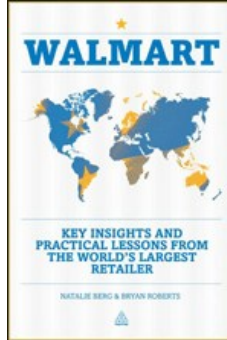


# Chapters *To Go*



## Walmart: Key Insights and Practical Lessons from the World's Largest Retailer

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## Chapter 8: Still Leading In Logistics

Having seen how Walmart's scale enables it to buy products with an unparalleled advantage, it is time to look at another area that has enabled Walmart to establish and maintain its position as by far and away the leading retailer in the United States and the world: getting those products where they need to be quickly and cheaply.

As in other areas such as IT systems, the development of Walmart's much-lauded leadership in supply chain and logistics was dictated by a typical mixture of necessity, improvisation and savvy strategy. Walmart's distribution system has evolved into a state-of-the-art technology-driven model of efficiency, but began in the early days with Walmart's characteristic make-do-and-mend approach (its first warehouse was a disused garage in Bentonville), coupled with Sam Walton's tireless enthusiasm for learning from, and recruiting from, retail competitors around the country.

A testament to the importance of logistics for Walmart is that two of its CEOs spent much of their Walmart careers working in the logistics department and today the logistics division is one of Walmart's key business units and one of its undoubted competitive advantages, enabling the retailer to maintain industry-leading metrics in areas such as inventory, efficiency and stock-turn. As Don Soderquist remarks, Walmart's strategy on logistics 'hand-in-hand with Walmart's use of technology, allowed the company to blow past competitors in areas of cost, real-time management of merchandise, and customer satisfaction'.<sup>[1]</sup>

Perhaps the best summary of Walmart's competitive advantage derived from its abilities in supply chain is what we were told by a senior Walmart director: 'Our biggest single advantage globally is our supply chain. We still kick ass in logistics.'

### The scale of Walmart's logistics system

As of 2011, Walmart's US logistics division comprises more than 40 Regional Distribution Centres (RDCs), each of which is over 1 million square feet in size. They operate 24 hours per day, 7 days per week, using between 5 and 12 miles of conveyor belts in each RDC to move over 9,000 different lines of merchandise. Each RDC supports between 75 and 100 stores within a 250-mile radius – the same 'hub and spoke' model used by Sam Walton in the early stages of the retailer's growth. Back in the 1970s, Walmart opened its stores in a 350- to 450-mile radius around a DC, a distance that was described as a day's drive for Walmart's trucks.

In addition to the general merchandise RDCs, Walmart also operates speciality DCs for categories such as grocery, jewellery, pharmacy, clothing and footwear and a network of DCs dedicated to supporting the Sam's Club chain. Speciality DCs also support Walmart's e-commerce activities and Site to Store delivery service.

The scale of Walmart's distribution infrastructure is breathtaking. As of 2010, its logistics division employed 85,000 people, working in 147 DCs and over 50 transportation offices. Its trucking unit oversaw around 7,200 tractors and 53,000 trailers operated by nearly 8,000 drivers.

During fiscal 2011, 79 per cent of the Walmart US segment's purchases of merchandise were shipped to Walmart's stores through its distribution centres. The balance of merchandise purchased was shipped directly to stores by suppliers. General merchandise is transported to stores primarily through Walmart's private truck fleet, while the retailer has contracts with common carriers to transport the majority of perishable and dry grocery merchandise.

Walmart US is supported by 123 distribution facilities (as of January 2011), located strategically throughout the United States and Puerto Rico. Of these 123 distribution facilities, Walmart owns and operates 105. Third parties own and operate the remaining distribution facilities. In addition to servicing the Walmart US segment, some Walmart DCs also service the Sam's Club chain for certain product categories.

Sam's Club, in fiscal 2011, received 63 per cent of its purchases from dedicated Sam's Club distribution facilities and several Walmart US DCs. Sam's Club is supported by 25 distribution facilities. Of these, Walmart owns and operates eight. Third parties own and operate the others. The principal focus of Sam's Club's distribution operations is on cross-docking merchandise, while stored inventory is minimized. Cross-docking is a distribution process under which shipments are directly transferred from inbound to outbound trailers. Shipments typically spend less than 24 hours in a cross-dock facility, sometimes less than an hour. Sam's Club uses a combination of its private truck fleet and common carriers to transport non-perishable merchandise from DCs to clubs. As with Walmart US, Sam's Club contracts with common carriers to transport perishable grocery merchandise from DCs to clubs.

