The Logic of Knowledge:
How a Knowledge-Based Economy Differs from a Capital-Based Economy

William Halal
Department of Management Science
The George Washington University
Washington, DC 20052

halal@gwu.edu

Abstract

Although corporations and governments are implementing Knowledge Management, success is limited by a poor understanding of the unique nature of knowledge. This paper presents a number of principles that tentatively describe how the special qualities of knowledge exert unusual types of economic behavior. To offer one example, unlike the fixed nature of capital, knowledge INCREASES when shared, thereby encouraging cooperative working relationships that increase economic value. The audience will be asked to help verifiy these tentative principles and to suggest others for consideration.

Like the dot.com boom, the rise of corporate interest in knowledge over the past decade was exciting. "Organizational Learning" caught fire as it became clear that gaining new knowledge was paramount in a world of constant change. CEOs were sold on "Knowledge Management" by reports claiming huge gains from exploiting this hidden resource. A new breed of executive appeared to oversee this function – the "Chief Knowledge Officer" (CKO). Soon, 70 percent of corporations were assessing the value of their "Intellectual Assets." They became concerned about storing this invisible wealth in "Knowledge Repositories" so it could be "leveraged." "Communities of Practice" were formed to nurture the knowledge of specialized groups

There were many examples of success. The World Bank began to draw on a global network of experts to solve development problems ***before*** lending money. Investment houses and consulting firms sought to provide clients the knowledge of their entire organization – not just the contact person. Ford's KM program amassed such an inventory of best practices that the system was sold for millions of dollars.

This was heady, of course, so it's understandable that KM succumbed to roughly the same hubris that caused the dot.com boom. At the height of the KM boom, brochures flooded the mail announcing yet another conference that would reveal the secrets to managing knowledge. But in the corporate suites, CEOs began wondering about the payoff from their investment, and CKOs had little to offer that was convincing.

We are now seeing the downside of KM. The majority of projects failed to produce gains, and so organizations are cutting back their efforts. The World Bank, which served as a beacon for the field, dismantled its once vaunted KM program. One consultant said "KM as we've known it is dead."

Understanding the Nature of Knowledge

All innovations rise and decline, so it is hard to assess prospects for this young discipline. I've been deeply involved in this field, well before it erupted into prominence, and my instincts tell me that the management of knowledge has a bright future.

In an age when knowledge has surpassed capital as the strategic factor driving a global economy, KM deserves some portion of the enormous effort now expended on accounting, financial analysis, capital investment, and the rest of the vast infrastructure devoted to sheer money. After all, the knowledge represented by patented inventions, software, marketing programs, and skillful employees comprises 70-90 percent of the net worth of corporations like Microsoft -- yet many companies continue to focus on concepts for managing physical assets. Baruch Lev, the informal dean of knowledge valuation, put it this way "Current business data contains thousands of statistics that reveal very little about corporate performance." [1]

The problem is that the unusual qualities of knowledge make it very difficult to manage. For instance, all agree on the need to share knowledge, yet attempts to do so usually fail because most people have an understandable reluctance to give away this valuable resource. It is also clear that knowledge may have strategic importance, but managers find it hard to justify investments in an activity with such illusive results. And the creative source of knowledge emanates from an ill-defined sense of personal understanding -- "tacit knowledge" -- that defies being captured at will. In short, the mysterious qualities of knowledge defy conventions formed during the reign of capital.

This article offers an analysis of the unique logic that marks this special resource, the characteristic behavior that distinguishes a knowledge economy from a capital economy. As outlined in Table 1, the following sections describe 12 principles that define the way knowledge works and their corresponding management implications.

This information is drawn from the literature, copious examples, and a large dose of my insights. I do not claim the conclusions are valid in the scientific sense, and I'm sure there are other principles and other ways to define the role of knowledge. I do think, however, that the evidence assembled here demonstrates that these 12 principles offer a useful understanding of the unique logic that characterizes knowledge.

