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Product Traceability – The Role of RFID

The move by major supermarkets to embrace Radio Frequency Identification Devices (RFID) as a means of product tracking has significantly raised the profile of this technology in recent months. Across industry in general, there has been more reports, hype and speculation regarding RFID than on any other topic. Indeed many companies I speak to see this as just another cost they will have to take on. Whilst there is some truth to that I do believe there are some significant benefits for the Fresh Produce companies themselves. So I thought it may be helpful to throw some light on this topic in the context of the fresh produce industry.

The first thing to say is that RFID is not new technology. It has been around in various guises and in many applications for many years. Solutions for tracking items have been implemented on production lines, airport baggage handling, the automobile industry and in security access cards. These were specialised niche areas with relatively expensive solutions deployed to tackle very specific problems. What *is* new is that this technology is becoming more widely available and affordable. So what is it, why the interest and where is the payback?

The easiest way to understand RFID is to view it as bar coding on steroids. Imagine having the ability to identify any item and provide instant detailed information about it without 'on line' connectivity to a database or people waving hand held "line of sight" scanners about for every package.

From a fresh produce viewpoint, consider the advantages of knowing what produce each pallet and carton contains and the quality of the shipment throughout the pack house. Furthermore, this information can be automated and centralised so that interrogation is possible at any time without recourse to paperwork or phone calls. Additionally, the information can be shared instantly with your customers enabling them to plan accordingly.

The technology itself relies on RFID tags which are also referred to as smart labels and radio barcodes. These are attached to whatever needs to be identified and monitored. They comprise of a micro-miniature chip, aerial and substrate and come in all sorts of shapes sizes and formats to suit specific industries. The

rest of the solution consists of the antenna to sense the tags' presence, the readers, the middleware and host applications that handle and harness the information and the integration into the back end business management system.

The tags themselves break down into two main types i.e. active (self-powered) and passive (without power). The difference is that active tags continuously broadcast while passive tags have to be pinged by radio waves from the reader to reveal their presence. From a commercial viewpoint, the passive tags are obviously very much cheaper and therefore more suitable for bulk tracking of low value consignments. It is these low cost devises that are favoured by the retail industry. A number of major retailers have already published their RFID requirements and are already testing the concept for tagging in-bound pallets and cases.

There will be significant all round benefits in the supply chain when RFID technology becomes more widely used in future. Fresh produce growers and suppliers will have greater access to information relating to the processing and distribution of their products. This technology can be used to automatically track the produce throughout the pack house, increasing stock visibility and dramatically increasing the potential for better stock management. This is the Holy Grail for most Fresh Produce Companies.

Distributors will be able to increase order fulfilment while reducing the paperwork involved in managing the distribution process. Retailers will be able to reduce stock-outs and shrinkage while gaining greater control of product expiry dates. All parties involved in the supply chain will find it easier to comply with current and future traceability regulations.

The key message is that it is early days yet as standards are still evolving. As RFID matures and becomes widely adopted, the price of the technology will continue to reduce. Its adoption will be required by all suppliers wishing to continue to do business with the major retailers.

Therefore from an IT viewpoint, RFID should be considered as an important part of your overall business solution strategy. This will not only meet future customer requirements, but also improve your bottom line via better stock management throughout the whole supply chain.

You therefore need to ensure that your ERP system can not only read this data, but more importantly, can automatically trigger actions and alerts on events that affect product quality and delivery.

Making technology pay!

Companies who plan to take advantage of the opportunities for efficiency gains provided by these developments will have a significant competitive edge in the battle to retain existing customers and win new business.

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