<sup>[1]</sup>Soderquist, D (2005) *The Wal-Mart Way: The inside story of the success of the world's largest company*, Thomas Nelson, Nashville, TN, p 151

## **In-house supply chain development**

Unlike many other retailers which grew to rely on third-party wholesalers and distributors, the development of Walmart's logistics system was largely achieved in-house. This was largely due to the fact that Walmart's early pattern of growth saw it set up outlets in often isolated rural communities – meaning that distributors found it uneconomical to deliver to Walmart's stores. The retailer was therefore pretty much left to its own devices when it came to distributing products to its stores: if Walmart didn't distribute its products, then no-one else was going to do it for them.

This self-reliance saw Walmart build and run its own DCs and also own and run its own fleet of trucks. Similarly, the implementation of the automation and mechanization of DCs and the introduction of inventory management and merchandise-tracking technologies were all developed and implemented internally by Walmart. Finally, the inclusion of suppliers within a vertically integrated, data-driven supply chain was initiated by Walmart and developed using Walmart technologies like Retail Link.

Don Soderquist recalls how Walmart began by using warehouse automation technologies bought off the shelf from vendors but soon began demanding that suppliers provide the retailer with custom-designed technologies better aligned to Walmart's own business and objectives. He notes that 'before long, the warehouses were transformed into state-of-the-art, full-line distribution centres, including conveyor systems equipped with barcode scanners to read and sort cartons of merchandise and move those cartons from one place in the warehouse all the way to a specific point on the shipping dock and into a waiting trailer'.<sup>[2]</sup>

### ***Establishing a supply chain in the 1960s***

In Walmart's early stages of development, distribution to its stores was a problematic affair. Sam Walton recounts how his stores were too small to receive full pallets of merchandise from suppliers or distributors, so suppliers would deliver pallets to Walmart's warehouse (the rented old garage in Bentonville) where the pallets would be broken down and redistributed by the retailer to its stores. According to Walton, 'it was expensive and inefficient'.

The evolution of Walmart's embryonic supply chain strategy was shaped by Bob Thornton, a warehouse manager hired by Sam Walton from variety store chain J.J. Newberry. Thornton soon set about preparing a design for a warehouse, a 60,000 sq. ft unit that was part of the retailer's new head office development in Bentonville – still the home of Walmart to this day.

Walmart's approach to expansion was based around a kind of hub and spoke approach – all stores had to be within a day's drive of a distribution centre. Sam Walton noted that when a new DC had been opened, the retailer would open a store as far away as possible from the DC while still observing the day's drive rule and then backfill the region until Walmart had 'saturated' the market.

### ***Distribution in the 1970s***

Walmart began the early 1970s servicing its 38 stores through one major hardlines distribution centre in Bentonville, AR, which had been doubled in size to 124,800 sq. ft in 1971. The following year saw the completion of additional 88,000 sq. ft extension to the hardlines DC as well as the completion of 22,000 sq. ft facility dedicated to the marking and distribution of clothing, enabling Walmart to reduce its freight costs and complete the turnaround of its apparel ranges more quickly.

The late 1960s and early 1970s also saw Walmart build on its practice of 'backhauling' – the use of its trucks to bring merchandise from manufacturers back to the DC instead of making the return journey back from stores with an empty trailer. In 1971, Walmart's trucks backhauled 954 loads over the year, making a 'substantial contribution to our profit structure'. Walmart's finessing of the backhauling system means that, nowadays, over half the merchandise received at its DCs is delivered to them by the retailer's own trucks.

Walmart's growth in the 1970s was orchestrated by Sam Walton and Ron Mayer, whom Walton had lured away from regional discounter Duckwall Stores. Mayer was responsible for steering Walmart away from the drop-shipment system, with stores placing their own orders and receiving their supplies direct from suppliers or distributors, and towards the merchandise assembly technique of receiving supplies centrally and assembling store-specific deliveries at the DC. The same era saw Walmart take the decision to purchase its own tractors and trailers rather than relying purely on contract carriers.

By 1973, when Walmart was trading through around 80 stores, its DC processed 55 per cent of the products sold by the retailer. A new 150,000 sq. ft DC commenced operations in January 1975, designed to consolidate case-pack merchandise

previously shipped directly to stores by suppliers. Even at this stage of its development, Walmart was at pains to point out that its DCs were not warehouses intended to stock products. Instead, Walmart always keenly emphasized that its DCs were redistribution points for bulk merchandise received in substantial volumes. The new DC included eight railway car doors and 37 truck doors and was designed in such a way that loads could be transferred directly from truck or train into waiting Walmart trucks without being stored in the DC: while not using the term itself, Walmart was leading the way in what is now known as cross-docking. At the time, the benefits of the new DC and its operations were said to include lower costs, more flexible ordering and faster delivery. The space created in the old DC by the transfer of activity to the new DC was used for additional warehousing. By January 1975, 60 per cent of merchandise was being distributed by the retailer itself; a ratio that improved to 80 per cent a year after the new DC began operating.

