

Annotated Bibliography for Knowledge Management

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Knowledge Management Working Group

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"The 9/11 Commission Report." National Commission on Terrorist Attacks Upon the United States. New York, NY: W.W. Norton, 2004.

In many ways, the 9/11 Report confirms what many believed in the days following the terrorist attacks – the failure to manage information and knowledge lie at the heart of the tragedy. In addition, the beliefs about decision-making embedded past thinking regarding hijackings, something the enemy surely understood, and the resulting protocols and processes were therefore an impediment to decisive and effective action. The sole victory of which we are aware occurred when the terrorist piloting United 93 “was defeated by the alerted, unarmed passengers of United 93 (14).” When the passengers gained information regarding the other attacks, they were able to ignore the deception (claims of a bomb) and hijacking history (no suicide hijackings in U.S.) and take action in an attempt to regain control of the aircraft.

The reader may be left to wonder if the unprecedented act of grounding all aircraft over and bound for the U.S. represented an unexpected and unwelcome surprise for the enemy. Throughout the report, it is clear that effective actions were taken outside official protocol (Boston Control contacting NEADS, Gen ordering scramble from Langely without authorization, flight attendants calling airline offices, etc.). The official processes were based on historic assumptions regarding hijackings, a flaw that the enemy exploited to enormous effect.

"Information Sharing Strategy - United States Intelligence Community." Office of the Director of National Intelligence (ODNI). Washington, DC, 2008. (Available: http://www.dni.gov/reports/IC_Information_Sharing_Strategy.pdf)

Referencing Presidential guidance as well as previous reports (9/11 Commission, WMD Commission), this strategy lays out a vision of the intelligence community that is radically changed from the model established in 1947:

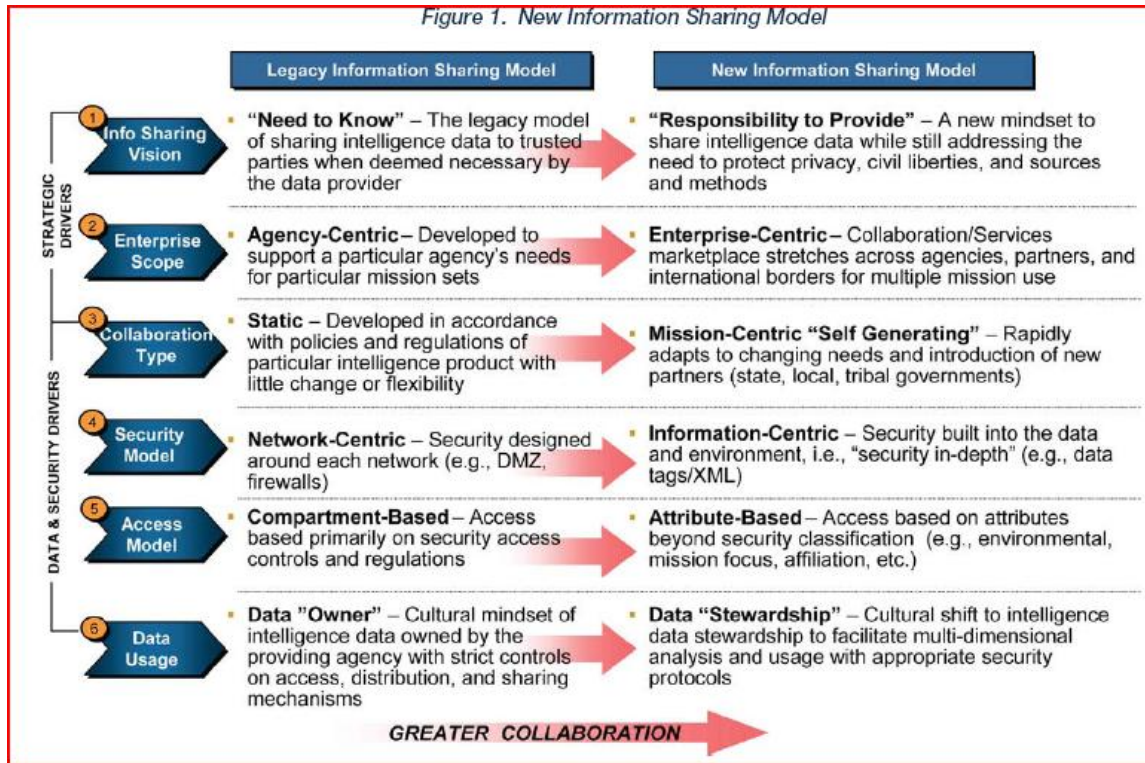
“An integrated intelligence enterprise that anticipates mission needs for information by making the complete spectrum of intelligence information seamlessly available to support all stages of the intelligence process.”

Stresses a change in the “need to know” culture, first called for in the 9/11 Commission report, and repeated often throughout recent literature. The change involves moving from “ORCON” (Originator Controlled) access to a “responsibility to provide.” The strategy recognizes this requires a trust network (without using that term), where members of the intelligence community (in the strategy the goal appears to be moving from a community to an “integrated enterprise”) trust one another to manage risk.¹ “Maximizing access and dissemination must occur using a managed risk approach, managing the risk of not satisfying mission needs against the risk of

¹ One element not addressed here is the process that follows unauthorized disclosure in such a regime. Changing the culture will require not only incentives but punishments: confidence that the originator will not suffer harm from an unauthorized disclosure across a trust network.

unauthorized disclosure of intelligence information, including sources and methods, and the protection of privacy and civil liberties.”

The overall model is captured in the following graphic:



Allee, Verna. The Future of Knowledge: Increasing Prosperity through Value Networks. Burlington, MA: Butterworth-Heinemann, 2003.

Allee describes how changing business practices, such as greater decentralization (via greater efforts towards outsourcing and contracting) are leading to profound changes in business practices and thinking. Using complexity theory to describe the new frameworks that business organizations are using to organize their efforts, Allee exhibits a framework of what organizational thought is learning in the following modes:

- Data
- Information (procedures)
- Knowledge (functions)
- Meaning (context)
- Philosophy (systems)
- Wisdom (renewal)
- Union (sustainability)

The inability of technology to serve as a panacea for knowledge management issues has sharpened KM researchers' curiosity about how technology really works in organizations. In Chapter 7, Allee describes a duality in knowledge production -- push (knowledge creation and dissemination) and pull (understanding how people seek knowledge).

Next, Allee presents some myths about knowledge management. The first myth, *People Don't Want to Share*, posits that workers really do want to discuss their work with others. The main barrier to this taking place lies in organizational barriers that can be overcome by, among other things, cross-functional training and corporate values, policies, systems, rewards, and cultures (94-96).

Another myth is that organizations need to make tacit knowledge explicit and systemized. Allee says that this approach is generally not worth the effort and can possibly lead to the squandering of resources while gathering reams of irrelevant knowledge. Rather, KM professionals should approach these efforts as an art where one should work to know what things can be made explicit and are worth the effort (97-99).

Allee also counters other highly valued KM practices. One, where documentation is the key to sharing best practices, can be valuable but unless the sharing of best practices takes place across the entire organization, it is likely that organizational sub-units will duplicate such efforts.

The book covers various forms of networks and learning communities, comparing and contrasting knowledge networks and practice communities. The communal learning tools covered by Allee include action review and storytelling. Tools for "whole-system learning" include the methods of large-scale collaboration and graphic meeting facilitation.

