

The more that systems and processes link together, the greater the cumulative benefit.

INTRODUCTION

Any business that invests in technology over a period of years is likely to find itself with a number of different systems and pieces of software, many of which are incompatible. For example, the order processing system may not talk to the accounts software, or the forecasting software may not link to the purchasing system. Companies that have started selling over the internet often find themselves with web-based storefronts that don't talk to sales order processing systems or accounting systems. Staff have to re-enter orders to update back end systems, wasting time and effort. It also means errors can occur. This can be frustrating, costly and inefficient.

Blue chip companies have long known the benefits of integrated business systems they have invested in software that links the shop floor to the accounts department. It's called enterprise resource planning (ERP) software and is sold by companies such as SAP and Oracle. Now these suppliers are offering solutions for small and medium-sized businesses.

THE BENEFITS

The idea behind investing in integration is simple: the whole can be greater than the sum of the parts. The more that systems and processes link together, the greater the cumulative benefit.

Businesses that have successfully integrated their systems become more agile and responsive, their staff are better motivated and profits improve. Benefits include:

Streamlined administration and reduced costs

Every time you connect two systems together, you improve the flow of information in your business. It reduces human intervention by cutting data entry, paperwork processing and requests for information. In a fully integrated business, an order received electronically can automatically raise an invoice and trigger dispatch and stock reordering without the need for any human involvement.

IMPROVED EFFICIENCY

Integrated systems give greater accuracy and reduce waste because they allow your business to operate with real figures rather than estimates. With integrated systems you can have:

- production linked to orders with just-in-time working you produce only what you need, when you need it;
- stock replenishment linked to your inventory to trigger automatic reordering and reduce unnecessary stock holding;
- sales and accounts linked to forecasting so you can plan with confidence.

IMPROVED JOB SATISFACTION

Many companies have found that staff morale and productivity improve as integration reduces administration and allows staff to focus on the skilled aspects of their job. With linked systems, access to information is likely to be better, reducing frustration and speeding up workrates.

COMPETITIVE ADVANTAGE

When you are integrated internally, you are in a strong position to improve relationships with

customers and suppliers. Many businesses collaborate on forecasts and purchasing with suppliers, or give customers direct access to their systems.

Imagine if an order from a customer triggered not only your internal processes, but enabled your systems to interrogate those of your suppliers for real time information on stock availability and delivery. The benefits could be enormous reduced lead times, smaller inventories, increased flexibility and more accurate forecasting. It could be a valuable way of differentiating yourself from your competitors.

DECIDING WHICH PROCESSES AND SYSTEMS TO CONNECT UP

The ultimate aim of integration is to get every part of the business linked together. (Some ways of achieving this are covered later in the factsheet). For most businesses, though, it's more cost effective to target the processes that cause the biggest bottlenecks. Below are some of the most popular areas where businesses invest in integration:

Design and manufacturing

Computer-aided design (CAD) and computer-aided manufacture (CAM) help businesses that rely on detailed drawings or models in their design and manufacturing processes. With CAD/CAM, design specifications can be translated directly into manufactured components. This could mean that a client e-mails a design to you and it passes straight to the shop floor for tooling. It can dramatically speed up the design and approval stages and give you the ability to turn work around much more quickly.

Sales, marketing and customer service

Sales, marketing and customer service are prime

contenders for integration. The more you know about your customers, the easier it is to sell to them and to target them with the right products and services. Most businesses have masses of data on their customers such as personal details, sales patterns, marketing data. It's stored in different places, so opportunities for cross and up-selling are missed.

A popular way of improving customer service and sales is to invest in a customer relationship management (CRM) system. Based around a database that collates all the different strands of information, a CRM system aims to unlock the potential of the data by identifying new sales opportunities. It can help you deliver improved customer service or offer personalised services and deals.

Sales, forecasting and stock ordering

By linking forecasting and planning systems you can plan your inventory better which will help cut waste. Two popular options are Manufacturing Resources Planning (MRP) or Enterprise Resource Planning (ERP).

- MRP systems automatically co-ordinate all the components involved in production and can be linked to your suppliers or customers. They are specifically related to production and will be most relevant if your business is involved in manufacture.
- ERP systems can plan and schedule across your entire business and also integrate with your supply chain partners for stock ordering and accounting.

Website and back-office systems

About a third of UK businesses accept orders online.

- 1 Of these, more than half already link their website to their back-office systems or have definite plans to do so.

2 If you were setting up an online trading presence from scratch it might seem obvious that the back office and the online storefront should be integrated, with the functionality of the back office available to the storefront, and all the information from the storefront immediately passed to the back office for processing. Since many web stores are opened on a trial basis, businesses often have to manually transfer orders to back-office systems for fulfilment. As the volume of orders grows the administrative burden becomes unmanageable.

Integration options

Once you've assessed what systems you need to link, the next step is deciding what approach to take. This section looks at some of the technical solutions available:

Integration hubs

The integration hub is a way of linking processes and systems gradually to avoid the disruption or cost of a 'big bang' solution. Effectively, it is a system that sits between all of your others and translates data from one source into another allowing different systems to talk to each other.