As its supply chain developed, Walmart's proficiency in distribution was benefiting from the technological advances that we will look at in more detail in a later chapter. For example, 1975 saw the implementation of a new clothing unit control system that used computer-prepared magnetic tickets to track the sales rate of fashion merchandise. The system provided Walmart's apparel buyer with distribution information to better manage inventories and replenishment.

Another new 150,000 sq. ft DC was unveiled in Bentonville in November 1976, creating a total DC of 300,000 sq. ft. All stock moved through the enlarged DC on a 2½-day cycle. The year 1976 was also notable for the appointment of future CEO David Glass to run the distribution division. Glass, recruited from a discount drugstore retailer, was credited by Sam Walton as responsible for building the 'sophisticated and efficient' logistics system that underpinned Walmart's rise to supremacy.

By 1977, Walmart's two DCs in Bentonville covered some 540,000 sq. ft, providing its stores with basic and promotional items. These facilities, it said at the time, enabled Walmart to buy in bulk and pass on the resultant savings to shoppers. Plans were unveiled in 1977 for a new 390,000 sq. ft combination warehouse and DC in Searcy, AR, that was designed to service half the retailer's stores. The Searcy DC featured a 'revolutionary' conveyor system capable of moving freight at 200 feet per minute. Distribution, Walmart noted, 'plays such a vital role in the company's overall operation and success'.

The year 1978 saw the establishment of a separate division for the distribution of hobby and crafts merchandise in order to improve the in-stock position of stores in these categories, an initiative accompanied in the following year by the opening of a new 390,000 sq. ft DC in Bentonville to 'further enhance our expansion capabilities'.

### ***Rapid growth in distribution capacity in the 1980s***

In 1980, Walmart announced extensions to the relatively new DCs in Bentonville and Searcy of 202,000 and 142,000 sq. ft, respectively, and the retailer also completed a new 510,000 sq. ft DC in Palestine, TX, to service the Texas and Gulf Coast markets. A new DC opened in 1982 in Cullman, AL, which operated as a full-line DC as well as housing a secondary processing centre for apparel and a centre for the warehousing and processing of sporting, hobbies and crafts products.

Walmart's rapid growth in the mid-1980s was accompanied by a flurry of development in the distribution side of the business. In 1983, construction started on a new 650,000 sq. ft DC in Mount Pleasant, IA, and in 1985 Walmart announced the construction of new DCs in Douglas, GA (opening January 1986); Brookhaven, MS (August 1986); Plainview, TX (September 1986) and Bentonville, AR (December 1985), adding 2,598,000 sq. ft to distribution space in 1986, an increase of 66 per cent during the year.

By 1986, Walmart's distribution system was providing 77 per cent of the goods sold by Walmart. It comprised 10 DCs, over 7 million sq. ft of space, 750 trucks and serviced each store around five times per week. Each DC – by now averaging around 650,000 sq. ft – received and shipped around 30 million cases per year (equivalent to 96 trailer loads each day). Each DC serviced around 150 Walmart stores. In 1987, Walmart added 1.477 million sq. ft to its distribution network. The increase included the expansion of three DCs plus the opening of the company's 11th DC, a 583,000 sq. ft facility in Laurens, SC.

Walmart's 16 DCs (10 RDCs, three speciality facilities, and three support facilities) in 1988 were said to distribute over 75 per cent of the merchandise sold in the retailer's stores. Another DC was completed in New Braunfels, TX, and the year saw Walmart's 10,000 distribution employees processing over 300 million cases of product. Walmart's on-time delivery rate stood at 99 per cent and filling accuracy exceeded 99 per cent.

[2]Soderquist, p 157

### **Food for thought**

In the late 1980s, Walmart began entering the grocery market in a concerted way. The ultimately unsuccessful opening of

Hypermart\*USA stores began in 1987, with the Walmart Supercenter concept making its debut the following year. As Walmart began to ramp up the amount of food offered through its stores, the retailer began to contemplate how best to integrate grocery products into its logistics infrastructure.

Walmart had some experience in grocery supply chain, thanks to the bulk food assortment carried in its Sam's Club chain which had been trading since 1983. Nonetheless, it lacked the necessary expertise in grocery supply chain for its retail operations, so initially began servicing its Hypermart and Walmart Supercenter chains by using specialist wholesalers. Hyper-mart was a joint venture with Cullum Companies, the Texan food retail concern that operated a number of supermarket brands including Tom Thumb, now operated by leading US supermarket chain Safeway, so it was able to draw on Cullum Companies' expertise in food supply.

Walmart soon began developing the capability to handle a wide variety of grocery categories, retrofitting coolers and freezers to existing DCs and adding specialized chilled and freezer trailers to its trucking fleet. Eventually, when the volume of groceries Walmart was selling reached viable levels, it began adding specialist grocery DCs to its network, as well as acquiring grocery distributor McLane (see below).

