

# **The Critical Role of Knowledge Management in 21<sup>st</sup> Century Global Public Medical Organizations**

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## Abstract

It is not surprising that as international medical organizations enter and evolve through the early decades of the 21<sup>st</sup> century that many changes are to be expected. Probably the most significant change is the increased importance of the roles of knowledge management, and the knowledge worker, with some decrease in the importance of physical capital which was the critical focus at the turn of the last century as the industrial revolution hit its stride. Today, significant financial value can be gained when organizations apply knowledge directly with less consideration for physical capital needs. Indeed, when critical knowledge workers leave an organization, the decrease in the value of existing physical capital can be surprisingly rapid; potentially, and most probably, leading to bankruptcy; or at the very least, a significant loss of market share.

The challenge to organizations today, and in the foreseeable future, is how to recruit and keep these critical knowledge health care workers who contribute so much to the firm's bottom line. Further, organizations will need to better understand how to acquire, store, retrieve, and protect their unique knowledge resources that represent such significant value for the organization and its stakeholders. Further, with the advances in medical informatics and telemedicine, both the technology and those that manage the technology will become ever more important to the medical enterprise (as public organizations) including hospitals, clinics, and physician offices.

Medical organizations must be planned, managed, and controlled just like any for profit or nonprofit organization. The challenges for administrators in successfully managing a medical organization is virtually the same as managing any organization even though medical organizations are very strongly regulated by various governmental stakeholders so medical managers have an added dimension of stress in their career.

**Keywords:** Knowledge Assets, Knowledge Management, Nonprofit, Medical Organizations.

## An Introduction to Knowledge Assets and Knowledge Management

What is intellectual capital? According to Thomas A. Stewart, an author and a nationally recognized expert on knowledge management defines knowledge assets as “talent, skills, know-how, know-what, and relationships—and the machines and networks that embody them—that can be used to create wealth” (Stewart, 2001, p. 11). Stewart goes on to describe the problems accountants have in defining knowledge assets since they are not the same as physical capital—things that can be touched, counted, and depreciated over

time. In fact, knowledge appreciates over time and becomes ever more valuable to the firm.

An asset is something that transforms raw materials into some finished product (or service) that is more valuable than the sum of the raw materials alone. Historically, the assets that comprised raw materials were actually physical capital—machines, mills, warehouses, trucks, etc. However, today, many goods and services are created through the application of more intangible assets including human capital (the skills and knowledge of the organization's people), structural capital (patents, processes, databases, and networks), and customer capital (relationships with customers and suppliers) (Stewart, 2001).

It is important to note that medical organizations run on machines and are evolving into organizations that runs on the brains and skills (and emotions) of its people must be managed differently; in fact, there is much less management (doing things right), and much more leadership (doing the right things). Machines and assembly lines are managed in industrial enterprises. Intelligent knowledge workers must be led by emotionally mature leaders in medical enterprises (Goleman, Boyatzis, and McKee, 2002). Failing to lead effectively creates a loss of value as these critical knowledge workers leave the organization and either gain employment with a competitor or start their own firm and become a competitor. Health care delivery today is a highly technical enterprise requiring highly trained workers at almost every level of the organization.

Effective leadership, and the care and feeding of critical knowledge workers, is not something that happens simply by accident, or by corporate charter. It takes planning. It takes teaching a corporate culture of knowledge worker leadership “deep into the DNA” of the organization (Tichy and Cardwell, 2002). Tichy talks a lot in his book, The Cycle of Leadership: How Great Companies Teach Their Companies to Win about Jack Welch and his commitment to training leaders at GE.

And, Jack Welch talks a lot about his leadership style, and his driving the culture deep into the DNA of GE and its subsidiaries in his autobiographical book, Jack: Straight from the Gut (2001). Essentially, this is a 21<sup>st</sup> century phenomena given the dates of almost every major book on the subject of how to lead the intangibles and manage for value. Certainly, this applies as much, if not more, to medical enterprises as to any industrial firm. The knowledge may be different, but the character of the knowledge worker is the same.

