

J Sainsbury's £700 million overhaul of its supply chain was one of the most ambitious of such projects ever. Three years later, its CEO was ousted. What went wrong?

History in the making?

CASE STUDY

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Playing catch-up Over the course of the last five years the UK supermarket J Sainsbury has been a 'live' experiment in its supply chain transformation.

In 2000, a benchmarking study revealed a significant age difference in systems and warehousing infrastructure between Sainsbury's and its best-in-class competitors, as well as a supply chain cost gap of £60 million. The retailer, which had lost market leadership to arch-rival Tesco, subsequently embarked on what would be dubbed "the biggest project of its kind in Europe and one of the largest in the world". This article reviews the experience of that project.

Sainsbury's was under intense pressure both to increase growth and improve the efficiency of the supply chain. Sir Peter Davis, Chief Executive of the Sainsbury's

Group, publicly committed to reducing Sainsbury's overall cost base (including stores, systems, other assets and administration) by £700 million within three years.

In late 2000, Sainsbury's top management decided to launch the "7-in-3" supply chain management program, which involved a major overhaul of the firm's physical infrastructure, systems, processes and skill sets. Realising the urgency, Sainsbury's management opted for a radical approach to rejuvenating their supply chain and vowed to have what was originally intended to be a seven-year plan implemented in three years starting in 2001.

The four key principles of the "7-in-3" Supply Chain Strategy were:

- to replace the current depots with

Sainsbury's management opted for a radical approach, and vowed to implement what was originally a seven-year plan within three years.

automated fulfilment factories and primary consolidation centres;

- to manage transportation in an integrated fashion from the factory gate through to the store backdoor;
- to replace core supply chain systems which were old and inflexible; and
- to ensure that there were clear ways to measure performance by reorganising the supply chain structure and processes.

Fulfilment factories

Key to the new supply chain strategy was replacing the existing network of 25 regional distribution centres with automated distribution facilities - called "fulfilment factories" - which were strategically located throughout the U.K. The new network consisted of nine fulfilment factories, three of which were manual (located in Haydock, Rotherham and Emerald Park) and six of which were fully automated. In addition, two slow-moving goods depots were developed in Stoke-on-Trent and Rye Park, and two frozen food centres at Elstree and Stone.

Hams Hall, the first fulfilment factory, has over 160 docks, with supplier goods being received on one side and Sainsbury's trucks loaded for deliveries to stores on the other (see Exhibit 1). Suppliers could deliver goods to one of the primary consolidation centres (PCCs),

non-perishable item warehouses or frozen food warehouses. Goods in the non-perishable warehouses were first shipped to the fulfilment factories before moving on to the retail stores, whereas the goods from the frozen food warehouses were shipped directly to the stores. Each fulfilment factory was designed to:

- handle a variety of merchandising units as well as single items, cases, board and roll pallets;
- receive goods throughout the day, with chilled products received in 'waves' and sorted on receipt on to an automated sortation system;
- typically serve over 70 stores and up to 150 local stores;
- handle up to 2.4 million cases a week and 1.3 million single items;
- be over 650,000 sq feet and cover a site of 40 acres;
- cost around £70 million per site, including £27 million for mechanical handling equipment;
- have a sorter in operation for 20 hours a day (12 hours chill, 8 hours ambient); and
- have a vehicle leaving the site every two minutes.

A network of supplier-facing PCCs had to be developed to optimise the ambient and perishable products going through the network. Most suppliers would deliver to the PCCs, which were shared-user storage

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warehouses typically located within 30 miles of a supplier's production facility. The PCCs held products destined for Sainsbury's retail stores; there was no minimum ordering quantity and the stock was consolidated between suppliers into full loads at a fixed cost per pallet. Products held in a PCC remained the supplier's property until the goods were received at Sainsbury's fulfilment factories.

Factory gate pricing

To achieve an integrated "end-to-end" plan to manage transportation from the factory gate to the store backdoor, Sainsbury's planned to introduce factory gate pricing and transport optimisation schemes. The rationale behind the introduction of factory gate pricing was that if delivered cost was split into the cost of transportation/warehousing and the cost of goods (i.e. the factory gate price), opportunities could be identified to reduce both sets of costs. Transportation costs could be reduced by means of Sainsbury's new, integrated transportation system and, where appropriate, through control of suppliers' transportation and warehousing. Increased visibility of factory gate prices was expected to enable Sainsbury's trading staff to ensure that competitive costs were achieved and margins improved. The first wave of negotiations

with suppliers began in May 2001 and yielded several opportunities for cost reduction. These included transferring the supplier's transportation operations to Sainsbury's, renegotiating existing primary hauliers' rates and increasing utilisation of Sainsbury's fleet in backhaul operations.