Walmart's square footage of distribution facilities increased from 11.8 million to 14.6 million sq. ft in 1990. The extra space included the new DCs in Seymour, IN, Searcy, AR, and Loveland, CO, as well as a specialist shoe distribution facility in Ft Smith, AR. The year 1991 saw the addition of three new DCs – each in excess of 1 million sq. ft – in Porterville, CA, Sutherland, VA, and Greencastle, IN. In 1992, Walmart's convenience wholesale division McLane opened its first full-line grocery DC in Clarksville, AR. The 705,000 sq. ft DC was designed to serve the nascent Walmart Supercenter chain with food products.

By the early 1990s, Walmart's distribution system comprised 22 DCs averaging nearly 1 million sq. ft and had 'made just-in-time inventory management a reality for us and our vendors'. New DCs were being built in Menomonie, WI, and Clearfield, PA, as well as a speciality facility in Hurricane, UT, and a long-term storage facility in Buckeye, AZ.

The development of Walmart's general distribution infrastructure was accompanied by the growth of speciality distribution functions that Walmart acquired. By the 1990s, McLane was serving selected Walmart, Sam's Club and Supercenter units, while speciality distribution subsidiary Western Merchandisers provided videos, cassettes, CDs and books to around 850 Walmart stores. Western Merchandisers became a Walmart subsidiary in 1990 before being sold to Anderson News Corporation in 1994.

Acquired in late 1990, McLane was a leading wholesaler and distributor of grocery products for around 26,000 retail customers (mainly convenience stores as well as supermarkets, restaurants and general merchandise chains) and operated 14 DCs in 11 states, providing over 12,500 SKUs of perishable and non-perishable groceries and general merchandise.

Although McLane was sold in 2003 to Warren Buffett's investment vehicle Berkshire Hathaway, it is still a vital component of Walmart's distribution capabilities. As previously discussed, McLane is still responsible for supplying the retailer with confectionery and cigarettes. Walmart, presumably, has continued with this arrangement as it makes economic sense compared to the alternative – bringing it in-house – and it means that for suppliers like Hershey and Altria, McLane is the principal route to getting their products onto Walmart's shelves.

### **Project Remix**

Possibly the biggest recent step change in the evolution of Walmart's distribution network was the 2006 'Remix' project. This initiative saw the merging of Walmart's Grocery DC network and its Regional General Merchandise DC network. Each network was once a specialist operation – the Grocery Network handling dry grocery goods, such as cereals and snacks, and the Regional Network moving primarily general merchandise, such as household cleaners, paper towels, toys and electronics. In 2006, that changed when approximately 4,000 items switched networks, meaning that high-velocity items – both grocery and general merchandise – were combined and sent to the stores from the 'High Velocity Distribution Centres'.

Walmart described the process as an innovative 'Remix' which meant that items needed most by customers arrived at stores on one truck, so they could be unloaded and moved faster to the shelves. Pallets were assembled in DCs with the store layout in mind, enabling them to be rolled directly onto the shop floor for rapid replenishment. Previously, FMCGs were delivered on the same trucks as slower-moving lines such as clothing and household goods, often meaning that store staff had to hunt through a mixed delivery to seek out the items most in need of replenishment. The move also meant that Walmart could reduce the number of additional RDCs it needed in its network going forward. Stores benefited from improved merchandise flow and in-stock positions, while Walmart reduced its capital spending needs. Furthermore, Remix



meant that Walmart was pushing complexity and costs further up the supply chain and away from itself: a typical move from the retailer.

In addition to reducing costs, the main objective of the Remix programme for Walmart was to improve its in-stock position. Walmart's availability rates were already high, typically ranging between 97 and 98 per cent, Vice President of Supply Chain Systems Randy Salley told industry journal *Chain Store Age* at the time. But the out-of-stocks tended to be in the retailer's fastest-selling lines, such as paper towels and toothpaste and other consumables. After Remix, Salley noted that 'the primary difference is that everything that comes out of a grocery or high-velocity DC is loaded on a pallet that goes directly onto the trailer. Then, the pallet rolls out onto the sales floor for quick shelf restocking.'<sup>[3]</sup>

A third-party solutions provider involved in the Remix programme was DSC, a company that assisted suppliers through offering consolidation programmes. Walmart's Remix initiative acted to increase the number of orders received by vendors and at the same time reduced the size of those orders, causing a shift to less-than-truckload (LTL) deliveries. LTL deliveries are less efficient for suppliers, meaning that vendors needed to convert LTL to truckload (TL) deliveries to gain efficiencies and improve their service to Walmart. DSC offered this consolidation service for suppliers at five Multi-Vendor Optimization Strategy (MOST) centres across the country.

