

Increasing Efficiency in the Global Supply Chain

Using computer software and technology to increase efficiency and reduce costs

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Overview

The global recession of the last twelve months has reinforced the need for businesses to be in a strong financial position at all times. This, coupled with the desire of corporate boards and investors for higher profit margins has led to increased pressure on companies to maximise their earning potential. A solution for many organisations is simply to increase turnover; however in the volatile markets of today, this is not always possible.

An alternative way of increasing bottom line earnings is by cutting costs and increasing corporate efficiency, *i.e.* following business process reengineering (BPR). This method of increasing bottom-line earnings has the advantage of providing a visible impact on the balance sheet in a short period of time. Whilst it is desirable for companies to target long-term growth, this near-term growth can provide immediate results, whilst still providing a foundation for future long-term growth. Apart from the rate at which these savings can be realised, another advantage of following BPR is that fewer resources are required compared to those that would be needed in attempting to increase turnover.

Clearly, there are savings to be had, but it is important that these cost and efficiency savings come without a negative impact on the company reputation. Consequently, this has resulted in companies looking at historically tactical operational processes with the aim of increasing efficiencies whilst minimising cost.

This white paper will examine the problems associated with the supply chain and how computer software and technology is providing solutions to overcome these, increasing process efficiency and decreasing costs.

Streamlining the supply chain

A “business process” is a collection of related activities or tasks that produce a specific service or product for a particular customer. The idea behind business process

reengineering is to increase efficiency, quality, and service whilst minimising the underlying cost. The ultimate aim is to make your company stronger and more successful than your competitors.

As companies survey the various methods available to achieve this, the potential of obtaining cost reduction by optimising operational processes can be extremely appealing. This is because many business processes are fragmented into sub-processes, with the corresponding tasks carried out by several specialised teams. This results in no single person or department, often globally, being responsible for overall performance or time lost in “passing the buck” when errors do occur.

Implementing cost savings in business processes can have a complimentary effect on the efficiency, and *vice-versa*. One process which can benefit from cost reductions and increasing efficiency is supply chain management. Consequently, many businesses are taking a more strategic approach to supply chain management, with the aim of reducing expenditure and increasing the efficiency of this process.

This is appealing for three main reasons: firstly, the supply chain encompasses large business processes ranging from sourcing and procurement to logistics management, therefore improving efficiency and reducing costs will have a large overall beneficial affect on business. Secondly, any cost reduction in this area will not impact on either product quality or the level of service offered, which highlights the relatively low risk associated with implementing process optimisation measures in the supply chain, compared with other initiatives, such as staff redundancies or procurement of inferior products, materials, or services. Lastly, a small cost improvement in the supply chain process can lead to significant bottom-line benefits. This is because many medium sized companies spend between 50 and 80% of their revenue on the procurement of external goods or services.

The net result is that a more efficient transparent supply chain requires less administration, minimising the effects of delinquent deliveries on business. The potential benefit of optimising the supply chain is self-evident, and when done correctly, the positive effects on growth and profitability can be enjoyed for many years.

Problems associated with the supply chain process

Supply chain management encompasses processes such as sourcing, procurement, and logistics management. While it would initially appear that only businesses involved in buying and selling items or services would be interested in optimising their supply chain process, the truth is every business contains a supply chain in varying degrees and forms. For example, retail stores would be interested in the costing, sourcing, procurement and logistics of items to its locations, whilst a hotel currently being built or refurbished may not be interested in the sourcing or procurement process, but may be interested in the logistical supply chain, *i.e.* the delivery of items from supplier into the individual room. Therefore, the benefits obtained in optimising the supply chain can be had by all organisations, large or small. Due to the large scope of supply chains, it is inevitable that different departments will be responsible for the various processes. This involves each department processing their task before passing it on to the next department. Apart from wasting time, this method of processing tasks also requires numerous departments which fragments the process,¹ adding to administration costs and also allowing systematic errors to be introduced into the supply chain.

