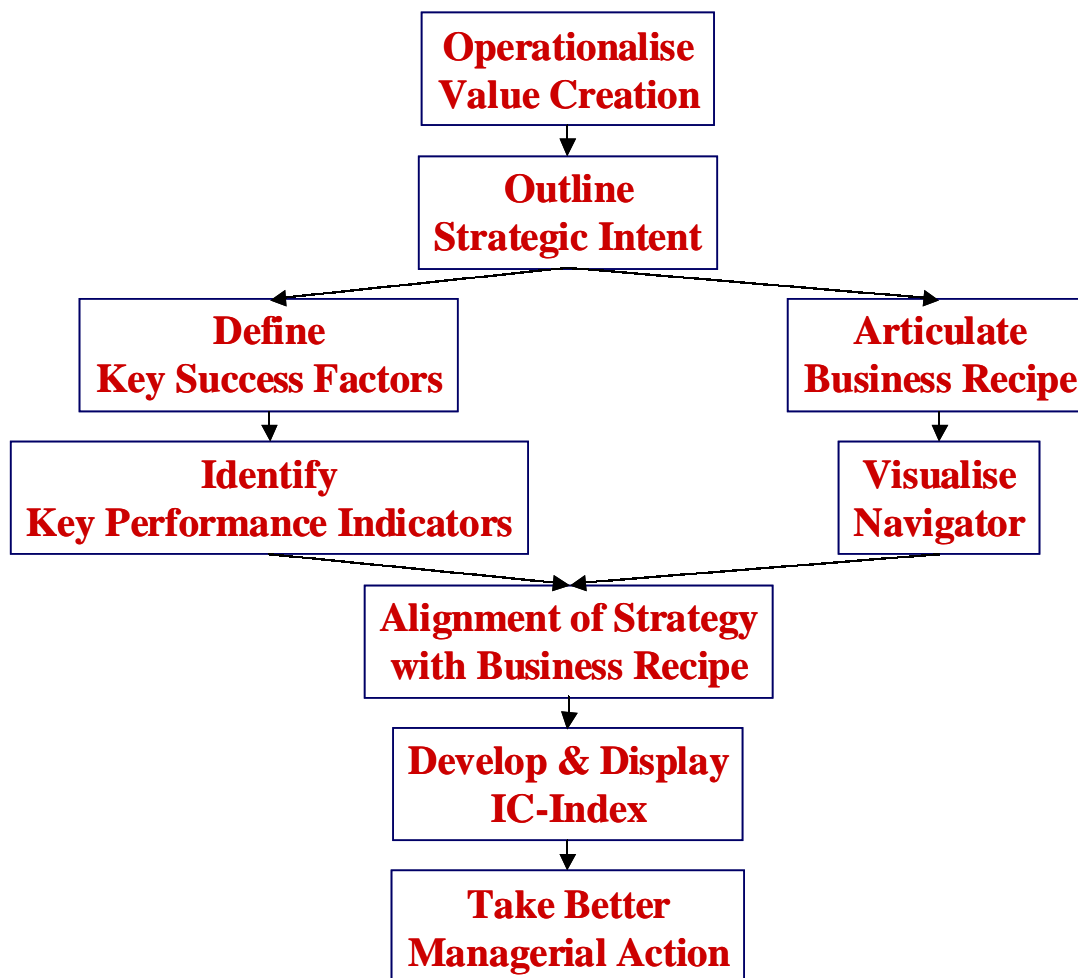
**GR:** You can use many terms. Business models, business recipes, value creation models, and strategic models are common terms coined in strategy literature. You can contrast two logics in this area, one is the financial logic and one is the strategic logic. The strategic logic basically says, “All right, take the strategy of a firm as a given. Within that framework, how can you ensure that you can create maximum value?”

You can do so by developing the best possible effectiveness and efficiency as relates to the deployment of the resources you have at your disposal. These resources include for example the competence or the people, the processes of the organization, the brands, the intellectual property, the customer relationships, supplier relationships, plant and equipment, and the working capital needed to actually generate cash, the cash that converts into market value.

The Intellectual Capital (IC) process is about identifying relevant dimensions along which the strategy of the firm can be discussed. Identify what the firm means when it says that it creates value. Identify the resources that the firm considers it is necessary for it to have, the ways these resources are being deployed, and compare and contrast that with the logical conclusions from the strategy.

In other words, you are talking about classic strategy theory with key success factors and key performance indicators compared, contrasted and synthesized with a resource based view, in the widest sense, of the firm. One of the things we need to do is to align key performance indicators that are extracted from the strategy, with the key

performance indicators measuring the relevant resource transformations, thereby allowing us to create a tracking system to predict changes in our ability to create value.



**Figure 5.1** The Intellectual Capital Process

The IC process (see figure 1) is about developing an understanding for how value is created, thereby providing an opportunity to improve the potential of creating value as well as the actual value created. For this the IC process offers the tools necessary to actually track the value creation, and, if we wish, it can provide us with tools that allow us to value whatever it is that we do from a given beholder's point of view.

## Leif Edvinsson: *The Intelligent Organization*

# 6

Leif Edvinsson is a key contributor to the theory and practice of Intellectual Capital. In this conversation he explores the basis for Intellectual Capital and the Intellectual Capital growth model. Edvinsson examines what creates value in the world of knowledge-based organizations and the various ways in which we will be upgrading our own knowledge base. Since understanding and focusing on intellectual capital requires a significant rethinking of what really drives value, he looks at the challenge of intellectual capital leadership has in changing its mindset so it can use the structural capital of organizations to turbo charge the capabilities our human capital. The outcome of this is the development of truly intelligent organizations, but organizations of a very different nature. These new organizations may well evolve into becoming communities, and instead of employees, we will become citizens of those communities.

Edvinsson is the founder and CEO of UNIC (Universal Networking Intellectual Capital AB, at [www.unic.net](http://www.unic.net)) whose mission is to generate new insights as to what an organization's intellectual capital is, as well as how to grow, appraise and better understand how to commercialize it. He is a catalyst for the possibilities inherent in the new era of intangible wealth. He is active in prototyping board of directors on intellectual capital in several countries. In addition, in 2001 he was appointed to the world's first professorship chair on intellectual capital at Lund University.

Edvinsson was formerly the Corporate Director of Intellectual Capital at the Skandia Group, where many of the fundamental ideas of intellectual capital as a whole organizational framework were developed and put into operation. He held the first position of its type in the world of Director of Intellectual Capital at Skandia, AFS in 1991. During his tenure at Skandia, he oversaw the creation of the first Intellectual Capital Annual Report.

Edvinsson is a foremost a visionary of Intellectual Capital. He says, "The future is our home." A sense of the future is underlies the in building a number of Future Centers throughout the world, which are experimental stations to prototype how to create the organizational capital that will be the basis for creating the wealth of the new millennium.

He is co-author of a defining work in the field, *Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower*, as well as contributor to numerous other books and journals. His most recent book is *Corporate Longitude* (2002),

which is discussed on his website, [www.corporatelongitude.com](http://www.corporatelongitude.com). Edvinsson was recognized for his achievements with the awarding of the Brain of the Year from the Brain Trust of the U.K. in 1998.

In light of his work in both training and intellectual capital, Edvinsson has been a special advisor on service trade to the Swedish Ministry of Foreign Affairs. He is also special adviser to the Swedish Cabinet on the effects of the new digital economy, a special advisor to the United Nations International Trade Center and is a co-founder of the Swedish Coalition of Service Industries. Mr. Edvinsson holds an MBA from the University of California, Berkeley.

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## *The Conversation*

### **Value Creation**

**JC:** *How does value get created in organizations and networks?*

**LE:** Value is created if there is a buyer or customer to the organization: i.e., a buyer to the shares, or customer to the product. Actually, the value of knowledge organizations is created mainly outside the organization. The fundamental observation is that value is not created within the organization. It is created on the edge: between the context, the business community, and the organization. This means that the networks are becoming extremely important, as is the sensitivity to the surrounding world. That is also why most organizations of today are perhaps not as efficient as they could be.

**JC:** *When you say they are not as efficient as they could, what does that mean?*

**LE:** It is that productivity is rather low. According to Paul Straussman, most of the organizations on the New York Stock Exchange are having a negative return on their knowledge capital, as he sees it. The intellectual capital (IC) growth model is a model to start to focus on the enablers and drivers for future earnings potential, whether they are networks, knowledge, processes, or innovations. There are a lot of different dimensions and perspectives.

Market capital growth is related to the investor relationship dimensions, while the intellectual capital growth dimensions are related to the phases of the balanced scorecard, or rather the IC Navigator, with the phases and focuses of the ones we developed for the IC process with Skandia.

Here are the major IC process phases: The first is the missionary; the second is the measurement and visualization; the third is the leadership; the fourth is the knowledge technology; the fifth is innovation, and the sixth is capitalization. All those are described very much in the book I wrote called *Intellectual Capital*.<sup>6</sup>

Market capital is the external dimension, and intellectual capital is the internal one.

**JC:** *And they all form the growth model?*

**LE:** Combined, they do. But, you should also remember that there are some organizations that do not have a market cap, like public institutions, hospitals, etc. They could still grow their intellectual capital.

**JC:** *How can an old economy organization use the IC growth model to transform itself into being a new economy organization? This is what you did with Skandia. Are you doing it with other organizations now?*

**LE:** Yes, but I am mainly trying to add value by being a professional board member to organizations, rather than a consultant. First of all, we need to see the economics dimension rather than old economy versus new economy. It is more the same economy but the economics has changed. In the old economy, the economics was based more on having the product as the revenue carrier. In the new economy, the intangibles or the knowledgeable person are very much the value carrier. Most of the intangibles have other logics than the tangibles. For example, the value of a computer is decreasing over time, while the value of software is increasing over time. In the same way, the value of knowledge sharing is increasing, as is the value of knowledge application, etc. We are starting to see that the combined perspective of the new economy, as a new economics, is about the logic of value creation of intangibles.

That is what we were starting to refine in Skandia. The old economy was represented by the insurance, where we were selling insurance products per se. The new dimension of Skandia was that we were launching innovative financial services contracts, with a long sustainable revenue chain. That led to Skandia's growing market cap, and it was the application of the IC growth model that cultivated this.

**JC:** *Can you do that with any organization, if you find the right strategic intent?*

**LE:** Yes.

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<sup>6</sup> Leif Edvinsson and Michael S. Malone, *Intellectual Capital: Realizing your company's true value by finding its hidden brainpower*, (New York: HarperBusiness, 1997).

## Vincent Barabba: Understanding the Enterprise as a System

# 7

Vincent Barabba is the General Manager of General Motors Corporate Strategy and Knowledge Development and is also responsible for overseeing GM's New Business Development Network.

Barabba has been a part of an extensive, long-term effort to infuse a systems thinking approach into how problems are perceived and dealt with at General Motors. He sees that not embracing this approach has been the cause of endemic problems in organizations, and that recognizing the systems phenomena permits us to reconceptualize the complex, significant and unprecedented issues we face in ways that can be successfully dealt with. Barabba draws upon the work of Peter Drucker, Russell Ackoff, C. West Churchman, and W. Edwards Deming to frame his systems view.

The contribution that Barabba makes is that he has come to understand the role of knowledge in an organization from that system's perspective. Knowledge of the system and how it operates is even more critical than knowledge of the particular parts of the system. In developing this view, Barabba offers a balance between the whole and its parts that is still very nascent in knowledge management and intellectual capital thus far. In a related way, Barabba sees the values of knowledge in its use rather than valuing the collection of knowledge, *per se*.

Prior to coming to GM he held positions at Eastman Kodak and Xerox and twice served as Director of the U. S. Bureau of the Census, and is the only person to be appointed to that position by Presidents from different political parties. He served as president of the American Statistical Association, U.S. representative to the Population Commission of the United Nations and chaired the National Research Council Panel to review the statistical program of the National Center for Education Statistics. He has served on the Board of Trustees for the American Institutes for Research and the National Opinion Research Center. He is the author of *Meeting of the Minds* (1995, Harvard Business School Press), and co-author of *Hearing the Voice of the Market* (1991, Harvard Business School Press) and *The 1980 Census: Policy Making Amid Turbulence* (1983 Lexington Books).

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## *The Conversation*

### **Market-Based Adaptive Enterprise**

**JC:** *What are the characteristics of a market-based adaptive enterprise and how is General Motors moving to achieve the vision of a market-based adaptive enterprise?*

**VB:** A market-based adaptive enterprise is an organization that understands its purpose in the broader system within which it functions. It continually challenges the assumptions that underlie that role and adapts or changes that role, as conditions in the environment require.

This approach requires intensive internal education of our workforce – helping them see more clearly the overall role GM plays in the marketplace and in society. During our recent Global Leadership Conference, our CEO, Rick Wagoner, led a dialogue with over 3500 executives based on the Root Learning Maps process. This process involves developing a visual representation of 1) the environment in which we are working; and 2) how our developing strategy positions us to be a leader.

