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Process manufacturing and ERP:
Worldwide customer insight

Contents

Introduction

The 2013 global economic narrative was largely one of recovery and growth, causing process manufacturers to breathe a small sigh of relief. However, the term 'recovery' can often mask an array of challenges faced by organisations as they try to expand their business.

Ageing infrastructure, high costs, reduced lead times and a need for improved visibility are continuing to make the environment a tricky one for process manufacturers as the global economy tries to transition back into one of growth. Add into the mix the introduction of new environmental and safety standards over recent years that require additional management and controls, not to mention pressure to improve customer satisfaction, and suddenly the process manufacturing story looks entirely different.

The question now is what are conditions really like for process manufacturers post-financial crisis and how are businesses managing to achieve the growth they need to complete the recovery process?

Customer insights suggest firms need software that can help them raise the productivity bar, break new ground and ensure compliance, if they want to stay ahead of the competition. Worldwide, process manufacturing executives are focusing on solutions that can help them address all of their pain points simultaneously.

The information system and its underlying Enterprise Resource Planning (ERP) software represents a major step forward in getting businesses where they need to

be. Companies can install an ERP solution to not only meet their operational needs, but also streamline their IT infrastructure and deliver support when pursuing new strategies. However, getting the right solution is half of the battle and experience suggests that success is down to procuring software from the right provider.

Here, Cateno Barberi, Product Management and Process Manufacturing expert at Sage Mid-Market Europe and Pascal Boursier, expert in ERP from Sage's product marketing division for Sage X3, draw on customer feedback to illustrate the challenges process manufacturers are currently facing. Using best practice examples, they address how to buy and properly utilise an ERP system, and what barriers companies must overcome when trying to purchase such a solution.

Process manufacturing defined

The simplest definition of process manufacturing is defined by products that, once manufactured, cannot be distilled back into their original components.

Examples of process manufacturing are: wine production, soft drinks, plastic products, etc. For instance, once the grapes have been crushed and the other ingredients added, you can no longer return the grape to its original form.

What are the challenges facing process manufacturers?

Cateno Barberi (CB): Process manufacturers now need to use all of their energy just to stay competitive in the mid-market space, as ageing infrastructure, customer demands and increasing costs continue to create daily challenges.

A study from the Economist Intelligence Unit[1] showed 87 percent of executives from across the globe have had operations affected by out-of-date infrastructure. New technologies that can identify issues with infrastructure before they occur will be needed by firms to put them on a firm footing for the future. Such software will help organisations improve efficiency, extend the life of assets, reduce the risk of failure and improve the ability of businesses to meet customer expectations and demand.

For example, **Blount Fine Foods** provider of food for retail customers and one of Sage X3 customers, is able to use the insight it gains from its ERP solution to make strategic decisions, analysing production data from many angles and targeting areas for improvement.

Being able to evolve and adapt in this way will be integral as customer needs alter. Indeed, demands are already changing and the last year has seen increased pressure placed on development times – a trend that will continue to be a competitive barrier for firms in 2014.

This became clear in 2012, when over 50 percent of food and drinks firms got new products to market in Q2 alone[2]. Meanwhile, in June 2013 the New York Times[3] reported that pharmaceutical companies were being pushed to speed up development of the approval of new antibiotics, following outbreaks of resistant superbugs.

Shire Pharmaceuticals, drugs producer and distributor, is a company that identified an historical inability to make changes quick enough. It was unable to get new acquisitions up and running on a common finance system swiftly – a failure that threatened its ability to grow.

As it expanded, **Shire Pharmaceuticals** needed to make labour intensive tasks more efficient and accurate, streamlining processes to allow people to focus on the highest value tasks, be agile when accommodating new operating companies, and manage 'key man dependencies'.

To address the problem, the firm switched to Sage X3. Using the solution, **Shire Pharmaceuticals** is now able to run a "consistent chart of accounts across the business and provide a robust way of controlling processes and reporting". This visibility helps **Shire Pharmaceuticals** align innovation strategy with business strategy, resulting in shorter times for getting products to market, without compromising on quality.

Nevertheless, pressure to get new products to market swiftly has cost implications for businesses. Deloitte identified in its 'Global CEO Survey: 2013 Country manufacturing competitiveness index rankings'[4], that cost, availability of labour, materials, cost competitiveness of materials and availability of raw materials is now the third biggest competitiveness driver for manufacturers, with an index reading of 8.07.