Another problem associated with the convoluted supply chain is the lack of transparency. In procurement, this can arise from a fragmented procurement process, a consequence of involving multiple procurement teams in different locations, the use of multiple suppliers supplying identical or similar products, the lack of stock keeping unit codes (SKU), or the lack of a formal supplier agreement. The net effect of this is that it is difficult for corporate decision makers to understand the impact of their purchasing choices on the business which, in turn, prevents opportunities for cost savings from being identified and seized upon.

Another consequence of the lack of transparency in the procurement process is that of “Maverick” buying, where orders are placed outside of buying contracts and the quantities required are often “guesstimated” and results in the purchased items being more expensive to acquire or the quantities ordered wrong. This type of purchasing could be easily avoided by the forward planning of product, service, or equipment

¹ Michael Hammer, *The Agenda*, Crown Press

requirements. This type of purchasing can also introduce errors into the procurement process, which due to the lack of transparency, can lay undetected.

Apart from affecting sourcing and procurement, the lack of transparency can also affect supply logistics. This is primarily caused by the lack of information. In fact, the lack of timely information is now seen as a top challenge for manufacturers and service providers to overcome.² Research by Aberdeen Group has shown that 1 in 10 international shipments for large manufacturers were either late or incomplete and 1 in 5 were out of compliance regarding order or routing instructions.³ Surprisingly, many businesses did not realise that a shipment was late until the delivery date had elapsed and the order not received.

The lack of delivery information makes it incredibly difficult to plan future activities. For example, a company may have to halt a construction project because a fixture or fitting has been delayed and is currently unavailable, or a heavy industry supplier may loose production as they are unable to track the location of various items. If this information had been available in a timely manner, project planners could have the opportunity to organise their project to accommodate this delay. As a result, delays are minimised and costs incurred for delaying work significantly reduced, *e.g.* paying staff whilst in project downtime or financial penalties for late project completion.

An increased insight into the supply chain also allows the implementation of a just-in-time (JIT) inventory strategy which reduces inventory costs and allows the more efficient use of workers time and skills. The net result is that the real-time knowledge of the location of goods throughout the supply chain makes for faster moving inventory speeds and cash flow while reducing inventory carrying costs.⁴ Apart from the cost savings to be had from using electronic supply chain software, a further benefit is that the payment for goods or services can be made much quicker as the receipt of these items are monitored electronically. This means payment is received quicker and fewer staff are required to process this.

Problems in the supply chain can result in extra cost from employing teams of administration staff, expense in unplanned “Maverick” buying or financial penalties imposed for late deliveries or delays to work. Whilst there are some benefits to be had

² Aberdeen Group, *Winning with Global Manufacturing Networks*

³ Aberdeen Group, *New Strategies for Global Management*

⁴ Aberdeen Group, *Best Practices for International Logistics*

from optimising the performance of some sub-processes, dramatic improvements can not be obtained if the process itself is fundamentally inefficient or outmoded. To enjoy cost savings, a more efficient and leaner supply chain needs to be present and fully utilised. Thankfully, this can be obtained using computer technology and software to keep track of the supply chain.

The solution to supply chain problems

Business process reengineering (BPR) and its successors, business process management (BPM) and value process management (VPM), have all utilised technology with the aim of creating more efficient and lower cost business processes. There has also been a concerted effort in both the public and private sector to fully utilise the internet as a communication tool. Now, there is a desire by businesses to utilise the benefits of BPR, BPM, and VPM on business processes, in unison with the advantages offered by internet communication.

BPR, BPM, and VPM require that processes are made more efficient by using technology when possible, to realise cost savings. In the supply chain, greater efficiency can be obtained by removing the fragmented approach and increasing transparency throughout the supply chain. Not only does this reduce the cost of administration required to manage the supply chain, but it also reduces costs associated with the supply chain, minimises systematic errors which may be introduced, and results in a more transparent supply chain.

How can this be achieved?