A market-based adaptive enterprise must also effectively use technical, business and market intelligence. This is accomplished by designing intelligence systems based on what we need to know in our decision-making processes.

The use of market or customer intelligence has been at the heart of significant discussions at General Motors going back to the early 1930s. The basic question hasn't changed: "Is the market capable of articulating what it really wants, or must the enterprise bring forward things that it knows it can do that the market is not capable of articulating?" The problem has been, both in the past and to some degree today, that people address the issue as if the answer must go one way or the other. We call this the "tyranny of or." The question is framed in such a way as to suggest that you must either rely on consumer input *or* move forward with company-initiated innovation. In truth, it is possible to effectively do one *and* the other. Conducted properly the opportunity provided by the "and" approach has resulted in greater benefits for GM and its customers.

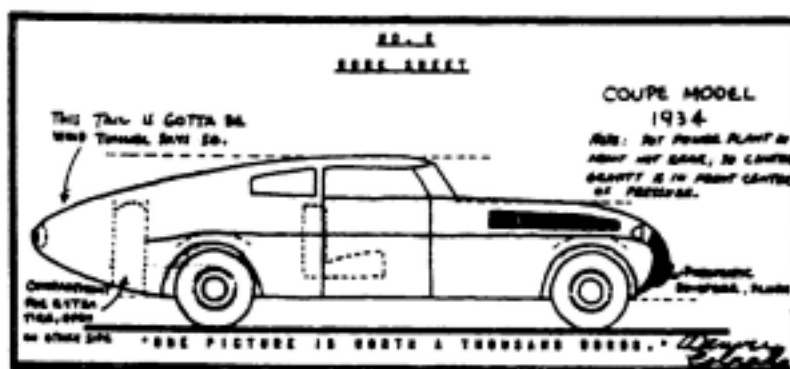
The perspective that says customers cannot tell us what to do has, at times, led us to believe that we must get ahead of customer preferences and then convince them that we know what they really want. There is, as some might expect, evidence that supports that perspective.

There is, however, also evidence that demonstrates that customers are more than

capable of telling us what they want.

In fact, as early as the 1930s, Buck Weaver, GM's first director of consumer research, set about finding out what customers really wanted. I have a chart in my office that shows all the features GM added to vehicles, as well as things that were changed or improved, based on customer feedback. These were features like air conditioning, automatic transmissions, longer bumpers, rubber pads on pedals, and a greater emphasis on safety. In the years from 1932 to 1937, Weaver identified 170 such improvements, all in the name of serving the customer in ways in which the customer wanted to be served.

In my book, *Meeting of the Minds*, I describe some of this research from the 1930s, in which customers fairly well articulated the needs for a minivan, and had ideas for things such as sunroofs and pneumatic bumpers. These were all things that were not on the market until many years later.



Source: General Motors Corp., "Streamlining from the Customer Viewpoint," *The Proving Ground of Public Opinion*, December 1, 1932. Reprinted by permission.

**Figures 7.1** Customer Ideas for Car Features from the 1930's

For possibly the first time in automotive history, Weaver recognized the importance of looking beyond what the company's engineers were already working on. Rather than simply relying on existing market conditions, he used market research to gain

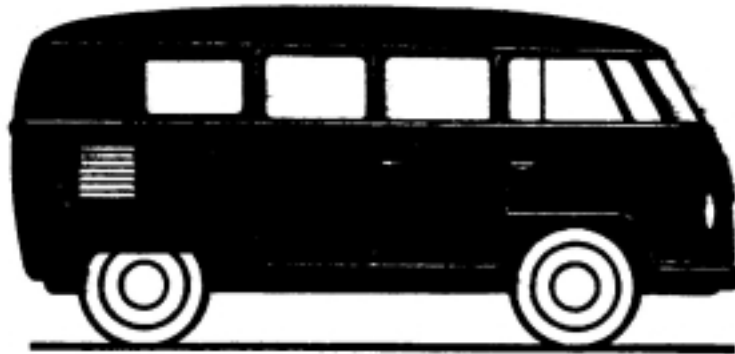
insight into what might occur. In this way, GM's engineers could be better prepared to respond, if and when the possible changes came to be.

One of Weaver's techniques for helping people imagine future vehicles is particularly interesting. He would provide a simple worksheet, and ask individuals to sketch suggestions for design changes. He was generally looking for ideas to enhance or change current design, but what he got often went far beyond that.



Source: General Motors Corp., "Streamlining from the Customer Viewpoint," *The Proving Ground of Public Opinion*, December 1, 1932. Reprinted by permission.

Figure 2-3. Volkswagen Transporter



Figures 7.2 Customer Ideas from the 1930's for Minivans

My favorite is the first drawing we've found of the concept of the minivan, from back in 1932. There's no reason to believe that the person who drew this was telling us "Design this car". More likely, he was describing needs. First, better vision (see how the driver's position is far forward?) Second, a rear engine, because in those days, the engine produced a great deal of heat and odor. And finally, "French doors", which would improve entry and access.

So this is one approach – asking customers what they want. It is equally important

to remember that many available concepts and technologies are not easy to understand. Technology is moving at such a rate that we must take some risk and ask, “What is the underlying need out there? Can we offer solutions that are not yet clear in the customer's mind? Solutions that – if customers were aware of them – would allow us to provide better products and services?” For example, we know that customers care about privacy, individual choice and saving time and energy. If you ask them how well these needs are being addressed, they would say, “not very”. These customers are not directly asking for mobile communications, but mobile communications, when properly administered, could address those needs for privacy, individual choice, and saving time and money – needs that are not easily articulated by customers.

This balance between customer requests and company offerings is why we call this the *market-based* adaptive enterprise. We use the term *based*, rather than *driven* or *focused*, because it is not one or the other. Rather, we are interested in a combination of what the market asks for directly and what we are capable of delivering.

We are seeking decisions based on what the market is talking about. We could, for example, have a situation where there is something the market wants, but we are not capable of delivering it. It is also possible that we have a better solution in our mind and, therefore, we are going to take the risk that our solution, even though it may meet with some resistance, will eventually win out over more easily accepted ideas.

The term *adaptive* is equally important. It reflects the realization that things are moving so fast today that we can no longer operate as we did in the old days, when we said, “Let's go find out what the market wants. Let's look at that closely. Let's find out what we can deliver, and then deliver it. And then, customers will come.” By the time you have gone through that process, something else has happened.

Instead, you need a product development processes that can respond quickly to changing conditions. We must learn how to adapt to change a lot faster than we have in the past.

## Jac Fitz-enz: *Human Capital is the Only Active Asset*

# 8

In this conversation, Jac Fitz-enz examines the leveraging role of human capital in organizations. He views that human capital is the only capital that is active. Without human capital nothing can happen in organizations. He demonstrates that we can measure the value of human capital and the return on investment of human capital. This is important to develop the set of measures that balance human and financial factors. This balance is the hallmark of effective organizations. Fitz-enz also warns that human capital, intellectual capital and knowledge management are in danger of failing unless they become integrated into the way organizations do their business.

Jac Fitz-enz is an internationally recognized authority on human resource management. He pioneered human capital benchmarking and performance measurement. Among his accomplishments is a landmark study of the connection between service, quality and productivity.

Dr. Fitz-enz founded Saratoga Institute in 1977 and is its Chairman. Saratoga Institute publishes the world's largest database of human capital<sup>7</sup> measurements, the Human Capital Benchmarking Report covering over 900 companies. He has authored five books on human capital management. His most recent book is *The ROI of Human Capital*.

Dr. Fitz-enz received a doctorate in communications from the University of Southern California.

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<sup>7</sup> Jac Fitz-enz, *The ROI of Human Capital: Measuring the Economic Value of Employee Performance* (New York: AMACOM, 2000).

## *The Conversation*

### **Fundamental Factors**

**JC:** *Why is a balanced focus on the interaction of human capital and financial outcomes the leading reason for long-term financial success?*

**JF:** My view is that balance is a fundamental issue of nature. Remember from high school biology the process of homeostasis, wherein every living organism strives to stay in balance. Since organizations are nothing more than an extension of human thought and action, it makes sense that an organization should be in balance also. I was not thinking about this when we first did the research, but it turns out that top performing companies always focus on balancing human and financial issues.

Homeostasis in organizations is a fundamental truism of top performers as I originally reported in *The Eight Practices of Exceptional Organizations*. But there is a down side potential to homeostasis, as well. That is, we can spend so much time on analyzing and balancing, etc., that we stagnate an organization, putting it into analysis-paralysis. Like anything else, we can overdue it. Given that as the potential downside, it is still an absolute fundamental for long-term success.

In the short-term you can do anything, practically speaking, including unethical acts such as breaking the law, and make money. That is not what I am talking about. I am focusing on how do we build an institution that we can proud of, that can be successful, can be a contributor to the community, can make money for the stockholders, and so forth, for the next hundred years. If that's what we are looking for ... if we want to build that kind of institution, then balance is absolutely fundamental. I do not think we can achieve our goals without it.

**JC:** *What are some companies that you think achieve that? Or use it as their principle?*

**JF:** Hewlett Packard, Federal Express and Motorola did it well for a long time, as well as a lot of smaller companies you've never heard of. We researched a thousand companies over five years, and came up with this finding.

**JC:** *Was this an intentional effort at balancing or did it just accidentally work out based on the people's intuition?*

**JF:** We studied these companies in both their human and financial performance over a five-year period. We pulled out the top ten percent of those and in doing our report found by accident, that there were eight factors that were typical of these companies that were

not typical of the other ninety percent. Now, it is not a total exclusivity. It is a predominance, or a general lack of performance.

**JC:** *And balance is one of these eight factors?*

**JF:** Balance is one of the three fundamentals. The other two are long-term commitment to a basic strategy, a positioning in the market if you will and a positioning in the community and alignment of culture and systems. This was an intentional effort on the part of the companies to do this.

## Human Capital Value Added

**JC:** *What is Saratoga Institute, and what is the set of macro human and financial metrics that Saratoga Institute is using? What have you learned by using them?*

**JF:** As founder of Saratoga Institute I have been involved in the issue of measuring the effectiveness of people, quantitatively, for over 20 years. Since 1985 we've been publishing an annual report that tracks over a hundred different variables. Those go from macros like revenue per full time employee (FTE), down to micros such as time to fill jobs. The objective of all this is to provide benchmark data by industry, company size, geographic region and growth rate, so that on any particular measure you could compare yourself to somebody else in one of those categories. We will do this in the U.S. with over 900 companies this year. We also work with another 1000 companies in about dozen countries in Europe, South America, Australia, South Africa, and Mexico.

The core of our business is doing this kind of research, publishing principally benchmark data. We also do some publication of best practices.

The more important macro measures include some that we have coined ourselves and some that are fairly traditional. We call the new ones human capital value added. That is a function of teasing out of the profit of the company that which is attributable to people. The formula very simply is Revenue minus All Expenses, except for human expense, which is pay and benefits, divided by FTE's. That gives an adjusted profit for human effort, per employee. That is better than revenue per employee because that is just a gross measure and we do not know what caused it. By using our new formula we can tell that how much value added came from human effort.

There's a corollary measure called human capital ROI, or return on investment, where we use the same formula. In this case, though, the divisor is pay and benefit costs. The result here is a ratio that for every dollar spent on pay and benefits there is a certain amount of profitability. To illustrate: we can get a ratio of \$1.00 to \$2.00 or \$1.00 to

\$1.40, or whatever it might be. Those are two fundamentals that we have used now for a half dozen years.

Another more common measure is compensation as a percent of revenue. That tells us what our cost is for people to generate that amount of money. If we extend that by adding in contingent labor we call it TLC, or Total Labor Cost. We can divide that into revenue and it give ourselves another figure which now accounts for the money spent on contingents. Since contingent labor is somewhere in the high teens and twenty percent of total labor, it is certainly a significant factor that we cannot ignore. We cannot just talk about people on payroll anymore.

This is true everywhere, but more or less in some places of course. We are facing a shortage of labor everywhere. Because of that, organizations are having to be more flexible in the way that they employ people, part-time people, temporary workers of all type, and contract workers. The reality is that the contingent factor is getting more and more significant. We cannot ignore it.

**JC:** *Is the change in organization structure also increasing that, in addition to the labor shortage?*

**JF:** Absolutely. Management is also trying to be more flexible, trying to keep down the core labor force and use contingent contractors more, so that they can be in and out much faster and reduce costs.

But there is another measure that can be used that is atypical, which is turnover by length of service. This tells an organization at what point in someone's career it is prone to losing that individual.

Everybody thinks that organizations tend to lose people mostly in the first year or two, and on average that is correct. It is true that more people leave or are terminated in their first year of employment than at any other point for a variety of reasons, both individual and organizational. Beyond that, we have learned is there are points in a person's career when they are what we would call more vulnerable or susceptible to leaving the organization. Those points tend to come at somewhere around two to three years, again around the five year time frame, and again around eight to nine years.