The transport optimisation element of the "7-in-3" strategy involved the creation of a National Transport Service Centre (NTSC) operated by Excel Logistics that would plan transportation operations in the UK. It also involved the implementation of an advanced transport management system to optimise both primary and secondary transportation. The latter involved the introduction of in-cab technology using the Isotrak system to enable Sainsbury's to manage its fleet more effectively. Isotrak used a satellite-based global positioning system (GPS) to position the vehicle, which together with PC-based transport management technology enabled transportation activities to be managed on a real-time basis. The trucks were equipped with small PC-terminals that could provide the driver with useful information, for example on fuel efficiency. Since Sainsbury's fleet of 900 delivery vehicles and 1,300 trailers used up to 40 million litres of diesel each year, even small improvements in fuel economy would

Exhibit 1:

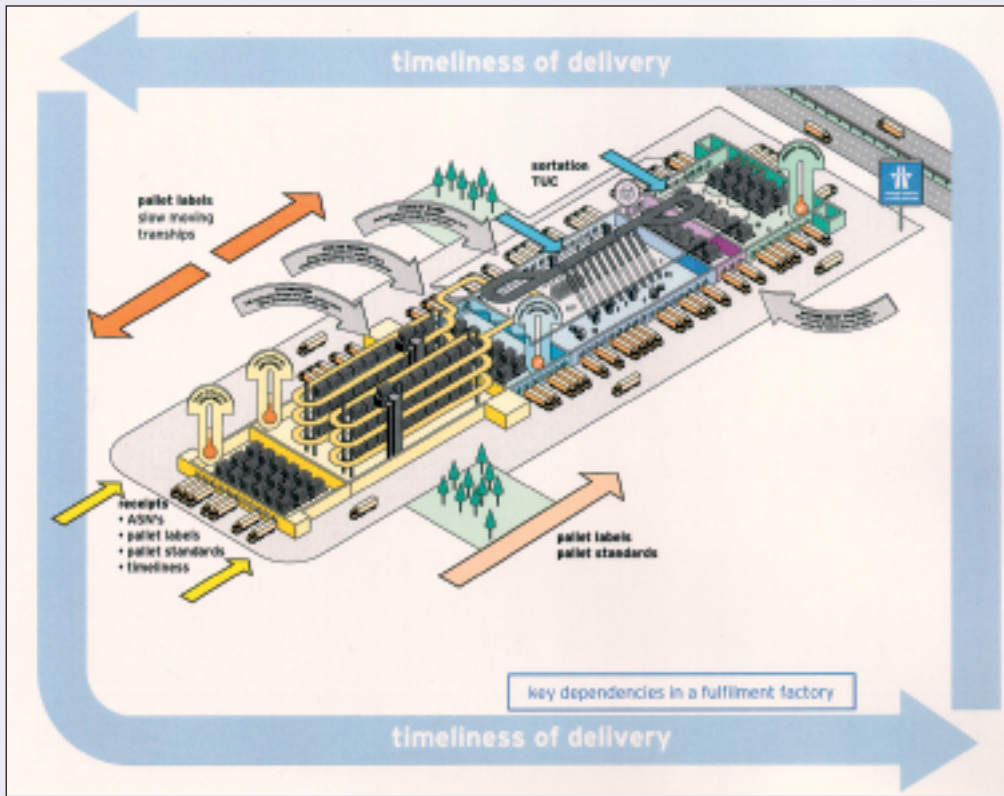


Exhibit 2:

Supply Chain Planning:

- **Sainsbury's Information Direct (SID):** A B2B portal for suppliers, containing performance data and ground-breaking collaborative applications developed to Sainsbury's own specifications; SID first launched in May 1998 and by the Summer of 2003 well over 2,000 suppliers had subscribed, free of all charges, to SID's 'B2B Toolkit'; and
- **Cygnnet:** A new ordering system that determined when and how products were moved from the supplier to the store. It consisted of the Retek Demand and Forecasting (RDF) module to forecast sales, the Retek Store Ordering (RSO) module to calculate deliveries to the store, and Retek Fulfilment Planning (RFP) to order products from suppliers.