**Verna Allee. The Knowledge Evolution: Expanding Organizational Intelligence.
Newton, MA: Butterworth-Heinemann, 1997.**

In a knowledge economy, information is a product in its own right. Addressing the fact that, at the time of writing, many practitioners and writers, had begun to address the issue of knowledge creation, Allee also urges sensibility for those approaching KM. The author fears that too many practitioners will be influenced by the illusions that the provision of massive storage capabilities and the ability to control unlimited flows of knowledge will have adverse consequences. Such consequences may include users' expectations that they will be able to get immediate answers for practically any query that they put forth.

Allee points out that as managers begin to look at workers as "knowledge holders," the workers become unique assets in the workplace rather than just another unit of production. Additionally, Allee suggests that, in order for organizations to make the best use of their knowledge, those organizations should identify their core competencies and core performance capabilities. Doing so will provide an organizational purpose that will serve as an attractor for knowledge. To exemplify this point, Allee examines companies that have realized cost savings and streamlined

training by aligning their training and education efforts with their identified core competencies and performance capabilities.

By discussing the KM issues surrounding intellectual property, codified knowledge, and the management of intellectual assets, Allee points out how these issues can adversely affect private sector organizations (32-36). Despite the fact that Allee does not address public sector entities in this discussion, there are some similarities with the issues faced by the federal government in information stovepiping resulting from overclassification taking place in multiple organizations.

Allee devises a construct for viewing knowledge across the spectrum of basic awareness at the immediate moment to universal awareness in an intergenerational setting (109-192). The entities able to operate in the latter end of Allee's spectrum share the common capability of high degrees of sense making. Like other KM authors, Allee discusses the best practices and cultures of companies, such as 3M, Federal Express, and General Electric, that are able to function at the more enlightened end of the above construct

Boisot, Max H. *Knowledge Assets: Securing Competitive Advantage in the Information Economy*. New York, NY: Oxford University Press, 1999.

Boisot's work provides a conceptual framework for understanding and evaluating knowledge assets. Fearing that all manner of contemporary organizations remain focused on an "energy economy" that is defined by physical assets, Boisot works towards clarifying the concept of a knowledge-based economy. By doing so, he strives toward creating tools for organizations to properly deal with knowledge-based assets in today's information-based economy. His goal, as stated in the conclusion, is to lay the foundation for the construction of a "political economy of information." Such an economy will require academics, managers and policy-makers to address issues pertaining to institutions, organizations, accounting, educational employment and politics.

Beginning with definitions of data, information, and knowledge, Boisot examines the concepts of production functions in different economic arenas. These economies include agricultural, industrial, and information. By tracing the different inputs in these economies' production functions, Boisot determines that the production function in information economies involves tradeoffs between data and physical factors (whereas the other two economies' production functions utilize labor and either land or capital). The more advanced, industrial economies will tend to utilize greater amounts of data relative to physical factors in their production functions with the less developed, agricultural economies tending to do the opposite. He names this production function characterizing information economies as the "evolutionary production function."

In the information economy, Boisot shows that experience and insight allow economies to achieve advances in terms of the ratio of data to physical factors. Here, knowledge is created as the process of extracting information from data generates insights. The application of knowledge

results as insights are tested such that experience is accumulated. This "learning cycle" oscillates between ordered, complex, and chaotic states.

Boisot formalizes these concepts in the "I-space", which has three dimensions: codification (giving rise to phenomena), abstraction (giving rise to structure), and diffusion (giving rise to availability, but not adoption). He uses this I-space to illustrate a wide range of business activities, such as learning, product development, strategy, approaching uncertainty and adopting information technology, thereby providing a framework for analyzing changes in organizational approaches and activities in the context of knowledge and information.

Coase, R. H. (1993). The Nature of the Firm (1937). The Nature of the Firm: Origins, Evolution and Development. O. E. Williamson and S. G. Winter. New York, Oxford University Press: 18-33.

Coase' landmark work in defining the organizing principles for the 'firm.' He notes that contemporary economic theory held that the organization of a firm occurred because of the allocation of resources in accordance with a price mechanism. In this view, the firm exists as a machine, needing little human intervention other than simple guidance. The market forces the firm's size. An alternative theory held that the firm allocates resources based on the direction of the "entrepreneur co-ordinator." Coase' paper was intended to bridge this gap in economic theory.

"The Nature of the Firm" stands as a defining paper in helping to understand why organizations exist, and what dictates their size and scope. The author considers and discards various contemporary treatments concerning the defining (and measurable) elements of the firm, settling in this one idea: The firm exists because of, and only so long as, transactions within the enterprise are less expensive than transactions outside (or with outside entities). By using the transaction costs as the measure of a firm, Coase provides insight into the "equilibrium of the firm," applying the economic concept of marginal return to the organization. (If the cost of management internal transactions exceeds the market cost of those transactions, either the firm will engage in market transactions for the function, or it will be overtaken by smaller firms who can execute the transaction for less cost.) Because of the market tensions towards an equilibrium, the author finds three conditions that must be met for a firm to grow - defining growth as the addition of transactions within the scope of the firm:

- a. "The less the costs of organizing and the slower these costs rise with an increase in the transactions organized;
- b. "The less likely the entrepreneur is to make mistakes and the smaller the increase in mistakes with an increase in the transactions organized;
- c. "The greater the lowering (or the less the rise) in the supply price of factors of production to firms of larger size (24)"

In considering the price mechanism, Coase takes issue with economists who make assumptions that threaten to make their models unrealistic - such as the assumption that one product is produced by each firm. Because the price points will vary among production chains, and fluctuate even for a single production process, it is usually impossible to gain complete knowledge about the current cost of an internal transaction. This is the role of the entrepreneur, who provides a guaranteed wage, and agrees to assume the risk of transaction cost fluctuation. In return, within reason, the employee enters into a master-servant relationship, offering their labor and services to the firm. The potential for mistakes made by the entrepreneur in assessing his transaction costs expands as the scope of management grows.

By combining these ideas - that the firm is organized and subject to an equilibrium regarding internal and external transactions costs, and that the firm is organized and managed by an entrepreneur who must decide in the face of uncertainty - Coase provides a basis for an inclusive definition of the "firm," and a framework for future analysis of organizational theories.

Coase is concerned with the question of why firms exist in a market economy. His discussion focuses on the costs of using the price mechanism. For instance, it may be costly to determine appropriate transfer prices. Coase states that outside a firm price movements direct production and exchange, whereas inside the firm production and exchange is coordinated by an entrepreneur. Thus, the "distinguishing mark of the firm is the supersession of the price mechanism." However, Coase also considers the question of why there are any "markets" at all. He suggests that there are costs to coordinating internally, just as there are costs to coordinating through market mechanisms. He concludes that "at the margin, the costs of organizing within the firm will be equal either to the costs of organizing in another firm or to the costs involved in leaving the transaction to be 'organized' by the price mechanism."

Davenport, Thomas H. Thinking for a Living. Boston, MA: Harvard Business School Publishing, 2005.

Davenport defines knowledge workers as those having "high degrees of expertise, education or experience, and the primary purpose of their jobs involves the creation, distribution, or application of knowledge." He then provides a list of traits and a framework enabling an outside observer to both identify and categorize knowledge workers.

Pointing out a variety of performance measurement techniques that do not work for knowledge workers, Davenport acknowledges the difficulties in instituting practical metrics for such uses. Using a process-oriented approach for improving worker performance is, however, a viable method. In this sense, Davenport posits that agile methods are better than engineering methods for governing and improving work processes of knowledge workers. Turning to effectively integrating technology solutions to assist knowledge workers, the author again notes the difficulty in effecting meaningful change. Many technology solutions, such as knowledge repositories are good concepts but it is difficult for workers to find the time to learn from them.

