



## Logistics Association of Australia Ltd

### INTERNAL USE OF TECHNOLOGY: APPROACHES IN THE US AND CANADA OBSERVED DURING THE 1999 LAA INTERNATIONAL STUDY AWARD

The following is the second in the series of excellent articles from Emma Stringer, winner of the Logistics Development Award 1999 sponsored by CHEP Australia and supported by Morgan & Banks.

Before I left for my logistical trip to firms and the Council of Logistics Management Conference in the US and Canada, I was expecting to come back to Australia reporting new technologies and trends.

But now, as it is logical to see for me (and should have been before I left), we are so in touch with what is going on in the world that I was not very surprised with the advancements of these world-class firms. The only difference, I thought, was that they were a little more ahead, yet that firms in Australia still heading in the same direction. I found this reassuring to know, making me realize that Australian firms really have a reducing difference from the firms I visited over there.

#### **ERP implementation**

In terms of technology, I am afraid I cannot report the invention of a guaranteed world-class logistical IS which takes care of the whole supply chain for you. One of the most wide-spread attempts at this sort of integration are Enterprise Resource Planning systems (ERPs). These systems were present in most of the firms which I visited:

- ✓ Procter and Gamble had completed a global implementation of SAP. They have a Warehouse Management System which 'sits on top' of this system.
- ✓ The Home Depot has plans to implement twelve modules of SAP. They have already completed a successful implementation in Chile (it seems that it is easier to implement an ERP in places like their Chile branch which had no information systems prior to the ERP implementation).

The Home Depot had the view that their internal IT department (consisting of 1000 employees in the Headquarter branch I visited) would "build around" the ERP system if they needed.

✓ Kodak are planning to implement SAP, firstly in their advertising and promotional section of the firm.

The remaining firms, Campbell Soup, Sears, and Welded Tube Mills, did not have plans to implement an ERP, as they claim they are more satisfied with their fragmented, more specialized information systems.

In this article, I will discuss the use of technology for processes within the firm. My next article will describe technology with an external focus, such as the e-business trends I noted during my trip.

As I have already shown, one of the most prominent internal IT installations was of ERP systems, in an attempt to integrate information systems within a firm. Although most of the firms I visited had implemented an ERP (all claimed they were not without their problems), yet these world-class firms had surprisingly cautious views of technology.

### **World-class firms: Their views of technology**

These cautious views were for a number of reasons. The Home Depot, for example, claim they are careful not to drive labour out of their business processes. Firstly, this is because they believe that mechanical automation often damages products, such as lumber, and that manual labour is more careful for handling of such materials and of awkward sizes. In their case, The Home Depot have arguably proved this to be true. One of their distribution centres is mechanised and the remaining are manual. They claim their mechanised distribution centre is only one third as productive and costs three times as much to run as their more manual distribution centres.

The Home Depot also believe that investment in new technology is often an overkill, because it adds too much to the bottom-line. Some of the computer systems that they use are twenty years old. All in all, they claim that The Home Depot does not want to be at the bleeding edge of new technology, yet they want to be at the forefront (not the first) for technological solutions which are relevant to their firm.

For The Home Depot, the choice of whether to implement new technology is driven by its end-benefit to the customer and their focus on KISS (Keep It Simple Stupid). This KISS philosophy is justified by The Home Depot's high turnover rate through internal promotions in the Logistics Department – new employees must be able to grasp internal processes quickly, and the firm must be able to manage their enormous growth without added complexity.

Growth is also managed by The Home Depot through their preference to maintain, and sometimes develop information systems internally, rather than outsource them. They claim that the only way their logistics team can manage

the firm's rapid growth is through understanding and controlling their information systems. The Home Depot state they want to learn as they grow. Perhaps this justifies their large information technology department whose mission is to serve the 'support centre' (the name given to the logistical department, as the department is seen as the hardware stores' support centre).

### **Human, not technological, intervention**

As with The Home Depot's lumber centres, Kodak similarly have opted for human rather than technological intervention for some of their quality controls. One example of this is in their inventory control system. Kodak, in their Rochester, New York Headquarters which I visited, managed over 25 000 different products with over 37 football fields (8 miles long) of cramped storage facilities.