What does each of these books have in common? What does each of the leadership principles have in common? They have in common that the old days of management are over, for the most part, as the 21<sup>st</sup> century has ushered in a new generation of worker and a new culture in the organization and a new definition of which assets are essential to creating value enhancements in the health care delivery organization of today, and the future.

This conversion of capital does not mean that physical capital is forever gone, and in health care delivery, the high cost of technology is not abating at all—we are still a

machine dependent industry; but, it does mean, however, that its value may be less than the synergy of its application by the men and women who work with the physical capital—simply that physical capital, and of course, financial capital, are expanded exponentially by how they are used; and, this know-how and know-what comes from the knowledge, skills and abilities of those who work with them. This is hard news for the “old school” managers who yet remain in the organization. The high tech medical equipment requires high skilled workers to install, maintain, and operate the equipment that accounts for tens of millions of dollars in investment.

The “old school” managers are still hierarchical, bureaucratic, and operate more or less in a closed loop cybernetic system often called the “Withinputs Box.” New ideas do not permeate this box because they often take a “not invented here” philosophy, and if it is not invented here, we don’t want to hear about it. Super-CEOs like Jack Welch, and the academic theorists of a new leadership for the 21<sup>st</sup> century like Tichy, Goleman, and Bryson and Crosby (public sector leadership theorists) all agree that the “old school” is out and new ideas are the in thing—with the goal of increasing the organization’s value or return on market share by the synergy of knowledge within the organization. This reflects the organization’s investment in people.

The best definition of synergy is that the whole is greater than the sum of the parts. Synergy is vital for economic value compounding. For example, in financial analysis, a project is generally accepted for investment only if the discounted cash flow return on the cost of the project rises above the cost cash flow assuming an accurate cost of capital used as the discount rate. In other words, the Net Present Value (NPV) of a project must be positive, and extending this analysis, the NPV of all projects engaged by an organization must be cumulatively positive for the organization to steadily and reliably increase in economic value (Brealey and Myers, 2003).

One point here is that it takes exceptional knowledge workers to determine the NPV accurately based on an accumulation of cost and revenue data. It is not intuitive, it is not a best guess, it is not based on experience or gut instinct, but rather, it is based on careful calculations and reasonable assumptions in the data. Further, at the next level, it takes the knowledge, skills and abilities of a great many other workers to actually create the service or product at the level of the cost assumptions and at sufficient quality levels to capture a market and ensure the revenue assumptions of the original analysis. It must be noted that the analysis is only as good as the assumptions made on cost and revenue expectations, and it takes bright people to bring those assumptions to fruition. According to Stewart (p. 13), The Total Market Value of a firm is now composed of more than 66 percent intangible assets (people), while the remaining 33 percent are composed of tangible assets (machines).

All the authors cited in this paper agree that the old style “command and control” management of the organization is obsolete. In fact, command and control management is so out of fashion that it is unlikely that organizational managers still practicing Theory X management (from MacGregor’s Theory X and Theory Y dichotomy) can maintain a highly intelligent work force today. These knowledge workers simply won’t work under

these conditions. They will rebel or they will quit; or if the money is too good, they will stay, but will not provide the organization their best efforts.

There are many companies today that have almost no physical assets at all. They work with information technology infrastructures and may have a few desks and chairs and an unmarked leased office space somewhere. Yet, this company with virtually no fixed physical assets could be creating value in the millions of dollars every day. These organizations are advertising agencies, computer firms, consulting practices, and other professional firms such as telemedicine practices. The point to remember is that capital assets transform raw materials into something more valuable, and it does not always take a machine to do that function.

The new philosophy of knowledge workers is of late coming to the “university of tomorrow,” but it is a critical function just the same. By just reading the *Chronicle of Higher Education* regularly reveals a great deal of personnel movement within the academy. Universities are spending large sums of money to attract the best and the brightest faculty who they expect will attract the best and the brightest students, as well as significant sums of research money, which creates more faculty research productivity; all of which enhances the prestige of the university. Advanced medical and clinical research depends on this relationship for the funding needed to achieve significant outcomes.