The MOST consolidation centres (in Dallas, TX, Atlanta, GA, Chicago, IL, Los Angeles, NV, and Allentown, PA) combined orders for multiple Walmart vendors and delivered full truckloads weekly to each of Walmart's 40 regional Remix DCs. DSC managed Walmart's appointment process, ensuring that loads arrived on time and were compliant with Walmart's delivery expectations. With DSC, Walmart suppliers were able to prevent out-of-stocks, make deliveries more consistent and achieve shorter transit times. Tests conducted by Walmart revealed that vendors who participated in a consolidation programme enjoyed a 37 per cent better on-time performance, with the retailer noting that consolidation reduces costs, improves service and increases sales.<sup>[4]</sup>

<sup>[3]</sup>[http://goliath.ecnext.com/coms2/gi\\_0198-285227/Wal-Smart-the-world-s.html](http://goliath.ecnext.com/coms2/gi_0198-285227/Wal-Smart-the-world-s.html)

<sup>[4]</sup>[http://www.dsclogistics.com/solutions\\_spec\\_wmr.php](http://www.dsclogistics.com/solutions_spec_wmr.php)

## Supplier collaboration

Walmart was a fairly pioneering retailer in that it sought to collaborate with its suppliers in order to improve logistics in a way intended to benefit Walmart, the supplier and the shopper. The development of Retail Link and similar systems and technologies enabled Walmart and its suppliers to achieve previously unheard of visibility and predictability within the supply chain, allowing Walmart to create huge efficiencies (and therefore lower prices) and to present consumers with industry-leading availability.

Don Soderquist states that, while Walmart was busily improving its supply chain capabilities, there was still something of a disconnect in the system: 'to put it simply, we were doing our thing, and the suppliers were doing theirs... we were not working together for the benefit of our customers.'<sup>[5]</sup> We will return to the issue of supplier collaboration, including technologies such as Retail Link, in more detail in the following chapter.

<sup>[5]</sup>Soderquist, p 165

## Globalizing supply chain excellence

In its global operations (as of March 2011), Walmart utilized a total of 134 distribution facilities in Argentina, Brazil, Canada, Chile, China, Costa Rica, El Salvador, Guatemala, Honduras, Japan, Mexico, Nicaragua, Puerto Rico and the UK, including two export consolidation facilities in the United States. Through these facilities, Walmart processed and distributed both imported and US products to the operating units of the Walmart International division. During 2010, approximately 77 per cent of the International segment's purchases flowed through these distribution facilities. Suppliers shipped the balance of the International segment's purchases directly to stores in the various countries in which Walmart traded. Of the 134 distribution facilities, Walmart owned and operated 34 and leased and operated 38. Third parties owned and operated the remaining distribution facilities.

As Walmart expanded from its humble Arkansas roots to become the global giant with a foot in every continent, it faced – and arguably met – the challenge of exporting its undoubted supremacy in supply chain and logistics to all of its operating markets. Indeed, it is noteworthy that supply chain (along with systems and procurement) has been cited as a key benefit of Walmart entering a new market and/or acquiring an international business to bring into the global Walmart family. This observation has been more pronounced when Walmart has entered a so-called 'emerging' market such as Africa or India.

Walmart's 2010/11 move into sub-Saharan Africa through the acquisition of a 51 per cent stake in South African retailer Massmart is a case in point. The two retailers noted during the progression of the deal that:

As the largest retailer in the world, Walmart is renowned for its operating, retailing, marketing and merchandising skills and its leading-edge procurement and supply chain capabilities developed over many years of investing and trading across developed and developing countries. By gaining access to Walmart's experience and capabilities relating to procurement and supply chain, particularly in relation to fresh food retailing, Massmart will be able to deliver a wider selection of quality products which are more consistently available to customers.

A similar logic was at play in Walmart's entry to India, this time effected through a joint venture with local conglomerate Bharti. The joint venture, which has seen the opening of easyday stores run by Bharti and cash & carry stores operated by the joint venture itself (a reflection of the government's protectionist restrictions rather than any strategic preference from Walmart), has been widely flagged as potentially one of the best things to have happened to the sometimes chaotic and often wasteful Indian supply chain. Walmart's expertise in supply chain – particularly in relation to perishable and agricultural categories – has been identified since the first days of the joint venture to be a key attribute that it brings to the project. As the companies have remarked, Walmart is 'renowned for its efficiency and expertise in logistics, supply chain management and sourcing. The joint venture is establishing wholesale cash & carry and back-end supply chain management operations.'