- **Features:** depends entirely on your needs and budget. Examples of a simple integration hub include the accounting and finance software available from suppliers such as Sage and Navision that will tie your accounts to orders, purchasing and stocks. Some of the more complex integration hubs will tie all of your systems together and even provide an infrastructure to exchange information with suppliers and customers.
- **Benefits:** no need to replace all your existing systems; you can integrate as much or as little as you want; some hubs use XML a way of formatting data that allows information to be

shared easily between different platforms and across the web.

- **Drawbacks:** at the higher end, you may need technical help to select the right solution one that meets your current needs and can manage your future ones. Because you are buying, the upfront costs will be greater.

Hosted solution

In contrast to an integration hub, a hosted solution allows you to rent integration services over the internet. A form of outsourcing, this can be more flexible than an integration hub.

- **Features:** you rent applications and integration tools from so-called Application Service Providers (ASPs). The software and any associated hardware is hosted and maintained by the ASP, giving you seamless communication between systems. Depending on your needs, you can assemble an entire, end-to-end, e-business infrastructure using an ASP.
- **Benefits:** a form of outsourcing, this can be more flexible than an integration hub. It requires less technical expertise and upfront investment than the purchase of an integration hub. Support and upgrades tend to be a standard part of the contract.
- **Drawbacks:** although you don't need IT expertise, you do need project management skills. Check that the solution you are offered won't tie you into proprietary systems or support contracts that might be costly to end.

For more on electronic outsourcing, visit the Achieving best practice in your business web presence.

Using a solutions provider

Solutions providers are big software companies that build a bespoke integration solution for you, usually using their own proprietary software

as a base. This solution would suit companies wanting to develop a fully integrated system that would be controlled and maintained in-house.

- **Features:** put simply, you can have whatever you can afford to pay for.
- **Benefits:** you get a powerful, robust solution tailored to your business needs.
- **Drawbacks:** you generally have to work closely with a solutions provider, so you need technical knowledge and project management expertise. Solutions providers tend to be used by very large organisations with large budgets, when they are looking to transform their business processes.

Although the improved efficiency and cost saving can be dramatic, the initial outlay can be substantial.

CONSIDERATIONS

Involving people in change

Integration is a tool not a complete solution. While it can unblock bottlenecks and open up new opportunities, it will only make a real difference to the profitability of your business if it's accompanied by cultural change. This requires more than just training on new systems it needs a change management process to involve staff, and educate them about the changes.

The best businesses manage to break down the so-called 'silo' mentality the tendency for staff to only identify with their immediate team members and get everyone to focus on the overall success of the company.

Implementation guide

Having decided to integrate your business systems, the next stage is to work out an approach that maximises the long-term gains, while limiting disruption in the short-term.

Research & analyse

Identify the bottlenecks

- Audit your current processes, from the placing of an order to final delivery.
- Be prepared to redesign them and change your organisational structure.

Cost/benefit analysis

- Try to quantify specific gains, such as time saved or reduced inventories.
- Also take account of intangible benefits such as closer supply chain relationships.
- Cost implications are often underestimated. What is the real cost of retraining your people, converting legacy data, customising and testing new systems?

Market research

- Find out what your supply chain partners are doing.
- For maximum gain, the aim should be to automate your interaction with customers and suppliers.
- Your system needs to interact smoothly with those of your trading partners.

Compare alternatives

- Should you target a few areas or try to integrate your whole business?
- Which would suit your needs and budget best integration hub, hosted solution or a bespoke set up?
- Make sure your favoured approach doesn't lock you into a proprietary solution or overly tie you to a single supplier
- Try to look at the total cost of ownership. For instance, if you rent over the internet from an Application Services Provider (ASP) you won't need technical support in-house.

Plan and Test

- Are you opting for a rapid adoption, with the short-term disruption it can bring, or a more measured, cumulative approach?
- Set a realistic timetable, including time for testing new systems.
- Involve staff in planning and implementation.
- Budget for training and change management.

CASE-STUDY

CPM GIFTS

Sector: Textiles/ceramics

Size of firm: 54 employees

Location: Cardiff

Website: <http://www.cpm-gifts.com>

Integrated business systems have helped giftware supplier CPM to create a profitable niche in the marketplace.

Objectives

CPM designs and produces T-shirts, mugs, pens and other gifts for retail chains and corporate customers. When the company began to explore e-commerce, it decided that an integrated approach that linked all its systems would be best.

Solution

The CPM solution allows a seamless progress of information from customers at one end to suppliers at the other. A network of Apple Mac computers receives designs by e-mail; these are checked and fed through to a computerised production system. The system allocates a unique code number to each job and uses this number to track work through the production process and automate e-mails letting customers know when the product is ready and on its way.

Customers can input their requirements for quantity, colour and design on the CPM website and the system will generate a price instantly.