Table 1

Characteristics & Implications of Knowledge

Characteristic Principles	Management Implications
1. Created by anyone	• Foster entrepreneurship
2. Distributed cheaply	• Increasing returns to scale
3. Increases when shared	• Cooperation is productive
4. Transmitted in networks	• Requires central organizer • Increase network size
5. Abhors a vacuum	• Keep people informed
6. Reduces Conflict	• Provide transparency
7. Changes value	• Distribute where needed
8. Acts as a fluid	• Leaks across boundaries • Can be sticky • Limited by smallest channel
9. Organized hierarchically	• Understanding is relative
10. Guided by spirit	• Limited by vision • Seek awareness
11. Unique for individuals	• Differences are normal • Requires deep listening
12. An infinite resource	• Potential for understanding an infinitely complex world

1. **Knowledge Can Be Created by Anyone**

One of the most remarkable qualities about knowledge is that it can be created by anyone. A good example is Napster, the music-swapping software system that gained 50 million members in weeks. The invention of Napster was so clever that it established a dramatically different peer-to-peer Internet architecture, which many claim will eclipse client-server architecture. Yet the inventor was a high school student.

Similar examples abound in which people without advantage, resources, or status somehow gained the insight to produce creative innovations. This burst of creativity is clearly visible on the Internet and in the countless new ventures now being formed by people from all over the world, from all walks of life, and all ages. As we will see, every individual offers a unique perspective, however humble, that can possibly contribute to our understanding.

The implication of this characteristic is that knowledge organizations should be driven from the bottom-up using principles of entrepreneurship rather than those of hierarchy that continue to prevail. In a knowledge-centric world, we generally want to create the two entrepreneurial conditions that draw out talent: 1) allow everyone the opportunity to introduce innovations, and 2) reward those who succeed. [2] Yes, it will be messy, but innovation is a messy business.

Entrepreneurship also solves the difficult problem of evaluating KM programs. The usual approach is to treat KM as a service subsidized by the CEO in a cost-center. This may be convenient, but line managers rightfully view cost-centers as a burden and evaluating their productivity is difficult. If KM is regarded as an internal enterprise offering services selected by line managers from among competing providers, however, its value is easily recognized by their willingness to pay. The success and growth of this important new function then rests on its ability to assist others in doing their work.

A good example is the way SAIC Corporation focuses its KM function on providing "internal consulting projects." Rather than having a corporate budget, CKO Kent Greenes and his team act as internal consultants serving interested SAIC units, thus ensuring that KM is accountable to its paying clients.

2. **Knowledge is Distributed Cheaply**

Once created, knowledge can be duplicated and distributed easily, in contrast to the immutable properties of capital. The manufacture of capital goods may produce economies of scale up to a point, but the expansion to larger factories, greater amounts of material, and longer supply and distribution channels eventually becomes too cumbersome and costly, resulting in ***decreasing*** returns to scale.

Growth of a knowledge goods enterprise, however, requires little additional complexity or cost, permitting ***increasing*** returns to scale. [3] The research expenses incurred when creating a knowledge-intensive product may be high, but the marginal cost of distributing copies is negligible. An expensive software system, for instance, can be copied onto a computer disk for about a dollar. Better still, it can be simply transmitted online

instantaneously for mere pennies. This characteristic explains why Microsoft enjoys operating margins of about 40% on its sale of Windows.

The onset of increasing returns to scale has altered the behavior of modern knowledge economies. Witness the fierce competitive battles between startups struggling to gain “first mover” advantage, which permits dominance of a new industry through “lock in,” creating a “winner take all” economy. The list of firms that dominate knowledge industries is long: AOL reigns over information utilities, Amazon is first choice for buying books online, E-Bay dominates electronic auctions.

3. Knowledge Increases When Shared

Another striking feature is that knowledge can grow indefinitely, which is quite different from capital. Capital consists of tangible assets (factories, land, money) that are limited and can only be used for one purpose at a time. But knowledge is an intangible asset that ***increases*** when applied to different needs. Ray Smith, the former CEO of Bell Atlantic who is often called the Father of the Information Age, said: “Unlike capital, knowledge can't be used up. The more you dispense, the more you generate.” [4]

Let’s illustrate with a simple example. Physical assets, such as a car, can be used by only one owner at a time, and they are finite. Cars can be sold, traded, and loaned, but the number of cars remains unchanged. However, the owner of valuable knowledge can easily duplicate this knowledge and share it with others in return for their knowledge. Both parties would then continue to own their original knowledge, while also having the new knowledge they gained, thereby increasing the total amount of knowledge in use. Further, the integration of these different streams of knowledge may produce additional, higher-level knowledge, adding still more knowledge.

