

Development of the retailing industry and zappos business essay

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IB3800 | 1115796Executive Summary" The high-street is dead", a common maxim born out of the preceding fifteen years, reflects a widespread shift in consumer habits and epitomises the birth of e-commerce. This paper exemplifies the above statement and describes, explains and analyses Zappos' supply chain management practices angled from an e-business perspective. Furthermore, I will recommend an e-business strategy that I believe will improve the performance of Zappos in respect to their corporate objectives. Please see Appendix 1 for an overview of Zappos. 23/04/2013

Development of the retailing industry and Zappos' supply chain

The retailing industry has been revolutionised over the last two decades. The once dominating brick-and-mortar stores have endured the threat of online distribution channels, contributing to a plethora of high-street collapses. Just this year saw the cessation of Republic, Blockbuster and HMV (BBC, 2013).

These retailers employed a traditional supply chain of: purchasing goods, storing in outlets as inventory and vending to consumers directly, which has been visually represented in Appendix 2a. The concept of a 'supply chain' is described as "the management of information, processes, goods and funds from the earliest supplier to the ultimate customer, including disposal"

(Ellram, Tate, & Billington, 2004). Inherent problems with this are palpable:

firstly, laws of forecasting state forecasting errors are probable when

demand is segregated across geographies (Simchi-Levi & Kaminsky, 2009).

And secondly, inventory is physically constrained in volume and variety; this

is significant as Zappos founder Nick Swinmurn claims a vast assortment of styles and sizes are essential to meeting customers' needs (Demery, 2004).

The fruition of the internet has created an opportunity for retailers to better serve customer needs through e-commerce, defined as "the facilitation of transactions and selling of products and services online" (Jelassi & Enders, 2004). This new business model implements a centralised aggregated inventory leading to forecasting improvements of up to 80% (Bayles, 2001), thereby reducing possibilities of stockouts. Furthermore, fewer constraints on warehouse capacity increase product variety, evident as Zappos has 3 million SKUs in two warehouses amassing 1.1m square feet between them (Blair, 2008). The internet's impact is not limited to retailers, but extends upstream within the supply chain to distributors, manufacturers and producers. It is argued they've all experienced efficiency improvements driven by liberal information exchange (Richard A. Lancioni, 2003), which leads to reduction in the Bullwhip effect[1] as demand information is propagated along the supply chain (Lee, Padmanabhan, & Whang, 1997). Lancioni also states the internet influences inventory decisions allowing firms to quickly adjust inventory levels, therefore increasing the responsiveness of the supply chain. As a result of Zappos' supply chain transformation from a drop-shipping[2] to inventory-holding model in 2003 (ICMR, 2009), they've diminished their exposure to the downsides of holding inventory (e.g. obsolescence, holding costs); Appendix 2b and 2c diagram this transformation. However, e-commerce is not without its disadvantages, the inability for customers to wear their merchandise before purchasing compels Zappos' to provide free returns within one year. Commitment to these cost burdens almost put them out of business in 2001 (Hsieh, Delivering Happiness - A path to profits, passion, and purpose, 2010) and also

detriments profitability, part explaining their trifling net profit margins of just 3. 4% in 2009 and 3% in 2008 (US Securities and Exchange Commission, 2010a). To recapitulate, the internet has had a dramatic impact on the retailing industry. Consumer needs have shifted placing increased emphasis on price competition and product variety. Successful retailers are those adapting to changes (e. g. having online stores), preserving customer loyalty as e-commerce popularises.

How ICT is used in their supply chain to create customer value

Before understanding how ICT is used within Zappos' supply chain, it is essential to understand the nature of their product, acting as a foundation for supply chain strategy (Fisher, 1997). Their position in Fisher's model is shown in Appendix 3. Zappos' products fit closely to the model. They have the greatest number of SKUs in the shoe industry (online and offline) (FKI Logistex, 2007), indicating high product variety. Low product life cycles and forced price markdowns can be explained by the growth of their clearance website 6pm. com, which competes on price as opposed to service (ICMR, 2009). Therefore according to Fisher, 'innovative' products require 'responsive' supply chains, where the focus is on reacting to unpredictable demand (Fisher, 1997). This fits aptly to the goal set by Tony Hsieh, CEO: "Deliver[ing] WOW through Customer Service", as customers require short lead times and effective reverse logistics (Hsieh, Delivering Happiness - A path to profits, passion, and purpose, 2010). E-fulfilment Zappos invests heavily in e-fulfilment practices as according to Bayles (2001): online retailers gain competitiveness by utilising technology to drive down costs