We believe that the underlying reason for this is that people begin a job and for a while they get a certain amount of reward and satisfaction as well as frustration from the organization they are working in. When a call comes, they see an ad, or a neighbor talks about a new job, there are specific points where they begin to wonder if they have made a good decision to stay where they are. They may start to become frustrated because they didn't get the promotion that they had anticipated getting when they came eighteen months ago or two years ago. These natural points are when a call from the headhunter comes or by some other stimulus, resulting in people being more likely to consider it than they would otherwise. It is useful to have that kind of information to know what percent

of your people or which individuals are reaching those points, and then you can go do something preventative about it.

If I know that you've been here now four years and you are reaching this zone, I can sit down with you and assure you that we really value you and want you here. I can say let's talk about your career, etc., so that you understand that you are an important person to us and not just a cipher sitting in a corner somewhere. Then, if you get the call from the recruiter you are less likely to take that call, or consider the first offer that comes along, than if, after you have been here for four or five years and nobody has talked to you. It happens in organizations all the time that people do not even get a performance review, even professional people. Several times in my career I have been in an organization for a couple of years and did not get a performance review. I just got a salary increase, or whatever. It became clear to me that I was not an important individual. That is why something like turnover by length of services is useful to know.

**JC:** Is this even more significant In our era where the value equation is changing, from the value in an organization being its physical capital to one where an increasing percentage of it is human capital and intangibles?

**JF:** Of course. People are clearly the key issue these days. I think almost everybody agrees with that. There are still some hardheaded manufacturing people who think that the way you solve everything is by another turret lathe or stamping mill, and you do not worry too much about training people beyond just basics of how to do that. But those people are clearly the dinosaurs that are going away - not as fast as they ought to, but they are going away faster.

People, particularly in the service industries and the so-called "new economy" companies, are clearly recognizing that people are the differentiating factor, that human effort is the real lever, that knowledge effort is the lever.

## Thomas O. Davenport: *People are the Owners and Investors of Human Capital*

# 9

Thomas Davenport is a Principal in Towers Perrin's Organization and Employee Research Practice in San Francisco. He provides counsel on human capital strategy, change management, organization effectiveness, and business strategy to clients in the service, financial, retail, and manufacturing sectors, as well as to public sector organizations.

He has made a major contribution to the field by recognizing that the evolution of the New Economy requires managers to think of people as owners and investors of their human capital, an asset they invest in the organizations where they work. This metaphor extends beyond the conventional thinking that people themselves are assets controlled by organizations.

Davenport focuses much of his attention on helping clients improve the people-focused elements of business strategy implementation. He is the author of the book *Human Capital: What It Is and Why People Invest It*, published by Jossey-Bass in 1999. Among the topics he covers is the challenge of attracting, retaining, and engaging workers in a fast-paced, turbulent environment.

Davenport asserts that people must update and upgrade the way they negotiate their investment of personal, intangible equity with institutions. People must think of themselves using the "worker-as-investor" metaphor and recognize that realities of their human capital ownership and what the return on their investment of their human capital needs to be.

Organizations that perceive this change can seize an opportunity to collaborate with their workforce to improve individual and organizational performance. Doing so requires, however, that these organizations produce a return on the human capital invested by employees. Return on human capital investment is the foundation of the relationship between individual and organization.

Can managers make this leap? Some already have, in organizations like Cisco Systems and Charles Schwab.

Davenport's comments on human capital management have been quoted in such publications as *Fortune Magazine*, *Harvard Management Update*, and *Human Capital Strategies & News*. He has appeared on CNN and made presentations to such groups as The Conference Board, the Wharton School Center for Human Resources, and the American Gas Association. His articles have appeared in *Across the Board*, *Management Review*, and other general management and strategy publications.

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## *The Conversation*

### ***Workers as Capital Owners and Investors***

**JC:** *Why do we need to start thinking of workers not as human capital, but rather as human capital owners and investors? What are the major implications of this shift in understanding?*

**TD:** What we are really talking about here is a change in our thinking, a change that reflects itself in a new metaphor. If we think back to the big downsizing events of the early 90's, we remember that CEOs talked about people as costs. When organizations were downsizing, what we read about in the business press was: "We're cutting costs, and that means we're cutting staff. Therefore, people must be costs."

It's almost as though the transformation of people from cost to asset occurred overnight in the mid-1990s. Unemployment had dropped dramatically. The economy was in an upswing. Consumers were generally confident. Prices were under control. Inflation was down. It seemed as though CEOs all over North America got out of bed one morning and said, "Holy Toledo, people aren't costs anymore. We need them to survive. By golly, they must be assets."

For insightful senior managers, the thinking has evolved yet another step. They recognize that employees aren't assets. Assets are passive. Assets depreciate over time. Assets are under the full control of the organization. People have none of these characteristics.

To recognize that people are human capital owners and investors is to recognize that much of the control over the employment relationship has shifted from the organization to the individual. Employees come to work every Monday morning and decide how much of their intellectual, emotional, and physical resources to invest in a business. They can withdraw all or part of that investment at almost any time. They can move it to a different organization, or change the employment relationship, or change the

terms of their implicit contract with much greater flexibility than we saw a decade or so ago. Human capital is a moveable asset, and people – not organizations – control its movement.

### $ROI_w$

**JC:** *What are the implications of that?*

**TD:** From the standpoint of the individual, the implication is that, “I have to do a much better job than I use to do of looking out for myself. I own my human capital, and nobody else is going to see to it that I’ve done a good job of building and investing that asset.”

I define human capital broadly as ability, which I put into several subcategories. Knowledge, skill, and talent are the terms I use most. Things people can learn constitute *knowledge*, which are bits of information and insight one can gather. *Skill* is what people have when they develop the refined ability to apply what they know. *Talent* comprises inborn or intrinsic abilities. Take the total of those elements and multiply it by effort and you have invested human capital.

Viewing people as human capital investors also requires us to understand that human capital investors – like financial investors – require a return on their investment. We might refer to the return on human capital investment as  $ROI_w$ , the return on investment in work. You can categorize the return on investment in work in any number of ways, but I favor four specific categories: intrinsic job fulfillment, opportunity for growth and advancement, recognition for accomplishments, and financial rewards.

When people receive a high return on their investment, they are likely to continue investing and to build their investable human capital. Companies that provide a rich array of returns on human capital investment can expect employees to contribute generously of their human capital to the success of the business.

**JC:** *Who has the main responsibility for building human capital – employees or companies?*

**TD:** When it comes to building their human capital, employees have heard a single message for the better part of the last decade. Companies are fond of telling people, “You’re in charge of your career. You’re in charge of your learning. It’s your responsibility to take the initiative. We as an organization will help you by providing some pathways and resources, but we want you to take the initiative.”

Many companies create a dilemma for themselves in the way they try to manage their expenditures on training. They try to focus their training investments on a few key areas that contribute directly to employees’ ability to do narrowly defined jobs better. Indeed, classic human capital theory says organizations should pay for training only

when it helps an individual build some element of knowledge or skill that benefits the company directly.

But this theory rests too much on a narrow view of the benefits of learning. The reason is that the training, or more broadly learning opportunities, conveys a triple benefit. First, learning certainly helps the organization by building elements of human capital that help people do their jobs better. Better qualified employees produce more for their companies. Second, by helping people increase knowledge and skills, learning enhances the human capital that employees have to invest in generating  $ROI_w$  for themselves. As the individual endowment of human capital grows, so does the potential for earning a high return. Third, learning opportunities are enjoyable and gratifying in their own right. Jean Piaget, the famous child psychologist, was one of the first to point out that people simply enjoy learning. Thus, the chance to learn brings a kind of intrinsic fulfillment that is, merely of itself, a form of return on human capital investment. Companies that scrimp on training or focus learning opportunities too much on specific tasks required by today's jobs might miss some or even all of these benefits.

## Everyone a Manager

**JC:** *What difference does it make that we are moving to a situation where everyone will manage something, but nobody will only manage, and that we all need to know things to succeed?*

**TD:** One of the main implications of this notion of widespread management responsibility is that the necessity to make decisions about resource allocation, service delivery, and even competitive strategy no longer rests solely with people who have “manager” in their titles. For one thing, the world simply moves too fast for a few people to make all the decisions quickly enough. Plus, as a legacy of the downsizing of the early 90s, we simply have fewer managers per employee than we otherwise might. The remaining managers can't do all of the managerial tasks required.

Another issue is that technology and more sophisticated information management and knowledge management mean that people know things and get information that was previously in the hands of managers only. All this produces a situation in which non-management employees have the information required to make decisions, and organizations need them to do so.

It is remarkable how freely people communicate between the top and the bottom of the organization through e-mail these days. Prior to e-mail, an individual's chance of getting a message directly to the chief executive of a company was close to nil. Now, in many organizations, people have a pretty high probability of knowing that the CEO will look at their messages message and may even generate a personal response.

Some CEOs have taken it on themselves to keep open that line of communication. Dave Pottruck (co-CEO of Charles Schwab) is one that I know of. If you send Dave an e-

mail, you will get a response. There are other CEOs who act the same way. People have the kind of access to top management leaders that used to be restricted to formally designated managers.

**JC:** *Pottruck has made a very extensive, special effort to cultivate leadership across the organization. He is quite impressive in his collaborating among his peers.*

**TD:** He definitely has a collaborative style with other senior executives. He believes that whether his organization succeeds or fails depends on how individual people within the company either are, or are not, committed to the organization and engaged in their work. Granted, Charles Schwab has had its share of financial challenges in the last 18 months or so, but I believe the basic philosophy of valuing people still pertains.

I know CEOs who would say in their private moments, “You know, it’s really just five guys that run this company. As far as all the employees are concerned, I hope they do a good job, I hope they care. But, at the end of the day, however irksome turnover is, it’s these five guys that make all the decisions that matter around here.” Broad scale employee commitment and engagement are to them just hollow words.

Enlightened CEOs not only don’t think that way, they don’t act that way, don’t measure that way, and don’t behave in ways that deny the importance of line employees. Pottruck is acting in a way that bespeaks a different metaphor. Whether he realizes it or not, he treats people as owners and investors of the human capital that is his organization’s most valuable asset. And this is key – human capital is the asset; the people who own it are not.

## **Don Tyler:** *Shared Values – The Prerequisite for Knowledge Sharing and Creation*

# 10

The role of values in knowledge generation and transfer is often overlooked and under appreciated. An organization's underlying values will either support or disrupt its effectiveness in achieving its goals. If the leadership acts from one set of values, the middle management from another, and the line workers from a third set of values the dissonance in values will undermine the best intentioned and financed effort. While technology and methodology are enablers as well, it is how the values align in an enterprise that will determine if knowledge is shared and used for desired outcomes. This is as true in a small single site organization as it is in global, extended enterprises.

Don Tyler is an outstanding practitioner in values alignment. He works with client organizations to integrate their culture and values into their leadership and business strategy. He is well versed in both the instruments for discerning the actual values at work in an organization, versus the stated ones, and in developing and implementing strategies for organizational transformation. He knows that one size does not fit all. The values have to fit the purpose of the organization.

Despite the accelerated movement towards global collaboration, the values of one culture cannot readily supercede another. People in one part of an organization or location may not feel that the values framework of the larger enterprise is significant or appropriate to their local domain. The loss of effectiveness, creativity, and efficiency may be great in these cases but the cause may be little noticed. The value statements may be on the office walls, but may not embraced by relevant stakeholders.

Tyler discusses how the array of values can be identified, and the path of change to bring about alignment. This may involve the reality that different sets of values may need to be recognized and respected in the same enterprise. This recognition can provide a new perspective for getting beyond the either/or dominant model to one where diverse value sets can be the basis for innovation and even greater opportunity.

Tyler is a consultant with the Catalyst Consulting Team, where he works with organizations to create cultures that build around a core set of values. Based on his approach he assists high tech companies attract and retain employees, provides executive

coaching, and conducts organization-wide values audits that aid in redefining leadership competencies and organizational processes that sustain customer value.

Tyler works internationally to implement dispersed teams effectiveness training and global best practices.

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## *The Conversation*

### **Knowledge as a Social Construct**

**JC:** *How do you see that knowledge is a social construct emerging through interaction?*

**DT:** The power of information and the power to create new knowledge come from being able to leverage it and move it around between people. The magical part of it all is that it is not like the other commodities where if I have it and I give it to you I lose it. Many different authors have talked about the notion that if I have it and I give it to you, then we both have it and we can both work with it. The only way to make that happen is through interaction. That does not have to be face-to-face, but it means you have got people sharing with people at some level. Without that social context the need for knowledge management is not there because it is all within your head and only you can work with it. Knowledge management comes to the fore when you have to relate it to other people.

**JC:** *Are you saying that sharing with other people makes it a meaningful dimension?*

**DT:** Without that there is no opportunity for the sharing of ideas that creates new knowledge and new applications for existing knowledge. I tend not to think about it so much as sharing knowledge but more as creating meaning as we are interacting. Powerful conversations are created when people ask questions. Inquiry is far more important to creating knowledge than advocacy. We can both advocate positions as well as put them in a knowledge repository, and that is interesting and useful. But when we get into a dialogue, we inquire more deeply into “what did you mean”. By that we rapidly create new connections and insights. In that sense, knowledge management is usefully explored from the perspective of relationships rather than from the viewpoint of stocks of static information alone.