As an example, years ago, Harvard University’s former president, Larry Summers, had lost a number of highly regarded, award winning, and significantly published faculty to other universities primarily due to his abrasive management style. He had been both confrontational and controversial, and was not seen as a faculty-friendly president. The new president installed had, at the request of the Board of Trustees, made faculty retention as his number one priority. The brain drain could not be tolerated any longer, but it will take years to rebuild the university’s intellectual infrastructure since so many of the existing faculty members are basically new, and many are unproven.

Essentially, the university was hemorrhaging intellectual capital annually due to a president who was not faculty-friendly, and who had no supporters among the faculty. He had lost sight of the fact that it was the faculty that engaged the students, conducted research, performed community and university-wide service—without faculty, where is the intellectual value of the academy? Without the faculty, the academy is only bricks and mortar (physical capital), and a few administrators (intellectual capital, but without a mission). The result was that the Board of Trustees had to step in and replace the “command and control” leader with one a bit more enlightened as to the role the faculty played in a university community.

Although only time will tell how well the new president can stem the hemorrhage, the pace of turnover has slowed over the past two years. A similar people problem can happen to medical organizations such as major medical centers who must work diligently to keep their top medical workers on the payroll. Their reputation depends on it.

One of the key problems can be the pay scale for everyone, but particularly for the top talent in the organization. Derek Bok, a former president of Harvard University, wrote in his book, The Cost of Talent, that low salaries for professors will hurt the academy and discourage talented young people from academic careers (p. 158). Medical researchers require first substantial funding for their labs but also salaries that meet their economic needs and the needs of laboratory workers. Although Bok's book was published in 1993 his comments are just as relevant today; maybe even more relevant than when he originally wrote the book.

Are people ready to leave a safe, secure job potentially with a future because their significant contributions are not recognized, their intelligence is not fully utilized, their skills and abilities not adequately rewarded, or they are just being bossed around by a manager who is nothing more today than an aging dinosaur? Robert B. Reich The Future of Success, (2001), a former Secretary of Labor in the Clinton Administration, clearly believes that we are entering "The Age of the Terrific Deal," where choices are almost limitless and it's easy to switch to something better. This is the first principle of what he then called the New Economy (p. 13). Today, and in the future, we can expect to see the best talent moving on to other opportunities as the economy improves as it recovers from the Great Recession of 2008.

He prophesies in his book that people who are not getting what they want from their current jobs will not hesitate to move on to a better deal. This is a fact that today's leaders must understand, your best and brightest will be walking out the door if they are not well lead and much appreciated for their contributions.

Thomas A. Stewart reports in his 2001 book, The Wealth of Knowledge: Intellectual Capital and the Twenty-first Century Organization, that the most progressive firms today are now employing a new senior officer in the corporate structure called the Chief Knowledge Officer (CKO). By 1997, fully one fifth of the *Fortune* 500 companies employed someone who, in role if not always in title, was the Chief Knowledge Officer. By the end of the decade, it was rare to find a big company without one (p.81). It is certainly time for medical enterprises to adopt the same corporate structure.

As early as 1997, the Drucker Foundation began research into what the organization of the future would look like. In the book, The Organization of the Future (1997), the Drucker Foundation editors assembled articles written by the best minds in business to explore the future of organizations. Virtually all of the authors in this edited volume touched on the critical elements of how the organization of the future will acquire, organize, store, retrieve and protect their intellectual property and how to keep their human capital on the job and producing knowledge output at a high level—competitive with a global economy also working hard to produce a maximum return from their investment in the intangible assets of knowledge workers. Health care delivery organizations certainly need to adopt this type of model to provide the best services possible at the lowest cost possible.

In a sense, these new organizations do not care how old you are, or where you live, or what your race, gender or creed or nationality is; they only want to know one thing; what

do you know that we value and will create increased financial value for our organization. For instance, a major law firm employs, at significant expense, a computer consultant who is 14 years old. Regardless of his age, he is simply the best at maintaining their IT infrastructure, and protects their files from outside intrusion. This young man is a knowledge worker whose value to a professional business enterprise far outweighs his age.

