

GETTING THE PRICE RIGHT

Ensuring the right price is on the right product is much easier for Tesco now its staff are equipped with handhelds linked directly into its back-end systems. **Sally Whittle** reports

The average UK supermarket sells almost 100,000 different products, from fresh fruit to household goods. Consumers have come to expect shelves stocked with a wide range of produce, at increasingly competitive prices.

The challenge for retailers like Tesco is ensuring that all of its stores sell the right products, at the right price, at the right time. This means maintaining a database of pricing and stock information on tens of thousands of different

products, and ensuring the information is updated in line with new promotions and discounts. What's more, these prices must match the price on the shelf, or retailers will face angry customers at the checkout.

In the past, Tesco employed staff who were responsible for entering price changes into a central application, which store managers could access through a PC. Additional staff were then responsible for taking price change information ►

IN A NUTSHELL:

- Tesco improved its stock pricing control by 40% by equipping staff with handhelds that can access back-end applications through a simple touch-screen browser
- The project involved complex challenges, both from a technological infrastructure point of view and from convincing business managers of its benefits
- Key benefits are the increasing effectiveness of staff and better stock availability to customers
- Tesco expects ROI within two years of its £13.5m costs

and changing the corresponding price sticker in the shelf. It was a time-consuming process and imperfect: on average, 5% of supermarket products are incorrectly priced at any given time.

However, a consultancy project with IBM Global Services and Integration Specialists Flynet suggested significant benefits from providing web-enabled mobile access to this price change data. 'We believed mobile technology would make price changes more effective at the shelf; improve

the integrity of the stock systems and enable managers to provide better customer information in-store,' explains Philip Robbins-Jones, Tesco's strategic development director.

In October 2001, Tesco completed a small pilot study which showed that the project could potentially improve stock and pricing efficiency by 40%. However, the technical infrastructure would be extremely challenging – the project would involve integrating data from DB2 systems, an IBM main-

frame and six other bespoke applications running on three operating systems. Moreover, this data had to be integrated and presented to staff in an intuitive format that wouldn't require enormous user training.

Back to front

The solution, developed with help from Flynet, IBM Global Services, Microsoft and mobile specialist Intermec, involved creating a new front-end application that would present the back-end data to staff in a simple format.

The first stage of the project was to build a browser-based application that users would access through specially ruggedised Intermec PDAs. Tesco bought 10,000 of the devices, which are ruggedised for industrial use, and use simple touch-screens rather than a mouse or keyboard.

This front-end application was built using Microsoft BizTalk, and linked into a Microsoft .Net application layer. This intermediate level allows the front-end application to communicate with multiple back-end applications and databases, while providing the illusion of a single, seamless system. The integration stage of the project was extremely complex, but worthwhile. It means that staff in store can access all Tesco's core stock and pricing applications through what looks like a single system. 'This .Net layer means the devices can remain browser-based and it is easy to change applications,' says Robbins-Jones. 'We have more than one system for pricing, stock and so forth, but this is all invisible to the user – they get single access to all systems.'

The system was rolled out to a single store in Hemel Hempstead for a trial project, which revealed some important issues with performance. Robbins-Jones explains. 'We found that the browser in Pocket PC was very inefficient, and the interaction between the device and the head office application was slow,' he explains. 'We redesigned the application using BizTalk so that it was faster, and designed a new browser that would be faster,' he says. It also quickly became apparent that the

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GPRS connectivity between the devices and back-end systems was too slow, so Tesco decided to run the devices on an in-store wireless RF (radio frequency) network which connects to head office via the company's Wide Area Network. The devices are still fitted with GPRS capability in some instances, where RF is not appropriate.

Between January and September 2002, 9,000 more devices were rolled out to Tesco stores nationwide. One of the surprises was the lack of support end users demanded in the new systems, something that Robbins-Jones puts down to the Pocket PC operating system. 'It has a Windows-like look-and-feel,' he says. 'Most of our staff now have a PC in their own homes, or have used them in the course of their work. That, combined with the colour display and touch-screen makes it very easy to use. We've hardly needed any training at all on the technology side: it just hasn't been an issue.'

The more challenging aspect of the project has been educating staff and managers about the new processes involved in using the mobile technology, says Robbins-Jones. 'We were using a lot of prototypes and brand new technologies, and it was tricky convincing the business managers that the pay-off was there,' he says. 'Particularly because, for us, it wasn't a case of rolling out the systems and getting XYZ in additional productivity.'

Benefits-driven

The key benefits included productivity, but also the ability to drive productivity through softer benefits, says Robbins-Jones. 'The benefit comes not in the reduction of labour costs, but in increasing the effectiveness of what the staff are doing, so the output is increased availability of stock for our customers,' he says. For this reason, Tesco rolled out the technology in small stages, with a proof-of-concept, then a business-analysis, followed by a small trial, then a gradual national roll-out.

For example, the devices can be connected to a portable printer and used for in-store price mark-downs. However, staff can also use the device to log general stock transactions and produce plana-

grams of product layout and shelf designs. 'In this way, we can produce far more accurate and timely stock records, which all staff can see,' says Robbins-Jones. 'We don't have the situation where a customer asks if we have more of this particular product, and the staff resort to rummaging around the stockroom looking for it.'

Check-out

For the first time, store managers can also use the devices to check the accuracy of deliveries to individual stores. The devices can be fitted with GPRS modems, which connect to the head-office systems in real-time, allowing store managers to instantly read the barcodes on a delivery pallet, and check the results against invoices. Since the system has gone fully live, there have been measurable improvements in efficiency and productivity. 'We have seen the efficiency and productivity of the stock management staff increase by 40%, and we have seen an increase in stock availability and price integrity across the company,' he says.

However, the most important benefits aren't easily measured, Robbins-Jones adds. 'Improvements in productivity are easy to measure, but we wouldn't have gone ahead with the project if they were the only benefits,' he says. Improvements in customer service and the improved information staff can provide are more important in the longer term, he adds: 'With improved access to information, staff are more confident when dealing with customers, and that has an impact on overall profitability, as well as improving their productivity.'

The project has been live nationwide for a little over six months, and Robbins-Jones believes it has been an enormous success. Conservatively, Tesco expects to achieve a return on its investment of £13.5m within two years, although it will likely be far less than this. 'Those numbers only include the hard benefits and don't include things like incremental sales or customer satisfaction,' says Robbins-Jones. 'For us, this is a project with extremely clear return on investment, and that's what the business really cares about.' **IW**

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Flynet's host integration and Screen Connector software enabled Tesco to integrate our existing back office systems with new technologies. Flynet's expertise in host system integration gave us a reliable, cost effective solution for getting central pricing information onto Pocket PCs in the stores and from there onto the shelves. We have chosen Flynet as a preferred supplier of host connectivity and integration software and services

James McNulty
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