They key is incorporating such tools into knowledge workers' job processes. Oftentimes, however, the overly aggressive or poorly thought-out adoption of technologies has resulted in decreased productivity among knowledge workers. Those who experience productivity gains generally adopted technologies as part of premeditated, sophisticated strategies designed to address certain areas of key processes.

Noting that most workers still do the majority of their learning through experience and people rather than through e-learning, Davenport cautions that investments in practices should take care to nurture social networks and human capital.

Davenport, Thomas H., and Laurence Prusak (1998). Working Knowledge: How Organizations Manage What They Know. Boston: Harvard Business School Press.

This book addresses many key problems in knowledge management and offers solutions to efficient data, information, and knowledge sharing. The authors state that there has been a sudden increase in the demand for knowledge within organizations because knowledge can be critical to both the success and the survival of a business. The competitiveness of a new global economy drives the need for change: "Firms that don't change in response to changing conditions will fail." This transformation is necessary to allow firms to gain a sustainable advantage that distinguishes them in their particular market. The need for knowledge management can be seen at Ford Motors, where new car developers looked to replicate the success of the original Taurus design team. The problem was that no one remembered, or recorded, what was so special about that effort. This demonstrates the importance of retaining valuable knowledge.

According to the authors, knowledge management must overcome several obstacles, including:

- Lack of trust
- Different cultures, vocabularies and frames of reference
- Lack of time and meeting places, and narrow ideas of productive work
- Status and rewards going to knowledge 'owners'
- Lack of absorptive capacity in recipients
- Intolerance for mistakes or requests for help

Davidow, William H., and Michael S. Malone. The Virtual Corporation: Lessons from the World's Most Advanced Companies. New York, NY: HarperBusiness, 1992.

The authors outline the characteristics of what they term the "virtual corporation," defining it as "a company built on the efficient and rapid gathering, processing and distribution of information (123)." The reason this is termed a "virtual" corporation lies in the product - for this book joins Quinn's "Intelligent Enterprise" in declaring the new preeminence of the service industry, an industry that delivers the virtual product. This explanation is expanded later, when the authors refer to virtual services (electronic banking, online reservation systems, etc.) (138).

They go further, however, apparently drawing upon the insights of complexity science to assert that the "virtual enterprise will appear less a discrete enterprise and more an ever-varying cluster of common activities in the midst of a vast fabric of relationships (7)." "Much of middle management's function has been to serve as an information channel through which top managers can view events and to relay orders down to the individuals doing the work. These functions have become unnecessary because computer networks can carry much of the information about the status of operations more efficiently and effectively than can people (163)." By asserting that ubiquitous information technology and the rise of the service industries will lead to a dramatic restructuring of existing business structures, they cast the future in terms that Fukuyama ("The Great Disruption") would find extreme. Where Fukuyama made the case for the enduring place of hierarchies in business organizations, these authors claim "the virtual corporation may exist in a state of perpetual transformation...[and] may appear amorphous and in perpetual flux, but it will be permanently nestled within a tight network or relationships. (142)." The problem with this assertion is the lack of a proven organizing principle. Fukuyama argues that humans have a natural tendency to organize in hierarchies, something observed throughout the history of sociology. The 'learning networks' theorized in complexity science (Waldrop, "Complexity: The Science at the Edge of Order and Chaos") and asserted in Davidow and Malone do not exist on a large scale in the hostile marketplaces of capitalism.

"...The new business revolution is forcing a revision of traditional corporate arrangements toward what Harvard professor Benson Shapiro calls 'the new intimacy.' As the rapid gathering, manipulating, and sharing of information become a preeminent process and as company boundaries grow increasingly fluid and permeable, established notions of what is inside or outside a corporation become problematic, even irrelevant (140)." Here the authors continue their metaphor of dynamic, fluctuating firms interacting in a marketplace redefined as a network of evolving relationships - rather than existing in established roles of competitor, partner, or supplier.

A better argument for the elimination of hierarchies is found in Chapter Eight, where the value of time is compared to a hierarchical structure of management. "...levels of management mean levels of approval, and levels of approval take time. The approvers become divorced from the market. Time is the virtual corporation's most valuable resource and the one commodity it cannot afford to waste (167)." A major force behind this restructuring of the enterprise is the emerging economies of speed. As compared to the economies of scale, which favored large firms with a robust infrastructure and redundant inventories - the factors associated with economies of speed include flexibility, rapid change of focus, assessment and satisfaction of customer needs. The authors claim that this change in customer expectations (quick service and customer control of the product) means that speed will become the prime factor in the marketplace. Writing later, Arno Penzias ("Harmony") claims that we have moved from this economy of speed to economies of convenience. These are cumulative eras, according to Penzias - economies of quality, speed, and convenience. Where most firms have achieved (or

are achieving) speed, convenience is fast becoming the deciding factor for buying decisions for service products.

Davidow and Malone are on more solid ground drawing extensively upon the work of Womack, Jones and Roos ("The Machine that Changed the World") to show how supplier-producer relationship has been redefined due to the Japanese model involving "kaizen." This term, loosely defined as "continuous improvement," characterizes the incremental but constant efforts to make business processes more efficient. "[The Japanese] have approached the process of improvement in a very conservative way, becoming great believers in taking small, incremental steps and pursuing the goal relentlessly over extended periods of time (127)." As these improvements are made within an enterprise, firms are able to better monitor the performance of their vendors, and begin to demand more efficient delivery of goods and services throughout the supply chain.

Despite these potential weaknesses, the authors present a reasonable path for the evolution of the enterprise. From the days where a (wealthy) customer would travel to an automaker for a completely customized vehicle, through the era of mass production, which brought the product to more people, but removed the customer from the design process - Davidow and Malone offer a bright vision of the future; where this principle of customer control of product (and service) design is regained, but finally extended to all potential customers, instead of just the elite (106).

Hayek, Frederick A. "The Use of Knowledge in Society." American Economic Review XXXV.4 (1945): 519-30.

Hayek discusses the role of non-scientific knowledge, namely the knowledge of time and place, in economics. People engaged in economic activities need external information, i.e. information held by others, in order to make successful decisions. The important questions to ask when analyzing these decision-makers are "How much knowledge?" and "Which events are relevant?"

In markets, the role of prices is to communicate information. According to Hayek, no solitary "mind" can hold all of the information required for proper decision-making. Even so, the economic system will work without conscious control as long as it contains incentives that will encourage individuals to perform their roles without anyone telling them to do so. In fact it does so, with many players making decisions in the absence of perfect information that nonetheless reflects the true scarcity of goods. He labels the phenomenon that it does work this way as a "marvel."

In light of the role that the market's price mechanism works, Hayek argues against those who make the case for "conscious direction" in the market. Simply stated, it is impossible for humans to have access to all relevant knowledge, much less process such a body. Therefore, it is folly to believe that humans can devise a centrally-planned system with the objective of making decisions that for effectively managing something like an economy. Quoting Alfred Whitehead, "Civilization advances by extending the number of important operations which we can perform

without thinking about them," Hayek makes the argument that social science is really just the analysis of the development of practices and institutions that are built upon other practices and institutions that were successful in the past. In this sense, he seems to argue that rather than promoting central decision-making in control of resources, policymakers and academics seeking equilibria should focus on removing impediments to the natural transfer of information among humans.

McElroy, Mark W. The New Knowledge Management: Complexity, Learning, and Sustainable Innovation. Burlington, MA: Butterworth-Heinemann, 2003.

In this collection of self-authored essays, McElroy approaches what he calls "second generation knowledge management (KM)" or "supply-side KM" by outlining its theoretical groundwork, practice details, prescriptions for achieving sustainable innovation, and, finally, its business case. In other words, second generation KM focuses on how knowledge is produced and which process regularly occur in that process.

