



Building the Business Case for WMS

Establishing Credible ROI Calculations and Estimates

Evolution and improvement of warehouse operations can be a tricky, involved, and lengthy exercise. In addition to understanding current processes, efficiency, labor performance, and the financial indicators and measures, directors and operations managers must continually seek better and more useful technologies to further refine and improve their facilities' performance. It happens that technology reaches a point of feature availability, overall affordability, or operations necessity that investment in a Warehouse Management System (WMS) is warranted.

Make no mistake here: correctly choosing a WMS is of singular importance to operating a warehouse properly and efficiently, and equally important, for improving

operations and efficiencies in the future through flexibility and new feature release and development. There are many different facets to evaluate and compare between vendors. Properly understanding when, how and to what extent a WMS will contribute to process efficiencies and costs savings is key to making the right decision for your business.

We'll classify those components of a WMS contribution as "Return on Investment" (ROI). ROI means different things in different disciplines; in this case, we'll be defining it as the financial value of a project in relation to its cost. The role of ROI is to determine whether a project – in this case, a WMS purchase and implementation – will yield a positive payback and have value for the business.

Four Steps to Establishing Credible ROI Calculations and Estimates

Step One: Collect and understand all current costs

If a list of the costs within your operation immediately began rattling off in your mind, you are probably thinking about the most overt drivers: labor (wages, benefits), overtime, consumables, power, inventory adjustments, freight, etc. Collect those, and where it makes sense to break on down to its components, do so. An example is in the umbrella term, "Consumables." A cleaner breakdown here might be: paper, toner, ink, labels, etc.

The list contains more, however. Included in costs should be some of the subtle, not "in your face" activities.

Here's a short list for consideration – not comprehensive, but meant to get you thinking – of costs to measure in your facility that will be affected by a WMS implementation.

Wait for work

Wait for work is the unproductive time spent by any person waiting for a task to complete. Sample a person from each warehouse function for 4-8 hours. Observe, capture, and sum the time each person spends between direct tasks that support their functions. That is “wait for work.” Report it in hours, assign it a blended hourly rate, and report it as a cost. For example, your dispatchers spend nearly 10% of their day (48 minutes) waiting for paper delivery of picking tickets, confirmation of truck loading, or responses to questions on shipping methods. The burdened rate for that 48 minutes is \$16.50. There are four dispatchers: \$86.00 per day. We have 210 operating days for the year, resulting in \$18,060 dollars spent waiting for administrative tasks to be completed.



Inventory adjustments (dollar value)

For finance reporting, the total dollar value of adjustments (positive and negative) are summed, and the book inventory value is adjusted to reflect. For operations, think differently. Try this: use the absolute dollar value of adjustments and sum it. That represents the dollar value of inventory adjustments taken, not the financial measure.

Inventory adjustments (validity)

99.7% accuracy is a generally accepted standard. If you are above

that, then your current processes and people and systems are working in a way that generally keeps inventory control. However, if you are below that, one or more of those facets require addressing and research. Inventory control and validity support two important facets of your business: (1) accurately fulfilling demand from your warehouse, whether that is a shipment to a consumer of business, or issuing MRO parts to your maintenance staff, and (2) supporting financial information, e.g. inventory on hand value, inventory carrying costs, and preventing major dollar value adjustments associated with inaccurate inventory.

Labor cost calculations

Calculate the cost (in labor) to perform the following in one month: re-work, re-stock, second cycle counts, re-shipping mis-picks, orders picked during overtime, orders shipped during overtime. Perform the same calculations in lost revenue where appropriate. This means that some of the above types of activities result in a cancelled customer order (mis-pick for instance), and that lost revenue should also be considering a cost for this activity.

Step Two: Articulate a value statement for each cost compound

Most easily explained, turn every cost into a statement representing how a successful WMS selection and implementation should improve your operation. By now, you should have a spreadsheet with all recorded costs (plus comments in the cells on what the dollar value represents). This activity turns those values into narrative, operational observations.

Those operational requirements become the narrative description of a successful implementation. Going back to our wait for work example,

the objective might be to reduce this by half, resulting in a one-year savings of \$9,030 or a three-year savings of \$27,090.

Step Three: Understand your processes

There are three aspects of every process in your warehouse: process flow, data flow, and productivity. Your process flow represents the accomplishment of specific steps, their impetus (why they are accomplished), and the definition of each step's successful completion. Data flow is the representation of how electronic (or written) information travels through your organization related to each activity. Productivity is the measure you use to determine how much work has been done.

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Each of these must be understood, as your establishment of a credible ROI is the measure of improvement in each. Most managers concentrate on productivity, and improvements in productivity can increase capacity or lower labor costs. However, improvements in process flow and the visibility provided by better data flow and visibility also drive better management and deeper understanding of operations.

Step Four: Accept help from your vendor, but perform calculations independently

Vendors have a vested interest in offering you a ROI calculation that focuses on areas where they'll bring cost savings. Accept that guidance, but perform critical calculations

within your organization. Your credible ROI should be an internal calculation, conservative in assumptions, and most of all, should acknowledge that some aspects are speculative. To make a ROI credible, each component you are calculating to sum into cost saving should have a range. That range is most easily based on two scenarios: average and exceptional. The average value should be lowest level of improvement you can expect – and be willing to stand by after

implementation. The exceptional value represents the cost savings that most vendors will share. A large percentage of projects fall between those two values.



Following these four steps will increase the credibility of your ROI calculations. It is fairly common to hear stories of executives and directors who calculate ROI, and do so incorrectly. Their reputation can be damaged. More importantly, the investment of time and capital and effort in evaluating, selecting, and implementing a WMS is considerable, so understanding the benefits, return on investment, and the impact of the WMS on your operations is simply good business.



Are you happy with your warehouse?
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