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# The Financial Value of e-Commerce



A GHX White Paper for  
Financial Executives



## The Financial Value of e-Commerce: Beyond Productivity to Hard Dollar Savings

Hospital chief financial officers (CFOs) understand the impact of the supply chain on the bottom line. Short of becoming a supply chain expert, how best can a financial executive foster changes that drive real contributions through hard dollars savings? This is the first in a series of white papers designed to provide insight into the supply chain from a financial perspective.

This first paper will specifically explore opportunities enabled by supply chain automation, beyond labor savings and increased productivity. Hospitals are documenting quantifiable hard-dollar savings through e-commerce by optimizing business processes

**Hospitals are documenting quantifiable, hard-dollar savings from e-commerce by optimizing business process around visibility to real-time**

around visibility to real-time data. By looking past the obvious, the value of automating manual processes, they can often achieve financial results beyond what was originally anticipated. Subsequent papers will explore how to further build upon that

foundation, with topics ranging from: contract compliance and optimization, AP automation, and the purchase and utilization of physician preference items, which constitute the fastest growing expense for most hospitals.

### Finding Value beyond Automation

Cost savings opportunities made possible by automating business processes are well-recognized by hospital executives. A recent Healthcare Financial Management Association (HFMA) survey recorded a 60 percent increase in the number of respondents who consider automation a good opportunity for supply chain improvement. In that same survey, automation still ranked relatively low compared to other initiatives, including gaining physician/clinician buy-in, data standardization, and integrating the supply chain and the revenue cycle. However, many hospital executives still don't recognize how supply chain automation and e-commerce can support and maximize the effectiveness of those more highly ranked initiatives. To better understand this point, we must look more closely at how e-commerce initiatives can translate into both labor and hard dollar savings.

### Key Findings

- Hospitals using GHX report saving \$76,000 to \$500,000 annually by being able to pay suppliers faster and take advantage of early pay discounts.
- Fewer invoice exceptions and more electronic invoices can reduce the time it takes to pay suppliers from an average of 15 to 60 days to just two to five days.
- By correcting purchase order exceptions in real time, hospitals can reduce invoice exceptions by 33 to 50 percent.
- Real-time exception management reduces overpayments to suppliers, as well as rush order and freight charges.
- With real-time exception management, an order sent via GHX costs 55 to 70 percent less to process than a traditional EDI order and 70 to 80 percent less than a manual order.
- Validating contract pricing during the purchasing process enables hospitals to save one to three percent of the total amount they spend on contracted items.
- Visibility into items on contract reduces maverick purchases that can otherwise increase supply costs 5 to 20 percent.

**The First Opportunity: Lower Connectivity Costs**

Many hospitals initially decide to join an exchange in order to reduce costs related to supplier connectivity. On average, hospitals report that by connecting electronically to multiple trading partners through a single exchange, they can avoid between \$1000 and \$3000 per supplier connection for costs associated with IT labor, hardware and software, and