The inclusion of a diagram, "The Knowledge Life Cycle (KLC)," depicts the second generation KM by demonstrating the relationship between knowledge production, knowledge integration and feedback through knowledge processes and knowledge sets.

McElroy provides ten key ideas behind second generation KM:

1. The Knowledge Life Cycle (KLC)
2. KM versus Knowledge Processing
3. Supply-Side versus Demand-Side KM
4. Nested Knowledge Domains
5. Containers of Knowledge
6. Organizational Learning
7. The Open Enterprise
8. Social Innovation Capital
9. Self-Organization and Complexity Theory
10. Sustainable Innovation

Currently knowledge is considered by the communities of management practices to be the last and only sustainable untapped source of competitive advantage in business. It is sustainable because, unlike other forms of capital, such as land, equipment, labor, and money, knowledge is potentially infinite.

By introducing complexity theory into KM (referred to by practitioners as "complex adaptive systems" or CAS), McElroy shows that it permits "an explicit model for how learning occurs in living systems" (47).

McElroy provides a set of structural and operational dimensions for KM that knowledge managers can use as leverage points for improving knowledge processing in their organizations and proceeds to walk through a case study of their use in the 3M Company. He attributes 3M's

successful implementation of these dimensions as a major factor behind the high rate of innovation it exhibits.

The author cautions readers by stating that investments in KM will not have a direct impact on business outcomes but that investments in KM can indirectly lead to improvements in business outcomes. In other words, KM investments "if done properly, should lead to improvements in knowledge processing, which in turn should lead to enhancements in our capacity to produce and integrate new knowledge. This, in turn, should lead to better business strategies and operating models, which in turn should lead to better outcomes."

Nissen, Mark E. Harnessing Knowledge Dynamics: Principled Organizational Knowing & Learning. Hershey, PA: IRM Press, 2006.

Nissen describes how knowledge dynamics can yield comparative advantages for organizations. Leveraging these advantages requires more than simply providing information solutions -- managers must pay attention to identifying where knowledge is located and where bottlenecks may occur in its movement. Moreover, identifying and focusing on the type of knowledge most likely to result in the creation of value added for the organization is a challenge that the manager must overcome to ensure that organizational resources are used effectively. Last, Nissen advocates a systemic approach towards approaching KM challenges where managers tackle personnel, work processes, structure, and technology as an integrated, cohesive system.

When discussing flows of knowledge, Nissen emphasizes the principle of inertia and the importance of keeping flows moving once they begin. When incorporating technology, managers should focus on the applications that facilitate those flows bearing in mind that successful solutions will require managing people with technology playing a supporting role. Finally, Nissen's work provides numerous case studies in the business, federal government (both military and civilian), and non-profit arenas where he analyzes knowledge flows and KM principles.

Sinclair, Niall. Stealth KM: Winning Knowledge Management Strategies for the Public Sector. Burlington, MA: Butterworth-Heinemann, 2006.

Sinclair's book provides strategies and approaches for incorporating Knowledge Management (KM) techniques in public sector organizations. He notes that the progress made by many public officials towards "e-government" approaches promises to destroy organizational stovepipes. This destruction will result in greater information sharing and interconnectivity that will make the "horizontality of knowledge" possible. In light of technological and organizational developments, the movement of knowledge across and within many departments is becoming essential for the effective provision of government services. A critical requirement for this movement of knowledge is the ability of government organizations to effectively manage corporate knowledge.

The author believes that although KM has become a fact of life for private sector but not in the public sector. He identifies key reasons for this difference as well as key points for leveraging KM into government. One such point includes giving departments mandates to deliver services and evaluating their performance through customer feedback.

Sinclair provides four chapters outlining pragmatic methods and tips for public sector managers to inject KM into their organizations. He groups these methods into four categories, which include:

- Marketing KM
- Aligning KM within organizations
- Deploying KM
- Measuring the effectiveness of KM measures

Last, Sinclair provides a set of case studies exhibiting KM success stories by public sector organizations in the U.S., the U.K. and Australia.

Stewart, Thomas A. The Wealth of Knowledge: Intellectual Capital and the Twenty-first Century Organization. New York, NY: Currency, 2001.

Asserting that knowledge is at the core of the modern economy, Stewart outlines how the role of corporations has changed as the reason for their existence has shifted from the creation of physical assets towards more knowledge-intensive activities. Even though many companies still exist to produce things, the most successful ones have begun to view themselves as places where collaboration, customization, and constant correction take place. As such, Stewart makes a key point by anecdotally showing how many of these companies have used knowledge assets in order to better manage their physical assets. Some of the most common areas where corporations have realized gains from leveraging KM techniques are those of logistics (CEMEX), knowledge reuse and streamlining of asset management (Chevron), and the internal use and trading of knowledge assets (3M).

In discussing intellectual capital investments, Stewart briefly describes the rise of a corporate position known as the "knowledge czar" or the chief knowledge officer (CKO). One of the CKO's duties is to advocate for greater transparency and knowledge sharing where he or she acts as a counterweight to many organizational interests that would argue for compartmentalization or censorship, such as general counsels, HR leaders, and Chief Financial Officers. Other CKO duties are to advocate and highlight best practices as well as to push organizational knowledge management initiatives. In all of these cases, Stewart cautions that the success of the CKO is dependent on the amount of crosscutting authority provided to the position and the position's ability to fund independent projects. More simply, the primary determinants of organizational success for a CKO are leadership and clout.

One assertion that Stewart makes regarding KM practices is that customer loyalty, i.e. nurturing human relationships, is more important to organizations than other knowledge practices, such as

data mining. Another is the importance of knowledge sharing during crises. For example, in the late 1990's, Unilever sent members of its Brazil office (who had previously experienced hyperinflation) to Asia and then on to Russia as a financial crisis swept through those regions. Such an approach could be translated into an application of the "lessons-learned" concept that many parts of the DOD use.

In Chapter 11 Stewart discusses what items are at stake if organizations do not pay attention to KM. This discussion includes the organization's reputation, business model, intellectual property, and human capital.

Stewart provides several concepts that one could use to measure the performance of knowledge in business. Such measures that may have applicability in the public sector include:

- Rating knowledge intensity, which includes metrics one could use to measure such things as R&D and the percentage of specialists in an organization (293-294);
- Expenditures on knowledge (297);
- Intellectual capital ratings (302-303);
- Core-Competence valuations (304-305);
- Human Capital Effectiveness (311-313);
- Measuring Organizational Vitality (316-317).

Tsoukas, Haridimos. Complex Knowledge: Studies in Organizational Epistemology. Oxford, England: Oxford University Press, 2005.

Tsoukas presents a set of self-authored essays focusing on knowledge in a dual sense: as questions of how knowledge is used in and by organizations, and as enquiries where scholars analyze how practitioners and researchers know what they know and how they may attain complex forms of understanding.

Part I of the book analyzes the different forms of organizational knowledge and the forms that that knowledge inhabits, the nature of tacit knowledge, the limitations of a purely information-based understanding of knowledge, and the implications for organizations if they latter are seen as makers of knowledge claims put forward for public adoption. Part II explores how one can think of "organizational complexity in complex terms." Part III's essays examine different ways of developing formal theories in management studies and discuss "the sort of issues organizational and management researchers should take into account when developing the theory that seeks to embrace meaning, agency, novelty, and change, and intends to inform practice" (7-8).