It is these back-end supply chain operations that both Bharti and Walmart hope will have a transformative impact on the Indian fresh chain:

The joint venture works with the existing supply chain infrastructure to help make it more efficient, thereby maximizing value for farmers and manufacturers on the one end and retailers, and in turn, consumers on the other. The supply chain operation supports farmers and small manufacturers who have limited infrastructure and distribution strength and help minimize wastage, particularly of fresh foods and vegetables. An efficient supply chain can play an important role in transforming farmers and small manufacturers into successful entrepreneurs.

While such a statement should always be viewed through the lens of stripping away corporate flimflam, we find it hard to disagree that Walmart's influence, know-how and ruthless efficiency will have anything but a hugely positive impact on the evolution of Indian farmers' efficiency and speed to market. The same could be said of Walmart's global competitors in India – most notably Carrefour and Metro – but Walmart's pre-eminence in supply chain suggests that its legacy might be more impactful and enduring.

### **Globalizing one country at a time**

Unlike with the export of its IT and systems capabilities, where global standardization is very much the norm for Walmart (90 per cent of its systems around the world are virtually identical), Walmart's supply chain operations on a global level are developed on a market-by-market basis.

Walmart has dubbed this supply chain strategy 'best in market', preferring to adapt its logistics capabilities on a country-by-country basis rather than adopting a completely standardized global model to serve its stores in markets outside North America. This strategy was influenced by experiences such as the markedly different logistical challenges that Walmart encountered in markets as diverse as Mexico, China and Germany. Indeed, Walmart's failure to fully grasp the idiosyncratic realities of the German supply chain (and, to be fair, a remarkably uncooperative bunch of suppliers) was one of the straws that broke the camel's back in that particular market.

As Bjorn Weber, the supply chain expert at Planet Retail, notes, Walmart's abject failure in the German market was at least partially attributable to the retailer's cack-handed attempts to export US supply chain orthodoxies to an entirely unsuitable market: in Germany, Walmart tried to replicate its domestic system of suppliers of certain categories delivering directly to stores. The net result was very long queues of trucks at the front of stores with one or two receiving gates, causing huge frustration among both the vendor community and Walmart's in-store personnel.<sup>[6]</sup>

Experiences such as this resulted in Walmart adopting a more localized approach to subsequent international adventures. In 2009, Walmart's Senior Vice President of International Supply Chain Gary Maxwell reported at a conference that the 'best in market' strategy has worked well for the company. When Walmart acquires a foreign company or moves into a new market, the retailer now examines the situation in each locale, analysing factors such as land and labour costs, local regulations, asset utilization, and risk. 'In some places, you can't afford automation [in a warehouse]', Maxwell said. 'In other markets, if regulations tell how many pounds a worker can lift, you're going to put in automation.' Maxwell noted that when Walmart sets up a supply chain for a particular country, it takes into account what consumers in that country can

afford.

Referring to Bharti-Walmart's first DC in India – an 80,000 sq. ft dry grocery warehouse located in Chandigarh, Punjab, Maxwell noted that 'Our first warehouse in India was small and had no automation. We had racks and forklifts because that was what the customer could afford.' In Japan, on the other hand, consumers have a different set of expectations, and Walmart's warehouses employ technology such as sortation systems, radio-frequency picking, automated cranes and mini-load systems. 'Each piece of technology [in Japan] is targeted at keeping product at a certain quality', he said. As the retail market in a particular country matures (and presumably as labour costs rise), Walmart responds by introducing more sophistication (ie automation) into its supply chains. 'We need to build a best-in-class supply chain for today,' Maxwell said, 'and then we'll evolve the supply chain'.<sup>[7]</sup>

In 2011, Walmart provided some interesting insight into the benefits it can bring to an acquired business – in this case its Japanese division Seiyu. Japanese retailing and wholesaling has traditionally been characterized by a fairly labyrinthine (ie inefficient) network of wholesalers, distributors and agencies (or as Walmart would refer to them: margin-takers). Scott Price, Walmart EVP and President and CEO of Walmart Asia, stated that the entire supply chain and the distribution process were 'an opportunity to take waste out of the system'. He stated that Seiyu, when Walmart acquired it, had a very inefficient operating structure: 'They had 48 distribution centres, which we felt was actually ineffective. We were able very quickly to go from 48 down to 25. After we went into those 25 in parallel, we were also introducing a number of initiatives to be able to ensure that those 25 were actually pretty efficient in terms of costs.'

Price reported that Walmart introduced a lean operation:

We increased the cube, the volumetric utilization of all the trucks that were going in and out of those distribution centres, and then we optimized the truck and the delivery routing to be able to reduce the number of trucks required but also to improve the fuel efficiency. The final phase of that initiative was to take back control. So, we were outsourcing those 25 following the old model. We did a test, which was to take over self-operation of two distribution centres. And what we found is, even after all that lean operation effort, there was still room in terms of being able to take cost out of the system.