Next to knowledge creation, the organization also must be attuned to knowledge sharing within the internal structure of the organization. Knowledge created and stored is of no use if it is not both protected (from unauthorized users) and shared (with authorized users). The organization's CKO is responsible that knowledge (the bits and pieces) are gathered and entered into a knowledge database that is hugely interactive with every worker in the organization itself. It is important that the IT infrastructure is designed to share knowledge within the core of workers, even if it is not requested specifically.

One example of how this is done is with an interactive database of corporate information and patient databases. What this means is that as a worker is interrogating the system or the interrogation is ongoing automatically as a worker is keying in data or information, the worker is provided with automated hyperlinks to other areas in the database that contains information the worker may need to see. But, as simple as it is to get all relevant information to the worker, it must be secure enough to prevent outside intrusion by hackers or the organization's most valuable resource, knowledge, is then up for grabs; and remember, this knowledge has value.

So, the challenge to organizations is how to protect their data from outside intrusion while allowing a user friendly interface for knowledge retrieval by authorized users. If the system is not user-friendly and fairly automatic, it is unlikely that it will be used by everyone. In fact, the system should be so user-friendly that it does not require the user to really do anything except click on the hyperlinks that are being automatically provided by the automated database acquisition program—but, only for the authorized user (Kendall and Kendall, 1992, and Laudon and Laudon, 2003).

In conclusion, the medical organization that manages its knowledge effectively and efficiently, and leads its knowledge workers with emotional intelligence rather than command and control methods will be globally competitive as we move through these first decades of the 21<sup>st</sup> century. What lies beyond is anyone's guess, but certainly, the future will be for the knowledge worker well led by exceptionally intelligent and supportive leaders.

#### ***About the Author***

Dr. Michael W. Popejoy, (M.B.A., Ph.D., M.P.H., M.S.) Fellow, Royal Society of Public Health (UK), Adjunct Professor, Central Michigan University and Florida International University, has been teaching for 23 years in undergraduate, graduate, and doctoral programs in traditional on campus, online, and compressed time format weekend programs designed for working professionals. He is cross trained in public administration, public health, and health care administration while also teaching in

business and education. He received an M.B.A. from Barry University in Miami Shores, Florida, and then entered Florida Atlantic University for the Ph.D. in public administration with a concentration in government budgeting. Later he completed an Ed.D. program in higher education administration (all but dissertation). For the first ten years of his career he was professor of business and public administration and department chair at the Rinker School of Business, Palm Beach Atlantic University where he was also elected president of the university faculty senate. More recently, he completed the M.P.H. degree in community health and will complete the M.S. Health Administration later in 2011.

He has for many years been an adjunct professor at Central Michigan University, and more recently an adjunct professor of public health at Florida International University, Robert Stempel School of Public Health and Social Work. He is also assistant editor for the journal *White House Studies*, a frequent contributor and recent guest editor at *Public Voices*. His work has also appeared several times in the British journal *Public Health* where he is also a Fellow in the Royal Society of Public Health. His interests in global public health are exemplified by his article in *PA Times* on the challenge to public administration to partner with public health; and his forthcoming book (2011) *Global Public Health Policy* which is being published by Nova Science Publishers. He also leads a small group of interested scholars in creating network health systems for developing countries which will result later in 2011 with a special issue of the *Journal of Health and Human Services Administration* co-edited by Dr. Popejoy and Dr. Hillary Knepper of Pace University.

Dr. Popejoy has been writing book reviews even well before his academic career began since early in his undergraduate years he was published in the *Journal of the Florida Medical Association* and *Florida Banker* where he was a contributing editor. Once he was in his doctoral program, his book reviews were appearing in *Hospital Topics* and he was the charter book review editor for the first several years of *Public Voices*. His reviews appear regularly in *Public Integrity*, *Public Voices*, *White House Studies*, *Public Health* and most recently, in *Public Administration Review* (January-February 2011) with another review scheduled for later in the year. His most recent major review was an article length memorial essay on the late David Halberstam and his writing career which is scheduled to appear in 2011 in *White House Studies*.

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