

**“Life is change.
Growth is optional.
Choose wisely.”**

Karen Kaiser Clark
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educator and author of
three best-selling books

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The challenge of delivering the elusive IT ROI

By Michael J. Cook, Principal, CCI

CIOs are in a unique position to help solve the elusive ROI problem of costly IT investments. This article offers strategies, processes and tools to help CIOs succeed.

Senior executives continue to be frustrated over the lack of measurable return on investment (ROI) on costly information technology investments. The health care industry is no exception. According to the 2003 HIMSS survey of provider CEOs, their number one frustration with IT is not being able to measure business value. Gartner, a respected IT research firm, goes a step further and suggests that many executives are not convinced that the appropriate mechanisms for translating IT investments into business value even exist. The bottom line -- *IT struggles with credibility problems in the executive suite and at the board level.*

“Delivering ROI will never again be as easy as the good old days where IT was primarily a substitute for labor-intensive back office tasks...”

While there is no lack of explanation for this troubling ROI trend, many experts point to the transition of IT to a more complex strategic role as a root cause. This advanced “change enabler” role for IT offers great promise of ROI -- allowing organizations to redesign complex business processes, facilitating major business innovations and transforming how businesses are run. But this also offers greater risks of failure with larger, more complex IT investments; business value dependent on the difficult restructuring of key business processes; and, governance processes not designed for these complex projects. A final byproduct of this new role is the difficulty of directly linking ROI back to the IT investment. In summary, some high profile “poster children” of this new IT change enabler role are ERP and CRM solutions with CPOE an obvious candidate.

But delivering ROI will never again be as easy as the “good old days” where IT was primarily a substitute for labor-intensive back office tasks like payroll. The more complex change enabler role requires a modified strategy for organizations to consistently deliver ROI. The strategy needs to tackle three related problems:

- implementing complex IT solutions
- restructuring business processes to deliver the IT-enabled business value
- developing more effective governance processes to manage these



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difficult activities.

CIOs are in a unique position to collaborate with peers to develop the new strategy that delivers ROI for high profile, costly IT investments.

The new strategy starts by converting potential change enabler IT investments to a larger blended investment opportunity that includes all the non-IT pieces needed to deliver the ROI. Besides highlighting all necessary restructured business processes needed to deliver the ROI, the advantages of this approach include a more comprehensive view of decision-making factors such as scope, costs, risks and value.

The next steps in this strategy include: (1) creating a value map to identify and integrate the IT and non-IT (or business) pieces needed to deliver ROI; (2) performing a readiness assessment to evaluate the integrated projects for risks and corrective actions to deliver ROI; and, (3) reviewing the current governance processes because change enabler IT investments often require governance changes. The following explains these steps in more detail.

1. Create a business value realization map. The first step provides a collaborative process and tools to identify and organize the relevant IT and non-IT elements into an integrated set of initiatives and outcomes to deliver ROI. The initiatives address the necessary IT solutions, business process changes, organizational changes, external partnership factors, new or different skills/people requirements, training, compensation and other business changes to deliver the expected outcomes. Outcomes, both economic and strategic (i.e. patient safety), should be measurable, quantified and benchmarked for reasonableness. Relevant business assumptions supporting the initiatives and outcomes should also be documented and benchmarked for reasonableness. An important value of the map is the linking of IT capabilities to restructured business processes and measurable outcomes that provide the basis for ROI.

2. Perform a readiness assessment for the integrated projects. The next step allows the organization to perform a "gap" analysis of needs against current resources and capabilities to successfully deliver the projects. This step is performed after a set of integrated, detailed projects is created from the map, researched and determined to be viable solutions. The assessment should address at least the following five areas: business processes changes required; people/skills availability; management support processes, i.e. change management; organizational support for the projects; and, IT capabilities or options, including how the projects will fit into the current IT architecture. This readiness assessment provides an ideal checkpoint to confirm risks and identify corrective actions needed to successfully deliver the investment. It also provides an ideal checkpoint to further risk-adjust the expected ROI if appropriate.

3. Evaluate current governance support for change enabler IT investments. Candidate processes to start with include: accountability for the ROI; ROI measurement system to support accountability; change management skills to facilitate the delivery and acceptance of complex business changes; and project management skills to manage the integration and delivery of multiple complex projects.

- **Accountability:** One senior executive should sponsor the set of integrated projects (IT and non-IT) of the blended investment



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opportunity. The sponsor should be willing to be held accountable for approved ROI, including any budget implications. For this process to be effective, the sponsor must be senior enough to have the power and authority to remove barriers and hold staff accountable for results. Accountability should be tied to annual goals, compensation and bonuses for all key staff involved in delivering the ROI. Without this accountability, expecting ROI to be delivered is unrealistic.