Tsoukas covers numerous themes in this collection. One is the concept that, until relatively recently, the expansion of knowledge has been considered a net enabler of human capacity for action. The rise of technology able to store vast quantities of knowledge has led some to conclude erroneously that knowledge-as-information exists independently of human decision-

makers; that everything can be reduced to information; and that "information available can assist in the rational management of social problem." In such an environment, society must develop and maintain a proper perspective when considering the role of knowledge (32-33).

Another is the concept of a firm's knowledge existing in a distributed system. In this sense, management's mission is to engage in the process of coordinating purposeful individuals, "whose actions stem from applying their partly unique interpretations to the local circumstances confronting them. Those actions give rise to often unintended and ambiguous circumstances, the meaning of which is open to further interpretations and further actions, and so on. Given the distributed character of organizational knowledge, the key to achieving coordinated action does not so much depend on those 'higher up' collecting more and more knowledge, as on those 'lower down' finding more and more ways of getting connected and interrelating the knowledge each one has" (111-112).

In his discussion on organizational change, Tsoukas uses the experience of a U.S. Navy command in implementing a total quality (TQ) program that allowed junior personnel to submit suggestions for process improvements. The author posits that this program resulted in the amplification of ongoing changes, "thus reinforcing the new set of interpretative codes, which, in turn, are likely to further facilitate novel practices." Using this example, among others, Tsoukas concludes that organizational scientists should give a greater priority to "microscopic" change. Because of such practices' ability to "creep" or "spread" through an organization, they have great potential for being agents of organizational change (203-205).

After introducing the theories of chaos and complexity, Tsoukas points out the inherent difficulties behind the practice of organizational forecasting. He goes on to suggest that a foresightful organization is one that has sharpened its ability to perceive and that perception is "a generic organizational capability...practiced spontaneously by as great a number of organizational members as possible." This can happen when the organization's members are aware of the past and the future (276).

Tsoukas, Hardidimos and Jill Shepherd, eds. Managing the Future: Foresight in the Knowledge Economy. Malden, MA: Blackwell Publishing, 2004.

Tsoukas and Shepherd present a set of essays that explore the concept of developing and exercising foresight within organizations. In their introduction, they discuss problems that organizations face when they do not develop the practice of exercising foresight. In order to experience success with such methods, which may include forecasting, scenario planning, and contingency planning, they must also learn to adapt behavior and operations in anticipation of expected changes. A success story that they point out concerns former chief of staff of the U.S. Army, General George Marshall, who, during the spring of 1943, began planning for organizing military governments in regions that were to be conquered or liberated by Allied forces.

The first section of the book addresses how organizations should conceptualize foresight. Robert Chia, in Chapter 2, claims that foresight is about the "education of attention," and that those wanting to improve their foresight should adopt a more interactive and "nomadic" means of interacting with their environment. In Chapter 3, Narayanan and Fahey suggest that organizations intent on developing a sense of foresight should dedicate some amount of their labor on the time-consuming task of working towards developing strategic visions.

Focusing on organizational learning, the second section looks at how organizations make sense of themselves and their environments. In this section, Schwandt and Gorman suggest that those teams working on problems of foresight be of heterogenous, non-executive backgrounds. Furthermore, such teams should have clearly defined roles in order to prevent members from defaulting to previously learned skills. Lipshitz, Ron, and Popper examine the post-flight reviews conducted by an Israeli Air Force fighter squadron. As can be expected, the reviews' participants spent a great deal of time discussing the positive and negative events that took place during recent flights. However, they also spent some of their time trying to elicit what the authors' called the "*instinctive*" reactions made by pilots after conducting sense making of their aerial environments. Durand, who in chapter 7 provides an analysis of firms' decision-making results, concludes that firms who overestimate their level of control in a market often end up making strategic errors in valuing resources.

In the third section, the authors look at methods of how organizations can exercise foresight. In Chapter 9, Seidl looks at the concept of the "weak signals" that are often missed by organizations that commit strategic errors. He posits that the fact that these signals are weak because of organizational social constructs. Seidl suggests that organizations should look to see if these weak signals are tied to "strategic discontinuities," and if so, look at institutional changes that will be necessary to rectify such instances. Conversely, Blackman and Henderson in Chapter 11, discuss firms that are not open and discrete systems that are thus unable to understand themselves. The authors conclude that such *autopoietic* organizations may not be able to effectively exercise foresight.

Gompert, David C. & Irving Lachow & Justin Perkins. (2006). Battle-Wise: Seeking Time-Information Superiority in Networked Warfare. Washington, DC: NDU Press.

The authors outline the ways in which the U.S. military might transition towards "battle-wisdom," or the development of people, teams and decision-making methods that utilize IT to better convert information into good choices and outcomes on the battlefield. Their book analyzes the ways in which such decisions are made both in general and in the context of the new global security environment (xiv); its aim is to "understand whether and how advantages in thinking and decisionmaking in under operational conditions can affect outcomes...especially in networked warfare" (ibid). The key, the authors argue, is to synthesize two important cognitive skills – the ability to reason through or analyze a glut of information on the one hand and to make strong intuitive decisions in high-pressure situations on the other.

There is a natural gulf, the authors argue, between the complexity of systems such as warfare, and the capacities of the human mind – their hope is that IT can at least partially compensate for this difference (13). They argue that

the value of well-designed and readily accessible data networking is that it can increase the amount, promptness, reliability and relevance of information, as well as the possibilities of collaborative reasoning available to the decisionmaker. While mental models may not be improved, networking can augment them by efficiently offering a more faithful, timely and complete representation of reality, along with more options for action (24).

Time and information are mutually beneficial, they further argue, and although networks cannot improve the amount of time available to a soldier, it can improve his *time-information*, or the product of time and information available, respectively (ibid).

This advantage is not just incumbent upon the U.S. and although the United States currently enjoys a military advantage in terms of networking technology, its advantage can and will not last forever. The authors posit that the open nature of IT development will create opportunities both for large or middle-sized states and for non-state actors. Although the United States will remain categorically superior in terms of military network technology going into the foreseeable future, China (for instance) could nonetheless develop technology that made U.S. networked forces less effective on the battlefield. Similarly, states such as Iran could develop limited a networked force structure that denied the United States the possibility of relatively low-cost intervention, while non-state groups such as al Qaeda could use IT to “avoid vulnerable centers of gravity while improving lethality” (53). The United States thus has a strategic imperative to push for further development of its networked forces. The authors compare the aims of the U.S. military to those of Microsoft – to be not only large and powerful but also a step ahead in “understanding, shaping and excelling in the cognitive realm of competition” (61).

During a conflict between networked adversaries, the authors identify four critical abilities that might distinguish winners from losers: anticipation, decision speed, opportunism and rapid adaptability (66). Battle-wisdom is thus the ability to create “time to think wisely in the midst of violence” (67) by improving and utilizing these four key abilities. Additionally, one of the means to better integrate intuition with reasoning is self-awareness, or knowledge of origins, assumptions, biases and limits of one’s mental models.

The authors also put forward decentralization as an important way to make use of cognitive talent inside the military. “Especially in information-rich enterprises,” they argue,

the loss from constricting people usually exceeds any gain from preventing their mistakes... eschewing micromanagement in favor of distributed decisionmaking is a logical corollary of networking principles and a prerequisite of cognitive superiority (91).

“The danger of micromanagement,” they add, is compounded by the fact that “*joint* command and control is shallow” (92, emphasis in original). The full benefits of networking are thus hampered by the lack of joint C2, and although the particulars of establishing this are beyond the authors’ scope, they stress the critical importance of doing so. More generally, balance is necessary between the speed and agility of single-point decisionmaking and the quantity of solutions provided by independent and diverse views of many.