Global compliance

"Using Sage X3 in our small to medium sized European subsidiaries, means we no longer have to ask individuals to run reports for us from disparate systems – we can now run reports centrally when and where needed, in a consistent format"

Gillian Poor, IT Director, Shire Pharmaceuticals

Modern manufacturing solution

"Sage X3 is providing the process manufacturing functionality we needed, and with integrated sales, inventory and financial reports, we have real-time access to data."

Phil Pitzer, IS Director, Blount Fine Foods

1   http://www.economistinsights.com/sites/default/files/EIU_Oracle_infrastructure_Final_WEB_2.pdf
2   http://www.fdf.org.uk/news.aspx?article=5983
3   http://www.nytimes.com/2013/06/03/health/experts-debate-plan-to-speed-antibiotic-development.html?_r=0
4   http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_pip_GMCI%20report%20highlights_12122012.pdf

Rising outgoings will significantly affect profits, especially for mid-market companies. Research from Prime Advantage[5] in the US showed small and mid-market manufacturers were less confident about their finances in 2013. Indeed, just 64 percent of executives said they were optimistic about their company's financial prospects, compared to 69 percent the year before.

Yet, broadly there is optimism in the manufacturing industry. According to the Manufacturers Association[6], 70 percent of firms forecast an improvement in the coming year. However, just six percent expect significant improvements, suggesting a modest 2014.

Meanwhile, managing the quality process and meeting safety standards will be essential for process manufacturers. Features that limit liability will improve the end product through consistent quality metrics.

New environmental and safety standards in the manufacturing domain also required additional management and controls to be introduced. Among the many changes creating challenges for firms are the revisions to the current Hazard Communication Standard (HCS) to align with the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals (GHS) (timeline 2015).

Blount Fine Foods used Sage X3 to ensure it could better control processes. Its previous system was limited and managed formulas, recipes, and work orders in a Microsoft Access database, which few had access to. Sage X3 is a scalable solution for the firm, enabling it to tailor system behaviour and content without making program changes. This means that the company didn't have to be at the mercy of an outside programmer to make changes to the software as the business evolved.

Pascal Boursier (PB): On top of their main business process issues – recovery will demand that manufacturers gain new customers. Ten percent of companies are expecting significant growth in the future, according to the Manufacturers Association[7], and it is clear firms want to grow. What's more, they want to better control their costs, reduce their operating margins and increase their productivity.

Sage X3 can help achieve this and has already allowed **Ganong Bros. Limited**, a producer of chocolate and confectioneries in Canada, to analyse its profitability. Using the solution it is able to factor cost contributors into its financial reporting. Such analysis helps the company make strategic pricing and product mix decisions. "Before Sage X3, we were not able to see the whole picture," Marc Lefebvre, Vice President and Chief Information Officer for Ganong, said. "We are able to clearly see which products and customers are most profitable for us."

Blount Fine Foods has also used Sage X3 to drive expansion. Louise Goodman, Corporation Controller for the company, said: "The advanced technology, ease of use, and right-sized implementation methodology of Sage X3 positions Blount Fine Foods for future growth."

Phil Pitzer, Information Systems Director for Blount Fine Foods, added: "We have a great deal of confidence in the product. Ultimately, Sage X3 works so well for us because it allows us to focus on producing a quality product, not on maintaining our ERP software. We have doubled our revenues since implementing Sage X3 and it continues to offer a good combination of power, scalability, and usability."

Exceptional standards of quality

"We used to manage our quality control processes entirely outside of the software, but with Sage X3, it now is an integral part of our manufacturing process".

Marc Lefebvre, Vice President and CIO Ganong Bros. Limited

5   http://www.primeadvantage.com/companynews/pressreleases/2013-04-PA-Group-CFO-Survey-PR.jsp
6   http://www.eef.org.uk/blog/post/The-outlook-for-growth-Manufacturers-expectations.aspx
7   http://www.fdf.org.uk/event.aspx?event=3761

What should you look for in an ERP system?

CB: Customers recognise that ERP solutions can help them overcome the barriers they are likely to face in the future, but the key is getting the right one. Be sure to look for an ERP solution with a strong process manufacturing foundation that supports many of the best practices required to align business processes.

These include:

Formula/recipe management – The FDF and the British Automation and Robot Association is pushing for greater automation when it comes to formula and recipe management[8]. However, in 2012 it was observed that UK companies lag behind their European counterparts in adopting automation. Customers claim this can cause barriers on the way to growth. Once **King Pie** implemented formula/recipe management via Sage X3, for example, it was able to manage all aspects of sales, stock control and inventory management using one solution.