This leads to the striking implication that collaboration is now economically productive in the sense that it creates value. Collaboration was rare in the Industrial Age that focused on manufacturing goods. But in an Information Age that focuses on creating knowledge, collaboration is widely encouraged because all parties benefit from the added value that results. [5] This new development in the nature of economics explains the wave of business alliances underway, even among competitors.

This helps us understand the key to pooling knowledge. Few people are altruistic enough to volunteer their time and effort to help others. Sharing may be noted on annual performance reviews, but the link to rewards is tenuous. That’s why claims that cooperation can be encouraged by fostering the right organizational culture

usually are greeted with skepticism. A recent study found that 71 percent of managers think sharing knowledge is the biggest challenge in KM. [6]

Rather than rely on good intentions, some type of mutual exchange is needed to make knowledge sharing a workable reality. Ideally, this exchange should take the form of mutual assistance that colleagues provide by collaborating with one another, which has worked well for some companies like British Petroleum. Those sharing knowledge can also be rewarded with recognition, financial benefits, or anything else of value. When Xerox created its Eureka database of 30,000 technical articles, the contributing technicians declined financial awards for their work in favor of having their names associated with each entry, an author's byline. The type of rewards that motivate people can vary greatly, therefore, but some valuable incentive is essential to make sharing knowledge more than an empty piety. [7]

4. Knowledge is Transmitted in Networks

The icon of the Information Age is the network because information is transmitted more efficiently through networks. All nodes of the network can reach other nodes directly and quickly, increasing the fidelity and scope of the system. How useful would the Internet be if you could only use it to contact a subset of sites and had to switch to another network for the others?

The result is that a central organizer is needed to create and maintain a network. Microsoft holds a near-monopoly in PC operating systems, for instance -- not simply because it is powerful – but because a common network is needed to permit interchangeable applications, ease of communications, and other network functions.

This power of collaborative networks also lies behind the role of communities of practice (CoP). CoPs produce valuable understanding by increasing network interaction within the group, which drives tighter cohesion, increasing interaction again, and so on to create an intense learning episode. A carefully nurtured process of this type helped the Navy "become alive with the fire of shared understanding." [8]

5. Knowledge Abhors a Vacuum

Like Nature, knowledge abhors a vacuum because people feel a keen need to understand the world around them, and they will do whatever is needed to supply that understanding. They create formal

communication media to provide news, they seek out spokespersons to inquire about pressing issues, and they form “grapevines” of informal contacts and gossip.

Informal communications channels have a tendency to degrade. The accuracy of gossip, for instance, deteriorates with repetition, often spreading rumors that are unfounded. Not all formal communication channels are fully accurate, of course, but if formal channels are inadequate, people are then forced to rely on informal systems, decreasing the quality of knowledge.

The implication is that social systems function best if the information available is sufficient to provide transparency. Multiple formal media offer redundancy, thereby correcting for errors and misinformation. Openness and approachability by public figures heightens personal understanding. The reliance on gossip, rumor, and hearsay can then be allowed to decline to minimal levels.

6. Knowledge Reduces Conflict

The principles above suggest that knowledge can reduce conflict. Consider the well-known 2-person “game” called “Prisoner’s Dilemma,” which is often played in small groups to demonstrate principles of conflict versus cooperation. Two groups (the prisoners) can win their freedom if both cooperate with each other in planning an escape; but if one agrees to cooperate and the other chooses conflict by snitching to authorities, the snitch gains rewards while the cooperating prisoner suffers severely.

Conflict is encouraged in this game because the two parties’ choices are unknown to each other. Whereas, if their intentions are visible, the possibility of being duped by your fellow prisoner disappears, thereby encouraging cooperation.

Real situations are more complex, of course. However, this game illustrates how transparency of information can greatly reduce conflict by preventing one party from taking advantage of others. The 2003 Iraq war would have been much harder to justify, for instance, if the absence of Iraqi weapons of mass destruction were publicly known.

Even casual arguments can be alleviated by the enlightenment that knowledge confers. Most of us encounter daily misunderstandings with others, often attributing dark motives to the other party, thereby fanning the flames of conflict. But when the facts are presented clearly by both parties, it is quite surprising to see how harmless the situation usually is, abruptly dispelling the animosity that was building before.