## The Role of Shared Values in Knowledge

**JC:** *Why are values key to relationships in knowledge transfer?*

**DT:** I use a simple formula which is: values + skills = capabilities. By that I mean the values provide the meaning and the motivation (the willingness) to learn new skills (new abilities). Without both of those in play, values and skills, people rarely sustain the new skills in stressful situations because the inner motivation to do so (the values component) is missing or weak.

An example may help to make the point. Think about a time when you were most motivated to learn something new. No one likely had to tell you to do it or to practice hard. The reason was likely that you highly valued the new capability and were self motivated to learn. Alternatively think about a time when you were required to learn a new skill and didn't see the value of it. Learning probably occurred but required an external source of motivation (likely a parent or teacher standing nearby and providing the encouragement).

**JC:** *Does that work in the same ways with different cultures in other countries around the world and how would that affect how knowledge is used, in reference to the impediments or the opportunities for knowledge sharing?*

**DT:** Yes and no. Values create meaning for all of us but the interpretation of what people mean by a given value and how they prioritize them can be very different, leading to the opportunity to misunderstand each other and mistakes in sharing knowledge.

Asian cultures for example are built on values of duty and western society, especially the US is a culture built on individual rights. These are opposite sides of the same coin. Western society is very proud of our tradition about individual rights. The flipside of that coin is duty and responsibility to the whole, to the community, or to the society.

When you put that into context in an organization, the whole concept of responsibility and loyalty starts to take on a very different frame.

**JC:** *To what extent do shared values have to be embraced to ensure success in a knowledge management initiative?*

**DT:** I believe that high levels of knowledge sharing and creation will only sustain after meaningful relationships are established and constantly nourished. The link here for me is that relationships are built most effectively on shared values. Working interdependently for example requires that we develop trust in our relationships before we can truly engage in sharing the most important parts of ourselves and our unique knowledge. Without

deeper relationships we will likely only share superficial knowledge.

**JC:** *Would shared values make the difference in that communication?*

**DT:** Yes, shared values or shared meaning. So often when we talk about values, we talk about very big constructs. I think it is important to break values down into their finest element before you can understand and say, “Ah, I see the difference between what you mean by trust, or what I mean by teamwork, or what somebody else means by collaboration,” for example. Until you get to some shared definitions, you really have not got very much and can actually be fooled by it. Getting to commonly agreed on behaviors to express the values is also important so that we can hold each other accountable to walking the talk.

## **Value Choices and Effective Knowledge Transfer**

**JC:** *How do people's value choices enable or disable knowledge transfer in an organization?*

**DT:** I will try to explain how people’s value choices enable or disable knowledge transfer in the organization. In most organizations I consult with people are stressed or worried about their security. When we are threatened it is a common reaction to be cautious, withhold information and protect ourselves from embarrassment.

If we try to understand why people do not share in the real knowledge we find that most commonly they are in a fairly defensive mode and pretending to co-operate but really holding back, being fear driven etc. In these instances we are likely operating from values of competition, self-preservation or self-worth. At the same time we may espouse values of self-actualization, synergy and collaboration. To be ready to engage in real knowledge sharing we need values underpinning our behavior such as trust, empathy, and collaboration.

In our consulting practice we have done a lot of measurement of numerous organizations. We find that an organization might display a set of values on the wall, but the employees have very different values when measured in our audit.

How the employees prioritize values can be radically different. Depending on whether their value priorities are at all close, we will have real gaps when they come to share really powerful knowledge.

Our values create the frame on how we see ourselves, on what we value most. If we can get to understanding that most of the time the values of people are holding behind the scenes in their conversations are different and we can surface those and move them to be common, we will have a much richer conversation.

## Brook Manville: *Learning in the Knowledge Era*

# 11

Brook Manville is chief learning officer and customer evangelist of Saba Software, a leading provider of human capital development and management solutions. Saba provides a platform of internet-enabled tools and applications for managing learning, skill development, and human capital development more generally. At Saba, Manville is responsible for Saba's research programs, its own learning programs and processes, and a variety of external programs related to the development of Saba's knowledge and customer relationships.

In this session, Manville discusses the evolution of knowledge management and the trends emerging beyond what he sees as our current plateau. One such trend is the convergence of knowledge management and learning. Another is the expansion of the traditional domain of knowledge management to encompass a broader management of "human capital" and also the embrace of the "extended enterprise", which includes partners, suppliers, and customers.

Manville stresses that linking learning to performance will be central to success in the next era of knowledge-based enterprises. He also touches on other convergences, the application of complex adaptive systems thinking, and the balance between so-called "top-down" and "bottoms-up" approaches to knowledge processes in the new organization.

Brook Manville was trained as a historian, and began his career as a college professor. He later became a business technology analyst for CBS, Inc. Through a series of positions and projects over the last twenty-some years, he has linked technology, communications, and education to offer what has become a unique and sought-after perspective.

Prior to coming to Saba, Manville was a partner at McKinsey & Co., specializing in organizational development and knowledge-related strategy, and consulted to Fortune 500 companies in these areas. He helped lead McKinsey's original knowledge management program, and became McKinsey's first Director of Knowledge Management, as well as their CIO between 1991 and 1994.

He is the author of numerous pioneering articles on organizational learning and knowledge management, and has been frequently profiled for his work in these domains. He has also co-authored (with Josiah Ober) the forthcoming book from Harvard Business School Press, *A Company of Citizens: What the World's First Democracy Can Teach Leaders About Building Great Organizations* (2003).

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## *The Conversation*

### **The Evolution of Knowledge Management**

**JC:** *You have worked as a practitioner and written a lot about knowledge management for almost a decade. As you think about the evolution of that discipline, what stage would you say we are now in?*

**BM:** I think knowledge management has come to a sort of plateau; and in many ways, I think the “S-curve” of innovation that it represents is coming to an end. It’s timely for you to be publishing this book, because it is a good moment to reflect on what it’s been and where it’s going. I see knowledge management (KM), on the one hand, becoming institutionalized as a sort of process-driven function in companies, but on the other hand, evolving into something bigger and different—which I’ll call *human capital management* or similar. Its strategic trajectory is really towards the latter. The new S-curve will be about “knowledge management” as part of a broader and more integrated effort to manage and develop human capability for business performance. I don’t mean to say knowledge management is a fad that is dying away—rather that its core ideas and innovations will increasingly make sense in a larger context, and it may well lose its identity, at least in name. But I don’t see that as a problem.

**JC:** *Let me unpack this a little. What would you say are the most workable approaches to knowledge management in today’s workplace?*

**BM:** Here again, given the evolution going on, you have to begin with the definitional problem. What exactly do we want to mean when we say “knowledge management”? There are lots of good things going on in any company called KM, and then there are some unproductive things, perhaps wrongly named as “knowledge management”. And then there are other strategies, processes, programs that are not called KM but probably should be.

I take a relatively holistic point of view, and tend to include lots of different aspects of human and organizational development and management under the umbrella of KM.

One area that early on became identified with KM is measuring intellectual capital and intellectual assets—the economic and/or financial dimension. It is an important part of the mix, and will continue to be so—measuring is a big part of managing. Without tools, metrics, and processes to do so, a lot of this just remains in the realm of theory. I think we are still early in the game about how to do this, and a lot more work needs to be done.

Another classic dimension that became identified early on with knowledge management was the organizational process of capturing, storing, and sharing codified knowledge. Most people today still understand this as the heartland of KM—collecting and structuring valuable pieces of information in a centralized database—along with customer information, research reports, engineering specs, patent descriptions, etc, and making it easy for other people to access and leverage it. Along with this process comes all the related processes and activities of search and retrieval technologies, converting tacit knowledge into explicit, rewards and systems for sharing, etc. It tends to be heavily technological in its manifestation for most people, though I think it is really about much more than technology, even in the so-called classic form.

Once we get beyond these two realms, we start to get more interpretative—meaning not everybody would consider some of the other things I'll mention as knowledge management-- but that is only because the term has come to mean for most people the more narrow type of processes of intellectual capital measurement and sharing via databases. But increasingly there are other domains that are part of the discipline.

First is the whole domain of people networks and communities, particularly communities of practice --the development of communities of practitioners who work together and feel some obligation to one another to help develop a domain of knowledge. This could be, for example Java engineers at a software company or the guys who build brakes in the so-called tech clubs at Chrysler. Probably in this category we ought to include storytelling, developmental change programs, and rituals, the kind of organizational anthropology that learning organization practitioners pursue, like Peter Senge. There is such a bias in the discipline historically towards technology and measurement, that these “softer” dimensions are often seen as unrelated, or at least separate disciplines. In my view that's a mistake.

There are also all the other kinds of learning, whether it is traditional training, as well as individual or group development. Here we can include coaching, mentoring, leadership development, team dynamics, performance management, etc. Finally, we should arguably also include staffing and other forms of people development—moving people around to build their capability and transfer their expertise. Even recruiting and collaboration with suppliers, partners, and customers might be included.

If we are talking about how we develop and deploy knowledge and people in the

most effective way, as well as facilitate knowledge flows across the organization, we are going to touch technology, strategy, leadership development, organization structure, organization design, informal organization, as well as all the processes and structures, including the financial accounting, management processes and quality processes

So at the outer limit, one might ask, “How is knowledge management any different than management itself in a modern organization?” As a broad interpreter and generalist, I think it’s a fair question. In the knowledge-based organization—increasingly every organization today—all management must take account of and be informed by a knowledge perspective. But I do think knowledge management is a subset of management more generally. For example, corporate facilities, cash management, and looking after servers and routers are *not* knowledge management; and knowledge management is clearly different than—though it is increasingly a component of-- overall business unit or corporate strategy and its implementation. But KM broadly defined is a sizable subset of all management in that its focus is anything that builds the organizational capability of an entity through the development of individual people and their skills, experience and knowledge.

Each of the several domains I have mentioned has developed their own workable approaches and practices for improving capability. The trick is to think about how to orchestrate them and make them all work together-- and not see them in isolation as management processes that have little to do with one another, as traditionally has been the case.

## Stages of Knowledge Management

**JC:** *You’ve included a lot under the umbrella of “knowledge management”. How did you come to define it that way? Can you talk about the evolution of the discipline in terms of the stages it has passed through, and how it’s come to be what you describe it as?*

**BM:** My perspective is built on a synthesis looking back on lots of different trends that I see as interrelated. Thinking about stages of development of KM is helpful in framing the day-to-day choices we must make in the field.

The first stage, which we could call it the *zero stage*, was probably in the 1980's, when there was tremendous investment in technology and, particularly, in network and network infrastructure. Everybody began to realize that by connecting parts of the organization through computers and network technology, there would be opportunities for information management, as it was called, and thus improved management of knowledge. I don’t think a lot of people were talking about knowledge management in those days, but the infrastructure for what that came to be KM was being established during that time. Putting in the roads and the bridges was part of the zero phase. Also, during the 1980s academic economists starting working on intangible assets and value creation in the

theory of the firm—but nobody in business was really doing anything about it. So perhaps we should also call that part of the zero phase, that is, laying the conceptual framework.

Next, towards the end of the 1980s, we saw the birth of things like information engineering and the less inflated, simpler notion that any organization can manage the information of its people and processes in a more strategic way, thanks to technology. By the late 1980's there was a lot of emphasis on setting up repositories of codified knowledge, directories of experts, databases of documents, databases of knowledge assets, etc. It was also the period of simple expert systems that, in the extreme, were called “artificial intelligence”.

In the end, however, it was always about codified information; there was little realization and little or no effort made to tap into the dynamic and tacit knowledge of people, or to make the connection between human development and knowledge management. Still, in its time, it was a very radical idea that within an organization we could go to one place, a virtual place perhaps, a database, or just a well-run library and find all the kinds of things that we would want to know about our customers, the research of our organization, or about the past work that we had done for customers. As globalization accelerated, and companies became larger and more distributed they were challenged to keep up with what they “collectively knew”—and basic knowledge management processes, using the new network and database technologies, were invented to address the challenges.

At about the same time, people started to realize the value of best practices and best practice benchmarking. This was partly driven by the quality movement—with all the competitive challenge from places like Japan—and partly by reengineering, which was another competitive response to the major cost, time, and productivity efficiencies in globalizing markets. Best practices required some process of codification, a sustained process of understanding as to what was a best practice, and what was the metric of a best practice. It involved collection, structuring, metrics, and measurement and helped build awareness that the organization could learn from itself, as well as learn from other organizations. Not surprisingly, it was during this time one started to hear the phrase *the learning organization*.

The next phase of evolution should probably be dated in the middle 1990's. By then, there was a growing realization that all of this codified information, information management, technology enhanced databases, search software and that kind of thing was fine, but there was another whole world of so-called *tacit knowledge*, as it came to be labeled. This was the knowledge in people that was not easily codified or captured by a computer network, and was not easy to document for best practice or benchmarking.

