

Low cost, open source or specialized ERP Solutions?

► The need for ERP

According to the '2007 ERP in Manufacturing' report from the Aberdeen Group Inc, an IT research firm based in Boston, there are several reasons why companies have come to recognize the value of enterprise resource planning (ERP). The 650 midsize companies interviewed gave the following reasons: the availability of *low cost software solutions*, pressure from the parent company, suppliers or customers; explosive growth; compliance with regulatory requirements; and a 'disastrous event'.

Furthermore, in its '2007 ERP in the Midmarket' survey of upgrade and replacement strategies, some respondents referred to the need for consolidation of multiple systems, while 46% needed more functionality, 39% were unhappy with clumsy or out of date user interfaces and 37% needed a standardized solution with international capabilities.

► Low cost and open solutions

It appears therefore that the value brought by an ERP system is understood and the availability of *low cost options* has also helped to raise awareness of ERP in general. Installing a *low cost or open solution* often seems an attractive option to many small and midsize companies, as the software itself is either free or very cheap. However, the impact on a company's working methods and processes can be considerable during the implementation of any ERP system. The success of an implementation will be directly related to the way in which existing processes can be incorporated, the ease of use of the system and the level of 'buy in' from staff operating and using the system. The benefits of *low cost or open ERP* should therefore be carefully assessed in this context.

Low cost solutions can be a training ground for companies to understand the principles and benefits of ERP, and can be useful in small areas of their business. But from the Aberdeen Group's '2007 ERP in the Midmarket' survey it is clear that these solutions are only temporary. A permanent solution will require a company wide integrated package with levels of functionality to handle all areas of current business activity and support future requirements.

Open source software can have comprehensive functionality. Development and enhancements are driven by the software's user base and regulated by committee. The advantage of this is that the software is effectively

owned by the users, but the disadvantage is that differing needs will make it difficult to reach a consensus about direction and future functionality, making the tools within the software necessarily generalist rather than tailored to specific industry requirements.

► Total cost of ownership

The reality of ERP is that the actual cost of the software itself represents only a fraction of the investment required in terms of cost, time and effort to get the full benefits from its installation. How closely the chosen system matches the company in terms of its business objectives, infrastructure, culture and working methods, etc., will have a major impact on the success of any installation.

Choosing *low cost or Open source software* will limit the way in which the system can be configured to suit a particular requirement. With *low cost systems*, the functionality is likely to have certain limitations and it may not be able to keep pace with a company's growth path. *Open source software*, on the other hand, relies on a distribution channel for its support service, so configuration will only be as good as the technical capabilities of an individual distributor. If functionality limitations are found, a request for a change in the software is unlikely to be responded to quickly, if it ever is, forcing the customer to compromise on performance.

Difficulties in getting a system to meet functional requirements will have a disproportionate effect on its ultimate performance. Resistance to using the software within a company due to ease of use issues or complex work-arounds will severely reduce user acceptance and efficiency.

By contrast, working with an ERP supplier specializing in the industry will maximize the user acceptance of the software and optimize the return on investment.

According to the Aberdeen Group's '2007 ERP in the Midmarket' report, the "best in class" company respondents recorded 21% reductions in inventory, 17% decrease in manufacturing and operating costs and a 16% decrease in administrative costs from the installation of ERP.

However successful implementation goes considerably further than cost reduction. It will provide far greater information transparency throughout an organization enabling improvements in customer service and problem solving response times, live reporting of key performance indicators, acceleration of manufacturing processes,

increased machine utilization rates, improvements to traceability and quality compliance and better supplier relationships. Communication and collaboration with other sites within an organization are also greatly enhanced.

Establishing a range of key improvement targets at the outset will help managers to measure the success of any implementation project.

► **Usability**

According to the Aberdeen Group report, 39% of companies wishing to replace their ERP system over a 3-year period cited clumsy or outdated user interfaces as a major factor in their decision-making.

Some *Low cost ERP* systems can have a very simple and easy to use interfaces, however the limitation in depth of the software often makes these systems impractical except for the smallest applications. *Open source* systems may have depth of functionality, but they can be based on early concepts of user interfaces, and may have limited compliance with a MS Windows environment and new operating system versions. In fact, it is reported that many *Open source software* developers are strongly opposed to Microsoft Corporation and its products.

The problem for users, if this is the case, is that the software does not behave intuitively as it should and may require a specific sequence of operations or workarounds to ensure that it works correctly, seriously limiting its usability.

Companies that develop ERP systems designed for specific markets usually work in a highly competitive environment, so they understand the advantage of ease of use, intuitive operation and powerful help and tutorial tools. These systems will make the most of Windows functionality which will in turn significantly shorten the learning curve for staff using the system. A familiar interface will encourage them to utilise the system more, making a switch to the new software both trouble free and faster as well as producing a significant saving in administrative effort.

► **Support and development**

ERP vendors that provide a solution to suit a particular vertical market will have specialized skills and knowledge of their customers' businesses. Support will be direct from the software developer, or through carefully selected distribution channels whose members have expertise within the particular market and culture. In any event, the customer will have direct or indirect access to the vendor's development team. The advice and feedback

loops will drive the software development to provide an even better match for business processes and also ensure that implementations use best practice within the industry they serve, wherever possible.

Low cost systems have a similar arrangement, but limited functionality may ultimately require an upgrade to a more comprehensive system, with the problem of managing the legacy data. Many *low cost systems* will not have the capacity to migrate to full ERP capability as the infrastructure within the software will not have been designed with sufficient flexibility for the levels of enhancement required to make the transition. Another serious drawback with *low cost systems* is the potential lack of sufficient revenues to invest in R&D long term and the increased risk of the software provider going bust, leaving distributors and users with an unsupported system.