Supply Chain Execution:

- **Firewing:** software that enabled suppliers to replace paper delivery notes with an electronic solution known as Advanced Shipment Notice (ASN);
- **Phoenix:** a new paperless warehousing system that managed all activities within a distribution centre. It included a new Warehouse Management System (WMS) and Warehouse Control System (WCS);
- **Transport Optimisation:** a system that made best use of available transportation resources through advanced planning and tracking tools;
- **National Transport Service Centre (NTSC):** a transport planning system based on Manugistics software was operated by Excel Logistics through the NTSC;
- **Fleet Management:** in-cab Isotrak technology improved management of fleet operations and provided support for drivers and the distribution centres; and
- **In-store Stock Management:** Retek In-Store Supply Chain Systems kept track of inventory levels in store. This information was used within Cygnnet when deciding how many products to send to the stores.

In a comprehensive contractual arrangement J Sainsbury outsourced the management of most of its supply chain IT to Accenture. However, the IT automation of the four new fulfilment factories was outside the scope of the Accenture contract.

Suppliers were warned that the trading relationship would be negatively impacted if they did not comply with requirements.

deliver significant savings. Messaging facilities were available in-cab, enabling the transportation service centre to communicate with the drivers and to alert them as to potential traffic delays and other hazards. The system could also notify the stores when a vehicle was within a prescribed distance or time of arriving.

Supply chain information systems

Since many “legacy” systems remained from different development paths, Sainsbury’s management decided to invest heavily in re-platforming the supply chain systems to deliver an integrated solution. The overall aim was to ensure that the supply chain’s end-to-end performance was enhanced by moving goods more quickly through the supply chain, controlling the use of resources and providing better information to the stores. A major review of the IT re-platforming programme during rollout led to some changes in the timing of the various projects; projects were re-prioritised so that those delivering the greatest benefits were scheduled first. The new Supply Chain Information System integrated two applications for supply chain planning and six for supply chain execution (see Exhibit 2).

Supplier dependency

Sainsbury’s “7-in-3” strategy also required

that its suppliers make major investments in order to comply with the retailer’s highly automated fulfilment factories. By September 2002, when the first fulfilment factory opened, suppliers were expected to conform to six dependency criteria. Their successful involvement in Sainsbury’s new supply chain depended on their ability to:

1. Achieve accurate traded unit bar code (TUC) compliance;
2. Send advance shipment messages (ASN) with all products;
3. Use correct EAN pallet labels displaying a serial shipment container code (SSCC) with all products;
4. Achieve data integrity through registering the full portfolio of commodities with UDEX (Universal Descriptor Exchange);
5. Achieve the right pallet standards; and
6. Adhere to arrival times and purchase order accuracy.

In order to manage the transition, Sainsbury’s suppliers were classified into three types - codified as red, amber or green - according to their dependency capabilities. Suppliers were warned that the trading relationship would be negatively impacted if they did not comply with the requirements.

People issues

People issues were considered crucial for

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the success of Sainsbury's supply chain strategy. Sainsbury's established a dedicated supply chain human resource team and launched an extensive training and development programme involving all levels within the supply chain. Over a period of three years, the supply chain HR team was responsible for developing and managing the cultural side of the "7-in-3" strategy. Up to 50 facilitators were trained to assist in teaching new working practices, and colleagues in depots received over 27,000 hours of development based on unique shop floor exercises. Some of the other activities included ensuring smooth coordination with the trade unions, assessing the equipment for the fulfilment factories from a people perspective, maintaining open, honest and timely communication, and organising stakeholder forums, regional forums and depot action series.

All or nothing?

In July 2003, aside from a few glitches, the supply chain initiative was well under way. The first fulfilment factory in Hams Hall was opened in late 2002 and by Spring 2003 already served 45 stores with the full range of ambient and product SKUs, with remaining stores to be added by the end of 2003. Waltham Point was expected to achieve full capacity in October 2003. The slow-mover depot in Stoke was expected to offer a full range for

200 stores by the end of November 2003; at its counterpart in Rye Park, full capacity was expected by summer 2004. Almost £100 million had been saved in 2002, and overall availability in the stores had improved by 1%. Sir Peter Davis claimed that, "improved planning, better systems and the hard work of our colleagues delivered consistently high availability worldwide."

However, some industry observers continued to express doubt that this fundamental business transformation would be successful. While arch rival Tesco was moving forward with unprecedented speed, Sainsbury's was still struggling in the marketplace. More importantly, Sainsbury's had committed to a degree of automation in its supply chain systems that was previously unheard of. The decision to bet heavily on automated fulfilment factories was controversial, in particular since Tesco had opted for flexible systems and even pulled out existing automated systems, for instance, in its Southampton operation. In order to achieve high levels of efficiency in its operations, these factories were required to run at high capacity and the economic situation in the UK had not picked up.

