Achieving Strategic Cost Advantages by Focusing on Back-Office Efficiency

Jim McDowell
A recent study shows that investments in back-office IT infrastructure and automation could reduce costs for hospitals—and improve efficiency.

At a Glance
A study of more than 270 hospitals over a four-year period highlighted a number of investments that can reduce hospitals’ costs and improve efficiency, including the following:

- E-procurement systems
- Electronic exchange of invoices and payments (and electronic receipt of payments)
- Human resources IT systems that reduce the need for manual entry of data
- Shared services deployment

U.S. healthcare organizations face unprecedented financial pressures, making it more difficult than ever for them to maintain the vital reinvestment capital required to sustain high levels of care and improve operating efficiency.

More than 34 percent of U.S. hospitals responding to an American Hospital Association (AHA) survey reported operating losses for the first half of 2009, and more than 70 percent said they slowed down or canceled capital projects as a result (The Economic Crisis: Ongoing Monitoring of Impact on Hospitals, AHA, November 2009). In this environment, the need to optimize investments and deliver a quantifiable return has never been more acute—especially when healthcare reform has been added to the mix.

Competition for capital budget dollars has always been intense, and prioritizing between several high-priority projects and other equally worthy investments is never easy. Every year, hospital CEOs must turn down many projects they would like to fund, especially those that are not directly focused on patient care. For this reason, many investments in back-office IT infrastructure and automation have been put on the proverbial “back burner”—for decades in some organizations.

This prolonged investment hiatus has left some hospitals with inefficient and labor-intensive processes for managing supply chain, financial, and human resources processes. Even a cursory review of benchmarks across other industries reveals the negative impact that insufficient investment in back-office automation and process improvement has had on efficiency and financial performance in the healthcare sector.

Analyses of supply chain management, human resources, and financial processes at more than 30 of the nation’s integrated delivery systems (IDSs) over a four-year period reveal the negative impact of long-term underinvestment in back-office infrastructure and processes. The analyses also shed light on the significant financial benefits that can be achieved by organizations that have made back-office automation and process improvement a priority.

Effects of Investments in Automation, Process Improvement
Oracle Healthcare Insight conducted a study of more than 270 hospitals over a four-year period to determine best practices for improving hospitals’ financial performance. Research included detailed reviews of processes and performance metrics as well as interviews with more than 100 C-level executives and 600 operating managers.
The study results disclosed that healthcare providers that make greater investments in back-office automation and process improvement enjoy operating cost ratios that are 2 to 4 percent better than those of their peers. In an industry in which 4 percent margins are the norm, this difference arguably demonstrates a strategic, structural cost advantage.

What are the implications of this research for senior healthcare executives? For the purpose of quantifying financial benefits, the researchers defined a “model IDS” with approximately 10,000 employees and $1 billion in annual revenue to calculate “average” benefits in each of the primary business areas outlined below. The values shown for leaders in the exhibits featured in this article represent the average of the top quartile performers in each category; peer average is the average of the remaining groups.

Leaders Achieve Lower Supply Costs, Increased Productivity

Leaders in supply chain management are able to produce supply costs that are a full 2 to 4 percent lower than those of their peers (as a percentage of overall operating costs), and do it with fewer personnel. Using the model IDS, this equates to a savings between $20 million and $40 million annually, based on research results.

There is no question that product standardization, which is minimally dependent on outright automation, represents a major opportunity for supply cost savings once physician buy-in has been achieved. Just as important, however, are several basic procurement automation steps that can yield significant savings and do not necessarily require physician buy-in. For example, among the organizations that had the best overall supply chain cost metrics, automation of certain key processes stood out as an important enabler of success. Certain automation efforts can be easily mapped to particular metric improvements, such as e-procurement and electronic order exchange, which were shown to increase spend per buyer. However, researchers believe the combination of multiple process efficiencies that free skilled buyers to focus their time on critical contract negotiation and enforcement yields the most significant results.

See Exhibit 1

Leaders that emphasized requisition-to-purchase-order automation, electronic data exchange, strong analytics, and use of shared services outperformed their peers by wide margins.

Investing in electronic exchange of information and transactions with suppliers also is paramount. Process changes that range from automating catalog and price synchronization to sending orders and receiving order acknowledgements (with automated catalog price updating) electronically will reduce the time that buyers spend processing transactions and updating catalogs—and give buyers more time to devote to strategic initiatives. Just as important are efforts to require suppliers to send electronic advanced shipping notices (ASNs) and invoices. ASNs not only promote greater efficiency
for receiving staff, but also often eliminate laborious manual processes related to back-order management. The combination of automated catalog updating, ASNs, and electronic invoices significantly reduces time spent resolving discrepancies in accounts payable (A/P)—a portion of which always flows back to buyers for assistance. This allows buyers to spend more time on high-value contract negotiation and oversight.