Quality control – This allows firms to record quality specifications for different products. With this information, a company will be able to track and record the quality of materials. The significance of this was demonstrated by **Ganong Bros. Limited**. Historically, the company used to manage quality control processes outside of ERP software but it adopted Sage X3 and has now integrated quality management into its operations. The quality management application sends a message to the quality control staff when raw materials are received, including the product number, lot number, and warehouse location.

Lot tracking and traceability – Tied to quality management, this function records the identity of any ingredient or product that is lot-controlled. A company can use this to meet industry and government regulations for warranties and quality assurance. It also allows a process manufacturer to assign inventory from a lot on demand to meet specific consumer needs.

Serialisation and traceability is important for pharmaceutical companies and around 50 percent of firms are already dealing with this via their manufacturing processes[9]. To remain competitive, companies will need to be able to prove they have this level of visibility within practices by adopting the right solution.

Anthony Loheas, Industrial Management Controller for Délices de Saint-Léonard, said: "Sage X3's arrival helped us to work more obligatorily, by benefiting from integrated and coherent data. It's impossible to send products if they are not present in the stock! It's impossible to charge if price lists are not created! Thanks to Sage X3, our stocks of raw materials, packagings or finished products are now completely reliable, allowing us to guarantee the upstream traceability and the approval of our goods. How does ERP make things easier? From the material to the finished product, and from the finished product up to the end customer, everything is tracked."

Production schedule management – This uses criteria such as shifts, hours, or any other time formats that fit production cycles to improve efficiency. Consequently, labour intensive tasks become easier, more efficient and accurate. The importance of this function was seen in the case of **Shire Pharmaceuticals**. Since adopting Sage X3 – which boasts production schedule management – the company has been able to prioritise tasks and make their workforce leaner. It claims that while its headcounts are the same, teams are now freed up to focus on tasks that have more value.

KING PIE

Comprehensive capabilities

"Sage X3 fully integrates with our existing distribution, trading, manufacturing, project implementation and unit servicing. It was deployed using our existing staff compliment and was finalised within the specified time period, which was impressive"

Hennie Terreblanche, CFO of King Pie

8   http://www.fdf.org.uk/event.aspx?event=3761
9   http://www.healthcarepackaging.com/trends-and-issues/traceability-and-authentication/boosting-security-pharmaceutical-supply-chain

Regulatory compliance – This is one of the biggest challenges facing manufacturers. The right ERP solution can help create a production system that is in line with regulatory requirements from different bodies and can apply the GMP Good Manufacturing Practice, which is a production and testing practice that makes sure all critical processes are validated to ensure consistency and compliance, such as the FDA specifications. Phil Pitzer, Information Systems Director for **Blount Fine Foods**, explained that "Sage X3 simplifies compliance with food safety regulations by maintaining a detailed audit trail of each lot number". Using the lot number of an ingredient, the company has been able to quickly identify all of the finished products that used that ingredient, who purchased them and when.

Supply Chain management – Freightage revealed that in 2014, access to visibility and execution data will be crucial in improving supply chain conformity and transparency. This will "minimise and mitigate environmental, performance, process, and intellectual property risks," according to the firm. A supply chain management function automates different supply chain activities using scanning and barcoding, ensuring that materials and products are well accounted for, providing greater visibility.

Maintaining its exceptional standards of quality has always been a priority for **Ganong**, and Sage X3 adds a level of control that supports those standards. "We used to manage our quality control processes entirely outside of the software, but with Sage X3, it now is an integral part of our manufacturing process," said Mr Lefebvre.

PB: From a technical perspective, a good solution must also be able interconnect with external systems, software and hardware as part of a collaborative work environment, according to our customers.

To enable growth and ensure vital information is accessible, it is important to look for decision-support and reporting tools, electronic document management, and workflow mechanisms, allowing employees to work together in real time.

Sharing information is important in the manufacturing industry and 'ASQ's annual Global State of Quality Research: Analysis, Trends, and Opportunities 2013' report showed managers in the sector are almost three times more likely to share data on quality with their line workers[10]. Indeed, 46.4 percent of manufacturers report data on quality measurements to line workers daily.

Blount Fine Foods encountered problems before adopting Sage X3 because it was unable to offer proper collaboration between workers. However, now it can share information on one, easily accessible platform and automated RF data collection appears to be much better. Sage X3 also allows **Ganong** to streamline electronic communication: "EDI helps us automate what used to be a slow and error prone process," the firm said.