People may continue to provoke one another in the face of perfect knowledge, unfortunately. However, a great deal of conflict can be readily dispensed with simply by ensuring that transparency of knowledge aids accurate understanding.

7. Knowledge Changes in Value

One of the most intriguing features of knowledge is that the value placed on it can change enormously. Consider the following anecdote:

You're sitting at a sidewalk café, when you notice an attractive person of the opposite sex staring at you across the tables. Unsure of what this means, you glance around and wonder what to do. When you look again, this person gives you a decided "wink." Well! This changes everything. So you walk over, say hello, and join this mysterious admirer. Who knows, your entire life could change. [9]

This modest story illustrates the power of information. A "wink" is simply one bit – a 1 replaces a 0 – yet it can have enormous value if 1) the reward is of great importance, and 2) the information is crucial to obtaining this reward. Other factors may affect the value of knowledge, but these two seem to play a major role generally.

A powerful illustration of how these factors can change the value of knowledge is seen in the dot-com collapse. Analysts claim that 70 percent of these corporate assets consisted of knowledge in the form of software, patents, employee skills, and marketing channels. The wild optimism that drove share prices to unsustainable levels in the late 1990s reflected the bold prospects that Wall Street expected from the exploitation of these knowledge assets – while the subsequent collapse of this boom in 2000 showed that their real value was far more modest. The NASDAQ lost 60 percent of its value.

Thus knowledge exhibits a constant state of flux in which shifting assessments of its utility produce rises and declines in demand as people search for the best solutions to ever-changing problems. Little wonder the value of knowledge is so hard to quantify.

7. Knowledge Acts as a Fluid

It is commonplace to recognize that knowledge behaves as a fluid in many ways. For instance, we often speak of communication channels as "pipes." "Leaks" constantly occur because it is almost impossible to keep

secrets fully secure. The difficulty of conveying highly personal understanding makes tacit knowledge "sticky." Knowledge is "congealed" in complex products that require intensive research.

Like all metaphors, there are limitations to considering knowledge a fluid. For instance, you can't simply mop it up after a spill. But the qualities of fluids often provide useful insights that enhance our understanding of this unusual resource. The speed of a complex information system, for instance, can be effectively gauged by noting that information, like any fluid, is limited by the choke point formed by its smallest channel.

The principles described above generally emphasize this fluid-like behavior. Unlike other resources, knowledge flows around obstacles, it can be stored in containers, divides into multiple streams that may flow together again, and expands to cover the terrain – almost as though it possesses an organic life of its own.

9. Knowledge is Organized in a Hierarchy

Like all else, knowledge is organized hierarchically. Cells are organized into bodies, people are organized into societies, and stars into galaxies. In a similar way, data, information, and knowledge form a hierarchy of understanding.

At the bottom, data are measurements that provide our link to reality: daily temperature, stock prices, SAT scores. Data are then aggregated into generalized relationships we call information: "The average annual temperature in Mexico City is 20 degrees above that of Montreal" "The stock market has declined 30%." "SAT scores explain 60% of the variance in grades." Information in turn is organized into knowledge for solving problems to achieve some purpose: "If you want to avoid hot weather, live in Montreal." "This is a good time to invest in stocks." "A student with high SAT scores can expect to get good grades." Note that the distinctive feature that sets knowledge apart from data and information is that it is goal oriented. [10]

An interesting quality of this hierarchy of understanding is that the knowledge contained at a higher level subsumes that of lower levels, but the reverse is not true. The knowledge in the above examples reflects the information and data that went into it, for instance, but the data does not contain the information, and the information does not contain the knowledge. For a striking illustration, humans are able to understand the intricate workings of that wondrous colony of cells we call our bodies – but these cells have no conception of the larger system they comprise. Thus, understanding is relative to our position in the hierarchy of understanding.

10. Knowledge is Guided by Spirit.

At the top of this hierarchy of understanding lies “consciousness” or “spirit.” I realize this is a bold claim that makes some uneasy, but it can be demonstrated logically. Knowledge is marked by a rational orientation to achieving goals, as we’ve just seen, and the very essence of goals introduces a vast domain of subjective concerns that lie ***beyond knowledge:*** values, purpose, beliefs, vision, choice, etc. Note that this domain does not necessarily involve metaphysical phenomena, such as supernatural beings (God). Spirit can be adequately described as simply the “human spirit,” that sense of consciousness or awareness we use to direct our lives.