The answer is by using computer software and technology to simplify the supply chain process. For example, in the procurement and sourcing process, a business research group has reported that the use of e-procurement software to automate the acquisition of goods and services required to run a business can lead to significant cost savings,⁵ such as:

- 70% decrease in process costs
- 50 to 70% reduction in the time required to complete the purchase requisition cycle

⁵ Aberdeen Group, *e-Procurement: Don't Believe the Anti-Hype*

- 5 to 15% drop in product costs

The reduction in process costs for procurement and sourcing clearly highlight the advantage of using software to increase process efficiency. This arises from the fewer administration staff required to complete the procurement sub-process. There are also intangible benefits, such as a reduction in the time required to complete the process which allows procurement staff, who are already busy dealing with routine maintenance, repair, and operation (MRO) requests, to focus on the sourcing process. Surprisingly, many businesses overlook this important part of the supply chain due to its complex nature and time consumption, even though strategic sourcing can offer savings of up to 75% in the procurement sub-process.⁵

The use of dedicated software to control sourcing and procurement also reduces product costs by making the procurement sub-process more transparent, reducing “maverick” and out-of-contract buying. Additional savings can also be obtained from additional price leverage which is available from bulk purchasing. Transparency can also allow management to understand what they are buying and from whom they are purchasing it from as well as providing supplier accountability by monitoring the performance of suppliers.

Transparency in post-order logistics can also have a beneficial effect in the supply chain by allowing the location and expected delivery times of orders to be known. Surprisingly, this basic information is not readily available and many businesses do not realise orders are late until the arrival date has elapsed, but by using specialised software and real-time internet communication, this information can be made readily available and is further complimented by using bar-code tracking technology. Apart from reducing uncertainty in delivery time, bar-code technology also makes deliveries more secure and accurate.

What are the requirements of good supply chain management software?

Naturally, good acquisition and budget creation software should be easy and intuitive to use, with a goal to improving user satisfaction. The software should automate as much of the procurement sub-process as possible, reducing the number of administration staff required and removing fragmentation in the supply chain. Information, such as stock inventory levels, purchase orders and supplier delivery times

and past performance should be readily available for corporate decision makers to survey.

The software should be easy to integrate into computer systems already in place, with the use of Extensible Markup Language (XML) providing an expedient and convenient access information from other software packages in use, either upstream or downstream of the supply chain. It is also important to allow suppliers access to information about the procurement and supply sub-process, even if they do not own the necessary software. This can be addressed by the use of a “web enabled” approach to communication which allows suppliers and purchasers to freely communicate without compromising security or causing compatibility issues with software that may already be in place.

The WELLSTOCK.NET solution

WELLSTOCK.NET has designed a solution to make the supply chain process, such as sourcing, procurement and post order logistics, along with budget creation and purchase or service order creation, more efficient and transparent, yet still remain simple and easy to use. It achieves this from its modular design, which apart from making it easy to use, also lowers the cost and complexity. This is because only the required components need be purchased and utilised, with modules currently available or future modules being added at a later date if required. A final advantage of the modular approach is that the deployment process is simplified.

The *WELLSTOCK.NET* solution is comprised of six modules, which are available individually or linked, and cover the supply chain process from sourcing and procurement to post order logistics and asset management. This is a unique selling point of the *WELLSTOCK* solution, in that all modules are able to communicate with each other to provide a comprehensive solution to supply chain management. This process inter-connectivity is currently absent from other software solutions, which specifically focus on particular sub-processes of the supply chain.

The modules available in the *WELLSTOCK.NET* solution are:

- Project costing and budget creation
- Web tendering

- Purchase or service order creation
- Post order logistics control
- Inventory control
- Asset management.

The project costing and budget creation module is another unique selling point of the *WELLSTOCK.NET* software solution. Items or services required, along with budget, quoted, and actual prices can be entered into this module along with user-defined categories. These items can contain detailed information, such as technical drawings, and are saved in a database so they may be called up for new projects. User-defined categories can contain items that are required to go together, *e.g.* items can be listed as furniture, fixtures and fittings, or electrical for room creation in a hotel development and can be arranged by suite level. The project costing and budget creation module can then provide a budget cost for purchasing each individual group. Apart from this, *WELLSTOCK* along with *WELLCOST*, which handles the budget creation and purchase and service order creation, can provide budget information for rooms, floors, particular suites *etc.* using the hotel example.