User-friendly e-procurement systems that enable unit managers to easily order supplies within the system, as well as auto-source as many purchase orders as possible, are also key drivers for procurement efficiency. These systems reduce the need for buyers to spend time on needless transaction processing and help to significantly curtail “maverick spend.”

Strong analytics are also a driver of success. Among the organizations that were studied, those with the best-performing supply chains had a penchant for careful monitoring—whether closely monitoring inventory levels or carefully reviewing opportunities to increase product standardization.

In the area of inventory optimization, the majority of organizations reviewed by researchers did not place a high priority on monitoring efforts. The root causes of this appear to be the low financing costs enjoyed in the United States in recent years, coupled with an all-too-common challenge of producing timely utilization analytics for specific supply locations. The former has undoubtedly lowered focus on this area, and the latter is primarily a result of a failure to upgrade older systems over the course of many years. The peer-average annual inventory turnover rate is less than 12, whereas the best performers in this study achieve nearly double that. Even without significant current holding costs, this still represents—using the model IDS for comparison—more than $5 million in unnecessary inventory costs that could be put to better use elsewhere in the organization. (Interestingly, the $5 million that could be saved would come close to paying for the average total cost of upgrading every major area of back-office automation outlined in this article, as will be discussed later.)

**Strategies for Reducing Human Resources Savings**

There are many complex and, often, regional or demographic factors that influence employee turnover. As such, the researchers did not attempt to map employee turnover as a key metric against automation efforts. However, the researchers did analyze productivity metrics, as they could identify conclusively the automation and process tools that leaders used to achieve greater performance. As shown in Exhibit 2, leaders in the study that automated HR and payroll processing functions reduced HR and payroll processing administrative staffs by 24 percent and 64 percent, respectively.

See Exhibit 2

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**GAP IN HUMAN RESOURCES PERFORMANCE**

<table>
<thead>
<tr>
<th>Employees per HR FTE</th>
<th>Employees per Payroll FTE</th>
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</thead>
<tbody>
<tr>
<td>Peer Average</td>
<td>140</td>
</tr>
<tr>
<td>Leaders</td>
<td>174</td>
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</table>

24% improvement in employees per HR FTE and 64% in employees per payroll FTE.

Leaders that excelled at employee self-service and use of shared services required far fewer administrative staff than their peers.
The use of shared services for HR and payroll had the greatest impact on reducing costs in these areas among the larger organizations that were studied. Those organizations that established shared services centers for HR and payroll administration processes had employee-to-HR staff ratios that were 25 percent lower than those of their peers. Using the model IDS, this equates to approximately 14 fewer administrative staff in an organization of 10,000—or nearly $600,000 in annual savings. Optimizing the use of employee and manager self-service tools to reduce transactional loads was a second driver for HR and payroll efficiency among the organizations studied. On average, these tools helped to drive a 13 percent reduction in required HR staffing levels among the leading organizations in this area—with some organizations achieving nearly twice that benefit. Tools such as these also were found to improve employee satisfaction.

A focus on automating end-to-end recruiting and on-boarding processes also contributes to an organization’s HR efficiency. Although data collected in this study were insufficient to document a statistical correlation between automation and improved performance in the areas of recruiting and on-boarding, prior studies have documented the relationships. From automation of hiring requisition workflow to recruiter assignments, job postings, and, ultimately, rollover of successful candidate demographic information to the new electronic employee file, workflow automation has a big impact. Having a recruitment platform that is an integral part of the core human resources information system was also seen as a strong enabler in this area. The time savings produced by eliminating volumes of manual data entry in these areas often lowers FTE requirements in both the recruiting and on-boarding areas of HR departments.

Reducing Labor Costs in Accounting

In the areas of general accounting and A/P management, leaders in the study outperformed their peers by roughly 65 percent on standard efficiency measures, on average. This portion of the study was restricted to general accounting and A/P management, and did not cover revenue cycle processes.

Not surprisingly, two of the most important drivers for improved performance in general accounting and A/P management were common to other functional areas reviewed: electronic data exchange of invoices and payments and electronic receipt of payments. Electronic receipt of invoices is particularly beneficial area for A/P as it reduces time spent on manual data entry as well as the potential for entry errors. Because most hospitals receive only about 8 percent of their invoices electronically, this represents a tremendous area of opportunity for organizations.