Many philosophers claim all of life flows out of the spirit dwelling at the top of this hierarchy of understanding. For instance, Emmanuel Kant argued that “will” and “idea” form the basis of our perception of reality, while the Buddha summed it up more strongly in his famous aphorism, “With our thoughts, we make the world.” Lawrence Prusak, a well-known authority on KM, expressed the same point in more conventional terms: “When it comes to managing knowledge, culture trumps all other factors.” [11]

If knowledge rests on a spiritual foundation, the best way to improve understanding also lies at this level: seek awareness, question beliefs, set worthy goals, develop a sense of meaningful purpose, and remain open to inspiration and vision.

The failure to expand understanding, conversely, is usually caused by limitations of spirit that pose obstacles to learning. For instance, fundamentalism, whether in Christian or Islamic religions, is characterized by such tenacious adherence to a narrow faith that other sources of knowledge are excluded, distorting the learning process.

11. Knowledge is Unique for Individuals

If all knowledge flows out of the human spirit, the very nature of knowledge is unique because each individual inhabits a distinctively different perspective, or spirit, that is worthy in its own right. That’s why the field of KM struggles with the challenge of making sense out of the diverse nature of tacit knowledge. There may be similarities in our thinking, influenced by common cultures and other social realities. But each human being is as individualized as the variety found in other aspects of nature.

One of the difficult challenges in dealing with knowledge, therefore, is the realization that it is perfectly normal to find wide differences of opinion. This often results in severe conflict, but differences actually represent great potential because they offer a richer interpretation than any one viewpoint. After all, it is differences that

create the potential energy for all action. Different energy levels are necessary to power a mechanical engine, and price differences drive economic growth. Likewise, different viewpoints enlarge and heighten understanding.

Actually bridging such differences is difficult, of course, because it requires that we yield our grip on reality. To truly understand another's viewpoint, we must engage in “deep listening” -- listening that is so earnest it can only be achieved by momentarily entering the spirit of others, and thereby changing ourselves. This fusion of two unique souls is the source of profound new levels of insight needed to resolve conflict, create innovations, foster loving relationships, and most other worthy human accomplishments.

The present conflict between Islamic fundamentalism and Western modernism, for instance, could possibly be resolved if both parties became open to understanding one another. The West could thereby recognize the need to reorient global capitalism toward serving human values, while conversely, Islam could recognize the value of modern science and economics in improving human welfare.

12. Knowledge is the Infinite Resource

The possibilities are almost unimaginable because the principles described above drive the boundless frontier of understanding to expand relentlessly. As we have seen, knowledge is created by countless people everywhere. It can be copied and distributed endlessly, and encourages cooperation rather than conflict, creating still more knowledge. Networks facilitate this expansion, people absorb knowledge readily, and they focus on knowledge of the greatest value. To make it easier still, knowledge flows through a variety of channels, it leaks across boundaries, and it is drawn upward to more powerful understanding and awareness. And because we each view the world differently, the scope of this vast resource is almost unlimited.

Economics has traditionally been called the “dismal science" because it presumed ***limited*** resources that ***decrease*** when shared to produce a world of ***scarcity***. But the above principles introduce a world of ***unlimited*** resources that ***increase*** when shared to produce a world of ***abundance***. In short, knowledge is “The Infinite Resource” because it represents boundless power to manage a world of boundless potential. When Andrew Grove was CEO of Intel, he claimed that knowledge will become “practically free and practically infinite." [12]

This vast potential is even now crowning knowledge as the main task of entire societies. The world in 2003 employed one billion PCs, mostly used by the knowledge workers who dominate modern economies. And their output of new ideas permits countless entrepreneurs to create IT products that spread knowledge more easily still. The result is a virtuous cycle in which knowledge spurs innovation, which spurs knowledge, which spurs innovation again, on and on endlessly. As the H-P ads proclaim, “Everything is possible.”

From Knowledge *Management* to Knowledge *Nurturing*

To realize this potential, however, a more realistic approach is needed to use knowledge effectively. Rather than struggle to "manage" this elusive fluid, organizations should be designed so they are ***intrinsically able to create and guide knowledge to productive use.*** Think of it as a movement from Knowledge ***Management*** to Knowledge ***Nurturing***. Gordon Petrash, CKO at Dow Chemical, expressed it best: "We will be successful .. when knowledge management is everyone's job."