Open source systems rely on a dealer network which derives its revenue solely from training and configuration services. This means that these services tend to take longer or cost more than those offered by specialized ERP suppliers. The network will have little influence on the direction of software development, so its skills will be in finding ways to make the software package it supports fit the individual customer's business, rather than incorporating best practice. Due to the spread of applications supported by most *open source ERP systems*, the dealers experience is necessarily more general, so their knowledge of specialized activities is likely to be superficial when compared with the in depth knowledge of an ERP vendor serving a specific market.

► **Modularity**

According to the Aberdeen Group's '2007 ERP in Manufacturing' survey, the average midsize company only uses less than half the generic ERP modules available. The most popular method of introducing ERP within a company is to start with certain modules and then gradually add on further ones as each has been successfully implemented. Each company is different, so the skills of the ERP vendor will guide the customer through the most appropriate adoption path for their activity. Although particular customers will never use some modules, breadth of capability is necessary to support customers' future growth. Specialized ERP vendors are also likely to offer a number of specialized activity modules such as CAD/CAM integration functionality for manufacturers.

Low cost software are unlikely to offer either the necessary range or specialization of modules and features.

► **International growth capability**

One obvious growth path for a company is to build their operations internationally. *Low cost software* distributors tend to operate in one country only and will lack the experience to understand the complexities of international business operations.

Open software may operate internationally but the capabilities of open software's local distributors are highly variable. Specialized ERP vendors are necessarily internationally focused - they are more likely to operate across geographical boundaries and will therefore have a better grasp of cultural differences and business practices in various countries, and be able to offer one integrated solution across a range of locations, either via its local subsidiaries or through its hand picked distribution network.

► **Consolidation and integration**

Two of the chief reasons for the replacement of ERP systems, according to the Aberdeen Group, were consolidation of multiple systems into one, and global integration of business processes into one unified system. Industry specialized ERP solutions answer both of these requirements and solve the incompatibility problems caused by the implementation of multiple *Low cost ERP* systems.

Low cost systems are useful as a learning exercise, but as requirements grow the islands of information limit the way in which a company can analyse information and disseminate it around its organization. Where the business has multiple sites, the problem becomes even more acute, with difficulties caused by language, currency and different working methods.

Open source systems will provide a unified solution, but skills and experience built up within a *low cost multi ERP system* environment will probably be lost, as best practice methods for a specific industry will be far more difficult to configure. Specialized industry ERP software will be geared towards customer requirements, and the vendor will have experienced the majority of working practices within his industry, so capturing and using existing data and skills in a useful way will be far easier.

The benefits and problems associated with globally integrating specialized or open systems will be similar to those found for international support and implementation, namely the level of capability and international experience of the *open source* dealer versus the skills and reach of a specialized ERP vendor.

► **Industry specialized ERP systems**

A survey carried out by SESCOI, a specialized manufacturing software developer, found that ease of use, integration, reliability, functionality, implementation time, and modularity were the most important factors, well above cost, in the selection of a particular software. See Fig1. These results are supported by the Aberdeen Group's '2006 ERP in the Midmarket' survey which put functionality in first place by 70% of respondents but closely followed by total cost of ownership and ease of use.

Ease of Use / Ease of learning	4.81
Integration easy or managed	4.63
Reliability of the solution	4.56
Functional cover v. requirement	4.38
Length of installation, implementation time	4.31
Modularity of the offer	4.00
Initial user training	3.81
Performance of solution, speed, etc.	3.75
Integration/interface potential with other solutions	3.31
Regular information about new functions & features	3.25
Future development of the solution	3.06
Innovation within the solution	2.88
Basic installation cost (licence, installation training)	2.81

Fig 1 : Importance rankings out of 5 SESCOI/KPMG ERP survey

The trend amongst ERP suppliers is to respond to these results by offering specialized industry solutions which need much less configuration and implementation time in order to meet industry customers' needs.

Not only do specialized systems address the specific needs of a company, covering all areas of a business including quotations and sales, manufacturing operations, business intelligence, financial management, time and attendance, supplier relationships and business process management, but they are also far easier to configure.

WorkPLAN Enterprise, from SESCOI, falls into this category. Designed for custom-based manufacture, it can keep track of the history of each manufacturing project and store and record events and data in the context of the complete business. Systems like this address specific sectors of the market, utilizing the skills and experience of the software developers to match the functionality of the software to the specific requirements of customers in that industry, whilst incorporating best practice.

Experience within a specific sector of activity gives the software developer an in-depth knowledge of that sector which can be embedded in the software. Over the development cycle of the ERP system, most scenarios will have been encountered, allowing the supplier to offer a ready-made solution for each individual requirement. Furthermore, where a new requirement is found, thorough understanding of the client's business by the ERP supplier ensures that a smart solution can be found with the minimum of delay.

► **Conclusion**

When comparing the benefits of an industry specialized ERP solution, a *Low cost ERP* system and an *open source* ERP system, the key factor is total cost of ownership. This concept covers not just the purchase price of the software, but also the degree of fit with customers' business activity and processes.

Some benefits can be clearly measured such as reduced administrative load, higher productivity, improved quality and ultimately increased profits.

However, many intangible considerations are equally important including user take-up, system support requirements, a supplier's knowledge of international markets and industry best practice, the range of modules available and hence the system's scalability, the development path for the software and the potential longevity of the supplier.

By examining all these factors in the decision making process, companies will ensure that they are able to optimize the return they get from their investment. The potential savings and efficiency improvements will be significant throughout the whole supply chain only when the system is correctly specified and implemented. This can mean the difference between success and failure of an ERP project.

► **Sources**

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