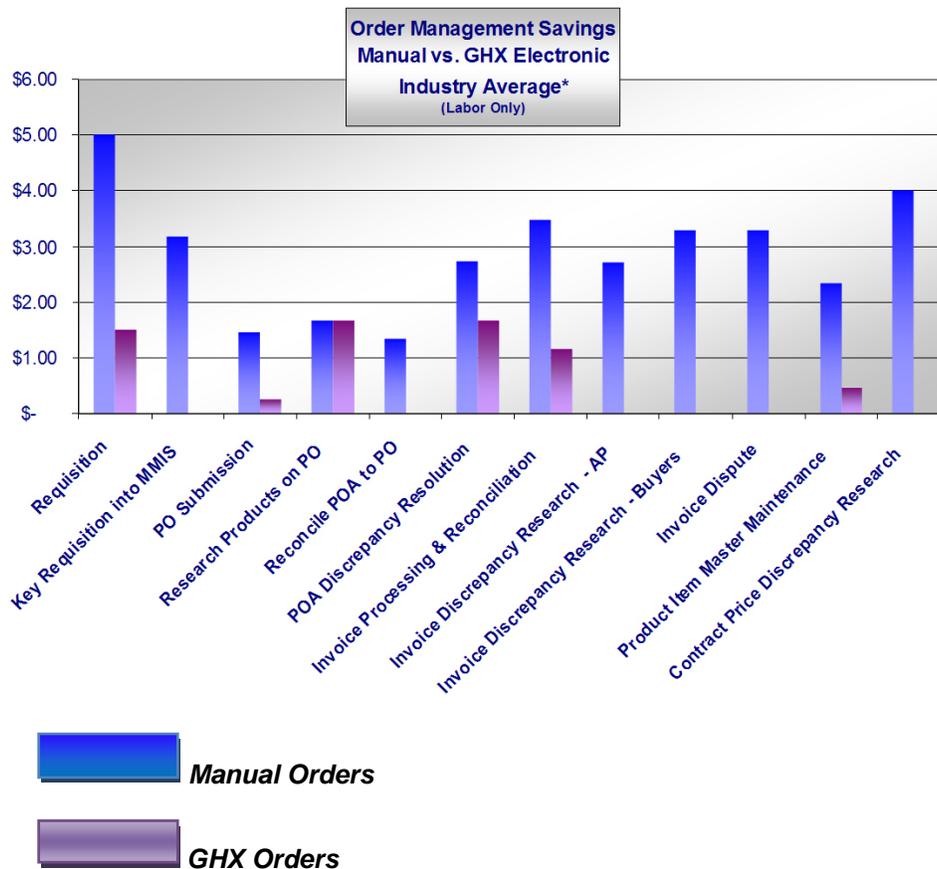
telecommunications fees, some of which are ongoing. Those savings can be significant, especially for hospitals that have dramatically increased their number of electronic trading partners by connecting to the GHX Exchange. The average number of supplier connections per integrated delivery network (IDNs) using GHX is 35, but some provider organizations have connected to more than 100. With just 50 supplier connections, a hospital can lower its connectivity costs by \$50,000 to \$150,000.

Using browser-based and fax conversion tools, hospitals using GHX can also conduct business electronically with suppliers that do not have an EDI infrastructure and with whom they would otherwise only be able to place orders manually. Through a combination of connectivity solutions, some healthcare organizations are transacting business with as many as 600 electronic trading partners via GHX.

**Improved Business Processes Enabled by Real-time Data Visibility**

More trading partners increases the percentage of purchases that hospitals can handle electronically. More electronic purchasing, in turn, not only saves time but also increases the availability of real-time supply chain data to improve business processes.

The following chart demonstrates the areas of labor savings made possible by processing an order via GHX, which is on average between 70 to 80 percent less expensive than a manual order.



\*Industry average savings calculated from weighted averages for 120 hospitals.

**Exception Management: Lowers Processing Costs/Enables Hard Dollar Savings**

Most people recognize that an electronic order is considerably less expensive to process than a manual order. What is surprising to many is that the cost of processing an order through GHX is often 55 to 70 percent less expensive than an electronic order sent direct to a supplier via EDI. A typical GHX order with discrepancies costs \$6.70 compared to a similar order sent via EDI at a cost of \$22.61. That translates to a savings of \$16,000 for every 1000 orders.

Total Cost Comparison*		
	Discrepant Order	Accurate Order
Manual	\$34.51	\$16.60
EDI	\$22.61	\$10.51
GHX	\$ 6.70	\$ 4.66

*\*Industry average purchase order costs calculated from weighted averages for 120 hospitals.*

The cost difference has nothing to do with how the order is sent to the supplier. In fact, most orders sent via GHX are EDI transactions. The difference stems from how buyers utilize real-time data made available through GHX to manage those orders. With traditional EDI orders, buyers may or may not receive order confirmations from suppliers, and if they do, they may still have to review and reconcile those confirmations to the purchase order line-by-line to identify any discrepancies. The GHX My Exchange Order Center notifies buyers in real-time when there are order exceptions. Orders without discrepancies can continue through the process in a touchless manner. With traditional EDI, buyers must perform a line-by-line match, even for orders without discrepancies, a process that can take 2 to 10 minutes per order.

