



Best-of-Breed vs. Integrated Systems:

The case of WMS

When choosing software for a particular aspect of your business, be it CRM, Shop Floor Management, Quality Control, Point of Sale, WMS or anything else, the choice between selecting a specific package to address your needs (Best of Breed), or selecting an overall system that will serve your business as a whole is not one that should be taken lightly.

If you do not already have an ERP system in place, you might want to consider looking for a system that covers both the specific functionality you are looking for, as well as being a fully functional company wide solution. For companies that already have an ERP system, try to find out if your vendor offers a WMS option, and even if it doesn't include all the very specific functionality, if it's "close enough" you should certainly weigh it carefully against the integration of third-party options. Let's look at the case of Warehouse Management Systems, or WMS.

Implementation of WMS systems has always been a major challenge even when undertaken with budgets of \$500K and upward, so it is understandably a greater challenge within the budgets that small and medium-sized companies can afford. A major contributing factor to this challenge is the integration complexity of a system that is not part of the ERP system. Implementing a stand-alone WMS solution, in addition to the complexity of its integration, could have a tremendous impact on pricing and costs, overall system stability and the efficiency of day-to-day work.

Issues

Following are some of the common problems faced when integrating an ERP and WMS system:

1. Inventory balance discrepancy (or "mismatch"): there are a plethora of issues that could trigger an inventory balance discrepancy between a system with separate ERP and WMS software. For every part for which a mismatch is detected, there may be hundreds (or thousands) of transactions that should be investigated to analyze the cause of the discrepancy. Selecting the two-system approach mandates the appointment of individual/s who would do the investigation and make it part of their job description.

2. Incremental system initiation is almost mandatory to avoid costly downtime in a warehouse. There are two ways to achieve incremental implementation, both of which are difficult if not impossible to accomplish when the WMS is a separate entity:
 - a. Isolate an area in the warehouse and implement the WMS on that area only.
 - b. Isolate an activity (e.g., "pick") and implement throughout the warehouse.

3. Incremental system shut-down: warehouse management systems (integrated or separate) can suffer from erroneous data definitions that will result in system malfunctions. When working with a third

party WMS, there is no way to incrementally isolate the area or operation in which the malfunction was detected. Unless a quick fix is provided, the whole warehouse operation may come to a standstill as the problem spreads and is exacerbated with every additional transaction or activity reported into the system. Incremental shut-down capabilities are a readily available option in a fully integrated WMS/ERP system.

4. Managing assemblies (packing small packages into larger ones, unpacking, etc.): due to complexity, managing assemblies can be a significant issue to resolve when working with two separate systems. But in a fully integrated system, it's an integral part of the ERP system, extended into the WMS.

5. Data synchronization challenges:

a. There are a number of inventory attributes that are customer-specific in both what they represent and the business process/rules that they must fulfill, such as customer-designated inventory allocation (quantitative, prepaid, etc.), "ship to/bill to" locations and more. Any mismatch between the ERP system and the WMS when such attributes and rules are synchronized could cause a discrepancy between the two systems, which in turn may result in prolonged work stoppages until the problems are identified and resolved.

b. Delivery priorities as set by the Supply Chain Management (SCM) system in the ERP system are difficult to synchronize with an external WMS on an ongoing basis. Tracking and synchronization between two systems to account for other actions in the warehouse, such as "Put", that are temporarily implemented in the ERP system can be troublesome.

An integrated solution

Some ERP systems now include an integrated WMS module. Following are some of the benefits provided by the integrated WMS-ERP solution:

1. **Integration:** an integrated WMS system enables the warehousing functions to interact seamlessly with other system and corporate activities, be they manufacturing or distribution related. Whether your business is manufacturing bars of soap or providing maintenance for jet engines, the warehouse functions as an integral part of the business, so it makes sense to manage it as an integral part of the core software solution.
2. **Visibility:** an integrated WMS system provides a greater depth and breadth to supply chain visibility, helping users not only to check order statuses, but also to meet ever increasing delivery standards, manage global operations on many levels more efficiently, and provide customer service reps with crucial information and alerts.

3. Unification: unified data structures (part catalogue, warehouse/location records, etc.). As a result, any authorized user can perform data validation during initial system implementation using a single system and interface.
4. Interface consistency: With a unified user interface, training fees and learning curve times are greatly reduced. Getting new employees up and running on two different user interfaces is always more costly and time consuming than learning a single user interface.
5. Unified system maintenance: Of the many issues that could be covered under this topic, a predominant one is maintaining "user permissions/profiles" in two different systems.
6. Overall benefits of the ERP system are automatically included in the WMS functionality: BI features including Dashboards and KPIs, BPM functionality and more.

If the WMS is part of the ERP system, warehouse operations can interact seamlessly with accounting, CRM, Supply Chain, production processes and more. Purchase, sales and inventory processes can be used to trigger the put away, picking and replenishment tasks, or vice versa.