whilst improving service. By 2005, their manual fulfilment system had reached full capacity causing them to lease an entirely vacant 800, 000 square foot warehouse located just 30 miles from a UPS distribution centre (Stanford School of Business, 2010); low geo-spatial proximity minimises transportation and negative effects of LTLs[3]. Their e-fulfilment solution has been customised for Zappos' needs. Utilising help from consultancy Arup and manufacturer FKI Logistex, they built an entirely automated fulfilment system. This included: (1) a high-speed conveyor system (FKI Logistex Accuzone®) which brought the maximum time spent on the conveyor down from 35 to 5 minutes, (2) a 'live' inventory system whereby products are only displayed on the website if they're in stock and (3) a photo-lab in the centre of their warehouse where HD photos are taken and automatically uploaded onto Zappos. com (FKI Logistex, 2007). The system above, launched in October 2006, brought substantial capacity improvements, peak fulfilment rates over 2006/2007 hit 42, 000 SKU during one day, approximately doubling their capacity (FKI Logistex, 2007). However, Zappos was in search for greater improvements. Reflecting the trend for increasing use of robotics in warehouses (Richards, 2011) they installed 70 Kiva ItemFetch® robots in June 2008 (Kiva Systems, 2009). This solution initially catered for just 15% of volume (Bradley, 2008). The robots are independent mobile units that can pick and transport inventory to humans or machines for processing and shipping, they work independently of each other therefore the process of scaling is straightforward (Bradley, 2008). Two major goals of IT are collaboration with the supply chain partners and providing a single-point-of-contact, Appendix 4 visualises this concept (Simchi-Levi & Kaminsky,

2009). Ensuring all parties have access to real-time data is paramount for effective decision making. Zappos has implemented an EDI[4]with its 1, 200 vendors (ICMR, 2009) facilitating information sharing, such as stock levels, sales and profit margins. The EDI can be accessed anywhere from a web-browser, reduces barrier to participate allowing smaller vendors to sell their merchandise and therefore increasing product variety and customer service.

Effectiveness of these tools in supporting the goal of unrivalled customer service

The combination of conveyor belts provided by FKI Logistex and the stand-alone robots manufactured by Kiva Systems allow Zappos to boast delivery accuracy of 99% (ICMR, 2009). However on further scrutiny, this means 1 in 100 parcels encounter delivery problems which is an alarmingly high rate, given Royal Mail's delivery accuracy is 99. 92% (Royal Mail, 2012).

Nevertheless, Fisher's model states it is not just accuracy that defines success but responsiveness. Their system of e-fulfilment allows them to set the bar high: unpublished internal targets ensure next day delivery for all orders before 20: 00 (FKI Logistex, 2007); however the website states a humble 13: 00 (Zappos, 2013). Leaving substantial margin for error avoids customer disappointment as I believe it is better for customers to be surprised by exceeding modest targets, than disappointed by missing ambitious targets. This capability, facilitated by their e-SCM[5], differentiates Zappos from other internet retailers as competitors Aldoshoes. com, Dsw. com and Shoes. com all offer free shipping taking a considerably longer 3-7 days (Aldo Shoes, 2013; Designer Shoe Warehouse, 2013; Brown Shoe Company, 2013). The robots now initiate fulfilment in less than 60 seconds

once payment has been received (Kiva Systems, 2009), further bolstering supply chain responsiveness. Whilst little can be done to argue against responsiveness, much can be done to argue against its contribution to the bottom line. Running a finished-goods warehouse 24/7 is far from economical as research suggests internet usage peaks between 19:00-23:00 (Federal Communications Commission, 2012), assuming no other factors are at play, this suggests orders are not spread evenly throughout the day. It would be more efficient to let orders build up then process them, abating motion wastage. However despite the large capital investment inherent in robotics, they grant numerous ways to increase efficiency which should not be overlooked given Zappos' low margins. A visual representation of the breakdown of warehouse costs is shown in Appendix 5: 'order picking' is noticeably higher at 35% of total costs. Incidentally this is the area where Kiva Systems eliminate waste and have subsequently resulted in a 40% reduction in labour costs (Bradley, 2008). Furthermore they can also operate in the dark thus saving on energy costs. An external threat to Zappos is the pace at which technology is evolving. It took merely two years before the sumptuous FKI Logistex conveyor belts were replaced with robotics. Should a macroeconomic downturn repeat itself, leading to a fall in sales and strains in liquidity, they may not be able to invest in the latest technology thus stemming the source of one of their competitive advantages. It should be noted the resilience of e-commerce to macroeconomic shocks is largely unknown, given eBay's revenue decreased 2% whilst Amazon's increased 28% over 2008-2009 (US Securities and Exchange Commission, 2010a; US Securities and Exchange Commission, 2010b). This argument may be less

