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Warehouse Management Systems by the Numbers

by Rene' Jones

Abstract: When it comes to warehouse management systems (WMS), the stats are both shocking and thought-provoking. And although you don't see these stats in the marketing brochures of WMS vendors, you need to think about them before you purchase a WMS.

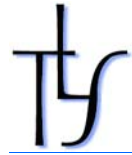
Keywords: WMS, warehouse management systems, WMS statistics, WMS implementation, warehouse efficiency, ROI, return on investment, inventory management, implementation strategies, warehouse operating expenses

Warehouses are built around numbers—from the facility's square footage, to how many rows of racking it takes to stock the number of *stock-keeping units* (SKUs), all the way to the amount of orders processed through a facility in a day. This article takes the numbers associated with *warehouse management systems* (WMS) you don't see in the marketing brochures or advertisements of WMS vendors, and gets you thinking before you purchase and begin to implement a WMS.

If you watch television, you may be familiar with the CBS show *NUMB3RS*. Rob Morrow stars as an FBI detective aided by his mathematician brother in solving bank robberies and homicides. The show depicts how the confluences of FBI work, and mathematics provide unexpected revelations and answers to the most perplexing criminal questions. Let's take a look at those number junctions in your distribution center.

30 Percent

Less than 30 percent of warehouses are efficient, according to "Benchmarking Warehouse Performance," a study by the **Georgia Institute of Technology** (Atlanta, Georgia [US]). That probably speaks directly to why you're reading this article. You may have been wondering if a WMS system could make your warehouse more efficient.



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Interestingly, about 30 percent of the 600,000 warehouses in the US have a WMS system installed. As the guy on the television show says, “Hmm...” What are the numbers telling us? Only 30 percent of warehouses are efficient, and 30 percent of warehouses have a WMS system installed. Do you see a correlation?

Those numbers are telling me there are “crimes” taking place in 70 percent of warehouses. Although these crimes aren’t bank robberies or homicides, they do involve money lost and people getting hurt.

My point is this: There’s a lot of information out there on how to make your warehouse more efficient, but what you need to realize is “it’s not what you know that counts, it’s what you do with what you know.” Many of you already know your warehouse is inefficient, and you’re not doing anything about it.

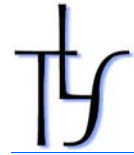
Assuming you are part of the 70 percent which process orders through an inefficient warehouse and that you are also part of the 70 percent that have not installed a WMS system, let’s look at possible reasons you’ve given for not implementing a WMS.

- Your warehouse is not big enough.
- You don’t have enough people or orders to justify such a large investment.
- Your *information technology* (IT) staff isn’t large enough.
- You are currently searching for a system. (Perhaps you’ve been researching WMS systems for years by attending trade shows, reading industry articles, and talking with vendors, but you still haven’t made a decision and purchased one.)

The reasons are endless, but your real reason is very likely a result of the next two numbers.

\$100,000 to \$500,000

A company will typically invest between \$100,000 and \$500,000 for software alone, but that software investment represents only a fraction of the overall costs. By the time hardware, training, implementation, revamping the warehouse, and consultants fees are added, that number can reach over \$1 million faster than you can say multiplication. Those intangibles will usually reach one to three times the cost of the software. About 60 percent of the overall cost will be tied up trying to



integrate the WMS system to the existing *enterprise resource planning* (ERP) system.

The main reason only 30 percent of all warehouses have a WMS is because only 30 percent have been willing to bite the bullet and make the investment. There are other contributing factors, though.

220

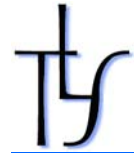
More than 220 WMS vendors exist. How can anyone make an informed decision and select the correct business partner with so many options? Most companies don't even try; they enlist consultants with an expertise in WMS to help them make that decision. The ones that don't employ a consultant usually make their decisions based on cost, and then bring in a consultant to help dig them out.

Believe it or not, consultants provide an unbiased evaluation of your processes and potential vendors. They have no emotional ties to the current way you process your transactions. Many companies that automate their inefficient processes and procedures on their own end up doing things wrong faster!

Trying to transform your warehouse into an efficient distribution center is really not something you do not want to do alone. Think about your warehouse for a second. Your warehouse provides the fuel your organization needs to run. You may complain about high gas prices for your car, but the fuel that runs your distribution center or your supply chain is so costly that its value ranges between 6 percent and 20 percent of your organization's annual revenue. In lay terms, a \$100 million organization will have somewhere between \$6 million and \$20 million of fuel in its warehouses.

Think about the type of fuel your organization and supply chain runs on: *inventory!* Other than your people, nothing is more valuable to your company's success. Let's look at the real value of that inventory fuel.

Let's assume your organization makes four cents on every dollar, which means that for every \$100 of lost inventory, the company must generate \$2,500 in new sales to replace that \$100 of lost inventory. Think about the effort your highest-paid people must exert to generate \$2,500 worth of sales. It's no secret that the highest-paid



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people within your organization are salespeople. Think about why they are the highest-paid in the company—it's mainly because it takes a minimum of five visits to make a sale, and it costs three times as much to get a customer back as it does to keep an existing customer.

As an operations person, you may think salespeople are worthless and cause you all kinds of headaches, but in actuality, nothing happens until somebody sells something. And salespeople cannot efficiently or effectively perform their jobs if they do not know what's in inventory. That's why it's crucial to involve a consultant to help select a system based on your current needs and your future requirements.

The next three numbers regarding WMS systems are pretty startling, too.

