CHALLENGES AND OPPORTUNITIES IN THE CONFIGURE / ENGINEER TO ORDER INDUSTRY

One of the more complex industry sectors to automate and drive improvement through software and process change is the configure to

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Introduction

The team at Leverage Technologies has been implementing ERP (Enterprise Resource Planning) solutions for 10 years – we take great pride in our ability to assist customers in choosing and implementing the right systems for their business. Over the years we have consulted to hundreds of businesses in various industries. One of the more complex industry sectors to automate and drive improvement through software and process change is the configure to order / engineer to order industry. At the end of the day ERP software (finance, customer relationship management, inventory, manufacturing, reporting and mobility) is an enabler to driving better processes, more meaningful information and business improvement. Automation (enabled through software and process change) in the configure to order and engineer to order industry presents some challenges and opportunities for improvement.

This e-book was written to help companies in the configure to order / engineer to order industry with:

- Understanding some of the industry challenges as they relate to ERP / business management software;
- Getting a better view of the opportunities for improvement;
- ERP software functional requirements for the CTO industry sector;
- The ERP selection process.

Don't lose your competitive edge

If you run a business in the configure to order or engineer to order industry you will already know two things:

1. Your competitive edge comes from the fact that you manufacture a unique, engineer to order product specific to your customers' needs and

2. the very nature of building or manufacturing a unique product or potentially engineered to order product creates some real difficulties for your planning, engineering and finance team. The challenge is having internal systems that can help your team work together to streamline every aspect of the configure / engineer to order process – from quote to cash collection.

Industries that typically build or manufacture / configure to order include:

1. window and door manufacturers; the end product is a window or door but let's not forget that the end product can be made in several colours, with different finishes and in thousands of different measurements. Imagine the number of possible end product configurations

2. furniture manufacture; a desk could be configured in multiple different colours, with different drawer configurations and a combination of different finishes.

3. fence manufacturing; finish, colour, size are all common combinations for fence manufacturers

4. capital equipment manufacture; if you manufacture an engineered piece of equipment.

If you fall into one of the above industries you would be acutely aware that whilst there are several common components to an engineered capital equipment product there are always numerous options to be configured. This equates to potentially thousands of different product combinations.

Challenges facing the industry

What's certain is that the more configurable the product the greater your competitive advantage and the greater the complexity and room for error with your ERP / business management software and other internal systems.

Companies in industries that offer a customisable product for their customers face challenges in several key areas:

Quoting.
When manufacturing a customer specific product the quote can be complicated. Your quote is typically not going to be a two-liner. You might need to include CAD drawings, technical specifications and more. Often quotes are complicated in MS Excel or MS Word.

Bill of materials and manufacturing instructions.
These can be unique for every product.

Costing.
This leads to numerous challenges including correctly pricing the item for sale and calculating the margin on the sale.

Is the configure to order industry really that unique?

Yes and no is the answer. It sounds simple - take a standard product and offer your clients configurable options (colour, fabric, size, finish). The challenge is the potential number of finished product configurations......thousands of potential options. How do you quote and design the bill of materials for each unique option? Traditional ERP, planning and manufacturing systems were designed for standard products - do you want product x ($10) or product y ($11). The result - the engineer to order / configure to order industry has been forced to use a combination of different business management / ERP software solutions - often with manual intervention.

If you currently use separate CAD systems, manufacturing, purchasing, planning and finance solutions with a myriad of spreadsheets you are not alone. Traditional ERP (Enterprise Resource Planning) solutions where aimed at distribution companies and process or discreet manufacturers. This left the engineer to order / configure (manufacture to order) industry out in the ERP wilderness - the domain of spreadsheets and non-integrated solutions.

Opportunities

In this section we discuss opportunities that are not unique to the CTO industry but are worth discussing. We should always ask ourselves why we are implementing an ERP solution. After all software is not in itself the answer to our stock, manufacturing or financial issues however ERP software is an enabler to positive change. Software together with a number of other factors – good implementation, project scope, project management and change management is an enabler to real and meaningful change – Isn't that what we are all looking for. The end result of a well implemented ERP solution is not the fact that you had no project over runs during implementation or that you implemented your ERP solution in record time. Real change only comes from ERP solutions that enable:

- Better customer satisfaction through on time in full delivery;
- Increased cash flow through lower inventory holdings and easier cash collection;
- Increased profitability and margin by providing the tools to better manage your business;
- Better quote to cash conversion through a streamlined quoting, manufacturing and cash collection process.

These are tangible advantages available to anyone that implements an ERP solution correctly. Imagine the improvement in customer satisfaction and cash collection from a streamlined single, integrated solution approach to your business process. When your customer calls in wanting a quote for a specific product you could:

- quote the product directly in your ERP solution (including a highly configurable quote) using the configure to order module. This will include the ability to have the CTO module prompt your customer service representative for questions and

- sequences depending on the product being configured;
- incorporate CAD integration into the bill of materials design;
- cost the raw materials, and the final bill of materials. This costing could be based on supplier price lists (local or foreign currency based);
- quickly check what raw materials are required based on the bill of materials and production order;
- expedite the order,
- order the raw materials.

What's required from ERP – generally and specific to the industry?

ERP solutions should be judged by the results they deliver – business results. ERP should be seen as an enabler to business change:

- Improved cash flow
- Better customer service
- Staff retention

If your ERP solution is not an enabler to positive business change then you might have the wrong solution implemented.

ERP for the industry – what can a good ERP solution offer?

- the ability to manufacture a highly configurable end product (this gives us a competitive advantage),
- to be able to deliver the finished product on time in full (in fact the ability to deliver a highly configured product quickly is another great competitive advantage),
- to be able to quote accurately,

- to be able to measure profitability per job or product,
- not to hold too much safety stock (using up our cash flow),
- the ability to consolidate all requirements for purchase and production planning,
- to improve customer service.

All of this sounds simple but given the number of departments in any company involved in quoting, order taking, planning, design, manufacture and delivery there is a lot of room for error.

Must the ERP solution that I select have CTO specific functionality?

If you are in the CTO industry then yes – make sure that the solution you are considering has CTO specific functionality. Without the ability to handle complex quotations(typical of the CTO industry) your ERP solution will not be an enabler to positive business change.

ERP Selection process

So when it comes to purchasing an ERP solution specific to the CTO or engineer to order industry how should the ERP selection process run? As with any ERP selection process you will want to:

- Prepare a requirements analysis. This analysis will focus on all aspects of your business – finance, CRM, sales, purchasing, manufacturing etc. Given some of the complexity associated with the CTO industry that we have discussed in this ebook it is safe to assume that a lot of focus will and should be placed on your operational business requirements.
- Budget – there are lots of good ERP solutions that have CTO modules available for your industry. As always, get an initial indication of budget. There is no point

looking at potential solutions that cost three times your available budget.
- Demonstrations – get detailed product demonstrations from potential solution providers. Once again make sure that the demonstrations focus on some of the more complex operational aspects of your business
  o Quoting a configurable product
  o Creating a BOM for a configurable product
  o Product costing
- Shortlist your suppliers – get a shortlist of two potential suppliers.
- Scope of works – ask your preferred supplier to prepare a scope of works for you – with detailed costing including
  o Software
  o Annual maintenance
  o Implementation
  o Report writing
  o Data conversion
  o Any development requirements
  o Ongoing costs – including annual maintenance (year 2 and beyond) and the costs associated with software upgrades and updates
- Visit/investigate reference sites

Summary

The configure to order industry presents some challenges and opportunities. Make sure your ERP software is an enabler to positive business change by implementing the solution that best fits your process and CTO requirements.