The screenshot shows the GHX My Exchange Order Center interface. At the top, it displays 'Enterprise Administrator User | Help | Logout' and 'Exchange Status'. Below this, there are navigation tabs for 'AP Center', 'Order Center', 'Contract Center', and 'Admin'. A search bar for 'PO or Invoice Num' is visible. The main content area features a 'Quick Clicks' section with a table showing order statistics for 'Today', 'Yesterday', and '30 Days'. The table includes rows for 'All Orders', 'Unconfirmed POs', 'Delayed Delivery POs', 'Order Line Exceptions', 'Vendor Price', 'Contract Price', 'Status Alert', 'Part Number', and 'Unit Of Measure'. Below the 'Quick Clicks' is a table of purchase orders with columns for 'PO #', 'Vendor', 'Confirmation #', 'Order Status', 'Total Lines', 'Facility Name', 'Time PO Received', 'Time PO Sent', and 'Latest Response'. Two purchase orders are listed: 603531 for Burrows and 603530 for Burrows. A 'Customer Center - New!' sidebar is also visible on the right side of the interface.

**With My Exchange Order Center, buyers are notified about discrepancies in real time and can click to find out more information and correct any problems.**

On average, buyers say they save approximately 2 hours per day by being able to automate the exception management process. More importantly, with proactive exception notification, buyers can correct purchase orders during the transactional process and avoid costly invoice exceptions.

### **Hard Dollar Savings: Early Pay Discounts**

Reducing invoice exceptions translates into hard dollar savings, most notably by enabling hospitals to take advantage of early pay discounts from suppliers. On average, hospitals report a 33 to 50 percent reduction in invoice exceptions using GHX. When there is an exception, the additional time spent reconciling the invoice can add another 5 to 20 days to the time it takes to pay the supplier. When there are no exceptions, hospitals, if they choose, can pay suppliers immediately. This not only saves time, but also money. Hospitals have reported that by working with GHX they have been able to generate savings ranging from \$76,000 to \$500,000 annually through greater use of early pay discounts. On the other hand, hospitals that cannot pay suppliers within stated payment terms risk late payment fees and credit holds.

Receiving invoices electronically rather than in paper form further increases the ability to qualify for discounts. Electronic invoices can reduce the invoice cycle time from an average of 15 to 60 days to just two to five days, making it possible for hospitals to pay suppliers within the typical 10 to 15 day early pay discount window.

The number of electronic invoices processed via GHX has grown considerably in recent years, doubling from 2006 to 2007. A subsequent white paper in this series will address how hospitals can receive all of the invoices electronically, even from suppliers who can only provide paper invoices.

### **Hard Dollar Savings: Reducing Overpayments to Suppliers**

Managing discrepancies in real time enables more than just faster supplier payments. In some cases, it can actually lower hospital payments to suppliers. By managing exceptions in real time, hospitals can identify when the price on the purchase order (PO) is different from the price on the purchase order acknowledgement (POA). While surprising to some, the price returned by the supplier on the confirmation is sometimes lower than the original price on the PO. One GHX hospital identified more than \$100,000 in savings in nine months by making sure to take the lower supplier confirmed price.

### **Hard Dollar Savings: Contract Price Validation**

Hospitals also use GHX to ensure they are paying the correct contract price. Even when the price on the PO and POA match, it may not be the same, or as low, as the current contract price on file. Hospitals that upload contract updates into their MMIS or ERP systems and utilize GHX Contract Center can validate contract pricing during the transaction process and make proactive corrections as necessary.