significant given their access to Amazon's extensive cash reserves (\$5.3bn) should a crisis prevail (US Securities and Exchange Commission, 2010a). One could argue that Zappos is giving away sensitive information by implementing an EDI, as information such as product profitability may affect negotiations and bargaining, as it is heavily influenced by information asymmetry. However, the idea that it is not individual businesses within supply chains competing, but supply chains competing against each other, is widespread within SCM literature (Christopher, 1992; Croom, Romano, & Giannakis, 2000). This is significant to Zappos as the partnership benefits all parties as the vendors' can influence inventory replenishment decisions, thus avoiding stockouts and displeased customers, the benefits above describe those analogous to a virtually integrated supply chain. E-fulfilment and EDI are just two examples of how Zappos have created a responsive supply chain, which is the strategy best suited to their products given demand uncertainty, that provides greatest customer service (Fisher, 1997). This contributes towards their powerful competitive advantage proved by their sustained sales growth (Appendix 6). The fact that 75% of transactions are by repeat buyers are testament to this success (UPS, 2008), on the contrary, this could insinuate Zappos are approaching market saturation.

E-business strategy recommendation to increase customer value

Despite revenue growth, the sentiment looks less jubilant as we look further down Zappos' income statement. Low profit margins are driven by high costs associated to providing high service levels; which may explain why Amazon valued them at just 1x sales (US Securities and Exchange Commission,

2010a), whereas Amazon acquired Kiva Systems for almost 8x sales (Kirsner, 2012). As a result, I believe Zappos' future success will depend on whether they can uphold customer service levels and reduce costs, thus improving profitability. I will now propose two short-term 'wins' and one major change in strategy. Given Amazon have recently acquired Kiva Systems I highly recommend Zappos makes complete use of this technology within their warehouse, allowing them to upscale/downscale quickly in addition to minimising labour and energy costs. Their EDI can be extended by entrusting vendors with complete autonomy over replenishment decisions, a process known as VMI[6](Waller, Johnson, & Davis, 1999). VMI can result in increased replenishment rates which increase efficiency along the supply chain, suppliers do not have to stockpile to meet large orders and Zappos can reduce average inventories. Other benefits include increased product availability and further reductions in the Bullwhip effect (Lee, Padmanabhan, & Whang, 1997). It must be noted this strategy will not work with all products as some have extremely unpredictable demand and failures are rapidly transferred to 6pm. com. I recommend Zappos slowly introduces VMI, starting with its most dependable retailers as the process involves shifts in control from Zappos to vendor. Therefore to capture additional value Zappos must act to reduce costs. It is difficult to recommend additional ICT tools as much of their operations already involve world-leading e-business solutions (E-Logistics, RFID, E-Procurement etc.). Therefore I advise they explore synergies with Amazon, ownership suggests the focus is on improving customer value for the group not Zappos' at the expenses of Amazon's. Between them, there is little overlap in products but a huge overlap in back-

end logistics infrastructure; this overlap is driven by serving alike customers and utilising identical technologies in warehouses. Logistics are an important area to reduce costs particularly as e-businesses have zero control over manufacturing costs (Bayles, 2001). Therefore, whilst being aware this crosses into the domain of corporate strategy, I advise merging the capabilities of both by preserving Zappos' unrivalled customer service (culture, HR policies and call-centre) whilst powering their operations via Amazon's logistics and distribution centres. The benefits to Zappos include: (1) increased capability to distribute to further locations, thus reducing the barriers to expand their products into new countries, enhancing customer value. (2) Allowing them to concentrate on their core competency of customer service, and Amazon on technology and logistics. (3) Exploit economies of scale as Amazon's products can be stored in Zappos' under-utilised warehouse. However, an implication to this strategy is that it may negatively impact company culture as changes ordered by Amazon could provoke 'NIH[7]syndrome' (Bock, 1998), and will be aggravated if synergies result in redundancies. Hsieh (2010) states their culture is an important precursor to customer service. Extending the usage of Kiva systems, VMI and delegating control of operations to Amazon are all strategies I believe will create additional value for Zappos' customers. Word count: 2, 220