This module allows project planners to plan their purchases by clearly identifying goods or services required along with budget costs, quoted costs and actual costs. *WELLSTOCK* also allows entries from “authorised” people, which means that project planners in an office can place items in a *WELLCOST* list which can be monitored by project planners on-site. An essential feature of the software is that e-mail or short message service (sms) text messages can be sent to interested parties notifying them of updates.

A request for information (RFI), quotation (RFQ) or tender (RFT) can then be made by the web-tendering module to pre-selected suppliers. The use of internet communication to carry out the tendering provides a convenient and expedient method of communication between two parties, which are not only often separated by large distances but also time zones spanning up to twenty-four hours. Tender purchase orders which are successful can be converted to actual purchase orders, and it is immediately obvious that the complex and long-winded tendering process has become much simpler, quicker, and no longer requires the support of large administration teams.

Apart from reductions in cost brought about by the reduction in staff required, savings in product costs are also enjoyed due to the competitive tender environment employed.

Whilst the project costing and budget creation module, web-tendering module and purchase or service order module can be used individually, a greater benefit is obtained from using these three modules together to simplify the sourcing and procurement process, making it more transparent. It is for these reasons that an oil industry supplier has decided to implement the procurement modules of the *WELLSTOCK.NET* solution in the procurement of supplies from its five regional offices. The level of transparency offered means that each office, along with senior managers, can identify what has been ordered or lies unused, reducing “maverick” buying and the duplication of orders, whilst still allowing a degree of autonomy.

The post order logistics control module provides the necessary transparency in the logistics chain. Suppliers and freight movers can provide information about consignment numbers and expected delivery dates allowing project planners to plan for delays. This is the scenario that a UK freight forwarder has found itself in and is currently employing the *WELLSTOCK.NET* solution to solve the problems associated with the lack of real-time communication and delinquent deliveries. *WELLSTOCK* allows purchase orders from various suppliers for a global international furniture, fixtures and equipment company to be entered in to the UK freight forwarder’s system creating an on-line inventory for each project. The progress of items from suppliers is monitored by the UK freight forwarder and interested parties on-line with progress e-mails being sent as information is updated. This allows the freight forwarder to keep the furniture, fixture and equipment company conveniently apprised of developments in the supply chain.

The inventory control module and asset management module has been used together by companies to provide a simple method to track and control their assets. An oil and gas company in the Middle East has used these modules along with post order logistics module to track the location of heavy equipment currently on contract hire to multinational oil and gas companies. Upon return, the barcode fixed to these items are scanned and notes on their condition recorded in the asset management module. This allows management to monitor the performance of items, reliability and the total cost of ownership (TCO), which can be invaluable information when it comes to replace these

items. The inventory control module is used to keep track of consumable levels, which are supplied with the equipment on hire.

The versatility of the *WELLSTOCK.NET* solution in different areas of industry has hopefully demonstrated the bespoke nature of the software and the benefits of modular software. The examples herein have utilised some of the modules in varying degrees. Recently, a Middle East hotel operator has used the entire *WELLSTOCK.NET* solution to source and purchase furniture, fixtures, equipment and operating supplies from global suppliers, using the web tendering and purchase or service order creation module, whilst monitoring the budget through the project costing and budget creation module. Post order logistics control and barcode technology have ensured not only transparency in the supply chain, but that the delivery of items and services has been made to the correct location and the items received. The barcode labels used for tracking and traceability of the items in transit are also used for asset management within the hotel post-opening, allowing the prompt sourcing and replacement of broken or damaged items.

The *WELLSTOCK.NET* solution is a user friendly and comprehensive answer to supply chain management, which can be adapted to your needs whilst still offering value for money.

To find out how *WELLSTOCK.NET* can help to streamline your supply chain, contact Mel Campbell at mel@wellstock.net or go to <http://www.wellstock.net> for further information.