How to Implement a Low-Cost Manufacturing ERP System with a Million Dollar Performance

Introduction

This white paper is a "rant" against industrial organizations that believe that they have to invest huge amounts of money to implement an ERP system in order to run their businesses.

To be fair, this rant is aimed at the owners, CEOs, CFOs, plant managers, and other members of the senior management teams of mid-sized manufacturers, which are primarily make-to-order shops, making semi-custom products in a single or small number of manufacturing plants.

If you are a large multi-national organization, please go ahead and squander millions of dollars on a high-end ERP system like SAP. If you are not, then you might want to read the rest of this white paper. It could save you a lot of money and enable you to dramatically increase sales by providing superior customer service.

What is an ERP System?

Technically an Enterprise Resource Planning (ERP) system is a system that combines Accounting/Financial Management and materials requirements planning (MRP) into one integrated system. In many cases, this has come to include a Customer Relations Management (CRM) and Warehouse Management System (WMS) into one combined system.

In most cases ERP has come to be synonymous with the desire for "one system that will run all my operations". In reality this has come to be synonymous with:

- Expensive

- Complicated

- Difficult to use

- Fails to meet many of my requirements

- Cannot be customized to meet your specific needs.

The reasons for this are:

1. ERP systems are now mostly owned and supported by Private Equity or Listed Public Stock corporations. These all need to make huge profits in the short term, by charging high prices, to keep their stock-price up or their partners enriched.

2. This also requires hundreds of thousands of companies all to use their standardized ERP system, with minimal support and development costs. They cannot afford to customize their software to meet the needs of each customer.

3. This has resulted in "bloat-ware" ERP systems, which are difficult to learn and use, with a huge number of features. This is so that the ERP sales-people are able to claim to have enough features to meet the needs of as many customers as possible, at least superficially, during the sales process.

What is the Answer?

For many of our clients, we recommend a combination of:

- QuickBooks Enterprise - for accounting and financial management, and possibly payroll, - $50/month for each user in the accounting department.

- SuiteCRM - for customer relations management - free, open source software - for use by everyone in the organization

- BellHawk - for production and inventory control, including warehouse management and materials requirement planning - $600 - $1,200 per month depending on how many barcode scanning stations/devices and features are in use.

This combination can be run on a standard Windows Server computer that costs under $2,000 to purchase or under $200/month to rent at a secure data center, in the "Cloud".

This combination:

1. Is inexpensive and typically pays for itself very quickly by eliminating labor costs and mistakes associated with the paperwork and Excel spreadsheet work-arounds needed with packaged ERP systems.

2. Can be provided as an integrated system by KnarrTek or its partners

3. Provides all of the features needed by mid-sized make-to-order manufacturers

4. Can be customized to meet each organization's specific requirements

5. Is easy to use with:

   - QuickBooks Enterprise being designed for use by Accountants

   - SuiteCRM being designed for use by Sales and Marketing people

   - BellHawk being designed for use by production control and materials management departments.

6. Can be quickly implemented, unlike many ERP systems which can take months or years with expensive "ERP consultants" on-site for months at a time.

What are the disadvantages of this approach?

1. It consists of multiple different pieces of software. But, if you look inside high-end ERP systems, like Oracle and SAP, you find that they are just a set of separate software products that were purchased with Venture Capital funds and are now offered as one integrated system. And, in some cases such as Microsoft's various ERP initiatives, the integration is very incomplete.

2. QuickBooks Enterprise is really limited to being used by a single Corporation with a single Profit and Loss structure. This can be used for multi-plant operations but it gets more complicated, if these are run as separate businesses. Also QuickBooks is designed to work in a single currency.

3. Many accountants claim that QuickBooks is not a real accounting system. However, if you use the desktop version of QuickBooks Enterprise and turn back on all the features that Intuit has hidden "to make QuickBooks simple to use" then you have a perfectly good accounting system, for a single plant manufacturing operation. Which is why most independent accountants begrudgingly admit that "Yes" they do in-fact support many clients who use QuickBooks.

Commentary

We are able to recommend this combination because we use it ourselves to run our own operations. It is also used by a significant number of our clients.

We recognize that the strength and weakness of this combination lies with QuickBooks, which is very easy to use but is limited in its capabilities (one usually goes with the other).

For this reason, we find that clients:

1. Keep using their old ERP system as a glorified accounting system but bring this "up-to-date" by integrating with BellHawk and Suite CRM. This works fine as long as the ERP system is supported by the operating system on which it runs. Eventually the old ERP system requires an operating system that is no longer supported, which results in a requirement to replace the ERP system.

2. Purchase an up-to-date accounting (only) system that works for their corporate structure and then have a company, such as KnarrTek, integrate this with BellHawk and SuiteCRM using Technology such as MilramX.

Useful Links

www.BellHawk.com

www.SuiteCRM.com

https://quickbooks.intuit.com/desktop/enterprise/

www.MilramX.com

www.KnarrTek.com

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This paper was written by Dr. Peter Green, who currently serves as the Technical Director of KnarrTek Inc. and Milramco LLC. Dr Green obtained his BSEE and Ph.D. Degrees from Leeds University in England. Subsequently Dr. Green was a senior member of technical staff at MIT and a Professor of computer engineering at WPI. Dr Green is an expert in materials tracking within the industrial, medical, and construction supply chains. He is also an expert in using real-time Artificial Intelligence to assist mangers with operational decision-making in industrial organizations.

Please contact pgreen@KnarrTek.com with comments or suggestions.