The authors also suggest that intuition training programs might be of practical benefit to the U.S. military. Such programs, already used by the National Fire Academy and business executive training programs, are simple in design: they isolate the sorts of decisions that one could encounter given a job and an environment and allows a candidate to practice and to review behaviors in order to learn and to adjust a set of mental models. The authors suggest Navy SEAL, NTC, SOF and experimental Joint Fires and Effects Trainer System (JFETS) training as models for programs that the military might adopt more broadly. In addition, the authors suggest lateral recruitment of officers from backgrounds in fire- or crime-fighting – people with “proven cognitive abilities from high-risk/high-stress professions” (126) – and that such people might be put in charge of training new military recruits.

Finally, the authors provide a list of recommendations that include much of the suggestions in the previous paragraph. Additionally, they recommend encouraging cross-boundary and analytical discipline (to include the removal of disincentives for risky or radical ideas), more rigorous sorting before the 10- to 12-year mark in military careers with an eye on retaining high performers, encouragement of team cognition and further research into the benefits of developing a battle-wise force.

Alberts, David S. & Richard E. Hayes. (2004). Power to the Edge. Washington, DC: CCRP.

The authors frame military behaviors and architectures as driven by the economics of information. Their core thesis concerns the way in which information coupled with changes in C2 can transform the ways in which forces are organized, trained and employed in order to respond to asymmetrical threats. The authors emphasize the need for a focus on agility in this context, with individuals at the periphery of a military organization empowered through peer-to-peer connections; this in turn makes self-organization at the group level possible.

The book begins with a discussion and definition of the components of command and control (C2). Enduring principles of C2, its authors argue, revolve less around how to accomplish a task than around the nature of the tasks themselves; responsibility, authority, and accountability are listed as C2’s essential features. The authors also list a number of factors and philosophies that defined C2 through much of the 20th century, and they describe these from most to least centralized: cyclic, interventionalist, problem-solving, problem-bounding, selective control, and control free (20). They also later identify a number of qualities inherent to Industrial Age C2,

including “divide and conquer” thinking, a focus on individual specialization, an emphasis on hierarchical organizations, the assumption that all problems have a “best” solution, a focus on deconfliction and centralized planning.

The authors use these discussions to suggest possible C2 approaches in the Information Age, with an emphasis on the precept that “information is power” (72). Given the rigidity and the emphasis on information hoarding present in Industrial Age planning, a new paradigm is needed because such behavior gives a competitive advantage to adversaries.

The Information Age, the authors argue, began as a *smart smart push* system, where information was directed (or *pushed*) by owners who needed to be smart not only about what information was important to whom but also how to reach end-users. Over time this evolved into a *smart pull* system, with the advent of broadband technology, which eliminated the need for owners to coordinate information needs (xiv). Additionally, the authors cite Mankin and Chakraborti (2003) as evidence that agility, or the ability to react dynamically to a complex environment, had replaced optimization, or the working assumption that all solutions have a “best” solution, as the dominant indicator of firm survival (84). Finally, the authors suggest that a robustly networked force is more efficient for rapid communications, learning and collaborative processes (93).

Given the empowering capabilities of a networked force and a dynamic battle environment, the authors argue, the least centralized C2 option appears as the most attractive one. This option, however, requires a great deal of trust to be present across force elements, especially if the force is a multilateral one – joint exercises are prerequisite at the minimum. In situations where necessary trust and experience are not present but a high degree of professionalism is, the authors suggest that mission orders and selective control may be the preferred option. In situations where force elements do not share doctrine or approach, an objective-oriented approach may be most appropriate.

The authors also suggest a few generally desired characteristics of Information Age force operations, including the ability to make sense of a situation, the ability to work in a coalition environment that includes nonmilitary partners, possession of appropriate response means, and the ability to respond in a timely manner (98). They further suggest that the term “agility” might be broken down into a number of component parts, including robustness (the ability to be effective across a range of tasks), resilience (the ability to recover from misfortune), responsiveness (the ability to react in a timely manner), flexibility (the ability to employ multiple means), innovation (the ability to do new things), and lastly, the ability to adapt processes to fit new situations.

Information Age forces also require and allow new means and new opportunities. By increasing the power afforded to those parts of the force on the periphery, or edge, the authors argue that forces can generally increase their power by avoiding inefficient informational stovepipes. Citing Leavitt and Bahrami (1988), the authors present empirical evidence that non-hierarchical

organizations are best suited for dynamic, instable circumstances, while a traditional hierarchy proved to be best suited for simple and stable circumstances (184).

The authors also call special attention to a DoD infrastructure called the Global Information Grid (GIG), which is a platform for secure communication of information in order to enhance sensemaking and support collaboration. The authors argue that the GIG “will increasingly become an adaptive entity that integrates communication and computer systems into a secure, seamless infostructure, one that provides access to a variety of information sources and information management resources” (187). It will include all military computers situated at worldwide locations, to be integrated through a transport layer that enables information exchange and dynamic sharing of workloads. It will further allow use of web-based enterprise software, including: means to advertise information availability, information discovery methods, as well as translation and aggregation mediation services.

Lastly, the authors suggest an edge-based revolution in mission capability packages (MCPs). This, they suggest, would include a co-evolution of planning, budgeting and acquisition processes; a transition from a naïve capabilities-based approach toward strategic planning into satisfying information exchange requirements (IER); an “empirically-based experimentation process” (228); and a general transition from training and exercises to education and experimentation.

Dixon, Nancy M., & Nate Allen, et. al. (2005). *CompanyCommand: Unleashing the Power of the Army Profession*. West Point, NY: CALDOL.

This book is an overview of the CompanyCommand (CC) military forum and its utility in linking members of the Army to one another, written by a number of the forum’s founders. The authors suggest that “one way to describe CC is as a network of company commanders who can connect in conversation about relevant content to advance the practice of company command” (3). They emphasize CC’s ability to connect company commanders to one another, create resulting conversations, and thus produce useful content regarding military matters.

The authors assert that the knowledge of the Army profession is largely held by its individual members and that their software allows members to connect to one another person-to-person, thereby allowing knowledge “to flow from those who know to those who need to know” (21) and for context and trust to emerge. The forum architecture allows “relationships, trust and a sense of professional community” to become part of a reinforcing process that allows such “critical factors” to amplify over time (ibid); the decentralized nature of this architecture also allows its members to quickly provide otherwise inaccessible information. Additionally, the forums can be used to increase the value of face-to-face communication by linking community members with relevant and required experience.

The conversations that the forum software promotes “unleash learning and create shared meaning” that scales “as timeliness and compatibility of experience increase” (31). Its leaders should be viewed not as experts but as participants and “chief learners” (ibid); they might use professional outside reading as a “catalyst for conversation with their units” (46) and gain amplified value from sharing thoughts with other CC participants. Conversations in turn can be vehicles for the transformation of company commanders’ thinking by forcing participation in a process that generates unforeseen “insights” rather than strict answers (58); multiple participants can frequently gain unique insights from a single conversation.

The second part of the book is more of a technical manual detailing the various means in which company commanders might begin their participation in the site, initiate productive conversations and use the site for practical applications such as drafting a monthly email, creating a survey, extending contacts, etc. A brief case study is examined, focusing on commanders in Afghanistan.

Finally, the last chapter in the book is a symposium focusing on three company-level leaders and the uses that they found for the CC forums. It tends to focus on specific ways to promote and to maintain conversation, building contacts and promoting trust.

Drucker, Peter F. "The Coming of the New Organization." Harvard Business Review on Knowledge Management. Vols. Boston, MA: Harvard Business School Press, 1998.