**“GHX Contract Center has helped us decrease our number of contract price discrepancies from over 150 discrepancies per day with five vendors to 10 discrepancies per day with 50 vendors.”**

*Susan Wilson Bromley, Corporate Director, Data Systems, St. Joseph Health System*

	Today	Yesterday	30 Days
All Orders	132	149	2777
Unconfirmed POs	2	6	52
Delayed Delivery POs	0	0	0
Order Line Exceptions	119	259	2217
Vendor Price	10	28	281
Contract Price	82	165	1362
Scopus Alerts	11	40	276
Part Number	1	2	30
Unit Of Measure	4	3	66

PO #	Line #	Confirmation #	PO Unit Price	ACK Unit Price	Contract Price	Contract #	Buyer Item #	Vendor	Vendor Part #	Description	PO Qty	UOM	Line Status
0000148092	1	13316400	\$33.24	\$33.24	*\$0.3172	PP-LA-209	0005897	ABC Medical	U2604-2	STRIP UA TEST MULTISTIX 10 TEST	2	EA	Accepted
0000148092	3	133164001	\$4.50	\$4.50	\$4.6361	PP-NS-442	0009177	ABC Medical	8955NS	GLOVE EXAM NITRILE SM PWD RFR	10	BK	Accepted
0000148096	2	133164260	\$36.52	\$36.52	\$37.6156	ABHS_ABCMed local_100108	0014415	ABC Medical	AT907	WASH CLOTH TRAY LINER/SM EISF	1	CA	Accepted
0000148096	7	133164260	\$167.64	\$167.64	\$162.6129	PP-OR-401	0012786	ABC Medical	M1296	PACK TEST ATTEST STRL	1	CA	Accepted

**Hospitals using GHX Contract Center can validate contract pricing in real time and ensure they are paying the correct and lowest price.**

Hospitals that manually upload contract data often do not have visibility into current contract pricing until weeks, sometimes months, after the contract price goes into effect. As a result, they often are overcharged for products and spend valuable time trying to identify and recoup those overcharges. Some hospitals simply do not have the time to conduct the research and seek the refunds, and they either miss out on the savings or must pay third-parties to handle the process for them. Identifying and addressing those issues in real-time takes a matter of minutes, as compared to reviewing and comparing purchase order history and contract terms *after* the fact. Hospitals utilizing GHX Contract Center typically save one to three percent of the total amount they spend on contracted items.

By capturing purchasing information electronically, My Exchange Order Center can also identify when products are purchased in large enough quantities to qualify for a contract or for better tier pricing. Visibility to this information enables hospitals to proactively improve their pricing and further increase their hard dollar savings.

**Hard Dollar Savings: Managing Backorders Reduces Freight and Service Fees**

My Exchange Order Center also enables buyers to see advanced shipping information from suppliers, which can provide critical information on backordered products including when suppliers expect to ship the items. If an item is on backorder, buyers can determine if an alternative product needs to be ordered in time for a scheduled case and often take action quickly enough to avoid rush order and overnight freight charges. Emergency order fees from suppliers can range from \$25 to \$100 per order, and overnight freight charges can be two to three times higher than for regular freight. GHX also enables buyers to see which products are on contract, which helps them identify if there are other contracted items that clinicians have determined to be functionally equivalent. In this way, hospitals can often avoid paying as much as five to 20 percent more for non-contracted replacement items.

