"Keep your friends close, and your suppliers closer." - Michael Dell

I. Introduction: This memo will provide a brief analysis of the operations of Dell Corporation (formerly Dell Computer Corporation), to include an overview of the strategy and tactics - both successful and not-so-successful - that the company has employed toward meeting its challenges, overcoming problems, and achieving its strategic objectives.

II. Strategy: Virtual Integration and the Direct Business Model

A. Information Sharing. A primary key to Dell's success is its strategy of "Virtual Integration", which uses technology to share information freely and in real time with all internal departments, as well as with vendors, customers and field service providers. Such collaboration equates to superior levels of efficiency and productivity in the realms of customer service, supplier partnerships, mass customization, and just-in-time manufacturing. Dell contends that rapid information interchange also enhances the company's knowledge about emerging technologies, helping speed time to market, allowing customer demands to be met faster and with more efficiency, and providing substantial cost advantages (Magretta, 1998).

B. Cost Efficiency. Another major element of Dell's success has been its "Direct Business Model". While other computer companies may build all components and modules for a computer, Dell implemented a strategy based on delivering solutions and systems to the customer, thereby allowing it to grow much faster and to adapt to technology changes much quicker, without being overburdened by physical assets, capital expenditures and added overhead for maintaining an overly-large infrastructure (ibid).

III. Tactics:

A. Supply Chain Management**:**

Challenge: Forecasting/Scheduling/Material Requirements Planning (MRP)

Solutions:

- Dell issues extranet forecasts so suppliers know exactly what the daily production requirements are, and vendors commit back to Dell, based on those forecasts.
- The company has implemented a new procurement system, reducing the time to complete a requisition by 62% and the cost by 61%, as well as reducing errors.

Analysis: An advantage to information gathering & sharing is the ability to forecast demand. Dell has implemented an exceptionally effective information exchange system and is therefore able to forecast both sales and scheduling with great accuracy.

Challenge: Inventory Control - Determining proper inventory levels for the manufacture of more than 50,000 computers every day.

Solutions:

- Dell carries only 4 days' worth of inventory, while many of its competitors carry between 20-30 days of inventory. Suppliers maintain eight to 10 days of inventory in nearby, multi-vendor hubs. If inventory is too high or too low, Dell works with suppliers to correct the levels (Jacobs, 2003).

- When inventory becomes obsolete or overstocked, Dell immediately implements discounted sales, usually by offering am Internet promotion literally within a couple hours of realizing it has a demand/supply problem (ibid).
- Reducing inventory concurrently reduces accounts payable. Dell gets paid for its products before it pays its suppliers (Magretta, 1998).
- Disruptions due to transportation delays, natural disasters, strikes, and the like, could mean that there is insufficient inventory to fill orders within target timeframes. When exceptions occur, Dell reaps the benefits of their technology investment by providing out-of-parameter alerts to managers.

Analysis: Trading inventory for information is a key to Dell's supply chain success. In high-technology industries, it is easy to have obsolete inventory (Magretta, 1998). Demand uncertainty is what really creates the inventory. Dell orders provide a steady stream of material and capacity, which offer far greater visibility of demand, and order fulfillment times are so short that Dell and its suppliers are not dealing with much uncertainty.

Challenge: Supplier Management

Solutions:

- Dell has as few partners as possible, who will last as long as they maintain their leadership in technology and quality (Magretta, 1998).
- The company keeps a report card on every supplier, and tracks each supplier's performance against a set of metrics maintained by Dell.

Analysis: Working with a handful of suppliers is one of the keys to improving both quality and speed.

B. Customer management

1. Call Center Challenge: During 2005, Dell was hit with a customer backlash over declines in product quality. During that time, the company's customer approval rating plunged in a survey conducted by the University of Michigan (Krazit, 2005), and the company's internal "likely-to-repurchase" scores showed a decline that was equally disturbing. The team was managing cost instead of managing service and quality.

   Cause: Managers were evaluating call-center employees primarily on how long they stayed on each customer call, rather than on percentage of problem resolutions (Kirkpatrick, 2006).

   Solution: Beginning in early 2006, Dell quit measuring the length of phone contacts, measuring instead how well problems were solved. In the next quarter, two million fewer calls were received than had been anticipated, the average hold time was cut by more than 50%, and the satisfaction rate went up nearly eight points (Ibid).

2. Repairs Challenge: The company's Americas Service Delivery division is faced with roughly $1 million a day in repair volume.

   Solutions:

   - On the field services side, Dell uses a supply chain event management application to monitor and manage the return of non-functioning products.
   - With service providers, Dell sets quality measures and has built data linkages that allow the company to monitor results in real time (Magretta, 1998).

Analysis: Through its information sharing and close monitoring, Dell is able to maintain total visibility of inventory throughout the repair cycle, including real-time and historical reporting on supplier and repair vendor performance. Today, the average repair cycle time is down to about 17 days (Jacobs, 2003).

C. <u>Performance metrics</u>

Challenge: Meeting strategic objectives.

Solutions:

- Dell uses its balance sheet & income statement on a monthly basis as tools to manage operations, along with a number of cash-flow measures, such as receivables turnover, revenue per employee, inventory turns, asset turns, accounts receivable/payable, margins, average selling price & overhead (Magretta, 1998).
- Gross margins are tracked by customer segment, with focus on those segments that generate the greatest profit (Chase, Jacobs and Aqualino, 2006).

Analysis: Dell is very efficient at measuring the effectiveness of its operations in meeting the strategic objectives of its balanced scorecard.

D. <u>Product Innovation</u>

Challenge: Rapid technology changes. The PC industry is changing, and up to now Dell hasn't sufficiently changed with it. As an example, AMD builds processors that are faster and/or more energy-efficient than Intel's in several categories. AMD's list prices are lower too, but until May, 2006, Dell alone among major PC makers refused to sell them. (Kirkpatrick, 2006)

Solution:

- Dell has embraced the AMD processor and has become, in the words of it chairman, Michael Dell, an "equal-opportunity processor user."

Analysis: Dell's machines risk being superseded by competitors with more style and with more advanced components. A recent brand audit Dell conducted (Kirkpatrick, 2006) found consumers using unenthusiastic words like "faceless" to describe it. While Dell is trying to move toward less generic products - such as a sub-brand called XPS and a high-end gaming PC called Alienware - what the company needs most is to link product, image, branding, and selling as effectively as it does its other areas of operations.

IV. Summary:

A. This memo has outlined the major operations management challenges and solutions implemented by Dell toward accomplishing its strategic objectives, the main points being:

- Information gathering & sharing is the key to Dell's virtual integration and direct business model strategies. Trading inventory for information is fundamental to Dell's supply chain and customer service success.
- As well, Dell's operations management techniques provide advantages of low cost, high quality and superior customer service, due to short lead times, a broad range of products, customized on demand.
- The company's dedication to inventory management, build-to-order products, and aggressive cost-cutting has allowed it to become the worldwide leader in PC shipments (Kratiz, 2005).

B. Despite its success in other areas of operations management, Dell must work to bolster its basic vanilla image with its direct consumer segments, and to improve its ability to keep pace with product innovations and technological changes.

C. Having ventured, once again, into retail store outlets, it will be worthwhile to monitor how well Dell's manages its inventory and distribution operations within that channel - particularly with regard to inventory turnover, operating costs, and the resultant effect on its direct-to-consumer (Internet) sales.

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