Writing in 1988, Drucker explores how large businesses will function twenty years hence. The main change that he foresaw was the shift from command and control-based management systems to management systems based on information. The growth of information technology, while serving as an enabler of such changes, is not, however, a necessary condition, as Drucker points out other examples of information-based organizations, such as symphonies, hospitals, and the British colonial administration of India. Nonetheless, the benefits of information processing technologies were in the process of making many middle-management jobs obsolete. Drucker forecast that these benefits would lead organizations to become flatter through the elimination of middle management layers that separate the specialists from the senior decision-makers.

Drucker predicted that as the senior leadership of organizations shift to flatter, information-based organizations, they would face several challenges. These challenges include:

1. How senior managers will deal with cutting out the personnel comprising the middle management layers.
2. How to develop suitable incentives for specialists (who would have far fewer managerial positions open for successful members).
3. Creating a unified vision for an organization comprised of diverse groups of specialists.

4. Ensuring the supply, preparation, and testing of top managerial prospects in the absence of the proving grounds of middle management.

Drucker offers two suggestions that may address some of the above challenges. First is that organizations may need to decentralize into more autonomous units. Citing the example of the German *Gruppe*, he points out that German business culture has a rich history of promoting specialists into managerial duties. German businesses have been able to do this due to the fact that they have developed highly autonomous subsidiaries that provide promising specialists the ability to gain managerial experience. He also suggests that business schools should retool their curricula in order to better prepare themselves to create future professional specialists, business executives, and business leaders. Acknowledging that, at the time of writing, he had no clear path for businesses to make the transition to knowledge organizations, Drucker points out that this transition will be the main managerial challenge of the future.

Quinn, J. B. (1992). *Intelligent Enterprise: A New Paradigm for a New Era*. New York, NY, The Free Press.

The term "intelligent enterprise" is explained on page 213: "At their core, most successful enterprises today can be considered 'intelligent enterprises,' converting intellectual resources into a chain of service outputs and integrating these into a form most useful for certain customers." The intelligent enterprise, therefore, is that which focuses its effort on providing services to a defined (and familiar) customer.

There is much written about the growing service sector in the U.S economy; and much of the literature acknowledges that the metrics of a service industry are difficult to fit into the classic (or neoclassical, or monetarist) economic models. James Brian Quinn goes beyond the observation that service firms account for a growing share, and asserts that service enterprises are actually restructuring the American economy. Writing seven years before business schools would discover "Customer Relationship Management," Quinn acknowledges that which declares that the relationship with the customer is the critical success factor because service companies "have placed ultimate consumers ever more in command of the world's production system and able to dictate responses to their individual and collective desires (21)." One caveat here is that Quinn recognizes the "service" nature of the goods sector, noting (quoting Ted Levitt): "People don't buy products, they buy the expectation of future benefits."

Because the customer can enforce their desires back down the supply chain (communications technology and process innovation means that some company will be flexible enough to respond), the companies that do not organize themselves for flexibility will not succeed. In fact, companies that adhere to traditional industry boundaries will find themselves outflanked by cross-industry firms that organize themselves to optimize business transactions from the customer's perspective. Quinn notes that airlines do not compete with only other airlines; nor do accounting firms compete with only other accounting firms. "Technology demands that

[managers] reconceptualize the 'industries with which they compete' to include all functional and potential cross-competitors for the services and products they create (23)." The author goes on to note the initial characteristics of the new structures caused by this focus on customer's desires and the facilitating role of information technology. These include increased complexity (which is handled by the technology, properly applied), new economies of scope and scale, and deregulation. The most interesting observation about the restructuring of the nation's economy is the inclusion of Moore's study comparing employment in the services and goods sectors. Noting that employment is more stable in the services sector - consumers are more likely to pass on the purchase of durable goods than they are to forego services, according to the author. The implication, that the nation's economy will become more stable as the service sector grows relative to the goods sector, may have been borne out in the seven years since this book was published.

While technology is forcing a re-structuring of a firm's core competencies and its industry identification, Quinn claims that the knowledge-based companies are revolutionizing the organizational structures for U.S. firms as well. Quinn joins Davidow and Malone ("Virtual Corporation") in claiming that hierarchies are "destroyed" and companies become "infinitely flat" as information technologies enable expanded spans of control. With this, Quinn dismisses overhead functions as "merely services the company has chosen to produce internally. Instead of blindly building self-owned, integrated services, companies are much more effective if they carefully benchmark, reengineer, and seriously consider outsourcing those where they are not best in [the] world." When this isn't done, corporate staff or overhead activities slowly and relentlessly tend to build into major bureaucracies (89)." The author here joins the argument that seems to ignore the sociological need for hierarchy discussed in Fukuyama ("The Great Disruption"). From a business point of view, the argument is sound - but do humans successfully organize in this fashion?

The second half of the book is given over to practical research and advice concerning the management of these new enterprises. Quinn points to outsourcing as the key to effective management of the intelligence enterprise. "To date no respondent has said that flattening organizations or disaggregation was the primary target of its service technology investments. Yet such investments and a much enhanced capacity to manage outsourcing are the principal enablers of the changes we are observing (374)." On the topic of individual managers, the author sounds the same notes as Davidow and Malone ("The Virtual Corporation") when he casts the evolving role of a manager from one of control and directing to one of coaching and coordination.

Quinn is on solid ground, and the reader familiar with Waldrop's 'learning networks' will not be surprised by his view of the industry that can be characterized by many 'intelligent enterprises:' "...whole industries are restructuring to achieve global simultaneous interactions on a variety of projects. These industries are becoming merely loosely structured networks of service enterprises

joining together (often temporarily) for one purpose, and being suppliers, competitors, or customers in other relationships (225)."

While this theory fits well into complexity science, and gains even more adherents as information technology matures and becomes ubiquitous - the sociological questions remain unanswered: Is this how humans self-organize? The ability to create, dismantle, and re-form trust-based relationships is problematic at best - how does the technology smooth this transaction? Nevertheless, to the degree that Quinn focuses on the reality of the service sector role in the nation's economy, correctly directs the firm's attention to the primacy of an empowered and informed customer, and acknowledges the core competencies represented by the staff's tacit knowledge of their enterprise - this book is a key part of the conversation regarding organizational theory in the late 20th century.

Schein, E. H. (1992). *Organizational Culture and Leadership*. San Francisco, CA, Jossey-Bass.

Schein provides with this work a fairly complete examination of the role, origin, and components of culture in organizations. Using case studies and combining the theoretical with the practical, the author presents a handbook for the 'cultural analyst.' Schein shows the role of culture to be largely invisible, and yet a significant source of tension or cooperation within an organization. "Cultural analysis illuminates subcultural dynamics within organizations (xii)." He not only lays out a case for examining the role of culture, but presents a framework for analysis, and even task lists for the aspiring cultural analyst.

Schein believes the role of leaders is to establish and maintain the various subcultures within their organizations. "The only thing of real importance that leaders do is create and manage culture and ... the unique talent of leaders is their ability to understand and work with culture (5)." Although this initially reads as an audacious statement, simple observation teaches that the most effective leaders are those who can motivate others to work to organizational goals and within the organizational structure. The author here shows how culture is at the heart of this mysterious talent.

Culture is defined as "the accumulated shared learning of a given group, covering behavioral, emotional and cognitive elements of the group members' total psychological functioning (10)." Elsewhere, Schein offers the simpler definition: shared assumptions. "The power of culture comes about through the fact that the assumptions are shared and therefore mutually reinforced (25)." These are described as being more deeply embedded in an individual's psyche than belief systems - it is the set of basic assumptions we employ to navigate our day. The shared group assumptions become as deeply embedded, as the organization matures, and the group comes to believe in 'what works' through trial, error, and observation. "The shared basic assumptions that make up the culture of a group can be thought of at both the individual and group levels as

psychological cognitive defense mechanisms that permit the group to continue to function [emphasis in the original] (23)."