ERP must be thought of from a customer perspective too and the solution can easily be used to facilitate developments to enhance consumer experiences. Customer service is often about feasibility for the manufacturer. For example, companies that allow clients to shop online might not let customers buy things via this portal and pick up in store. This is because it can make tracking inventory more complicated. However, ERP means companies can keep records and

accounts across all of their products. This is important as e-commerce becomes a more popular way of shopping.

This all helps to support a company's growth and a desire to expand is one of the major trends noted among process manufacturers. The scalability of ERP is key from both a technological and functional perspective, so that IT strategy will be aligned with the company's growth strategy. It is important that when choosing an ERP solution it will be able to welcome more users and run new features on demand. For instance, the foundation of the ERP must be built on a multi-company, multi-site, multi-legislation and multi-language architecture, according to customers.

Gillian Poor, Chief Information Officer at Shire Pharmaceuticals, said: "**Shire Pharmaceuticals'** ambitious growth plans means its constantly seeking new opportunities for licensing, distribution partnership and acquisition. They want to continue to use Sage X3 to support them with their global strategy."

What are the barriers to purchasing ERP solutions?

CB: Change management and the timeline of a project can cause problems when it comes to adopting ERP. Implementing an ERP solution involves not only changes in the technology a business uses, but also changes for the people that use it. This needs a shift in the attitude and behaviour of employees, moving from a task-oriented to a process-oriented approach.

This human element adds a level of unpredictability and knowing how staff will accept changes can be challenging. Research from Randstad[11] showed that while 92 percent of all employees say they will do anything to meet their job requirements, a third fear that as expectations change, they won't be able to meet the requirements of their employer in the future.

Unsurprising then that process manufacturers could have a challenge on their hands when it comes to rolling out a new ERP solution. It is important, therefore, to make the benefits clear to workers and support them in the transition.

When it comes to implementation, many mid-market businesses can also lack the resources to support a long process and cannot afford to dedicate an employee to the project. According to Prime Advantage, 47 percent of mid-size manufacturers expected to hire in the last six months of 2013, with just three percent planning to reduce their headcounts[12]. However, with capital expenditures expected to increase at one out of three companies, margins will be tight.

Meanwhile, it is also often the case that businesses need specific development to address their unique needs and this can add to the time of implementation.

However, with the right solution implementation can be swift. Sage X3

adopter **RM Foods** was up and running in six weeks. President of the company Michael Siegmund said the application was easy to adopt and could easily be applied to all distribution, order taking, purchasing, manufacturing and financial reporting.

PB: The cost of implementation is one of the main barriers for companies when buying ERP systems.

When searching for a solution, **Blount Fine Foods** was just one of the companies that found the majority of systems were overly complex, with high maintenance and overhead costs. Mr Pitzer said: "We wanted a system that could manage our business, be installed easily, and was scalable. Sage X3 meets all of our requirements. It offers strong process manufacturing capabilities, provides an integrated development environment, and comes at an attractive price point."

Ganong Bros. Limited also found the solution easy to use, with a well-balanced functional focus to achieve all of the company's objectives and attain the fastest return on investment.

"We achieved a full return on investment by the end of the first year, through labor savings and improved accuracy," Mr Lefebvre said.

In the current climate, every type of expenditure is likely to be very closely scrutinized and the expense of investing in a new ERP solution is often the main contributory factor for such requests being turned down.

Over the course of the last two calendar years, the proprietary TEC Advisor tool was used to complete more than 1,500 evaluations of ERP for process manufacturing software solutions.

Fast-moving solution

"Our old system made even routine tasks cumbersome, so it was easier to outsource them. Now, our Sage X3 system works so well and so efficiently that we were able to bring these tasks back under our control. From product costing through stock status and purchasing – Sage X3 has enabled us to improve accuracy and efficiency".

Michael Siegmund, CEO RM Foods, LLC

11   http://www.ir.randstad.com/releasedetail.cfm?ReleaseID=790389
12   http://www.primeadvantage.com/companynews/pressreleases/2013-04-PA-Group-CFO-Survey-PR.jsp

According to TEC data[13], the most requested high-level process ERP functional area is financials and accounting, with more than two-thirds (66 percent) of the selection projects for process ERP requiring this core back-office functionality. Purchasing management is needed by 53 percent of the projects. Inventory management, advanced planning and scheduling (APS), and quality management are each selected more than 40 percent of the time.

