Portfolio Project

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Dell

Since being founding in 1984 by Michael Dell, Dell Corporation has embraced the philosophy of directly selling computer systems to consumers so that their needs are efficiently and effectively met. Over the last three decades, Dell has expanded from personal computing sales to hardware and services surrounding large businesses, VAR's, consultants, and computer peripheral markets. In addition, the company has moved from domestic based to an international corporation with over 100,000 employees (Dell, 2011, p. 6). Operations are conducted in the America's, Europe, the Middle East, Asia, and several other geographic regions (Dell, 2011, p. 6). Dell competes with both name brand and generic competitors. To provide a competitive advantage in the highly competitive technology environment, Dell offers open, capable, affordable, and integrated solutions that provide the most current technology with exceptional customer service. They also have very fast delivery of custom based, ale-cart style technology built to order.

Products and Services

Dell offers a large variety of products and services. Under its Enterprise Solutions and Services, the company provides servers and networking, storage, transaction services, outsourcing, and project-based services. Dell also offers a large assortment of software and peripherals. Accessories such as keyboards and mice, wireless, digital cameras, printers, and several others round out the peripheral offering. Mobility devices such as professional and consumer-based laptops provide a vehicle to deliver equipment to those folks who like to be on the go. An anchor to the Dell product line must be their desktop PC's. Offered in both commercial and consumer based versions, Dell has long been standard equipment in many organizations and households. Financial Services is yet another area not immediately thought of

as a service Dell provides. Credit terms for consumers and business are available, along with competitive lease programs for companies not wishing to capitalize equipment on their balance sheet.

Business Strategy

The reputation of Dell has been built on being a leader in technology by listening to their customers and providing solutions that meet their needs (Dell, 2011, p. 1). Long-term value is a key ingredient and would indicate Dell's commitment to be more than a single transaction company; instead, the desire is to develop relationships with is customers and become their preferred provider for technology solutions. The three main components to Dell's strategy are to provide efficient enterprise solutions, create a flexible value chain and accelerating online leadership, and balancing liquidity, profitability, and growth. While supply chain management will benefit each of the aforementioned components of Dell's strategy, focus will be centered on the creation of a flexible value chain. In fact, the Company's most recent annual report states, "We have improved our competitiveness through cost efficiency initiatives, which are focused on improving design, supply chain, logistics, and operations expense to adjust to the changing dynamics of our industry" (Dell, 2011, p. 2). The statement makes Dell's commitment to supply chain management very clear and will undoubtedly be one of their key performance factors in years to come. Dell's four global business segments are broken down into Large Enterprise, Public, Small and Medium Business, and Consumer (Dell, 2011, p. 2). The Large Enterprise segment focuses on corporate businesses that are national and global leaders. Innovative product delivery and cloud based computing are at the heart of this business segment. The Public business segment addresses educational institutions, government, health care, and law enforcement agencies. The solutions from Dell are tailored to each public sector's unique

business needs. Focus here is on simplifying IT, deploying IT solutions more quickly, providing a vehicle to enterprise applications and infrastructure, and building top notch integrated solutions. The Small and Medium Business ("SMB") segment aims to deliver open, capable, and affordable solutions to the small business sector. Cloud computing is also an effort in this segment because of its centralized management, lower upfront cost, and reduced full time employee (FTE) requirements of the small business. The Consumer sector rounds out the four business segments Dell operates in. Entertainment, mobility, gaming, and design are paid close attention to for the end user consumers in this market segment. Through customer feedback, Dell's products in the Public segment are constantly tailored to the ever-changing needs of the consumers. While quick turn times are necessary to appease the public sector, benefits arise from quick delivery to market and entertaining the latest fad customers wish to have now.

Sustainability

Dell takes a keen look at its role in the environment. By offering several key "green" initiatives, the company paves the way as a role model to others on how to provide a complete cycle of technology—from inception to disposal. Green house emissions reduction is a chief concern and Dell has required its suppliers around the world to disclose and reduce their greenhouse emissions. Dell is also the first company to provide free worldwide recycling of any brand computer. In addition to the above, Dell has streamlined transportation costs, which obviously reduces their expenses, but has the positive quality of reducing the company's environmental/carbon footprint.

Lean Quality

According to Heizer & Render (2011), "Managing quality helps build successful strategies of differentiation, low cost, and response" (p. 190). Dell "responds" to customer orders

because they have quality systems, little rework, and rapid throughput in their plants. This quality and quick delivery give the end user the best of both worlds: a quality product at a competitive price. In spite of mass customization, Dell maintains a very steep positively sloping trend line for inventory turn over. This attribute allows Dell to maintain little inventory overhead. Tight synchronization of its operations allows for lean synergies with its supply system and information technology is attributed to much of that success. Dell's web site allows consumers to have the middleman removed and puts Dell in complete control over the ordering, manufacturing, and delivery of technology and services a consumer wishes to purchase. The use of audits, self-assessments, customer feedback, and other metrics are used to constantly monitor and evolve the quality management system for Dell.