As the development of culture is a striving for 'structural stability,' it can work against a leader who is trying to organize change. As an organization matures, various elements of cultural dispersion (mergers and acquisition, geographic separation, etc.) will intrude on the overall stability of the organizational culture. These sub-cultures (or counter-cultures, which indicate increasing tension with leadership direction) become difficult to manage for the leader, as he must fight to merge basic shared assumptions that may be in conflict. "The bottom line for leaders is that that if they do not become conscious of the cultures in which they are embedded, those cultures will manage them (15)."

In providing the roadmap for a cultural analyst to advise an organization, Schein includes observations concerning the interplay of other cultural elements - the development of shared basic assumptions that drive individuals. These are often grouped by country or region of origin, and include various perceptions of time, space, and reality. International organizations that fail to understand these basic elements of the individual psyche in other countries will find global operations rough going. The author provides detailed instructions for the cultural analyst, from approaches to survey and seminars, to understanding the lexicon of various cultural elements.

Finally, Schein addresses the challenges to the leader in the 'new' economy. Agreeing with Davidow and Waldrop, he indicates that the most successful organizations will be those that are learning organizations. Developing a learning culture is by definition difficult, since the establishment of a culture is the human desire for structural stability. "The most intriguing leadership role in culture management is one in which the leader attempts to develop a learning organization that will be able to make its own perpetual diagnosis and self-manage whatever transformations are needed as the environment changes (363)." In this last section, Schein provides the distinctive elements present in a 'learning culture,' and recommends the development of just such a culture in organizations. This book, therefore, spans not only the definition, elements, and (prime) role of culture in an organization - as well as a framework for analysis of individual organizations - but recommends the next stop for a leader; the establishment of a learning culture in order to survive the changing realities at the turn of the century.

Selznick, P. (1957). *Leadership in Administration: A Sociological Interpretation*. Berkeley, CA, University of California Press.

This work represents, as the title explains, a sociological interpretation of leadership, organizational culture, and the defining of mission, strategy, and distinctive competence. Taking issue with Herbert Simon and what he terms the "positivist" school of administration theory, Selznick makes the case for including the role of values and values maintenance in an organization as we examine the theory of organizations. He derides the study of organization

administration that concentrates on the "means," while ignoring the elements of the "ends" (79-81). Including the analysis of organizational values and the task of values maintenance in an organization provides the groundwork for Selznick to offer that management is not a substitute for leadership. He posits that organizations are considered sterile constructs, while "institutions" are "natural product[s] of social needs and pressures - a responsive, adaptive organism (5)." What is needed, according to Selznick, is the realization that organizations are institutions, and need leaders who are more than just management executives. In fact, he presents the definition of the term 'institutionalize' as primarily meaning to "infuse with value beyond the technical requirements of the task at hand [emphasis in the original] (17)." "The executive becomes a statesman as he makes the transition from administrative management to institutional leadership (4)." The leader, as an 'agent of institutionalization (27),' is charged with managing a dynamic, adaptive organization, staffed with people who share a common mission (beyond 'making a profit'), and bound by shared values.

The author insists that leaders are first imbued with institutional values, and then charged with adapting the enterprise to meet challenges in a way consistent with their long term goals - goals which are themselves informed by the shared values. "The tendency to emphasize methods rather than goals is an important source of disorientation in all organizations (12)." This emphasis on goal-setting seems to be a foregone conclusion, but (as Wilson indicates on the dust jacket for this edition) Selznick was the first to point this out - that an organization first defines a mission, and then relies on its distinctive competencies to accomplish this mission by responding to the challenges and opportunities facing the firm. These leaders are defined as the "elites" - those who are charged with continuing the value structure of an organization; their principal task is to develop the organizational character. This is accomplished with a careful examination of the shared core values, a concentration on the organization's competence, and through the establishment of policy. "It is the function of the leader-statesman whether of a nation or a private association - to define the ends of group existence, to design an enterprise distinctively adapted to these ends, and to see that that design becomes a living reality (37)."

Selznick makes extensive use of the U.S. military for examples, based on his own experience working in and studying U.S. military organizations. In this, he recognizes that certain units in a hierarchy, those further "down" the command structure, often have explicitly defined goals and an inherited mission. Spending resources to determine a goal and strategy is not the job of the battalion commander - at this level, an emphasis on methods rather than goals may be necessary, even preferred (66).

The author spends considerable effort to bring the lessons of psychoanalysis to bear on the understanding of organizations. Drawing parallels between the person and the organization, this is the discipline from which he brings the idea of 'dynamic adaptation,' - described as the behavior that transforms the personality, and contrasted with 'static adaptation,' that behavior that merely reflects the adoption of new habits, and not a change to the person's character.

Returning to the military examples, Selznick shows how the distinctive competence of an organization will define its role - "An institutional role cannot be won merely by wishing for it or by verbalizing it clearly. It must be founded in the realistic ability of the organization to do the job (87)." One enduring source of tension in the study of U.S. military organizational structures involves the recurring "roles and missions" debates - what is the role of each Service component, based on the warfighting and support capabilities they provide to the overall mission of the Department of Defense?

Finally, on the subject of decentralization, central to the readings this semester, Selznick points out that decentralization is only possible when homogeneity, with respect to values, is achieved throughout the firm. So long as the decentralization of authority does not dilute the commitment to the organizational goals, this insures the proper level of control will be maintained. In laying out this particular argument, Selznick goes a long way towards explaining how to maintain "control" in an era filled with pressures to decentralize. As the author discusses, the establishment of a central mission statement is key to the survival of an organization. This occurs through the actions of the person in the leadership position, who crafts the means of a firm only after a careful consideration of the underlying mission and the resulting distinctive competencies.

Stewart, Thomas A. (1997). Intellectual Capital. New York : Doubleday / Currency.

Stewart describes the changing global landscape of business and the economy. He states that today's economy is fundamentally different from yesterday's. We grew up in the Industrial Age. It is gone, supplanted by the Information Age. The economic world we are leaving was one whose main sources of wealth were physical. The things we bought and sold were *physical objects*; you could "touch them, smell them, kick their tires, slam their doors and hear a satisfying thud." The business organizations of that era were designed to attract financial capital in order to develop and manage those sources of wealth. However, in this new era, wealth is the product of knowledge. Knowledge and information – not just scientific knowledge, but news, advice, entertainment, communication – have become the economy's primary raw materials and its essential products. Knowledge is what we buy and sell. The capital assets that are needed to create wealth today are not land, physical labor, machine tools nor factories. They are, instead, knowledge assets.

Brown, John Seely, & Duguid, Paul (2000). The Social Life of Information. Boston: Harvard Business School Press.

The authors believe that many of the leaders driving our economy into the future on the back of new technology assume that if we all focus hard enough on information, we will get where we want to go. This type of thinking pushes aside fuzzy ideas such as context, background, history, common knowledge, and social resources—topics that are not as irrelevant as they may seem. In fact, these ideas provide important balance and perspective, present valuable alternatives, offer

breadth of vision, and indicate choices. In other words, they help clarify purpose and support meaning.

This book starts a thoughtful conversation about the impact of information technology on our lives and our institutions. It is a richly humanistic search for context, concerned with issues of meaning, purpose, and judgment. Brown and Duguid provide sensitive and deep questions as they seek a balanced perspective about new and old, tradition and innovation, and institutions and individuals.