

Round Healthcare in a Flat World

Early investment by businesses in information technology delivered very disappointing results through the early 1990s. Executives, expecting computer systems to provide increased efficiencies and worker productivity, realized few if any benefits from investing in these systems. The idea of a paperless office never materialized as many workers printed out each and every email message, handling correspondence as they would a mailed letter or an interoffice memo.

Then sometime in the mid-1990s, that all changed. Rather quickly, over a 3-year period, using computers to communicate, transact purchases, and transfer documents became normal business practice. Developers and users, together, conceived of more and more activities that could be conducted online. Individuals embraced every effort that offered them control over their work environment. Many transactions, from purchasing products and researching subjects to securing a seat on an airplane flight, became activities that could be controlled by an individual from a personal computer. Experiences formerly circumscribed by an organization became available to and customized by individuals.

Processes Need to Adapt

Only when individuals and industries modified processes to effectively leverage new technologies did they see huge leaps in productivity, efficiency, and quality.

Today, healthcare annually invests billions of dollars in information technology, including clinical systems, electronic medical records, and interoperability platforms. Healthcare leaders worry, as did their counterparts in other industries more than a decade ago, that this investment in information technology will never deliver the improvements in productivity, efficiency, and quality

they expect. Reports of failed implementations, error prone systems, and staff dissatisfaction, especially among physicians, only increase the stress felt by the members of every provider's senior management team.

Triple Convergence Factors

Although it is true that the roll-out of information technology has not been smooth, perhaps healthcare has not yet experienced what Thomas Friedman, in his book *The World is Flat* (2005), calls the "Triple Convergence."

Friedman suggests that three key factors led to the explosive increase in value obtained from information technology in most businesses today. These three factors are:

- Increased connectivity and collaboration, allowing more people than ever to work together to develop products and provide services.
- Increased capabilities in a single device, allowing it to perform many tasks (e.g., personal computer used for research on the Web, accounting, word processing).
- Process and workflow changes, leveraging the capabilities of the information technology machines.

Industries did not accrue the growth in productivity until all three of these factors matured and converged. Early on, the technology (i.e., personal computers) was available, but the connectivity did not exist to allow individuals to collaborate. Subsequently, cheap and fast Internet access came online, but work and manufacturing processes followed old rules. Only when these

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processes changed through path innovation did the real value of information technology become apparent. Path innovation developed and managed broad-based subject matter expert teams to create new processes that effectively leveraged newly available technologies. Triple convergence allowed for leaps in realized benefits with broad distribution of value.

Not There Yet

Although healthcare has not reached its point of triple convergence, its three key factors continue to move forward. These three factors are:

- Market penetration of robust clinical information technology platforms.
- Deployment of interoperable systems and networks that allow efficient patient information sharing and real-time professional collaboration on patient care.
- Path innovation of clinical processes, creating entirely new ways of managing patients.

Implementation of clinical information technology is occurring at a slow

but measured pace. With continued investment, hospitals and ambulatory providers soon will have deployed technology, making efforts to communicate and collaborate worthwhile.

Simultaneous with increased market penetration of information technology is the development of standards and interoperable systems that will allow for functional collaboration among providers. Investment by the federal and state governments in this area bodes well for achieving success.

Although continued investment and development of standards are critical to achieving exponential benefits from clinical information technology, intelligent and creative redesign of processes through path innovation is necessary to deliver meaningful value. Every worker in a provider organization, including physicians, nurses, clerical staff, and administrators, must think differently about their work and how to get it done. Assumptions about care processes, workflow, and clinical governance require examination, evaluation, and modification in light of the new realities presented by clinical information technology. All members of the care team must invest the time to understand the capabilities of these new technology tools and think of how they can be leveraged do to a task better and more efficiently.

Challenge Culture and Norms

Invariably, new technologies challenge the culture and norms of industries. Email, considered an unacceptable method to be used for formal business communication 15 years ago, is now the medium of choice. Although it took some time for industry to adjust to the new technologies, benefits accrued as work processes changed.

Healthcare's culture and its mode of doing business will change as these new information technologies spread and triple convergence approaches. Workers in the healthcare industry, both clinical professionals and non-clinical staff alike, need to adapt to these changes, develop a new culture, and think in an open-minded manner about performing their jobs in radically new ways.

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In *The World Is Flat*, Friedman quotes Paul Romer, a Stanford University economist:

The new way of doing things makes the information technologies more valuable, and the new and better information technologies make the new ways of doing things more possible. (pg. 178)

If we embrace path innovation and incorporate it proactively into our deployment of healthcare information technology, we will then be able to accrue the huge increases in quality, patient safety, and efficiency we expect from these revolutionary tools. **IPSQH**

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