Dell's Configure-to-Order (CTO) Supply Chain Strategy

Dell has grown phenomenally since its establishment in 1984 by a young medical student in the US, Michael Dell, to its position now as one of the world's leading technology companies.[1] In 2013, it was ranked #51 in the Fortune 500; in late 2013, the company was taken private by Michael Dell in a high-profile $25bn deal and he now controls some 75% of the company out of the glare of Wall Street and the 'tyranny of the quarterly results cycle'.[2] The company has evolved from being a manufacturer of just PCs into an end-to-end technology solutions provider. Dell ascribes much of its success to its expertise in SCM and the velocity with which it is able to process and deliver orders: in the PC sector where competitors often take weeks to build and ship product, Dell's metrics are hours and days.

DIRECT TO CUSTOMER

Central to Dell's phenomenal success is its distribution strategy: since it started to build its own machines in 1985 (prior to this the company had focused on upgrading old IBM machines), it has sold direct to the customer, avoiding the need for intermediaries, and getting product faster to the customer. The computers themselves were viewed by some as not particularly remarkable from a technological perspective, so much so that in 1996 *The Economist* magazine described Dell as 'selling PCs like bananas'. The business market segment is highly important to Dell and the company has invested in customer relationship management in order to stay close to key customers, while similarly evaluating the cost-to-serve different customer segments and designing product offerings accordingly. Finished products are delivered by third-party logistics partners direct from the manufacturing plants to customers, often merging-in-transit with peripherals, such as printers and other products.