Having seen the benefits of the first two DCs being brought back in-house, Walmart then sought to bring all them into self-operation. The results were pretty impressive: a 52 per cent increase in terms of the DC cases per labour hour but as well a 36 per cent decrease in the overall cost per distribution centre per case.

<sup>[6]</sup>[www.planetretail.net](http://www.planetretail.net)

<sup>[7]</sup>[http://www.supplychainquarterly.com/conferences/post/?doc\\_id=1=email=Email%20marketing%20software=610891743=Post-ConferenceCS CMP20092009Oct8+\\_+kuhlm=Wal-Martbuildsbest-in-marketsupplychainforoverseasstores](http://www.supplychainquarterly.com/conferences/post/?doc_id=1=email=Email%20marketing%20software=610891743=Post-ConferenceCS CMP20092009Oct8+_+kuhlm=Wal-Martbuildsbest-in-marketsupplychainforoverseasstores)

## Greening the supply chain

As in virtually every other part of its business, the issue of environmental sustainability is pervading Walmart's logistical operations. Sustainability is one of those areas – including e-commerce, private label and some aspects of marketing – where Walmart International leads the agenda as much as, if not more than, its parent company in the United States.

Throughout the following examples, it is always worth remembering that virtually all of them illustrate the fact that saving money (or pursuing its EDLC strategy) is at the heart of most Walmart strategies. To its credit, Walmart makes no bones about this fact: the retailer has little time for the expensive showboating and grandstanding exhibited by some other retailers around the world. For an environmental initiative to be worthwhile for Walmart, it must have a positive impact on profitability. As noted by a Walmart Canada executive recently, the retailer is anxious to demonstrate that 'environmental sustainability can go hand-in-hand with business sustainability'.

In early 2010, Walmart Canada was a key protagonist in a major Green Business Summit, an event that brought together Walmart suppliers, competitors and high-level executives from the technology, telecommunications, retail, finance, education, architectural and environmental sectors to share business initiatives that are 'good for the planet and good for the bottom line'. Speaking alongside the event, David Cheesewright, President and CEO of Walmart Canada, stated: 'We have a great opportunity to usher in a new era of collaboration and sharing when it comes to green business practices. While much work still needs to be done, there is already some strong sustainability work happening across Canadian organizations.' Also at the event were senior executives from Maple Leaf Foods, Coca-Cola Bottling Company, Alcan Packaging, McDonald's, The Home Depot Canada, 3M Canada, Bissell, Canadian Tire, Hewlett-Packard Canada, Kraft



Canada, PepsiCo Foods Canada and SC Johnson.

Walmart Canada used the stage of the Green Business Summit to unveil a raft of new sustainability initiatives, some of which are already making a clear impact on the Canadian vendor community. Walmart has been proactive in the realm of environmentally responsible retailing in markets such as the UK, the United States and Mexico (indeed, the retailer has initiated some impressive initiatives in all of its operating markets) and Canada has seen some interesting new schemes that the retailer hopes will be benefiting not just the planet, but also its profitability.

Alongside the revelation of plans for an environmentally friendly distribution centre in Balzac, Alberta (see below), Walmart also unveiled its Sustainable Product Index, a scheme that had already been implemented by Walmart US and was designed to help customers across Canada evaluate the sustainability of the products they purchase, all the way through from raw materials to disposal. Announced by Walmart in the United States in 2009, Walmart Canada was the first Walmart operation outside the United States to initiate the process for the product index. 'Customers want value and quality when buying products', said David Cheesewright. 'They also want to know that products are being made in a responsible way. Once launched, the Sustainable Product Index will give customers transparency into the entire lifecycle of the products they buy, so they know they're safe, made-well and produced responsibly.' The scheme involves suppliers answering 15 key questions regarding the sustainability credentials of its sourcing, manufacturing and packaging processes before being evaluated against an as yet undetermined set of criteria to create an overall index measure that can guide consumers on making more informed environmental choices.

This is but one example of initiatives being undertaken by Walmart divisions around the world to lessen the environmental impact of the supply chain and logistics functions upon which we all depend as consumers. A few more examples from around the world of Walmart are presented below.

### ***Sustainable distribution centres – Canada, Mexico and Brazil***

In late 2010, Walmart Canada opened its sustainable fresh food distribution centre, a state-of-the-art facility that is an estimated 60 per cent more energy-efficient than the company's traditional refrigerated centres. One of North America's most energy-efficient distribution centres, the Balzac facility was described by the retailer as a 'living lab of sustainability' and included Walmart Canada's first pilots of hydrogen fuel cells, solar thermal and wind power, as well as many other sustainability features and products.