Some of the principles above – knowledge is created by anyone, distributed cheaply, increases when shared, transmitted in networks, abhors a vacuum, and changes value – suggest that far more sophisticated online information/knowledge systems are needed, and they happen to be coming very quickly. A recent study showed that entire supply chains, customer relations, and employee work are going online, transforming organizations into complex, total information systems "co-managed" by all stakeholders in real time. [13]

This emerging "corporate central nervous system" can be thought of as a kind of "organizational intelligence" (OI). Like the human mind, OI can't work very well as a top-down system but requires the self-organizing, bottom-up qualities all organisms use to manage complexity. For instance, good corporate Intranets allow lots of user involvement, much like the ***Internet***. Knowledge sharing often works best using true markets that buy and sell IP. Decision-support systems should be based on an entrepreneurial model in which each business unit is an "internal enterprise." Rather than hunching over a keyboard, intelligent computer interfaces can connect people far more conveniently in information space. [14]

The remaining principles – knowledge acting as a fluid, requiring shared understanding, guided by spirit, reducing conflict, and unique for each person – remind us of the countervailing imperative to harness the human component of OI. Face-to-face working together is essential for capturing and managing tacit knowledge. Entrepreneurs need help to develop productive new ideas. Meeting clients will always be essential. Strategic collaboration with stakeholders is intensely political.

Despite the management innovations of the '90s, unfortunately, most corporations and governments remain focused on managing rather than nurturing. The outstanding exception is the transformation of the U.S. Military to "network-centric, information warfare," which raised the accuracy of air strikes by a factor of 10, making the U.S.A. almost invincible. Generally, however, much work is needed before the average organization can mine the wealth of entrepreneurial skill lying dormant at the bottom and the understanding of constituencies outside its walls. [15]

The enormity of this shift in the foundation of economics will challenge us as the power of knowledge dazzles our imagination and its disruptive influence tests our abilities. Think of the Internet -- bursting with creative energy, but slightly out of control. The significance of the Knowledge Revolution is that the bonds holding humankind captive to a material world have been broken. The normal difficulties remain, of course, but the only serious limits now lie in our vision and our determination.

---

[*] Portions of this article previously appeared in Halal, "Making Sense of Knowledge," (Emerald Publishing, 2005)

[1] Quoted in "Accounting Gets Radical," *Fortune* (April 16, 2001)

[2] See William E. Halal, *Internal Markets* (NY: Wiley, 1993), Dorothy Leonard, "An Organic Learning System at Chaparral Steel" *Knowledge Management Review* (July-August, 2001), Brook Manville, "A Complex, Adaptive Approach to KM," *Knowledge Management Review (*May-June, 1999), and Paul Wright, "Do Incentive Schemes Promote Knowledge Sharing? *Knowledge Management Review* (May-June 1998)

[3] W. Brian Arthur, "Increasing Returns and the World of Business," *Harvard Business Review* (July-August, 1996)

[4] W. Halal, *The Infinite Resource* (San Francisco: Jossey-Bass, 1998)

[5] W. Halal, "The Collaborative Enterprise.," *Journal of Corporate Citizenship* (2000) Issue 2

[6] Reported in "The Price of Knowledge," Knowledge Management (August 2001)

[7] Paul Wright, "Do Incentive Schemes Promote Knowledge Sharing*?" Knowledge Management Review* (May-June, 1998. John Browne and Steven Prokesch, "Unleashing the Power of Learning." *Harvard Business Review* (Sept-Oct, 1997)

[8] Alex Bennet, "Knowledge, Limits and Reality." (A U.S. Navy paper, 1997)

[9] Nicholas Negroponte, Nicholas, *Being Digital* (NY: Knopf, 1995)

[10] Russell Ackoff, "The Content of Learning." (Unpublished paper, 1994)

[11] The Conference Board, *Managing Knowledge for Business Success* (1997)

[12] "A Conversation with the Lords of Wintel," *Fortune* (July 8, 1996)

[13] Halal et al., "Institutional Change" (work in progress)

[14] W. Halal, "Organizational Intelligence." Knowledge Management Review (1998) Issue 2

[15] See Halal, *The New Management: A Guide to the Parallel Revolutions in Technology, Business, and Leadership* (Berrett-Koehler, 1998)