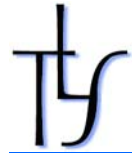
30, 42, and 56

More than 30 percent of all WMS implementations fail. Only 42 percent are implemented within budget. And 56 percent of the implementations are delayed.

When you add the fact that it takes nine to twelve months to implement, and twenty-four to thirty-six months to realize a return on your investment, you begin to wonder if a WMS system is really worth it.

When you work the numbers, on a potential \$1 million investment, you won't see that money back for at minimum three years—and that is if everything goes perfectly. If everything goes as planned, your *return on investment* (ROI) could take four years or longer. By then, your business model might have changed so much that it will be time to invest in the next new thing, if your organization is still around.

You may be wondering where that last statement came from. A WMS is the one piece of technology that can shut your business down if not implemented correctly. Why? Because most organizations make dumb decisions. Why do they make dumb decisions? Because without the assistance of an outsider, "you don't know what you don't know!"



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Another example of a bad decision that most senior executives make when investing in a WMS system is to implement it at their corporate location's distribution center first.

Typically located at the company's headquarters, executives often want to implement where they can see the progress. And because the headquarters' warehouse is usually the largest, executives think a return will be realized much faster, because of the volume. But when satellite locations are dependent on that corporate location, what happens when the hub has the sniffles? It becomes the flu at the locations' downstream.

Look at **FoxMeyer, WebVan, Adidas, Nike, Builders Plumbing Supply, Toys "R" Us**, and many others. Three of those companies are no longer around, two saw their stock price plummet as much as 20 percent, and one gave up and turned its fulfillment process over to a third party logistics provider. All because of a WMS system.

Some of you are probably wondering what the value of a WMS system is. The following numbers show the justification!

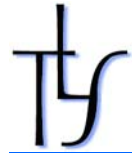
300 versus 1

Your data-entry personnel produce 1 error for every 300 keystrokes. With *radio frequency* (RF) scanning of bar codes, that number reduces to one error for every three million scans. Think about the accuracy of your inventory. Now think about your receiving department. How many keystrokes do they make a day?

50 percent

System-directed picks and put-aways will reduce the travel time of your forklifts by as much as 50 percent. Your put-away people spend at least an hour a day searching for put-away locations. That hour will be eliminated immediately. Picking accounts for 55 percent of your warehouse labor dollars. And 50 percent of the picking process consists of traveling to and from the locations.

35 percent



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You can expect to receive as much as a 35 percent reduction in your operating expenses.

27 percent

The cost of carrying inventory is usually about 27 percent less in an automated environment.

20 percent

Inventory accuracy increases around 20 percent with a WMS system.

5 percent

Shipment accuracy improves around 5 percent.

Zero

After the system is implemented, you'll have zero inventories to perform. However, anyone that says you can go live without a physical inventory count is nuts, and you should take an additional wall-to-wall physical inventory six to eight months after implementation. By then, the learning curve will be over, and everyone will understand the value of maintaining an accurate inventory. From that point forward, physical inventories won't be necessary.

A look at those numbers should be enough to get you off of your hands and begin to seriously investigate a WMS system, but I know many of you will continue to gather data and take it back to your manager, vice president, president, and so on, only to have them again shoot down the idea of investing in a WMS system. Tell them a WMS system will also:

- lower the total cost per unit shipped;
- reduce the number of inventory out-of-stocks;
- improve delivery accuracy and timeliness;
- increase profitability per order and per customer;
- reduce customer service cost;
- reduce phone communication costs; and
- increase sales.



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Now is the time to take a serious look at your operation. With the continued strengthening of the economy comes more orders. With more orders comes more receiving, more inventory, and more people—and more inventory adjustments because of inadequately trained people and inefficient processes ultimately mean more returns and less money added to your bottom line.

Bottom Line

I don't want you to think this is a doom-and-gloom article, but I want to make sure you get not only the good news about this technology, but also the truth. Many WMS vendors want you to believe that your company will experience WMS benefits relatively quickly after going live. In reality, at best it will take two years. Benefits can be experienced faster with a smaller system in a smaller location. Rolling out a WMS at a branch offers the opportunity to evaluate which processes need to be completely revamped, and what type of training will be required to ensure success. Most importantly, it prevents any and all disruptions of customers' shipments.

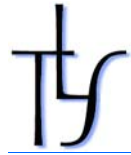
Protecting your customers should be your top priority when purchasing and installing a WMS system. Today's most serious business challenge is not selecting and implementing new technologies, raising capital, or hiring the right people. Today's most serious business challenge is a scarcity of customers. The key to your organization's success lies in knowing how to handle scarcity no matter when or where it appears.

In today's environment, your customers have too many supplier options and too little money. Your customers won't continue to patronize an organization that cannot send them what they want when they want it at a competitive price. You cannot do that efficiently without a WMS system properly installed.

You already know having a lot of customers does not guarantee success when other *key performance indicators* (KPIs) suffer. You must energize your operation with the one tool that was designed to do just that: a warehouse management system.

About the Author

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Rene Jones is the founder of Total Logistics Solutions Inc. (www.logisticsociety.com), a Supply Chain consulting that focuses on improving an organizations warehouse operations, the company is headquartered in Burbank, California (US). He is also the author of several books, including “*WMS 101 (Selecting, Implementing and Maintaining a Warehouse Management System)*” and “*This Place Sucks (What your warehouse employees think about your company and how to change their perceptions)*.” Jones can be reached at (818) 353-2962 or via e-mail at rene.jones@logisticsociety.com.



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