



SATO White Paper

Data Capture Solutions and Labelling

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Labels are a great solution to all sorts of business issues: pricing, expiry dates, stock control, addressing, inventory tagging, and many more. But for many businesses, they introduce challenges of their own, most notably ensuring that they carry the correct information in the most effective format, are kept up to date, and are accurately tracked. Most retailers simply accept all this as a cost of doing business, but it doesn't have to be that way as the availability of innovative end-to-end systems instead enables retailers to use labelling to work smarter, manage stock better, reduce shrinkage, sell more effectively, and react faster to market changes.

The key to much of this is the rare ability to integrate two industries and technology areas which normally operate in sad isolation. On the one hand is the IT industry skills in collecting, processing and delivering data, while on the other are print industry skills in developing the label technology needed to make that data as useful and effective as possible.

The result is a virtuous circle, where data is transmitted via labelling and then captured and fed back to improve the business process. Having the right information in a consistent format and in the right place – a price-embedded barcode, say – and then reading and processing it in an effective and timely way gives an immense advantage to the connected retailer.

For example, the ability to embed and capture data via labelling enables retailers to:

- Avoid stock shortages and optimise stock management
- Provide complete and clear information on products
- Regularise business practices that are currently ad-hoc
- React quickly if the competition initiates a promotion.

Selling more effectively

Better labelling and data capture enables even relatively small retailers to achieve the sort of sales power and business awareness that has previously been the preserve of giant corporations. For example, with special promotions it can be difficult for both customers and staff to determine the current price of an item. An integrated pricing and labelling system ensures that staff can scan the product and print a new barcode with the old and new prices.

In addition, the high degree of feedback possible with this kind of system means that you can track which items sold best on promotion, plus the selling prices for each product, not merely stock levels. This makes it possible for the retailer to get far deeper insights and much improved business intelligence.

Similarly, with goods that expire, such as food and drink, best-before codes make it easier for supermarkets to promote earlier and more consistently. By marking down food items at various stages - 20%, 30%, 50% off, for example – as they come close to their sell-by date, the retailer should see increased sales and less wastage when compared to immediately marking down to 50% at a later stage.



The same labels can also provide the sort of traceability that is now essential for food retailers, especially in relation to meat products. In many jurisdictions, it is now a regulatory requirement that meat products should be tracked and traced through the supply chain, and the use of a consistent labelling system – with the option of using 2D barcodes for better resolution - makes this process far simpler and more secure than manual labelling.

And they can assist with loss prevention as well. Either implementing price-embedded barcodes or simply duplicating the product barcode on the markdown label or tag can reduce the losses that result from miscreants switching lower value labels or tags onto higher value items. Modern labelling technology also allows this to be combined with the use of synthetic or tamper-evident materials that are designed with this kind of security in mind.

Labelling and the business process

A key element in all this is to regard labelling as an integral part of the business process, not merely a symptom of it. In many cases, labelling is performed at the bottom layer of the organisation, for example in the logistics centre. However, with a Data Capture Solution in place, labelling can and should be a lot more than just logistics.

SATO's ability to integrate label scanners and intelligent application-enabled printing (AEP) with the application software and support needed to make use of label data means that retailers can operate more efficiently, saving both labour and resources.

For example, food regulations require you to label a product with when it was opened and/or defrosted, and with a use-by date. In many restaurants and other food outlets, this label will be hand-written and the entries mentally calculated by the person doing the writing. However, with an application-enabled printer you simply choose the product and quantity and the printer will do the rest.

In addition, the printer's ability to communicate wirelessly with the stock control systems can greatly enhance traceability and stock management, as well as checking for and fixing data entry errors by the person requesting the label.

Intelligent labelling systems can also greatly ease and improve the use of barcoding. Barcodes make it possible for label data to be read automatically, so their use on both products and shelf edges enables faster and more efficient stock control.

Ensuring a consistent format for your labels through an end-to-end Data Capture Solution and Labelling (DCS&L) means that the same codes can be used throughout your supply chain, not just in store. Barcodes can be used to represent whole pallets or cases, not just individual items, enabling multiple items to be booked into a store or warehouse in one step.

And an integrated DCS&L system also lets you add Radio Frequency Identification (RFID) tags – even making them part of the same label, sandwiched below the barcode which acts as a visible backup. RFID tags can make stock control simpler still, as they can be scanned at greater distances and do not have to be visible to the scanner.



Regularising and standardising business practices

Automated label generation, combined with data capture, is a powerful tool that enables certain businesses and business practices to be regularised. An example is the issuing of cloakroom tickets and recording income for cloakrooms at events, where regulatory authorities are increasingly unwilling to accept the old methods of raffle tickets, sticky tape, and a dish for donations.

An integrated system can also help to regularise the shipping process, minimise the risk of mix-ups and mistakes, and ensure better picking and packing. Together with multi-part labelling technology it enables all the relevant elements to be put on a single sheet, including picking information, shipping label, return instructions and label, warranty information, the receipt, and more.

Further advantages accrue if a standard end-to-end data capture and labelling system can be used throughout the supply chain. The resulting consistency of labelling enables retailers to ensure that their merchandising also remains consistent, whether products are labelled in store, at a distribution centre or by the manufacturer.

A consistent labelling system also has the benefit of reducing costs, because consumables can be purchased in bulk and fewer varieties of label or tag are required throughout the supply chain. In addition, if the same data source can be used throughout the supply chain, then consistency of information is ensured.

Effectiveness and simplicity at the point of use

Modern businesses and staff do not want PCs on the front desk or in production environments any more. They want dedicated technology that does the job simply and quickly, and which in the process links back to corporate IT systems for management and reporting. Devices such as SATO's application-enabled printers, label dispensers, card reader/writers, handy terminals and scanners are ideal for roles like these.

The ability to purchase both printers and consumables from a single source is also a key advantage when it comes to effectiveness. Having a complete solution from a single source means you get products that are engineered to work together, which in turn means you should not have a good printer let down by a poor label – or vice versa.

Indeed, once you add data capture, the cost of an end-to-end labelling process is a lot more than just the cost of printers, consumables and software. As a result, simply focusing on unit prices – as many purchasing departments seem to do - can often be a false economy, with nominally more expensive products giving better results, whether that is in terms of ease of use, business process support, or simplicity.

For example, one of SATO's most useful capabilities is its linerless label roll technology. While this sounds simple – instead of peeling labels from a throw-away waxed paper roll which itself must periodically be torn off and discarded, the underlying labels act as the backing for the topmost ones – it is actually a very complex technical process. Not only must the labels come free of the roll as needed, but the printer has to print despite the shiny surface, and the labels must feed through the printer despite the glue, which requires a silicone-coated path to avoid jams.



The labels must then stick to the product for as long as needed, which brings up another technical issue: are you just buying labels, or are you buying labels designed to meet the specific needs of your business process? If refrigeration is involved, is the adhesive resistant to cold and the attendant moisture, say?

Lastly, do not underestimate simple technology: even the humble hand price-gun still has its place in the future of retail. Not only can hand labellers be used where computer systems are not cost effective – very small retailers, say – but in many retail environments shoppers like to see a price tag, not just a barcode. Of course, as the retail operation grows, a mobile printer able to print both on one label will pay dividends, but hand price-guns are likely to stay around for a good while yet.