At about the same time, and consistent with the whole notion of unseen and difficult-to-codify knowledge, we start to witness the rise of intellectual capital accounting. The question was: “How do we in some way take account of all these intangible assets?” People such as Leif Edvinsson at Skandia and others started to say,

"We should track things, like the age of our people, their years of education, and the amount of customer relationships they each have. These are all intangible assets that need to be part of an accounting system." As I mentioned before, academic economists had been thinking about this for some time, but it was not until the mid-1990s that companies really tried to translate the theory into practice.

In the same general period, there were certain organization development approaches that also came to the fore, focusing on how to unlock the knowledge in people. There was a lot of research into change and change processes, learning processes, and communities of practice. The communities of practice approach holds that it is through communities of practitioners, whose work together creates learning, meaning in the workplace for the practicing members, that tacit knowledge is developed, shared, and reinforced—and translated into competencies for organizational capability.

The community practice practitioners and theorists -- John Seely Brown, Ikujiro Nonaka, Bill Snyder of Social Capital Group, Etienne Wenger of Institute for Research on Learning, and many others—were complemented by an expanding population of consultants, team-builders and organizational development people who made a lot of progress in transforming organizations through structured learning and empowerment processes—tapping into the knowledge and experience of people in the workplace to improve their own and collective performance. During the late 1990s, more radical extensions of this kind of thinking and practice evolved with organizational development approaches based on biological metaphors, chaos theory, scenario planning, theatrical role-playing and the like. And meanwhile technology continued to evolve with the boom of the Internet, the development of intranets, and the cross-boundary management of knowledge and information integrating intranets, extranets, and the Worldwide Web. Sophisticated technology solutions also evolved with development of supply chain management, customer relationship management (CRM) systems and e-HR applications such as talent markets, recruiting/staffing systems, and now integrated human capital management systems (like that of my company, Saba) that track skills, competencies and experience, help assess gaps, and link learning and performance.

Again, much of this may not be considered “knowledge management”. Rather, what has been going on is a steady evolution of different approaches to leveraging human knowledge and capabilities as the “knowledge revolution” advances. It’s not very neat to have to think about all these different things but unless you embrace the complexity and evolution, you end up talking about KM as a sort of museum piece of the 1990s.

## Jonathan Low: *Value Drivers for Intangibles*

# 12

In this conversation, Jonathan Low explores an array of issues that form a perspective and a set of principles for operating in our intangible asset, knowledge-based economy. His research has given him cutting-edge insights as well as a basis for assessing intangibles that make up the bulk of wealth in the new economy. He discusses how decisions are based on non-financial information, the major and recent change in the world's wealth, the nine factors of value and how they work in different types of organizations, and trends that will be shaping the next phase of our era.

Jonathan Low is Senior Fellow at Cap Gemini Ernst & Young's Center for Business Innovation (CBI), a research and development business focused on identifying emerging trends and creating related solutions. He is the leader of the CBI's Performance Management initiative. The work of this initiative is concentrated primarily on valuation of intangibles including intellectual capital, organizational transitions, inter-enterprise collaborations, and other sources of value in the new economy.

Under Low's leadership, the CBI Performance Measurement initiative has produced four major reports and several ancillary documents. The major studies include *Measures That Matter*, *Success Factors in the IPO Transformation Process*, *Decisions That Matter* and *The Value Creation Index*. He and his colleagues have worked with clients, ranging from the largest Global 500 corporations to start-ups in the US and Europe to assist them in realizing the potential benefits of this research.

Low has also organized and hosted an annual conference entitled *Measuring The Future*. He co-published, with the Organization for Economic Cooperation and Development (OECD), *Enterprise Value in the Knowledge Economy: Measuring Performance in the Age of Intangibles*. Jonathan Low is the co-author, with Pam Cohen Kalafut, of a book entitled *Invisible Advantage: How Intangibles are Driving Business Performance*, published by Perseus Press.

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## *The Conversation*

### **How to Assess Intangibles**

**JC:** *What is the changing understanding of the role of intangibles in organizations?*

**JL:** We tend to refer to intangibles not as assets or liabilities but simply as intangibles because we don't think that the balance sheet reference is particularly helpful. You can probably get into a month long debate about whether brand is an asset or a liability because brand is in effect a promise to a consumer that technically makes it a liability. But rather than saying that, the important underlying issues are that there has been an approximately twenty year decline in the relevance of assets and earnings as predictors of stock market performance.

We are in a global economy in which equities are the currency. To the extent that market value or stock market performance is an increasingly important measure of value by which companies are able to both expand and operate globally, we need to do a better job of understanding what drives equity prices. If traditional balance sheet and income statement measures are not doing it, we need to understand what is. What we have done, and what a large number of people around the globe are doing both in academia and in the business world, is trying to do a better job of determining both quantitatively and qualitatively what is driving value in organizations.

Rather than audit, what we need to talk about is: How does one assess intangibles? There are two things that have to be done. First of all, we have to look at the gaps between what executives believe are the factors that are driving value in their organizations and, then we have to look at what organizations are actually measuring and disclosing.

### **Decisions are Based on Non-financial Information**

**JC:** *Is there a gap between perception and reality?*

**JL:** Right. We also need to look at some very hard numbers, which fortunately, many people are doing primarily in Europe and the U.S., but also to some degree in Asia and South America. Then, we need to try to get a grip on what the underlying nature of these relationships is. When I am referring to we, here, I am speaking of *Cap Gemini Ernst & Young's Center for Business Innovation* in Cambridge, Massachusetts, where I am leading our effort. We have through a series of four studies now, tried to address both of those approaches.

In our *Measures That Matter* and IPO research, we first surveyed institutional investors to understand what they felt were the important factors in determining value. The most surprising thing we learned from that analysis was that the degree to which securities analysts refer to non-financial measures, or non-financial factors, determines the accuracy or correlates with the accuracy of their quarterly and annual financial projections. That was a very interesting finding.

Secondly, portfolio managers told us, in no uncertain terms, that at a minimum of 35% -40% of their portfolio allocation decision was based on non-financial information. In other words, this was information that was not formally measured and disclosed by the subject company. We determined from that was that there is a huge market for this information. Further this information is helping to determine market value since the people who, in most of the Western industrialized world, control about 70-80% a typical corporation's equity are basing their decisions to a large measure, on non-financial information.

**JC:** *Was that a kind of a shock when it actually came out in black and white?*

**JL:** Absolutely. Then, we decided as a second step to focus in on a specific aspect of the financial universe to see how this might affect that market. We focused on the initial public offering market in the United States. We looked at every company that had gone public between 1986 and 1997. By eliminating penny stocks, real estate investment trusts and other outliers, we came up with a universe of about five hundred companies. We surveyed those firms and we got an astonishing twenty percent response rate from the CEO's and CFO's of those companies.

We asked them to tell us whether they thought their IPO had been successful, highly successful or unsuccessful. Then, to get into greater detail, we asked about why that was the case. We took their self-reported performance and looked at how their stocks had done. We found that they had been very honest and accurate. We discovered that there was an extremely tight correlation between how they felt they'd done and how the market might have determined how they'd done.

We derived a couple of really interesting learnings from that. About 50% of the companies that went public in that period failed to ever maintain or exceed the price at which they went public. More broadly speaking, we could argue that they failed to add value for their shareholders after they went public. We then looked at what were the statistically significant differentiating factors between the fifty percent that added value and the fifty percent that failed to add value. We found that the only statistically significant factors that could be uncovered were, in fact, non-financial. These factors were ones that were not mandatorally disclosed in any financial reports.

**JC:** *Would not that have substantial implications?*

**JL:** Exactly. We found that the single most significant factor in determining addition of value or subtraction of value for shareholders in an IPO situation was the alignment of employee interests with corporate strategy. That, in simplest terms, frequently means - "to what degree do your employees have stock options?"

## Steven M.H Wallman: *A Level Playing Field for Intangibles*

# 13

Steven Wallman is a recognized authority on securities markets and the challenge of revising financial reporting to account for new drivers of wealth production. He is the founder and Chief Executive Officer of FOLIOfn, Inc., an innovative financial services and brokerage firm, a senior fellow of the Brookings Institution, and former Commissioner of the U.S. Securities and Exchange Commission (SEC).

As an SEC Commissioner from 1994 to 1997, Wallman organized the first symposium addressing the increasing role of intangible assets in the changing economy and the related need to make financial statements reflect this significant shift in business and financial activities. After leaving the SEC, he co-chaired the Brookings Institution study on intangibles that resulted in the report, *Unseen Wealth*. The report serves as a foundation piece for legitimizing intangible assets as a vital issue worthy of study and resolution. The report explored the public policy implications of the growing level of intangible assets in the U.S. economy, and made a number of recommendations in a number of specific issue areas.

Intangibles, such as intellectual capital, research and development, brand names, and human capital have not recognized as having value, but are traditionally seen as expenses. Wallman advocates a core change in understanding and treatment of intangible resources to resolve the disparities that have resulted from the existing framework of valuation. He sees this as essential for the efficient and effective valuation of companies, and even whole sectors of an economy. Without this change, he feels it will be difficult to realistically appraise the value of a business's activities and assets, and make the appropriately informed resource allocation decisions.

Transparency and inter-comparability are two essential tests of a reliable reporting system. Such a transformed system will satisfactorily acknowledge the value of intangible, as well as physical and financial resources.

The conversation with Mr. Wallman explores how an understanding of intangibles is critical to investors, institutions, and governments. He gives a number of

examples of circumstances in which current accounting practices do not take into account the how intangible wealth is created, and demonstrates the need for a continuing review, study, and reconcile of the changing economic value landscape.

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## The Conversation

### Financial Reporting, Intangibles and a Changing Economy

**JC:** *You co-directed the Brookings Institution study, *Unseen Wealth: Report of the Brookings Task Force on Intangibles*. What was the rationale establishing the study and what do you hope to accomplish with it?*

**SW:** The genesis for the Brookings study came from several sources. One was the effort I commenced in 1995-1996 while I was at the U.S. Security and Exchange Commission (SEC) to study the source, value, and impact of intangibles with regard to financial reporting and changes in the economy. The genesis for that came from my increasingly firm belief (back then only a hunch and a suspicion) that the U.S. financial reporting and disclosure system was increasingly susceptible to not capturing certain important drivers of wealth production, basically knowledge-based assets or intangible assets. Moreover, these assets are increasingly important as the drivers of wealth production in both traditional economy companies, as well as what is now referred to as “new economy” companies. Any such potential deficiency, of course, requires study and correction as our system of financial reporting and disclosure is the foundation for providing information to investors and others that results in an efficient allocation of capital resources in this country. To the extent that system is still premised on general accepted accounting principles derived from the standpoint of a bricks and mortar economy, it needs to be updated to reflect changes in the economy and the way businesses operate.

Just look at the juxtaposition of new economy companies with older companies. An easy example is Amazon versus a more bricks and mortar oriented bookstore seller like Barnes & Noble. In Amazon’s financial statements, all of its efforts aimed at creating a brand by building a Web site and engaging in a significant amount of marketing and (by contrast, not spending money on bricks and mortar, big stores and big buildings and other more tangible and permanent kinds of things) is, under current accounting, an expense. But, if Amazon’s advertising and brand-building efforts were focused on building bricks and mortar stores then most of those costs would be capitalized and amortized instead. So, Barnes and Noble’s store building efforts result in

assets on its balance sheet and lower upfront expenses as compared to Amazon, which instead shows no assets on its balance sheet but high expenses during this brand building period. Consequently, if you were to take traditional measures of Price/Earnings, or book to earnings or almost any other traditional measure, Amazon at least at the initial stages while it's growing and building, looks horrible relative to companies engaged in more traditional activities.

On the other hand, Amazon will receive a great gift and advantage as it switches its strategy and operates on the other side of the cusp, if you will. It will have expensed a lot of the things already that its bricks and mortar competitors will have to continue to take a charge against income as a periodic amortization expense. In the future, Amazon's numbers, all things otherwise being equal, will look better than those of a company engaged in a more traditional bricks and mortar strategy. With the current rise and fall of the "new economy" sector, it is important to recognize that this is not now and never was a debate about whose business model is better. It was and is a concern that the information needed to evaluate those business models – both old and new – on a relative basis to each other and to their peers, is increasingly hard to find.

The disparity in how we account for things, based on whether the underlying drivers of wealth production are tangible or intangible, struck me as increasingly obvious and increasingly creating a problem as to the transparency of financial statements. Transparency of financial statements is important so people can both understand the financial statement presentation of a company, and be able to compare across companies and sectors. Financial statements, simply put, need to make sense and they need to reflect business and financial activities – not artificial constructs. The simple truth is that increasingly they are not making as much sense as we wish they would. It is harder and harder to compare company-to-company and sector-to-sector.