- **ROI measurement system:** "If it's not measured it's not managed." The system needs three components to be effective: (1) ROI outcomes that are specific, measurable and quantified (this also applies to strategic value such as patient safety); (2) a baseline measurement for the ROI outcome targets prior to starting the projects; (3) and a process to measure and collect the ROI outcomes. The measuring, tracking and reporting should be on going to insure the value continues to be delivered. Please note that reporting systems are not easily implemented because the required information is not generally a by-product of existing systems. However, effective ROI accountability without measuring systems is not possible.
- **Change management skills:** Resistance to change is fairly common and since change enabler IT investments are dependent on restructured business processes for ROI, proactive management of change is important. Superior change management skills to engage staff in understanding, incorporating and accepting business changes are needed for success. If your organization does not have a solid track record of change management success then improving these processes should be high priority prior to undertaking these complex initiatives.
- **Project management skills:** The skills, processes and tools needed for complex change enabler blended investments are substantial. Skills for review include: coordinating multiple integrated projects with major business pieces vs single IT projects, project scope that includes complex business process changes vs. IT functional capabilities, ROI focus vs IT project time and cost focus, and ROI accountability vs IT project accountability. Adding these advanced project management skills is necessary to manage the successful delivery of ROI.

In summary, IT is moving to a more strategic business "change enabler" role. This new role requires revised strategies, processes and tools to deliver ROI. This article introduces CIOs to many of the important changes needed and provides a "starter kit" to help champion the necessary changes – ideally in time for decisions like CPOE.

Want survey data on the elusive ROI for IT?
 We have CFO results from a major HFMA chapter
 Help us start a CIO database or add to our CFO database

Click on the link(s) to be directed to the appropriate survey.
[Link to ROI survey for CIO's](#) or [Link to ROI survey for CFO's](#)

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All-digital heart hospitals open

St. Francis Heart Hospital (Tulsa, OK), a paperless facility, opens April 1. All cardiac monitoring and imaging, as well as administrative and financial systems will be digital. Other recently-opened all-digital hospitals include the \$75-million **Oklahoma Heart Hospital** and the **Indiana Heart Hospital**.

Sources: All-digital hospital to open in Oklahoma. *iHealthBeat*, March 30, 2004. Full text free here: <http://tinyurl.com/3ftyh>

Heart hospital opens first all-digital center. *News-Star* (Shawnee, OK), October 13, 2002. Full text free here: <http://tinyurl.com/3388b>

Hospital amputates paperwork. *ABC News*, March 14, 2003. Full text free here: <http://tinyurl.com/3cr6h>

IT high priority on hospitals' capital wish lists

Information technology purchases, such as digital radiology, computerized physician order entry or other major systems, are high priorities for hospital capital expenditures over the next 5

years, according to a survey of hospital CFOs. Interest in investment in IT edged out the most popular types of hospital construction projects – emergency de-partment and surgical suite expansions. The greatest potential for sales of picture archiving and communications systems (PACS) is likely to be to hospitals between 51-300 beds, since larger hospitals already have them. Conversely, large and teaching hospitals are among the most likely to be in the market for CPOE.

Health care IT spending forecast

- > 9% annual growth rate
- > \$30.5 billion total by 2006

Sources:

How are hospitals financing the future? The future of capital spending. *Healthcare Financial Management*, March 2004;58(3):pp 53-58.

Full text for sale here: <http://www.financingthefuture.org/reports.htm>

GE Healthcare Financial Services: Hospital CFOs predict double-digit increase in capital spending. *Press Release*, March 2, 2004. Full text free here:

http://www.gehealthcare.com/hfs/about_us/recent_news_03_02_04.shtml

CIOs prioritize bar coding, EMR

Over half of the hospital and health system CIOs responding the 15th *Annual HIMSS Leadership Survey* mentioned bar coded medication management, electronic medical records, and clinical information systems as priorities for the next 2 years. These technologies will support the larger issues of patient safety and HIPAA compliance. About one-fifth of the respondents reported that they have a fully operational EMR, while another 37% have begun installation. Nearly three-quarters of the 307 CIOs who completed the survey expect an increase in the IT operating budget. Nearly half of the CIOs reported that the IT operating budget represents 2.5% or less of the organization's total budget.

Source: Healthcare Information and Management Systems Society: *HIMSS Leadership Survey: Healthcare CIO Results, Final Report*, February 23, 2004. [15th Annual HIMSS Leadership Survey sponsored by Superior Consultant.] (29 pages)

Full text free here: http://www.himss.org/2004survey/docs/Healthcare_CIO_final_report.pdf

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Want to take our RIO
Survey?

[Link to ROI survey for CIO's](#)

[Link to ROI survey for CFO's](#)

To request a summary of
the ROI survey
conducted for the HFMA
chapter, email Mike
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Bar code scanners in 150 hospitals

Only about 150 US hospitals have installed facility-wide bar code scanning systems, but the **Food and Drug Administration's** adoption of a new rule requiring bar codes on pharmaceuticals is expected to increase adoption of the technology. Bar code scanning systems cost from \$500,000 to \$1 million and take about 18 months to implement. But the FDA estimates potential savings of \$97 billion over 20 years due to avoidance of adverse medication events and related errors. The **University of Wisconsin Hospital and Clinics** (Madison, 400 beds), which provides over 3 million medications annually, experienced an 87% drop in medication error rates after adoption of a bar code scanning system.