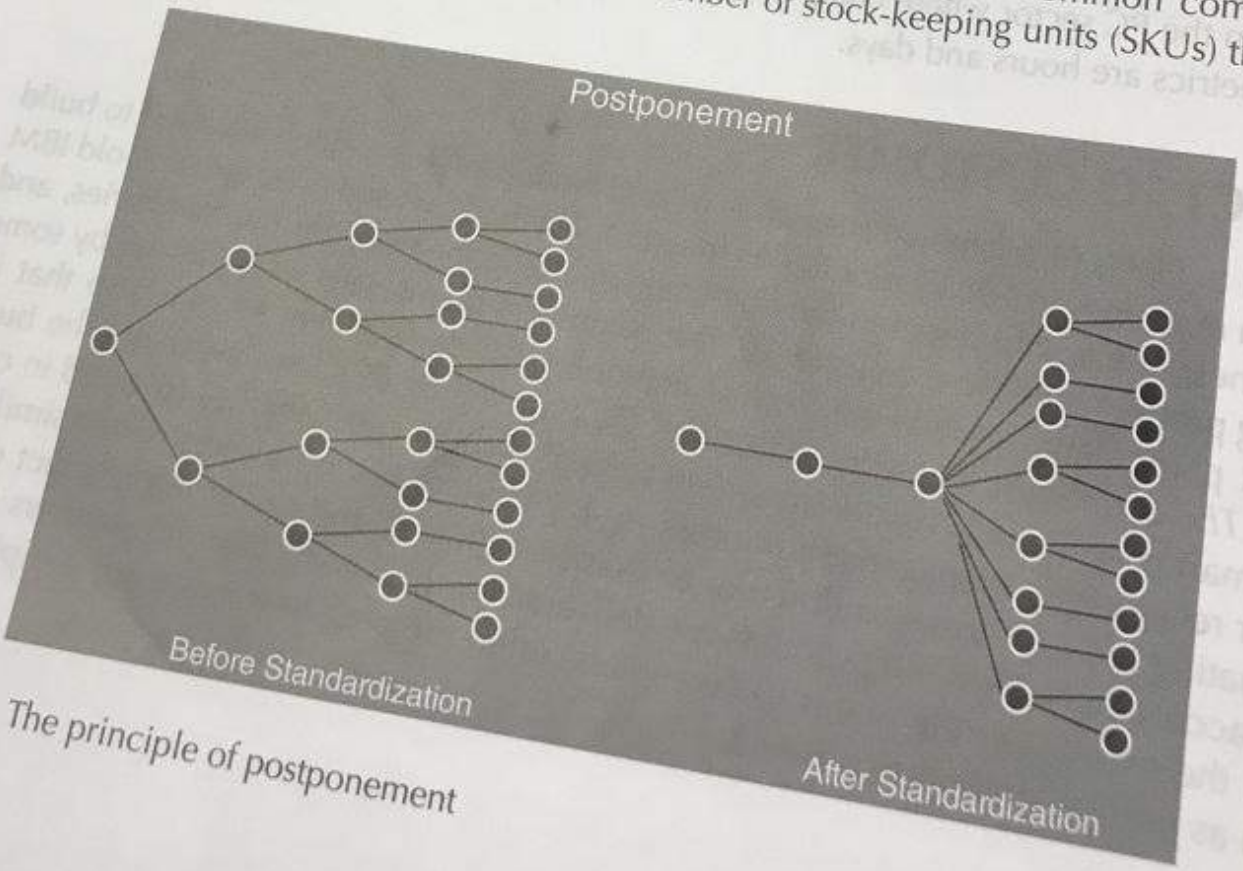
FULL VISIBILITY AND PARTNERSHIPS WITH SUPPLIERS

The Internet is key to Dell's strategy, allowing direct communication with customers and real-time visibility of purchasing patterns. Indeed, a key attribute of the Dell supply chain is full visibility along the chain with sales and production systems linked to suppliers who supply components 'just in time' usually direct to the production line and often with very short lead times (sometimes just one hour!). Consequently, Dell needs limited warehouse space for inbound raw materials. These preferred suppliers are key to Dell's success, according to the company's senior VP for worldwide procurement: 'our suppliers play an essential role in helping us provide customers with the quality and value they come to expect from Dell'.[3] Each year, Dell conducts an awards programme to acknowledge the eight suppliers who stand out in terms of quality, technology, service, continuity of supply and cost.

FOCUSED MANUFACTURING AND BUILDING TO ORDER

Dell pioneered the adoption of standardisation and postponed manufacturing (also known as 'mass customisation' in the electronics industry; Figure 1). This involves producing a small number of common platforms which are then customised according to customer demands (the customer generally recognises more so what is different among products, not what is the same!). Before standardisation (left side of Figure 1) there are multiple product lines at both the upstream and downstream ends, whereas after standardisation (right side of Figure 1) the number of different product lines upstream reduces drastically and products are only customised (i.e. configured into different products) at the downstream end (once customer orders are visible).

The benefits of this strategy are many and include sharing of common components across product lines, thus reducing the number of stock-keeping units (SKUs) that have



1 The principle of postponement

to be carried. This strategy is now increasingly also adopted across a range of other sectors, including, for example, the automobile (e.g. Volkswagen Group) and fashion (e.g. Zara) sectors.

Dell's 'manufacturing associates' can assemble desktops at a rate of 16–17 per day using 'single person build' rather than traditional assembly line techniques. This leads to both increased job satisfaction and product quality. Modular manufacturing using standardised components is employed to build the 'vanilla products', which are then customised for market.

Increasingly, Dell is moving into higher-value offerings and markets. In its view, it sells solutions, not products. The company has not, however, been immune to problems. For example, difficulties associated with faulty laptop batteries, which attracted a lot of negative publicity for the company, led to the recall of four million laptop batteries in 2006.[4] Intense competition combined with rapid changes in technology are ongoing challenges that characterise the sectors within which Dell now operates.[5]

QUESTIONS

- What are the fundamental reasons for Dell's success?
- What should Dell do next to maintain its competitive advantage?
- Will configure-to-order and postponed production work elsewhere? If not, why not?

NOTES

1. www.dell.com.
2. Reinvention helps Dell steer path through stormy waters, *The Irish Times*, 16 May 2014.
3. Dell.com (2003) *Dell Recognizes Eight Suppliers in Annual Awards Program*, http://www.wwt.com/news_events/documents/DellPR_5-28-03.pdf, accessed 25 October 2015.
4. Krazit, T. (2006) *Dell to Recall 4 Million Batteries*, http://www.cnet.com/news/dell-to-recall-4-million-batteries/, accessed 25 October 2015.
5. Dell reinvents supply chain to meet new tech demands, *logisticsmanager.com*, 3 April 2014.