In 1995-1996 we studied these issues at the SEC and held the first ever SEC symposium on these kinds of questions. That symposium was controversial at the time, both inside and outside the commission. There were some who believed that there were no real issues worthy of study, and others who believed that simply studying the issue may exacerbate the problem because any solutions would contribute to, not resolve, the issue, and raising the problem would simultaneously erode public confidence in the current system. Still others were concerned that any changes would be mandated, involve significant additional costs imposed on preparers, and would not add much to solving the stated concerns. And finally, some thought the current system with its opaqueness was fine as it encouraged or forced investors to rely more on analysts who were presumably in a better position to discern the true financial position of a company with more tools and time than the ordinary investor could deploy. But the dominant view, again both within and outside the Commission, was that this is a very important issue that has to be discussed and studied, and over time solutions need to be found.

We held a day and a half symposium, which was quite well attended. Joe Stiglitz, the Chairman of the President's Council of Economic Advisors, spoke, as did Secretary Reich from the Department of Labor, as did a number of other stellar scholars and leaders

in the field and surrounding fields. The symposium created a lot of thought and interest in the academic community and elsewhere as to these issues. Professor Baruch Lev, one of the best known academic accounting researchers with a global reputation, created a center at the Sterns School at New York University devoted to the study of intangibles, based in part on being able to indicate that there is continuing interest at high levels of government on these issues. I personally was able to continue to promote this from my position at the Commission, and encouraged additional study of these matters.

## Hubert Saint-Onge: *Creating and Implementing a Knowledge Strategy*

# 14

In this conversation Hubert Saint-Onge delves into the perspectives, experience, policies, and practices of one of the shapers of emerging knowledge-based enterprises.

For over a decade, Saint-Onge has been refining a model known as the Knowledge Assets Framework for the strategic integration of business plans with people management systems, using technology architecture and organizational infrastructure. Saint-Onge was formerly Senior Vice President for Strategic Capabilities at Clarica Life Insurance Company.

Clarica is a Canadian-based financial services firm offering a wide range of life and health insurance, saving and retirement products and other financial services. One of the key elements of Saint-Onge's mandate at Clarica was to facilitate the leveraging of the firm's business through the systematic application of knowledge management and learning organization principles.

With his team, Saint-Onge developed a comprehensive strategy for building capability through knowledge. This led to the implementation of a socio-technical approach where people and technology were brought together in a new organizational configuration. In addition, he led an in-depth exercise to define the values and vision of Clarica to renew the development of the organizational culture in alignment with the strategic framework of the firm.

Mr. Saint-Onge is currently Executive in Residence in the Centre for Business, Entrepreneurship and Technology (CBET) at the University of Waterloo. He also serves as the Chief Executive Officer of Konverge and Know, a firm that implements integrated knowledge strategies based on optimizing business processes and technology solutions.

Saint-Onge was previously Vice-President, Learning Organization and Leadership Development for the Canadian Imperial Bank of Commerce (CIBC).

He is a member of the editorial advisory board of the *Journal of Intellectual Capital* and co-author of the book *Leveraging Communities of Practice for Strategic Advantage*, published by Butterworth-Heinemann.

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## *The Conversation*

### **Ingredients of a Knowledge Strategy**

**JC:** *What do you see as similarities and differences between intellectual capital and knowledge management?*

**HS-O:** Intellectual capital, to me, is about the management of intangible assets. We know that these assets now represent the largest share of the value of most firms and that we need to manage those assets actively in order to optimize the performance of organizations in their respective market place. The stocks that comprise these assets are made up of the individual capabilities of the members of the firm (we call that human capital), the organizational capabilities (we call that structural capital), and customer relationships (customer capital). These three stocks are connected and grow based on the exchange of knowledge between the individuals, the organization, and the customer. The knowledge strategy of an organization is geared to build the capabilities and the relationships that form the intangible assets of the firm. The growth of the intangible assets in turn determines the economic performance of the firm. As such, the intellectual capital framework is a representation of the stocks of intangible assets, while knowledge is the electrical current that runs between these assets to grow the human, structural and customer capital. So there is a clear distinction in my mind between intellectual capital and what we mean by knowledge, or knowledge strategy.

**JC:** *Do you see any overlaps in different roles of both in your knowledge organization?*

**HS-O:** As we evolve towards knowledge-driven organizations, I foresee very different roles emerging. For one thing, I question the typical configuration where we have separate mandates for IT, human resources, marketing, and strategic planning. I believe that this traditional organizational structure no longer works.

For instance, segregating the customer and the member of the organization into marketing and human resources is a rather ineffective way of defining accountability. In the knowledge era, we have found there is increasing evidence of a very high correlation between the quality of customer relationships and the extent to which members of the organization have a sense of ownership for the value created as a result of interacting with that customer. So, these are two groups of people, the customer and the member, who exchange knowledge and transact together with the commitment to create value for one another. There should be convergence in the way we understand and manage people, both members and customers. And yet, we ask two different organizational structures to ensure that their needs are met. These separate organizational pockets, with different mandates and preoccupations, cause the organization to lose the level of coherence

required to optimize both the human and customer capital involved. In the industrial era, when the value created by intangible assets counted for a lot less, this lack of coherence was not as costly. As we entered the knowledge era, with the key competitive advantage coming in large part from intangible assets, we can no longer afford these organizational disconnects.

The same problem exists, for instance, with human resources and IT. A more significant part of the IT mandate now is about increasing our information technology which will be required to bring forward a knowledge yield from transactions. This knowledge yield depends a great deal on the way the technology infrastructure is shaped to enhance the performance of people and the organization as a whole. This cannot be achieved without people management processes designed to access the levels of interdependence and collaboration required for people to exchange knowledge. Increasingly people management will play a key role in leveraging the technology infrastructure to its full potential. This is why splitting the IT and HR mandates will become more and more problematic for organizations.

Now that 80 percent of the value of most firms is in their intangible assets, this balkanized configuration also makes it much more difficult to strategically plan for the development of the capabilities and relationship that form these assets. This is why I believe that we will continue to see the emergence of new structures and roles to shape organizational configuration that will bring greater convergence of between individual and organizational capabilities and the need to build customer relationships.

**JC:** *A lot of people are asking whether knowledge just a superficial fad consisting of placing old wine in new bottles or whether it is a genuinely new way of looking at how the organization creates value?*

**HS-O:** I believe that the knowledge approach offers a new window on the organization, a new perspective from which to look at the organization. It is a perspective that is made that much more relevant by the knowledge intensive business environment that transforms the rules of the game. Intangible assets are quite different in nature from tangible assets and need to be managed quite differently. The real big difference is that tangible assets are by definition scarce, whereas intangible assets are by definition abundant.

Accordingly, when it comes to the management of intangible assets, we will need to adopt an approach that is less controlling in nature and takes more of a systems view of the organization. This is also why the knowledge capital framework places such importance on the interdependence between individual, structural and customer capital.

**JC:** *Why did you move away from the term intellectual capital and move towards the term knowledge capital?*

**HS-O:** I am first and foremost an internal practitioner. I'm entrenched in the day-to-day work of my organization. Once you have understood the perspective offered by the knowledge capital model, it offers a wonderful way of explaining how we are trying to create value in the organization. So, I tend to refer to the model quite often. What I found quite fast was that many people in my organization had a negative reaction the term *intellectual capita*. They tend to reject the term *intellectual* in my view because they see it as either elitist or beyond their understanding. I have found that people naturally value *knowledge* and are more receptive to the term *knowledge capital* to represent intangible assets.

## **Kent Greenes:** *Knowledge Management is About Change*

### 15

Kent Greenes has made knowledge management work to achieve significant outcomes both as chief knowledge officer and senior vice president at SAIC, a diverse, scientific research and engineering company, and formerly at BP Amoco, where he was head of knowledge management and where he created an internationally recognized knowledge management practice. His role at SAIC is to harness the power of learning across the organization and its subsidiaries, and develop new business opportunities based in the emerging knowledge economy.

This conversation is an opportunity to see how a context for knowledge management and an effective approach can be successfully introduced and implemented in organizations. Knowledge management is a process and an understanding as well as a set of tools and a strategy. Greenes says that, at root, knowledge management is about change, which in turn, requires organizational leadership to have a sense of where it wants to go and to be ready to commit to the resources and support to enable the organization to get there. At the same time, it is the people throughout the organization that will carry out the knowledge management initiatives. The trick is to weave a top-down and bottoms-up approach that aligns, and creates the process and performance improvements that will take the organization into its future.

Greenes sees that we are in the second wave of the knowledge era, at a point where people have learned that merely relabelling document management and other information technologies as knowledge management is not the answer. Greenes says this wave is characterized by a growing demand for practitioners with an experience-based track record.

Greenes is a hands-on knowledge management practitioner. He concentrates on how knowledge management will yield a greatly improved performance difference for an organization. He works to have all stakeholders see direct outcomes that benefit themselves and, by doing so, come to benefit the organization. Since he views that knowledge is personal, he works to have people involved on an intimate basis, building relationships that are based on trust, and become as important as the actual knowledge that is generated and shared.

As a result of his work at BP, Greenes was acknowledged by Tom Stewart of *Fortune* as the world's leading moneymaker in knowledge management for delivering \$260 million to BP's bottom line. Greenes says most of the benefit came from working with people to apply three simple learning processes to do things better, faster, and cheaper. The gains were not due to fancy technology, but rather from helping people to learn before, during, and after and apply their learning on the job. He points out that along the way people created wealth of know-how that the company was able to capture and harvest, and make available to other businesses via Web-based knowledge assets. However, as Greenes notes, knowledge capture came second, and added even more value as that knowledge was re-used and adapted by others across the company.

Greenes has worked internationally in a variety of engineering, management, and technology roles in the science and energy industries. He holds a B.S. Degree in Geoscience from Kent State University and a M.S. Degree in Geophysics from the University of Arizona.

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## *Conversation*

### **Project Focused Knowledge Management**

**JC:** *As a practitioner, how do you look at knowledge management?*

**KG:** What I would like to share with you is based on my actual experience in delivering knowledge management solutions over the last 5 years. In every case, this work focused on delivering projects aimed at bottom line business impact, or targeted at strategic growth opportunities. The common theme has been on business performance improvement and learning how to make KM work in the specific culture of the company where it's being applied.

Most of my insights are based on the work originating at British Petroleum in the mid-1990's and augmented by work in about ten other companies since then. I would say I'm more of a practitioner in KM, as opposed to a theorist. What I hope people take away is this is "real stuff". These are things people can do today. You don't have to have a Ph.D. in epistemology, or be an organizational development expert to get it. In fact, those things can get in the way if you try and apply KM without a healthy dose of reality under your belt. People and organizations are all very different, so what you learn in a classroom or apply through some logical thought processes will probably not work first

time on the job. My point is that you do not have to be a rocket scientist to do this. But that does not mean it is easy. In fact, because KM is so dependent on relationships and trust it can be really hard to make explicit progress.

## Challenges in a Flattened Organization

**JC:** *What were the challenges of heading the Knowledge Management Program at BP? What are your new challenges as the Chief Knowledge Officer at SAIC?*

**KG:** It turns out the challenges are very similar, although I did not realize that at the beginning. There were really two challenges at BP. The first challenge came from BP re-organizing into a very flat organization when I took on the knowledge management effort. We had decentralized to the point where in an organization of 100,000 people, there were only 300 people in the corporate center and everyone else was part of one hundred and thirty business units that made their own decisions and became accountable for their own profit and loss. Each business unit developed a performance contract with the corporation. The challenge came in dealing with an organization of the future - a federal model – one that no longer had the traditional hierarchical structures or “organizational” glue to keep people connected.

We all know that hierarchies get in the way, but one good thing a hierarchical organizational structure does is connect the people above and below you in an explicit manner. These connections are channels for information and knowledge flow. Of course, in many organizations this flow only occurred on a “need to know” basis, which meant the open sharing of knowledge did not really occur as freely as the structure implies.

When we flatten an organization, we get rid of those required, or obvious linkages. The result is that explicit gaps are created between businesses and people from different business units or teams. Many organizations are just now realizing the need to put formal or informal processes in place to facilitate the sharing and flow of information of know-how to offset these barriers. We often refer to these as peer processes.

It is a pretty strange turn of events. Companies flatten to focus performance in profit and loss centers, often to create agility at the local level. This agility is supposed to allow these P&L centers to be more proactive and leverage local market conditions and business opportunities in a way they could not when previously encumbered in their more centralized model. Without realizing the consequences, they sacrifice connectivity and continuity with the collective organizational resource to gain focus and short-term business performance. I actually think this makes a lot of sense, as long as they then put the effort in to build back the missing connectivity. They now have the ability to tap the collective intellect of their organization and bring it to bear in their focused business performance. I believe this is why the need for KM has really taken off – it puts the glue back in federal structures and enables these modern organizations to harness the collective power of learning in a very focused manner.

The second challenge was that BP was already a very high performing organization. They were already very successful. They were doing a lot of good things. Most of the business leaders were where they were because they learned how to create radical change. I had a very big challenge in that people were saying, "Why do I need to do anything different?" It turns out when people become successful they become very tough to change.