See Exhibit 3

Leaders that emphasized requisition-to-purchase-order automation, electronic data exchange, strong analytics, and shared services outperformed their peers by wide margins.
Implementing shared services groups also was a key strategy for improving A/P and general accounting among the leading organizations that were studied. Organizations with shared services groups processed 45 percent more invoices per FTE and had 74 percent fewer general ledger FTEs per staffed bed. (Note: In most cases, an important underlying factor in the benefits achieved via shared services was the existence of a common enterprise resource planning platform.)

See Exhibit 4

**IMPACT OF SHARED SERVICES ON FINANCE FTES**

- Annual Invoices per A/P FTE
- 15,759 Peer Average
- 22,778 Leaders
- 45% increase

- Beds per GL FTE
- 54 Peer Average
- 94 Leaders
- 74% increase

IDSs with strong use of shared services had significantly lower FTE requirements for invoices processing and general ledger (G/L) entry/maintenance.

It is important to note that the very best performers in deploying electronic exchange and shared service use in this study achieved performance that was more than 200 percent higher than the peer average.

**Shared Services Centers Drive Significant Savings**

In every area studied, the use of shared services centers for transaction-oriented functions was found to be an important driver of cost savings, independent of organization size. Most IDSs have grown, at least in part, through mergers and acquisitions. A stated goal of nearly all of the organizations studied was to improve cost structure through garnering economies of scale and common systems. Yet delays in the deployment of shared services centers are often found among large IDSs across the country. These delays can last years, usually due to competition for an organization’s dollars, but sometimes resulting simply from poor execution.

See Exhibit 5
CROSS-INDUSTRY SHARED-SERVICE BENEFITS

<table>
<thead>
<tr>
<th>Function</th>
<th>Average FTEs w/o SSVCs</th>
<th>Average FTEs with SSVCs</th>
<th>SSVC FTE Reduction</th>
<th>Average Annual Cost</th>
<th>Annual Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR</td>
<td>71</td>
<td>57</td>
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<tr>
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<td>13</td>
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<tr>
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<td>8</td>
<td>6</td>
<td>$42,000</td>
<td>$265,162</td>
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<tr>
<td>Totals</td>
<td>114</td>
<td>86</td>
<td>28</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SSVC = Shared Services Center

This exhibit illustrates labor savings estimates for a model $1 billion IDS, comparing staffing models of organizations with and without shared services in key human resources, procurement, and finance functions.

The Power of Daily Dashboard Metrics

Although the research team was not able to gather sufficient data from its studies to make broad statistical comparisons on analytics, the importance of analytics is clear. Researchers observed instances in which simply showing timely dashboard data to departmental and nursing unit managers helped to drive substantial reductions in overtime and agency staffing costs. In one specific case, an IDS with just over $1 billion in annual revenue drove down overtime costs by $5 million in one year, simply by sharing daily labor utilization data with all nursing unit managers and setting goals for reductions. Similarly, a recently published report from an IDS in Florida showed even greater results in eliminating agency staffing use by combining proper analytics with strong management training (see Wiest, J., Huff, K., and McMillan, K., “Give Nurses the Right Tools and Labor Costs Go Down,” hfm, April 2009).

With the array of improved and less costly tools available today, analytics represents another opportunity for driving savings in most organizations.
Small Investment for Strong Returns
The cost of implementing improved processes and systems can vary widely depending on an organization’s current state of automation and shared services deployment. However, the researchers’ experience in working with a large group of IDSs reveals that most organizations have existing systems that require relatively modest enhancements to achieve significant gains. Most often, this requires adding only a handful of software modules to an existing enterprise resource planning infrastructure, optimizing business processes using those new capabilities, adding a small number of dedicated resources to accelerate electronic exchange initiatives, and putting renewed focus on implementation or enhancement of shared-service efforts.
Using the study’s model IDS, total project costs required to move from average to leading performance—and to achieve the substantial savings outlined in this article—would range from $4 million to $6 million. Even with conservative implementation time estimates, payback periods tend to run closer to two years than three. Most important, these structural efficiency improvements continue to pay dividends well into the future and allow much more cost-effective long-term growth.

The Time Is Right for Action
Healthcare organizations make hard budgetary choices each year based on myriad requests and limited funds. Certainly, choices that favor patient or clinically focused investments over those that are not directly patient-facing are appropriate on an individual basis. However, if providers do not formally recognize the need to allocate an ongoing portion of investments to maintain proper operational efficiency (just as they do for the maintenance of other infrastructure), they will continue to see efficiency erode and will miss an opportunity to leverage millions of dollars that could be used to advance patient care. With total potential savings for most IDSs in excess of $25 million annually, and hospital margins under intense pressure, perhaps 2010 is the year to begin.

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