Source: Austin K: Bar code rule seen ushering in new standard of care. *AHA News*, March 8, 2004;40(5):p 7. Full text free here: <http://tinyurl.com/2pe3u>

\$16-\$36K/doctor to implement EMR

Upfront costs to implement electronic medical record systems in physician practices were found to range from \$16,000 to \$36,000 per physician, according to interviews conducted between 2000 and 2002 with EMR managers in 30 practices. Additional implementation costs typically included lost patient revenue while physicians were learning how to use the system. Practices reported that physicians also spent more time with the patient for months or years after the EMR was implemented. Financial benefits associated with EMR implementation were reported to range from none to \$20,000 per physician per year. Managers noted that EMR systems were not easy to use "out of the box" but required many complementary activities in the practice during the transition period. The critical importance of a physician champion for the EMR, particularly for small practices, was emphasized.

EMR ongoing costs – expect 15-20% of initial software costs for vendor support and upgrades.

Sources: Physicians' use of electronic medical records: barriers and solutions. *Health Affairs*, March/April 2004;23(2):pp 116-126. Full text can be purchased here: <http://content.healthaffairs.org/cgi/content/abstract/23/2/116> University of California, San Francisco: *Electronic Medical Records: Lessons from Small Physician Practices*. Oakland, CA: California HealthCare Foundation, October 2003. (27 pages) Full text free here: <http://www.chcf.org/documents/ihealth/EMRLessonsSmallPhysicianPractices.pdf>

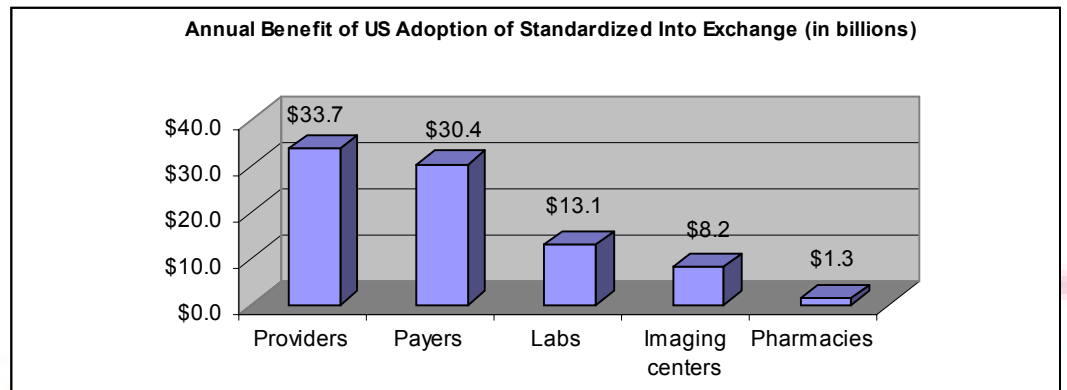
ITS upfront costs \$30,000-\$300,000

Instrument tracking systems (ITS) have been installed in an estimated 5 to 20% of US hospitals, although only about a quarter of those have implemented all of the components. Upfront costs run between \$30,000 and \$300,000, depending on the size of the hospital. Installation tends to take 6 to 12 months. Benefits of ITS include increased productivity and savings in instrument inventory. Reductions in instrument replacement budgets of 20-30% can be achieved with ITS.

Source: Greene J: Gaining efficiency with instrument tracking. *OR Manager*, March 2004;20(3):pp 17+. Text not available electronically; contact the newsletter at 800.442.9918.

Standardized info exchange would save estimated \$87B/yr nationally

Full implementation of standardized health care information exchange would save \$87 billion annually, according to national estimates prepared by the **Center for Information Technology Leadership**. Non-standardized HIEI was not found to be cost-effective as a national approach. The following figure identifies the estimated national savings by sector.



Source: Center for Information Technology Leadership: New findings show that investment in standardized healthcare information exchange would deliver \$87 billion in annual healthcare savings. *Press Release*, February 23, 2004.
Full text free here: http://www.citl.org/news/HIEI_Findings.pdf

Call center contacts cost \$1/minute

There are about 500 health care-related call centers in operation nationally, the most sophisticated relying on software and standardized evidence-based guidelines to handle calls. Calls to telephone help lines cost an estimated \$1/minute. When **St. Louis Children's Hospital**, with a monthly volume of 10,000 calls, installed call center software in 2002, the mean call length was cut from 20 to 13 minutes. Besides increased efficiency, call center automation opens up the possibility of on-call nurses working from their homes.

Source: Jossi F: Call center triage. *Healthcare Informatics*, March 2004;21(3):pp 39-40.
Full text free here: http://www.healthcare-informatics.com/issues/2004/03_04/jossi.htm

Merged hospitals choose OR system

After the 1996 merger that formed **Southcoast Health System** (New Bedford, MA, 3 hospitals), the decision was made to replace the existing conglomeration of information systems with one perioperative management system. Among the advantages of this change have been a 25% increase in surgical volume, a three-fold increase in billings, and \$1 million in annual savings on preprinted surgical case forms. Additionally, the number of on-time surgeries has doubled and accuracy of scheduling has been improved.

Source: Ames L: An Enterprise answer. *Health Management Technology*, March 2004;25(3):pp 44+. Full text free here: <http://tinyurl.com/22okq>