## Sharon L. Oriel: *Finding “the Hook”*

# 16

Sharon L. Oriel is the Director of the Global Intellectual Capital Management Technology Center of The Dow Chemical Company. She has been with The Dow Chemical Company for 29 years since receiving undergraduate and graduate degrees in biology. Her career with Dow has included experience in central research, plastics technical service and development, plastics marketing, and for the last 11 years, intellectual capital management. Her focus is on aligning, leveraging, and creating intellectual assets and capital for value growth

Oriel is one of the company co-founders of the Intellectual Capital Managers Gathering. She serves on the editorial board of the *Journal of Intellectual Capital*. In addition, Oriel served on the research and development task force supporting the Brookings IC project; has been featured in CFO Magazine, Business Finance and contributed chapters to numerous books. According to Oriel, the future is truly filled with intangible opportunities. Those who navigate these opportunities with wisdom will create a sustainable future. Oriel considers herself a tempered IC radical.

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### *The Conversation*

#### An Evolutionary Journey

**JC:** *How do you as a corporate practitioner apply IC theory?*

**SO:** One of the things that I really like to point out about Dow is that intellectual capital management, for us, has not been a great "Ah-ha!" It has been very evolutionary. It has been a journey. This is because back in the mid-50's, when we formed our first strategic business units, the president of the company, created a function called patent

administration. This hasn't been a fad of the week for us, or a "Gee, we need to go do this." Since we are a science- and technology-based company, we've always said we needed to manage our inventions.

What has changed is that we've gone from managing inventions for R&D, to managing and thinking of patents as intangible assets with the potential to create value for the Dow Chemical Company, and really getting the businesses taking ownership. Now we are journeying towards the next generation of broadening the practice to include all dimensions of intellectual capital: the people, the processes, our customers, our suppliers, and our external relationships.

From a practitioner's standpoint, we understand the theory, we go to the conferences, and we build on the foundation we have. But a key point in applying intellectual capital theory at Dow has been to find what I call "the hook". I say this to anybody I speak to because, regardless of whether you are in a service company or a very bricks and mortar company, you need to find out what your business or your business unit is struggling with. Ask where you can show value if they manage their intellectual capital. Our hook was cost savings. We made it very clear that the way we were operating was costing us money, and we were not getting the best returns on our intangible assets. That was our hook. A services company can look at employee turnover or training issues, but always find the hook. The hook enables the practitioner to apply the theory. Only now at Dow Chemical, are we using the term *intellectual capital* inside the company. That is because only now is the company ready to grapple with its broader meaning.

If we walked in and threw out some of the terminology that we hear at conferences and that we read in books, people would either throw us out of their office or be very polite and then go about their old ways. So, again, find the hook, translate it into corporate terms, and then pick up the third key: senior management support. We had that initially in the form of Fred Corson. Fred was the corporate vice president for R&D and a member of the board of directors. We had Fred's support to do this. That was key. This support continues today with Rick Gross as the corporate vice president for R&D.

**JC:** *When did you actually start?*

**SO:** In terms of intellectual asset management and intellectual capital management, I would put the start date at 1990-91. The antecedents for that actually go back to the 1950's, as I mentioned.

**JC:** *Did a light bulb go on or was there a convergence of factors prompting the shift from one kind of effort to another?*

**SO:** Fred Corson was really the light bulb. I will tell you a personal story. I was a marketing manager in our plastics business. Fred came to me in 1989 and said, "I would like you to consider taking this position in what was called inventions management." I

looked at him and said, "Fred, that's where people go to die." He responded, "No, you don't understand, Sharon. We need to change this. You've been in basic research, you've been in technical service and development, and you're now in marketing. You understand how the company works. You're the kind of person I want to start populating this function." Gordon Petrash was also brought in to run the group. Gordon came from our corporate product department, which managed Dow products on a global basis. Fred started populating this invention management function with people with a different skill-base and a more business-driven outlook.

**JC:** *It shifted from technician, technology perspective to a business perspective?*

**SO:** Exactly. That was the real key. We had to be able to then translate the value of intangibles into business terms. At about that same time another factor came into play with the formation of the U.S. Court of Appeals for the First Circuit for enforcing patents. A third factor in the mix was that patent fees went up. There's usually a monetary driver. Since we were a company with a very large patent portfolio, we also had a large maintenance tax liability over the life of that portfolio.

The fourth thing was that internally, we started shifting the costs for obtaining and maintaining patents directly to the businesses. Previously, patent cost had been hidden in corporate overhead. That provided us the hook.

A story I like to tell is about a new business director. I went to that new business director and said, "How would you like to save \$3 million?" He looked at me said "Is it legal?" I said, "Yes". And he said, "Make it happen." Then he said, "Just what did I just authorize you to do?" We had technology we acquired from Upjohn's chemical division several years before, some of which we were never going to use. But this person's predecessor had the attitude, "Oh, I'm going to keep it just in case." It was obvious the business was never going to leverage it. The new business director understood that, and he also understood there was a cost involved with keeping it on the shelf. That's a very tangible example of what I mean by "the hook". That business director didn't have to go read 200 patents and 15 agreements. He knew that I'd done the homework for him, and said, "Make it happen." That established the basis with that business director to start managing their intangible asset portfolio.

**JC:** *So you had to have some idea before you walked into his office that you could save him \$3 million.*

**SO:** Absolutely. Another important advantage that Dow has had in managing our intangibles is not only the legacy organization, but we have an in-house database, which is more than twenty years old. We have had this database electronically, with all of our disclosures of inventions, all of our filed patents, all of our issued patents, and all of our agreements dealing with intellectual property. Many, large corporations are only now

getting there and establishing such databases. In contrast, we've had a very valuable tool for many years.

A further advantage is that all of our intellectual assets are tied to a business. With a few keystrokes we can identify what assets belong to what businesses and what products are protected.

**JC:** *Is that all across the organization?*

**SO:** Yes.

**JC:** *Do people know that they have to do that kind of thing?*

**SO:** Yes. Dow's intellectual capital initiatives today are really the key to our sustainable competitive advantage. They are absolutely essential. I am finding that when a new business platform is established, the person leading that platform asks for someone to manage their intellectual capital...because in many cases, starting out - that is all they have. That's a real change.

## **Success is Making Intangible Value Visible**

**JC:** *What prompted that change?*

**SO:** We have shown the value of managing intangibles. We formed Dupont Dow Elastomers because of the intellectual capital that was involved. This is one case that has shown the value of intellectual capital management and made it visible throughout the company.

Dupont had the market franchise in elastomers. They owned that marketplace, they had the manufacturing, they had the sales, but their technology was aging. We had new technology, and a very small elastomers business. We brought the new technology -- Dupont had the infrastructure. Instantly we created a billion-dollar company. It is 50/50 partnership. We brought no bricks and mortar to that. It was all intellectual capital.

**JC:** *That is impressive.*

**SO:** It's stories of those kinds of successes that make the difference. We have successfully used our intellectual capital in some major litigation. We have created some significant new sales, using our intellectual capital. We have found the hook... and it's money. It's that simple. We actually have T-shirts that say, "*We show the money.*"

## Stephen Denning: *The Springboard Story*

# 17

Stephen Denning was a key player in the strategic shift of the World Bank towards becoming a knowledge-based organization. As the lead person for instituting knowledge management at the World Bank, trying the generally accepted approaches to communicating the complex idea of knowledge management with marginal success, he discovered that storytelling was the most effective vehicle for about “knowledge management”. This is not storytelling in the entertainment sense, but storytelling in the sense of conveying the kernel of a significant change experience. He has found that storytelling is a vital element for developing a knowledge sharing culture and a knowledge-based organization. Without it, he feels that the World Bank would not have achieved the change in emphasis to knowledge as a central pillar and resource that it has become today.

Denning has written about the evolution of storytelling into becoming a powerful tool for organizational change and knowledge management in his book, *The Springboard: How Storytelling Ignites Action in Knowledge-Era Organizations*. In recognition of his knowledge management accomplishments at the World Bank, he was selected as one of the world’s Most Admired Knowledge Leaders.

From 1996 to 2000, Denning was program director, knowledge management at the World Bank. A lawyer by training, Denning held various management positions at the World Bank. He is consulting and giving workshops with other organizations in the US, Europe, Asia and Australia on knowledge management and organizational storytelling.

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## *The Conversation*

### **Beginning a Knowledge Initiative**

**JC:** *What prompted the World Bank to begin its knowledge management initiative? Have the leadership's expectations changed since you began the initiative?*

**SD:** We began in 1996 to consider what the future of the World Bank was going to be. There was a lot of public discussion as to what the future of the World Bank. It had been for most of its 55 year life a money-based lending organization. It was becoming apparent by the mid-1990s that the lending function was to some extent being met by the private sector, which was now providing financial flows that were a large multiple of what the World Bank was providing. When the World Bank was founded, this alternative did not exist for most of the countries.

The Bank's future as a purely financial organization was unclear. The Cold War was over, and a lot of political events had occurred that also raised questions about why the World Bank continued to exist and what was to be its future.

We started considering information as one of the things that was troubling to us. We were drowning in information. But, even more important was our idea that knowledge lay at the heart of the whole development process. We had acquired a tremendous amount of know-how as to what works and what does not work in trying to reduce global poverty. So we started to think: Suppose we could share that know-how, not only among the staff, making it easily accessible, but also sharing it with everyone around the world who could make a difference in the fight against poverty. This would be not only the direct clients who were borrowing from the World Bank, but also all the other millions of people who were involved in taking decisions affecting poverty, so that they had better know-how, and could have more of an impact. Then we could become a really useful kind of organization for the future. We began talking about this as an idea in early 1996.

I had been asked to look into information but it seemed to me that if we dealt with this huge volume of information, we would, at best, become a more efficient organization. We would save money but we would still be basically the same organization. But, if we started to share our know-how in a systematic fashion we could become a very different and more relevant and exciting kind of organization for the future.

That was the vision, and I would say it is still. As implementation has gone on, we have learned a great deal. Some things have worked much better than others. And, some

things that we had not thought of doing, we have ended up doing a lot of. We have had to innovate as we have proceeded in order to make the vision work. But, I would say that the vision is still essentially, in very broad terms, the same vision.

**JC:** *What did knowledge management mean to the leadership at the beginning? Has that shifted?*

**SD:** It did not mean anything. In fact, one did not really explain it by explaining the term, *knowledge management*. My experience was that when I started trying to define this phrase, it was very difficult to explain. When I tried charts, the way the consultants use charts, I found that they did not really work. People found the charts as puzzling as the term knowledge management. When I tried prose, people did not read it and that did not work. If I could turn to a dialogue with someone and spend a week with them, I could then get to understand their problems and show how this would respond to their concerns. But this took a week and typically I did not have a week. I would usually have something like fifteen seconds, or five minutes, and so one had to move more quickly.

The only thing that worked for us was telling stories or giving examples of how this phenomenon had worked, either inside our organization, or elsewhere. And, enabling people, then, to co-create the vision of what the organization could become.

**JC:** *That gave the leadership an idea?*

**SD:** Those examples enabled them to imagine the vision for themselves in their own words, and in their own context, what it meant.

I would tell them, for instance, a story about Zambia, which was one of the stories I told in 1996. I said that, “The future is going to be different. How? What will the future look like? It will look like today.

“Let me tell you about something that happened in Zambia just a few months back in June 1995. A health worker in Kamana, Zambia, logged on to the website for the Centers for Disease Control in Atlanta, Georgia, and got the answer to a question on how to treat malaria. And, that was June 1995, not June 2015. This was Kamana, 600 kilometers from the capital.

“And, this was Zambia, one of the very poorest countries in the world. The most important part of the picture was that the World Bank was not in it. We didn't have our know-how organized so that we could make it available to all of the people inside and outside the organization so that they could use it in the fight against poverty. Just imagine if they could use that know-how. Just imagine if we had our know-how organized in this way, what an organization we could become.”

Telling that kind of a story enabled a number of senior managers and many front line staff not to think so much about Zambia, or health, or Kamana, but to think about their own context. They started to think, “I’m in finance, and we could do that in finance. Yes, why not?” Or, “I’m in highways in Latin America. Yes, we could start to get organized. Yes, that might be interesting.”

As a result of that process they started to imagine what the World Bank could become and what their lives in the World Bank could become. In the process, they became very excited about this as an idea. In due course, they persuaded the president that this was an exciting idea and he snapped it up, to his great credit.

**JC:** *Is that how it moved from the background to the foreground?*

**SD:** Right. The president was interested in information. He had been talking about the idea that we should be doing something in information, so he was quite interested in this general area. He was a strong and effective leader in encouraging the idea, in picking it up and dramatically announcing it at the annual meeting in 1996. He has stayed the course, and has continued since then to champion it in the organization. This shows how important it is to have a leader in an organization that can understand an exciting idea and can support it consistently over time.