**“Before GHX, I’d have to look through an entire order line-by-line to identify the discrepancies. Now, GHX tells me when there is a problem. I can view the discrepancies on the computer and fix them immediately. What took hours before now takes a matter of minutes.”**

*Jeanette Ashford, Director of Purchasing, Skaggs Community Health Center*

**The Next Big Opportunity: Physician Preference Items**

In the past five years, there has been considerable growth in the percentage of healthcare purchasing handled electronically. Transaction volume on GHX alone has grown more than 1400

percent since 2001. Many hospitals are purchasing 80 percent or more of their lines electronically, but the percentage of dollar volume remains lower. That's because processes related to the purchase of the most expensive supplies, physician preference items, are still highly manual. The decisions on which products to buy are primarily made by physicians, and the actual purchase of products on consignment does not occur until the products are actually used in the operating room (OR). Since this information is captured manually, visibility is limited and accuracy is compromised. As one hospital supply chain executive said, "Sixty percent of my OR spend is on consignment products, and I have zero visibility into what I'm spending." A materials manager added: "We closely track our \$500,000 in hospital supplies, but I have a closet with over \$3 million in consignment inventory that I am not tracking at all."

The challenges, as well as the opportunities, have not been lost on healthcare executives. Nearly three-quarters of hospital CFOs and supply chain leaders who responded to the HFMA survey ranked *gaining physician/clinician support* as the greatest opportunity for supply chain improvement. There is certainly no shortage of initiatives aimed at better

**"GHX has provided us with a much quicker and easier process for managing backorders. What could have taken hours before can now be resolved in less than an hour from the time the original order is placed."**

*Elaine Gray, Purchasing Manager,  
Phoebe Putney Memorial Hospital*

management of physician preference items, including sharing data on costs with physicians, capping prices and gain-sharing. To be successful, all of these initiatives have one thing in common: the need for good, accurate and current data, which, as the commodity supply chain has demonstrated, can be achieved through automation.

Hospitals as a whole spend billions of dollars each year trying to cleanse and maintain their item masters, but very few physician preference items are stored in such repositories. While many physician preference items are on contract, few hospitals have systems, processes or technology in place to easily validate if 1) an item is on contract and 2) they are paying the correct contract price. Furthermore, the complexity of medical devices, such as hips, that can have several components (each of which is sold separately), makes it even harder to ensure contract compliance.

GHX is currently working on automating the supply chain at the point of use, utilizing auto ID and capture technology to record information about products as they are used. Capturing this information in an electronic format is the first step toward maximizing the benefits of supply chain automation and e-commerce as outlined above. However, there are things that hospitals can do now to make improvements in this area:

- By reviewing purchase order history, hospitals can, on their own or with GHX, evaluate their non-file spend and add items that are purchased frequently enough (at least 3 to 5 times per year) to the item master. Then, with good item maintenance policies and procedures, hospitals can better monitor purchasing and contract compliance for more of these products, many of which are physician preference items.
- By classifying products according to the UNSPSC taxonomy, hospitals can run reports to identify their greatest expenditures and cost increases by class of product. While the UNSPSC classification will not give them all the answers, it does help them prioritize their contracting and product standardization initiatives.
- Hospitals with current contract data in their systems, such as that made available through GHX Contract Center, can validate contract pricing *before* creating a purchase order for a consignment item used in a procedure.

While still somewhat manual, these process improvements can save money now and better prepare an organization for the changes that will be required to make the most of continued advances in supply chain automation.

As this paper has illustrated, automating the supply chain through e-commerce provides a combination of hard dollar savings, avoided costs and improved productivity. The following chart outlines the savings achieved by hospitals and healthcare organizations of various sizes using GHX.

Bed Size	Annual Supply Spend in Millions	Avg Net Savings - Basic Connectivity	Expanded Connectivity, Contract Price Validation	Full Product - Connectivity, Contract, Requisition, Data Conditioning, AP Automation
25 Bed Hospital	\$1.6 M	\$ 50,000	\$80,000	\$105,000
100 Bed Hospital	\$3.0 M	\$70,000	\$100,000	\$250,000
200 Bed Hospital	\$15.0 M	\$100,000	\$210,000	\$560,000
400 Bed Hospital	\$45.0 M	\$150,000	\$350,000	\$850,000
800 Bed Hospital	\$60.0 M	\$200,000	\$500,000	\$1,540,000
IDN	\$100.0 M	\$650,000	\$1,060,000	\$2,135,000

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