But then on July 1, 2004 Sainsbury's announced that its chief executive Sir

New CEO Justin King said: “it is clear that the major strategic investments made in the last three years have not delivered the benefits we intended”

Peter Davis was leaving the company with immediate effect. Four months later, on October 19, his replacement Justin King declared that: “The main reason for our recent troubles is not that the customers no longer believe in what we stand for but that our execution has failed. We’ve let our customers down. We’ve not maintained a clear enough lead on quality and innovation. We’ve allowed the movement in the market on price to get away from us.” King went on to describe Sainsbury’s supply chain problems in the following terms:

“It’s clear that the major strategic investments we’ve made in the last three years have not delivered the benefits that we intended. Our automated depots are not fully operational. In July, we announced the need to maintain depots that were planned for closure, but the automated facilities continued to run below the volumes and efficiencies intended. The IT systems that were built to back up that sometimes overcomplicated offer are not yet achieving the targets that were set. And our IT costs make up a greater proportion of our sales than three years ago. One of the hidden stories of our availability problems is that approximately 50% of our issues are resolvable in store. But colleagues have been unable to do the complicated job that we have given them.

Let me give you an example; Systems have developed a high level of dependence on accurate stock. And the system cannot see the real stock position on the shelf. When there’s a difference between the two, we have a problem. This shows up most markedly when we change a range. We recently revamped our range of socks and tights and this led to empty shelves. For the system believed they were still stocked, so we could not allocate new ranges. So as that new range continues, we’re having to get every single store to go into the system manually and amend to reflect the true stock position. Only then will the system get the message that stock needs sending out. With examples like this, you can see why, I, and the rest of the top management team, are spending so much of our time in stores. That is the only way to make sure that we understand all the issues. Our investment has not been focused on the customer, but on the things that are invisible to the customer. They have not benefited. In fact they have actually suffered because our availability has been and continues to be at levels that are worse than those achieved before these major changes were made.”

In short, said King, Sainsbury had invested too much in infrastructure, producing low returns on capital invested, creating a high cost base. He then announced:

Far from reducing costs, highly automated systems can actually require more manual intervention, thereby adding operational as well as capital costs.

- a slowdown roll-out of new systems development
- a renegotiation of the Accenture outsourcing contract
- a decision to simplify systems to increase effectiveness
- a need to rebuild internal capability
- write-off assets worth £140m
- recruitment of an additional 3,000 colleagues by January 2005 to improve availability in store.

In February 2005, Sainsbury's announced a modest 1.7% improvement in like-for-like sales, pinning much of the improvement on the 3000 extra staff employed to fix availability problems in store. While welcoming the improvement, analysts worried that the action taken to restore fortunes would undermine margins, and aren't sustainable for the long term. The jury remains out.

Discussion

So what went wrong at Sainsbury's?

- Perhaps the money spent on supply chain initiatives should have been better spent elsewhere, on things customers would notice. This argument has apparently been supported in statements made by King. The counter-argument, however, is that Sainsbury's infrastructure was old and creaking, and needed modernising. If the investment had worked, customers

would have noticed in terms of both improved availability and lower prices.

- Sainsbury's made a mistake to outsource information systems but not bricks and mortar. 'Big IT' and supply chain projects have a habit of costing huge amounts of money while not delivering on their promise. J Sainsbury should have devoted more resources to managing its relationship with the outsourcing supplier according to industry analysts. King's decision to renegotiate the Accenture contract and to rebuild internal IT capability seems to confirm this.
- It was certainly risky to place so much faith in automated systems - an approach which had already been rejected by Tesco. Automation works well in laboratory conditions but requires perfect conditions - such as 100% accurate data - to deliver its promises. As King admitted in his statement, data discrepancies meant that the automated system was working on a 'rubbish in, rubbish out' basis, requiring ever more manual intervention. Far from reducing costs, this is how automated systems tend to add ongoing operational cost (not counting the original capital costs).

The pressure was probably more internally than externally created, fuelled by the hope of outpacing Tesco

- Finally, J Sainsbury put too much time pressure on to this programme. Why do it in three years instead of seven, which leaves so little time for learning on the job, ties up invaluable management resources and requires outsourcing important capabilities? The pressure was probably more internally than externally created, fuelled by the hope of outpacing Tesco with leap-frogging technology.

While this concludes that J Sainsbury should have been more cautious in their supply chain transformation, judging with hindsight is always easy. The decision to fundamentally transform the supply chain under difficult market situations was not all that wrong. The devil is in the details - after all any brilliant strategy is easily flawed by faulty execution.

Further Reading

Literature: Corsten, D., Slagmulder, R. (2003) *Transforming the Supply Chain*, INSEAD Case Study 603-020-1