Inventory management, as you can imagine, was quite a challenge for them. They found that their legacy system was not enabling them to keep high stock accuracy levels. To combat this, Kodak chose to employ four full-time inventory checkers, rather than invest in technology. They justified human intervention through the current inability of information systems to cover such a wide range of stock-counting and checking. Each one of Kodak's 'A' class items are checked three times a year through this manual system, and products with known inventory accuracy problems are also targeted.

Kodak have also opted for human intervention in their quality control process – every packed internet order which leaves their facility is checked at least twice against the invoice.

Human intervention for quality control is also extensive in Campbell Soup's tasting rooms, where scientists, as well as employees taste the food and rate it on a number of criteria several times a day.

With these examples of where technology was not apparent in logistics, I noticed that all firms used a warehouse management system, Procter & Gamble's warehouse management system was linked to their ERP. Excluding Procter & Gamble, none of the firms which I visited had an integrated system in the logistics department. They relied on fragmented systems, and often had adopted a 'band-aid' approach to link the systems together.

Even though Sears and Campbell Soup appear to have opted out of the systems integration objective occurring in many firms, including their logistical departments, the other firms I visited, as well as a seminar I attended at the Council of Logistics Management (CLM) conference at the end of last year assumed that integration is a necessity of all successful logistics departments for the future.

### **ERP supply chain benefits**

The CLM seminar, titled “Realise the unrealised – Maximising your ERP benefits in 2001 and beyond”, was conducted by two KPMG consultants. The seminar asked “what happens after ERPs are implemented?” and took a supply-chain perspective and conducted in-depth interviews with two hundred Canadian companies in several industries. The consultants assumed most firms had implemented an ERP system.

Their view was that technology had enabled the transformation of the supply chain – from a fragmented pyramid, to a process pyramid, to the integrated enterprise (which they proposed was in the late 80’s to early 90’s, yet I think was probably not until the late 90’s for many firms), to enterprise-to-enterprise, and finally the virtual network of the future. They suggested that the virtual network will be characterised by the natural flow of information through a supply web, rather than a supply chain.

The consultants proposed that ERPs were an important tool for any firm to become part of the virtual network, and justified their seminar about the importance of ERPs through this.

We all know, and the consultants admitted themselves, that the ERP track record has not been as good as expected. According to the consultants, 75% of ERP projects are considered unsuccessful by senior management, and the chance of succeeding in a \$US10 million ERP project is statistically zero.

The previously estimated (and often over-estimated) initial benefits of ERP systems are now being replaced by reality. In the supply-chain, these ERPs have often produced the results listed in the table following. The consultants claimed that their findings were consistent, regardless of ERP brand or company size.

<b>What real ERP gains do companies get?</b>	
Installed 2 years or less	Less than 20% reduction in transportation costs
	Some reduction in total supplier base
	Minimal improvements in supplier relations & associated costs
More than 3 years	20% reduction in total logistics costs
	Average of 2 turns increase in finished goods inventory
	Up to 20% increase in on-time outbound deliveries
	30% reduction in order fulfillment cycle time

With these ERP supply-chain findings came some other major findings. One finding supported the widely-cited under-estimation of the large amounts of time required for an ERP project, the amount of communication needed within the firm during implementation, and the significant cultural impact of an ERP system.

In addition to this, ERP systems appeared to create a shift towards a central supply-chain management structure, even though very few ERP systems were selected for logistical reasons.

With the results presented in the above table and in the above discussion, the consultants concluded that ERPs can be seen to include two phases:

- the '**transactional**' phase, whereby a firm learns an ERP's basic benefits and their cultural impact (the first two years of an ERP project);
- the '**cashing-in**' phase, whereby an ERP is used to support supply-chain improvements (after the first three years of an ERP project).

As a supply chain manager of Procter & Gamble told me, the consultants who presented this seminar also stated that a firm's supply chain will not develop without integration. One method of achieving this seamless structure is through tools, such as ERPs, yet the first section of this article has shown that technology cannot support all critical functions in a firm. Kodak's inventory control is maintained by manual counters, Campbell Soup's soup is tasted by their employees, and The Home Depot's distribution centres have proved to be more inefficient and costly when mechanised.

If you would like any more information about any of the issues I have raised in this article, I would be happy to help. You can email me at: [emmastringer@hotmail.com](mailto:emmastringer@hotmail.com)