## **Strategic Intent**

**JC:** *What is the relationship between the World Bank's knowledge initiative and its ability to accomplish its strategic intent?*

**SD:** It has become a central pillar. We have been a lending organization. Now the official strategy is that knowledge is on a par with money. I would say over the coming period we will see knowledge as more important than money. It will become the more important pillar.

**JC:** *Will knowledge become the currency of the Bank?*

**SD:** In a sense, yes. When we started in 1996 the World Bank did not have a mission statement. We had been in business fifty years and had no mission statement.

When we were trying to get the knowledge initiative launched, we could not refer to a-mission statement and say this would be a better way of achieving the mission. We had to say, “Imagine if we had a mission statement, what would it be like, if knowledge was a big part of it.” And, that is what happened. The mission statement was finalized in

January 1999. One of the reasons why it could be finalized was that by then knowledge had become a big part of our activities.

The dilemma that the management had been struggling to resolve for fifty years was: We are a lending organization, but we have also something to do with poverty. What is the relationship?

Obviously, if we are just a lending organization, we could never hope to achieve a great reduction in global poverty, so there was a significant disconnect. The disconnect was solved when we said, "That's right. Our mission is to fight poverty. And, we have two main arms to do that. One is money, that is, lending, and the other is knowledge."

Once that was in place we could come to closure on the mission statement. Our mission statement is: Fighting poverty through lending and through sharing knowledge. There are other means, but essentially, those are the two main pillars.

## Alex Bennet: *The Knowledge-Centric Organization*

# 18

Alex Bennet is co-founder of the Mountain Quest Institute, a research and retreat center focused on achieving growth and understanding through quests for knowledge. She served as the chief knowledge officer for the U.S. Department of the Navy from 1998 to 2002, where she pioneered and lead the development of the Navy's enterprise-wide knowledge-centric organization (KCO) effort. She also was Co-Chair of the Federal Knowledge Management Working Group.

In addition to her extensive and diverse career with the U.S. Navy, Bennet has published over 500 articles, edited several books on knowledge management and e-government, and is co-author of a book on the Department of the Navy CIO implementation strategy.<sup>8</sup>

Alex Bennet sees that we are moving from the information age into an age of complexity, and knowledge is the best and perhaps the only answer to this complexity age. She believes that knowledge, when used in conjunction with strong values, can make a positive difference, can move us forward and promote growth in our chaotic and, complex, and uncertain world.

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<sup>8</sup> Dan Porter, Alex Bennet, Ronald Turner, and David Wennergren, *The Power of Team: The Making of a CIO* (Washington, D.C.: U.S. Department of the Navy, 2002)

## *The Conversation*

### **The Role of the Chief Knowledge Officer**

**JC:** *What is the role of the Chief Information Officer in the Department of the Navy, and where is that role situated in the infrastructure?*

**AB:** The role of the chief knowledge officer for the Department is situated with the chief information officer (a direct report to the Undersecretary of the Navy) and is the responsibility of the deputy chief information officer (DCIO) for enterprise integration. While I was in that position, I also had overall responsibility for policy and guidance in the areas of information management/information technology strategic planning and workforce issues, as well as enterprise licensing and the communications and outreach program. Situated at the highest level of the secretariat infrastructure, the role was primarily that of a leader and champion, integrator, and change agent.

### **The Environment**

**JC:** *What kind of model(s) for knowledge management do you see is effective for creating an environment that's conducive to knowledge creation, knowledge sharing, knowledge value capture for the Navy?*

**AB:** Knowledge creation, knowledge sharing, and value capture are very different things, even though they are all inter-related. We are going to focus on the environment. The Department of the Navy includes the Navy Department and the Marine Corps, as well as the Secretariat. It is a large frame of reference. We are the largest navy in the world, with nearly a million people directly connected, and an even larger support framework of interconnected people both inside and outside of government. The result is that there is not one specific environment in which we operate.

Imagine the differences that occur across such a large – and geographically dispersed – organization. There is a different environment in undersea warfare than there is in surface warfare, than there is in the Marines who are on the land, than there is in our air community. And, that is just one way of dividing it. Then, you have the environments that are differentiated by uniform, civilian, and contractor, and we are all part of the same team.

Yet, there is an integration even among those kind of things because most of the people who are in our contractor realm actually come out of the service. And, most of the people that are civilians go on to become contractors. There is a trade there. There is a loop. There are a lot of young people that are starting in contracting and then go into the service, and into a uniform. We have an incredibly fluid movement of people even though we have a differentiation in the segments of our population.

We also have incredible geographical dispersion. We are positioned around the world. At the same time, our points are not static. They are continuously moving and fluid. When someone is out there on a ship, he or she is part of a community that is literally moving and changing its location continuously.

We have a very different environment than any other organization that I know around the world. We are not the same as the other services either, because we have all four types of activities as part of our department.

I would like to discuss those values that are in the environment that perhaps facilitate the creation of knowledge and the sharing of knowledge.

## **The Importance of Knowledge**

First of all, warfare and technology are inextricably related. If we go back and look at who has won wars in the past, we discover that the outcome was very dependent on the technology that was known and used in the process of warfare. Let's go back to the very beginning with the cavemen. When the spear was first developed, a technological development, it gave its possessors a definite advantage over the club. We can go on and on throughout the history of warfare with that same analogy.

Therefore, we recognize the value of technology related to what our mission and vision here. That has direct connectivity to the advancement of technology.

Secondly, we highly value the importance of knowledge because it relates directly to our success in warfare. If we are in the mode to defend we must have high situational awareness. We must have knowledge of both ourselves and of our opponent. We must have knowledge of the battlespace, knowledge of ourselves, and knowledge of the opponent. That is quite easily put, but very difficult to do. Further, it is dependent on the information that we get fed in and how we connect it up. We have in that business since the very beginning of warfare -- since the very beginning of the Department.

What is different today is that via the Internet everyone has access to everything, and there is almost an exponential increase in the amount of data and information. Because everyone is creative and everyone has access to all of this information now, we seem to see more creativity happening in our people, more growth, both internally and externally.

Our environment has the requirement and the demand for what Dow Chemical's definition of the "right stuff, right place, and right time." To be successful in our responsibility, we must ensure that we have the best knowledge and we use it in the best way possible. That means focusing and developing our people. Particularly on the military side that means we have to have outstanding training programs in which we try to grow our people into decision-makers so that they have the ability to use all of this newly available information. You will also find that we have cutting edge information systems. We are at a different place than most other government organizations because our very success of our business is dependent on all of the things that are part of knowledge management, that are also part of knowledge creation, and knowledge sharing.

We highly value innovation. We highly value new ideas. We want to stay on the cutting edge of technology, of processes, of decision-making in order to succeed at what our vision mission in life is. That is number one.

## **Knowledge Sharing**

Let us discuss the sharing piece. We have the same barriers that other government organizations have to sharing, and perhaps external organizations have as well. These include the "not created here" syndrome, the "knowledge is power" issues, and on and on. All of those things are embedded here. What is different about the Department of Navy is that, side-by-side with those other things, we have a very high degree of social capital. Our people, particularly in uniform, rotate every two to three years. They move in and out and around the system. We have a flow of people in, out, and around. In addition, once they have been in a situation that can be life threatening, whether it is a warfare situation or simply being on a ship when there is a problem with the ship, our teams must work together. We have a sense of team that even the other Department of Defense organizations do not have. We have ships out at sea that are a group of people that are truly a community in the great sense of the word, and that have to be dependent on each other. There is not one individual on that team that can run that small community or city by itself.

We have learned the value of teams when we are at sea on our ships. That does not always come into the offices, but we do have those learnings there. As a result, we value teams. We recognize that importance, and when we have an emotional experience, when anything that goes wrong (and that happens all the time), when we have been through a conflict situation anyone that is connected with that team or with that unit, before, during, or after becomes a friend, becomes a part of your network *for life*, for the twenty years of active duty service and beyond that, as a retiree in the naval reserves.

We build relationships and networks that stay in place for the lifetime of an individual that are built on a shared understanding, a shared conflict that was overcome. We have built trust. We have built relationships in a way that is very, very difficult to do for people who are not in those kinds of situations that have the potential of affecting life

or limb in some way. As a result we have a very high social capital and a very fluid high movement in and out, around and about our organizations.

Yes, we have some stovepipes within those communities. Yet, because people go in and out and among those communities and because those communities are reliant on each other, they are very reliant. The planes are right on the ships and the subs are there protecting both, and we have Marines that ride on all of our battle groups. Because of that intertwining and reliance on each other, we gain a fluid cross exchange across lines. When people are in like situations they become closer, which has helped us move fluidly across some of those very natural stovepipes when people are focused very much on one area and not the other.

## Epilogue: Convergence – Toward the Next Stage

### Synthesis

While all the contributors to *Knowledge Capital* start out from their own unique perspectives, clusters of ideas, experiences, and capabilities emerged across the sessions that pointed the way to a framework of the next generation of the knowledge field. While a number of these capabilities already exist in various stages of development in different organizations today, their power will become reinforced and magnified as they mature and link together to become the basis for how the knowledge-based enterprise does its business.

This epilogue is a synthesis of these areas of convergence. Look at these clusters as elements of a roadmap that guides you to the next generation of the knowledge-based enterprise.

The areas of convergence explored are

- fulfilling the promise,
- knowledge as a factor of production,
- diverse in form but with common principles
- knowledge as a valued asset,
- market-based adaptive/springboard enterprises,
- knowledge capital strategy,
- values alignment,
- core components in place,
- learning,
- getting the knowledge enterprise off the ground,
- from audit to assessment,
- alliances,
- intellectual assets and intellectual property
- future centers

You can start your journey to create a knowledge-base enterprise by mapping the points of convergence to the kinds of practices in your own organization. Gauge how your organization is structured, aligned and its recipes for its operations. Note where your obstacles and opportunities are. Then begin, step-by-step, to build the capabilities that will transform your organization over time into a winning, knowledge-based enterprise.

## **The Wars of Capabilities**

The upcoming enterprise wars will be wars of capabilities, not wars of position. They will be won by knowledge-based enterprises that understand that the future is theirs if they build for it. While financial and physical resources capital will always be important ingredients in any successful business recipe, it will be the ability to leverage usable knowledge capital that will give the knowledge-based enterprise its edge. Enterprises able to engage their network workforce, strategic allies, and customers and can execute will have the advantage. Absolute size and vast amounts of resources will not be the core factors that determine success. In fact, massive size and immense, but immobile, resources may be detrimental. Instead, it will be the ability to cultivate and mobilize resources in imaginative, intelligent, and unpredictable ways that will make the difference.

## **Fulfilling the Promise**

The next generation of the knowledge movement moves from the edge of its current practices and insights to fulfill the promise of the knowledge movement. Next generation knowledge initiatives are more rigorously defined, measured, and have clear sets of benefits. They integrate knowledge value creation, value capture, and the ability to realize that value into a holistic knowledge framework. They also fuse knowledge capabilities together with other capacities to produce strategic outcomes.

These enterprises complete the shift from the dominance of “congealed resources” of the industrial era, where goods and services were characterized by a high proportion of physical resources and a low proportion of knowledge resources, to one emphasizing “congealed knowledge” offerings, where the primary ingredient is intellectual content, either embedded in a physical package or standing alone. In short, the knowledge input of the goods and services will be what differentiates the offerings and provide the prime degree of value to customers. To support the knowledge deployment and incorporation, the enterprise itself will use technologies that provide an increasingly frictionless basis for the exchange of knowledge, allowing knowledge resources to readily flow throughout the extended enterprise and become the lifeblood for renewing the enterprise’s network and its offerings.

To support that flow, a next generation knowledge-based enterprise is characterized by a sound foundation of values, a knowledge strategy, a clear vision with strenuous goals, and the requirement that all people in the extended enterprise are autonomous owners of the human capital, but freely share it with their colleagues.

## Moving to the Next Generation

The elements discussed here are a number of the dimensions of a next generation knowledge framework. While there will be new developments and perspectives emerging every year, this group of dimensions provides a baseline opportunity to take a good look at an organization and benchmark its readiness to operate as a knowledge-based enterprise. Anyone in the enterprise, from the leadership to the front line, can today map out how the enterprise looks at knowledge as a factor of production, as an engine for change, and as the basis for building the future. That is an exciting and valuable perspective. It is also a highly participatory perspective.

Be part of engaging in the conversation involved in creating the next generation of knowledge-based enterprises. Look at your organization and see how well it is embedding knowledge into its processes, practices, perspectives, and actions. Begin the process by sharing the materials in *Knowledge Capital* with your colleagues. Try out the ideas and practices discussed in one of the chapters. Your new experience will stimulate you and your organization to rethink the “business recipes” you use. In the course of your conversations you will build the knowledge-based enterprise.

The message is that no one owns the future, or the next generation of the knowledge movement. There are also no predetermined winners in the upcoming “Wars of Capabilities”. Those wars will be won by those who perceive that the world is continually changing, that knowledge is a central ingredient in any business recipe, and that a knowledge-based enterprise will be the best opportunity zone in which to be.