What stands out in these higher tiers of requested functionality is that over the course of 2011 and 2012, business platform capabilities – for example, business intelligence, a workflow manager, and analytics – were selected as a required functionality more than process manufacturing management. This means that business users continue to look for not just core transactional ERP functionality in their software, but also expect more sophisticated technology from their ERP system provider.

Another interesting choice stands out: even during a process ERP selection project, 23 percent of the respondents are also looking for discrete manufacturing management capabilities to be delivered by their ERP system.

13   http://www.deacom.com/sites/default/files/tec-2013-erp-buyer-s-guide-for-process-manufacturing2%5Bsmallpdf-1.com%5D.pdf

How can you get the right solution?

CB: The environment won't get less challenging for process manufacturers any time soon, with ageing infrastructure, customer demands, rising costs, regulation and profit margins continuing to put pressure on firms - especially mid-market companies. However, ERP systems can help and support growth, as long as the right one is implemented.

The ERP system must help the company meet the statutory record-keeping and lot-tracking requirements too. Food producers would also be wise to select an ERP system that tracks batch recipes and related data – descriptive information, technical properties,

quantities in user-definable units, costing information, notes, and history.

What's more, you need to opt for a software vendor with which you can do business. Customers constantly tell us that before they moved to Sage X3 they were unable to get the support they needed to successfully roll out an ERP system.

PB: Before selecting an ERP, define the main objectives of your project. After all, before you can address the problems, you have to understand what you want to achieve.

Integrated flows

"Thanks to the Sage X3 solution, our stocks of raw materials, packaging and finished products are now completely reliable, which means we can guarantee the upstream-downstream traceability of our goods, made easy with the ERP solution: from the ingredients to the finished products, and from the finished products to the end customers, everything is tracked."

Anthony Loheas, Industrial management controller - Délices de Saint-Léonard

The reality of process manufacturing and ERP

"We are better positioned for decent growth for 2014 than we were a year ago," Diane Swonk, chief economist Mesirow Financial declared to the Associated Press in January 2014[14].

While the global economy is largely on an upwards trajectory, for process manufactures growth won't come without struggle. The environment is still fraught with challenges that businesses must overcome, be they internal or external.

Christine Lagarde, Managing Director (MD) of the International Monetary Fund (IMF), explained: "Global growth is still stuck in low gear. It remains below its potential, which we think is somewhere around four percent."[15]

This will put greater pressure on businesses to use their ERP systems to lower costs and strengthen bottom lines.

The dust has yet to settle from the financial crisis and while businesses are looking to expansion, they are all too aware that the move will define whether they sink or swim.

Over the coming years, the story for many firms will be one of survival against the odds and the process manufacturers that thrive will be those that hone internal processes - including their use of ERP systems - and use them to drive growth.

While it's tempting to get swept up in figures showing rising GDP and output, caution is advised.

Of course, there is growing optimism among process manufacturers and this confidence will ultimately help to encourage the innovation needed to thrive in the modern marketplace.

14   http://news.yahoo.com/solid-growth-brightens-economic-outlook-2014-195628992--finance.html and
      http://www.mercurynews.com/business/ci_25028521/solid-gdp-reading-hints-at-strong-2014-economy
15   http://www.imf.org/external/np/speeches/2014/011514.htm

Our process manufacturing customers

Sage X3

Sage X3 is Sage Group's global ERP solution for mid-sized companies and subsidiaries of large groups with international demands. For over 10 years Sage X3 has been a proven and comprehensive ERP solution addressing mid-market companies' specific requirements and challenges in industries from manufacturing and services, to distribution and many more.

Sage X3 has presence in more than 60 countries worldwide, with 275 resellers and more than 2,000 consultants in its ecosystem. Over 4,200 customers have chosen Sage X3 because it is easy to use, rapid to deploy, and cost effective.

Sage

The Sage Group plc is a leading global provider of business management software to small and medium sized companies, creating greater freedom for them to succeed. Sage understands how and why each business is unique. We provide products and services that suit varying needs, are a pleasure to use and are secure and efficient. Formed in 1981, Sage was floated on the London Stock Exchange in 1989 and entered the FTSE 100 in 1999. Sage has over 6 million customers and more than 13,380 employees in 23 countries covering the UK & Ireland, mainland Europe, North America, South Africa, Australia, Asia and Brazil.

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