Andy Ellis, Walmart Canada's SVP of Supply Chain and Logistics, stated: 'Our sustainable distribution centre showcases the immediate business returns of investing in green innovations and the positive impact of a sustainability mind-set through all phases of a project.' Walmart Canada has also been working with its suppliers to increase its logistics efficiency and to incorporate sustainable practices and initiatives into the processes, operations and mind-set of its third-party suppliers. The company has instituted no-idling policies in all its stores and distribution centres, improved fill rates on trucks and increased use of long-combination vehicles.

It is not just in Canada that DCs are being targeted for environmental improvements. A recently opened DC in Culiacán, Mexico, was built to stringent environmental guidelines and includes sustainable features such as a wastewater plant, two artificial lagoons for rainwater harvesting, extensive recycling facilities, energy-saving lighting and ventilation with intelligent controls. A similar project was undertaken in Betim, Brazil, with the DC there featuring a sewage treatment system, permeable paving, solar water heating, skylights and dimmable lights.

Walmart – notoriously a tough competitor to cross swords with – is to be lauded for launching an inclusive forum to which its competitors were welcomed. It is only through collaborative strategies such as this that any meaningful environmental progress will be made.

### ***Shifting to rail rather than road***

As early as 2006, Walmart US worked with shipping supplier SCM to change the mode of shipping from road to rail on 10 of its existing routes. For those routes that could not be replicated by rail, Walmart US converted the vehicles to electricity. The combined effort reportedly reduced CO<sub>2</sub> emissions by 2,600 tonnes and fuel consumption by 40,000 litres and paid back \$2 million per annum in savings.

Walmart's UK business, Asda, has also been a key advocate of using more rail transport within its transport repertoire. Since 2001, Asda has worked on moving the transport of goods from road to rail. By 2008, Asda's rail service operated six days a week, moving 40 containers per day, from Daventry to Grangemouth and from Grangemouth to Aberdeen. This saved approximately 7.2 million miles of road travel, an increase of 3.3 million miles since 2007. The Asda produce train also runs throughout the summer season from Tilbury to Wakefield with produce from South Africa. The train makes 800

journeys per year and delivers containers to within two miles of their destination, saving 200,000 miles a year.

### **Using more efficient trucks**

Walmart US aims to increase the fuel efficiency of its fleet by 100 per cent by 2015 (using 2005 as a baseline). By 2008, Walmart US Transportation had achieved more than a 25 per cent increase in fuel efficiency, exceeding one of its early sustainability goals. Of the 25 per cent efficiency gain, 15 per cent resulted from a change in the fuel additive mix, coupled with the use of more efficient tyre compounds and the installation of small diesel generators. The remaining 10 per cent reduction came from aerodynamic improvements and the use of lighter components. Again, cost reductions were not far away: savings were estimated at between \$35 million and \$50 million.

### **Packaging Scorecard**

Walmart aims to achieve a 5 per cent reduction in overall packaging by 2013, an achievement that Walmart believes could create savings in its supply chain of \$3.4 billion, and in the global supply chain of nearly \$11 billion. A key component of this effort was the introduction of Walmart's Packaging Scorecard in 2008. The scorecard measures: the average distance that each product is transported; its size; the energy used and greenhouse gas emissions created during the production of the packaging; the sustainability of the packaging material; the use of recycled content and its ability to be recycled after use. By August 2008, 199 unique vendors had accessed the scorecard website and more than 170,000 products had been entered onto the system, and Walmart has also developed versions of the scorecard for Canada, Latin America and Europe. The packaging reduction programme also applies to Walmart's private label products in addition to manufacturers' brands: Walmart's Kid Connection line of toys saw a reduction in packaging that led to the retailer needing nearly 500 fewer containers to ship the same number of items. This has led to an approximate saving of (according to the retailer) \$2.4 million in shipping costs, 3,000 trees and 1,000 barrels of oil per year.

### **Implications for suppliers**

For vendors, it is worth remembering that partnering with Walmart in environmental matters is an effective way of bolstering the relationship with Walmart and also improving sales. A number of suppliers have told us that participating in Walmart initiatives on issues such as packaging reduction, improving a product's green credentials or boosting logistical efficiencies have led to a better relationship with the retailer and a more mutually beneficial way of doing business.

The same goes for vendors and service providers in the spheres of supply chain and technology. Any innovation that reduces environmental impact and increases efficiency (and therefore profits) will be smiled on by Walmart, so there are clear opportunities for suppliers to participate in Walmart's greening of the supply chain. It seems increasingly likely that Walmart's 'best practice' supply chain initiatives (in terms of environmental responsibility and efficiency gains) will be taken global by the retailer, so vendors that deal with Walmart across the world might be well advised to consult with their colleagues in the United States, Canada, Mexico or the UK on the best way to engage with this process.

Walmart's leadership in distribution was developed hand-in-hand with its pioneering approach to the adoption of technology. In the following chapter we will assess Walmart's leadership in technology and the impact that the retailer's early adoption of such technologies had on the growth of its business.