Dell has implemented an ISO 90001:2000-certified quality management system (QMS) to focus on meeting customer requirements and enabling employees to do their jobs right the first time (Dell, n.d.). Process management steps are followed to ensure customer needs are understood and met. Use of the QMS framework allows for all processes to be performed in a well-controlled and repeatable environment that has known output expectations and quality.

Supply Chain Structure

Dell's supply chain structure has recently undergone a dramatic transformation over the past three years. Somewhat similar to JIT, Dell forged the path of what is termed a Push-Pull supply chain. One of the key differences between JIT and Push-Pull is the ability to provide custom solutions to its customers without long lead times. Because of near immediate delivery of built-to-order technology, JIT supply chains cannot provide the necessary equipment in a timely fashion without Dell incurring large carrying costs for inventory in order to final assemble the end user's custom solution. Dell completes the order using standardized parts immediately

available from its extensive vendor network (DriveYourSucce$$, 2011, para. 1). The majority of the finished product is already assembled so a custom solution can be completed with minimal effort. In order to accomplish an effective Push-Pull supply chain, suppliers and vendors must turn around parts quickly, have an excellent relationship, and strong purchasing power (Johnson, 2010, para. 10).

Dell's new supply chain methodology is not without its challenges. According to Annette Clayton, Vice President, Global Operations and Supply Chain for Dell, "Key challenges in this transformation include the cross-functional and cross-organizational nature of the change and the shift in skill set and culture required. We are tackling these through strong executive sponsorship, dedicated change management, and cross-functional coordination to redesign processes end-to-end" (Mooney, 2011, para. 7). The nature of international integration and support from regions with conflicting standards of management can lead to challenges that make change difficult. By recognizing the issues, Clayton has stepped in front of them and began taking steps to address each concern.

Supply Chain in Support of Strategic Objectives

As previously mentioned, one of Dell's strategic components is to improve its supply chain in support of several other strategic initiatives. By implementing a Push-Pull supply chain, the company has leveraged its buying power and vendor relations to deliver customized technology to its customers without the traditional lead time required for such customizations. However, the strategy does not appear to be working because Dell has seen a consistent drop in inventory turnover over the last few years. Inventory turnover is calculated by dividing cost of goods sold by average inventory (Heizer, 2011, p. 438). Dell's current inventory turnover ratio is 42.60 TTM, compared to 45.51 in 2010, and 48.99 in 2009. To put some perspective on the ratio,

norms for inventory turnover in the Personal Computing Systems industry are closer to 65.7. The 35% difference between Dell and the industry would indicate a cooling off in interest in the efforts of Dell as a company. The ratio is but one factor to look at, but shows an area where Dell is not able to turn over their inventory as regularly as the industry and could point to a stockpile of existing equipment predicated by poor supply chain management in light of existing sales. A possible culprit could be a lack of communication of proper sales forecasting and operations/supply management. By allowing the supply management team insight into anticipated sales, quantities could be adjusted accordingly and inventory minimized.

JIT Inventory Management

Dell has become renowned for its Just-In-Time (JIT) inventory management system that can produce a customized product for a customer while incurring no more than three days of holding costs (Atkinson, 2005, para. 6). Dell appears to leverage several types of inventory in order to achieve small inventory requirements. From a raw materials standpoint, Dell purchases many of the components necessary for building systems only as demand dictates. In order to move components rapidly from manufacturers to Dell's Work-in-process inventory (WIP), warehouse space is provided for partners so that their materials are in the same facility as the soon to be built systems (Beims, J., Bergman, M., Broyles, D., & Franko, J., 2005, para. 3). This strategy all but eliminates lead-time typically associated with manufacturing firms. Heizer & Render (2011) defines lead-time as, "…the time between placing an order and receiving it" (p. 480). On-site manufactures can help Dell monitor inventory levels and facilitate automatic reordering of required components. Reorder points are drastically reduced from Dell's perspective because the on-site manufacturer is monitoring their inventory levels and stocking appropriately.

Dell utilizes lean/TQ (total quality) concepts to quickly move existing inventory and minimize holding costs. At the same time, inventory stock is reduced to coincide with existing consumer demand. With a very high turnover rate of 63.5, Dell holds inventory for less than six days from purchasing, manufacturing, and finishing a product (Schonberger. 2003, para. 12). Because of the lowered ratio between ordering costs, holding costs, and short lead times, Dell can eliminate average inventory above safety stock levels.

Conclusion

It is clear that Dell has rapidly grown from a local company into a multi-national corporation, which supplies a diversified mixture of technology and services to many distinct consumers. The growth of Dell has brought forth challenges that they have met with excellent supplier relationships, which have allowed the company to quickly deliver customizable solutions around the world. Adherence to quality standards and the ability to demonstrate sustainability allows Dell to be a leader in environment standards.

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