CPM's internal system is integrated with its customers' websites and with orders relayed direct to CPM for processing. "We dispatch direct to the customer or to one of their stores," says Managing Director Paul Dinnick. The system can also offer automated production of personalised product messages via customers' websites and even from their Pos (point of sale) terminals. CPM's website has recently been upgraded to handle online ordering in a bid to reach a wider range of consumer customers.

Results

The integration of e-mail, website and automated production processes has greatly increased CPM's order-processing efficiency and reduced labour costs and time needed from receipt of order to delivery to customer. Says Paul, "Our e-commerce system has enabled us to enter the personalisation market where an individual product has a unique message.

Reducing the labour cost to administer these individual orders was a pre-requisite to this marketing programme. The original cost of £6.50 has now been reduced to pennies per job. The website has also been used as a way of reaching smaller customers who could not previously be contacted because the cost of sending a sales person was too high. The online ordering and automated production makes the fulfilment of smaller orders more cost effective."

The challenges

Integrating the needs of suppliers and customers is a constant issue. "Various factors combine to make online ordering essential despite the potential high costs. Our largest customers demand electronic trading; the cost of dealing with smaller accounts is increasing; there is a need for quick reliable information on stock availability from suppliers."

The last word

One of CPM's customers, Icelandic company Islandia and Viking Craft, has found the service from CPM has improved over the last three years. "Time is a very important factor: we now have a faster, more accurate service. A process that used to take weeks now takes a day. We can also e-mail invoices and use wire transfer for payments. Technologies have helped us work smoothly together and, in turn, we can pass these benefits onto our customers," says Paul.

CASE-STUDY

RSR Group

Sector: Building services

Size of firm: 14 employees

Location: Hayes, Middlesex

Website: <http://www.rsrfasteners.co.uk/>

RSR Group has created a streamlined, integrated system to manage and market its huge product offering and control the fulfilment process.

Objectives

With over 60,000 products on its inventory, RSR, a buildings services group, was keen to find a way of reducing its stock holdings. The group decided to focus on improving profitability by linking its business operating system, sales order processing and stock control to reduce stock levels.

Solution

One of RSR's major technology investments has been an intelligent online ordering system. This semi-bespoke software, called Unity, has revolutionised the ordering system for staff and customers. Unity provides the link between RSR's business operating system, sales order processing and stock control. James Rowlands, Managing Director, explains: "When customers access products on our website, the software

automatically check stocks and works out prices and delivery times. The online cataloguing system is far more sophisticated than our printed version and is so simple to use whenever a new product is entered into the system, it automatically appears on the website catalogue."

With so many different products, holding everything in stock would be very costly for RSR. Having connected its internal systems up, the company has been able to reduce warehousing costs. Now, when the company receives a stock enquiry, a delivery date is calculated by factoring in how much stock RSR has; known supplier lead-time for stock it doesn't hold; and where the customer is based. This means that, where many online ordering systems generate a delivery window of, for example, 7-10 days, RSR can give a precise, guaranteed delivery time instantly.

The systems integration has also enabled the company to offer much better order tracking and customer service. Customers have passworded access to check whether the product has arrived at RSR; whether a dispatch note has been raised; and whether an invoice has been raised. Internal systems also now alert staff to problems or delays with orders, so that customers can be contacted and warned in advance. The result of this proactive, open approach has been much greater customer satisfaction.

Results

The use of technology to integrate processes has allowed RSR to handle a greater workload without increasing the number of staff. It has also increased customer loyalty which feeds into increased sales and reduced marketing costs.

Its investment in innovative technology has had another unexpected benefit: it has boosted its reputation. It has an edge over their competitors because it is seen in the market as



being, in James' words: "on top of the game".

The challenges

When it comes to procurement, RSR is dependent upon the activity of the larger suppliers who at present are not as quick to develop e-sales systems, which can at times prove frustrating. RSR's answer is to offer the latest technology, but support more traditional methods like the telephone, fax or e-mail, so developing a reputation for both innovation and customer service.

Says James: "It is a matter of when rather than if engineering and construction firms look toward the Internet for their procurement. When they do, RSR will be ready."

The last word

James also thinks the key to success lies in the staff: "Involve staff whenever implementing new technology their buy-in is essential."

FURTHER HELP AND ADVICE

General guide to business integration

<http://www.eai.ittoolbox.com> has links and further reading on the whys and wherefores of business integration (enterprise application integration).

<http://www.ebizq.net/> a guide to e-business integration.

<http://www.cio.com/research/erp/index.html>

Business technology magazine with articles on business integration and enterprise resource planning.

Integration solution providers

<http://www.mysap.com>

<http://www.myoracle.com>

<http://www.commerceone.com>

Business integration software suppliers

ERP

<http://www.oracle.com>

<http://www.sap.com>

<http://www.peoplesoft.com>

<http://www.lawson.com/>

<http://www.baan.com/>

MRP

<http://www.manugistics.com>

<http://www.i2.com>

GENERAL BUSINESS ADVICE

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