



## Logistics Association of Australia Ltd

### SYSTEMS

In his fifth article, Bill Go4be, winner of the 1995 LMA International Study Award, reports on systems used in some of the world's Best Practice distribution centres.

It was very apparent during my tour of the various organisations in October last year that background systems have a major part in the success or failure of a Best Practice logistics facility.

#### **Computer Systems**

One common theme across nearly all the companies I visited was the integration of the computer systems running the various tasks throughout the organisation.

A clear policy exists which ensures the systems can communicate, ideally 'real time'.

Even in companies with a strong international presence, it is becoming mandatory for all aspects of the companies' operations to be accessed at any given time.

This does not mean the one computer system runs the whole company. Often a complicated range of interfaces links quite different packages to ensure seamless integration.

This degree of global system integration gives much greater control over the whole business.

Inventory reduction and transport cost savings, for example, are two distinct advantages of a totally integrated system for a corporation with many warehouses holding raw materials and finished goods.

In the case of a customer order for finished goods being entered into the computer, the system sends the order to the appropriate distribution centre for picking and despatch, the decision being based on a range of predetermined criteria.

The criteria could be the distribution centre's closeness to the United Parcel Service transport hub, if the system estimated it is likely to be a smaller parcel,

or a west coast facility, if the order is an export to a country bordering the Pacific Ocean.

Alternatively, the system could send the order to a site which has stock of all components needed for that particular order to ensure the order is filled in a single pass.

In some cases, the distribution centres have different cost structures, depending on the order size.

The system is set up to identify this and direct the order for processing accordingly.

### **Hardware / Software**

Apart from the above consistent integration approach, there is no particular policy or hardware/ software configuration which has overwhelming support across the companies visited.

Following are some examples showing the inconsistency in approach:

**Hewlett Packard** uses its own hardware and has teams of programmers developing appropriate application software in-house.

They take a centralised approach to Information Technology issues and tasks. Even the outsource providers, who store and distribute certain HP 'off-the-shelf' products, use the hardware/software configuration supplied and used by the internal logistics facilities.

**Xerox** uses outsource providers for all of its western hemisphere supply chain IT needs. The service includes day to day running of the system.

A Unix platform running on an Oracle Database is mandatory criteria for any systems being considered in the division.

A warehouse management system has been installed over the past 18 months in one of its facilities. The core system was purchased as a package, which required extensive modification to bring its functionality up to full use in that particular site.

**Sandoz** is in the process of introducing the SAP system throughout its organisation.

Modifications are going to be heavily restricted and the managers are expecting huge changes to the processes at the shop floor level to ensure the implementation takes place smoothly.

The organisation structure is also expected to require change to match the system.

At the departmental level, there is understandable reluctance to do away with the individual existing systems, which are considered more functional. Therefore, all departments are being included heavily in the implementation project teams.

The **3M** distribution centres each have the same internally developed software running on HP3000 hardware.

An 'off-the-shelf' package supplements the warehouse management software, running the sophisticated conveyor system.

Most of the systems observed can perform standard warehouse management tasks.

Some systems had clever, smart features, over and above the standard.

An example is the 3M conveyor software package which, among other features, checks the weight and order details as the cartonised product proceeds past a scanner.

At the same time it passes over in-line scales and sends the parcel down a reject line if it is the wrong weight. In addition though, this system updates the weight to the average since being manually entered.

This ensures continual refinement of the data in the system.

One area which many business systems often neglect is printing of export documentation.

International Thomson has developed a modification to its warehouse management system to allow printing of export documentation at despatch.

Another 'off-the-shelf' package advises the most appropriate carrier for the particular consignment, depending on size and destination. It prints a con note accordingly, unless overridden by the despatch operator.

For those looking for a suitable package, there is a comprehensive survey of logistics software conducted annually for the Council of Logistics Management by Andersen Consulting.

The survey would be beneficial for anyone looking for a US software package.

The outcome of the survey is published as a thick booklet of software packages listed in order of the hardware platforms on which they run.

## **Electronic Data Interchange**

Electronic Data Interchange is in place in some areas, mainly with big customers such as K-mart, who send orders and receive despatch details electronically from their major suppliers.

Many companies have not moved to any EDI links with customers or suppliers and those who have limit the access to a select range of mainly major customers or industry groups for receiving customer orders.

One other company has EDI links to its carriers.

## **Internet**

Many companies are using the Internet for international transfer of internal E: mail.

The E: mail facility from Internet providers is also a very useful tool for the business traveller.

The advantages are in being able to receive and send messages any time of the day or night and having written copies of all correspondence on your notebook.

If you are travelling interstate, most Internet providers can be used for the cost of a local call in major cities.

Most major hotels also have an outlet on the side of their standard handset for inserting a data cable from your computer to allow access to the Internet.

At the CLM conference in San Diego last October, a presentation was given on "*The Intrnet and Logistics*".

As a starting point for exploring logistics subjects on the Internet, the following address was given by the presenter, Karen Currie, at [kcurrie@afit.af.mil](mailto:kcurrie@afit.af.mil).

She would appreciate hearing from anyone with a case study on using the Internet in a logistics application.

The address of the World Wide Web site is  
<http://www.afit.af.mil/Schools/LA/dept/lal/log-list.html>.

## **Measurement Systems**

USA based companies in particular put strong emphasis on statistic collection and analysis.

Key Performance Indicators are used extensively to focus staff attention on service, safety and productivity.

At management level, forecasts of these key measures are included in business plans and management bonus arrangements, while at supervisor level and below, relevant measures are discussed in monthly meetings.

The emphasis is on restricting the KPIs to as few as possible, four being considered a good number.

Regularity in the distribution of such information, monthly being typical, is essential, as is the accuracy and consistency.

The most common KPIs used in distribution centres are:

- Productivity, usually measured in labour cost per line
- Cycle time, measured in time taken for the relevant process or processes
- Safety, measured in number of reportable incidents or lost time as a percentage of total
- Order accuracy.

Other variations of measures being taken:

- Backorders
- Customer satisfaction surveys
- Pallets in overflow storage
- Overtime
- EEOIAA incidents
- Training hours.