

Managing Information Systems in DELL

Dell is one of the largest personal computer vendor in the world with sustained growth amounting to billions of us dollars. Dell employs a direct to consumer sales technique, which accounts for ninety percent of its operations. They have an increasing market share in spite of a slow down of personal computer sales in the industry. Dell's direct customer sales is the heart of the company's business model. They do not employ resellers to sell their product, which has proven to be a successful marketing strategy for the company. The key of Dell's success is developing relationships with their customers. This allows the company to meet the needs of their customers better by including add-on products and services.

Dell's sales channel is done through the Internet. In fact, customers can request for specifications for their orders, which provides Dell an important competitive advantage versus other personal computer makers. This process has allowed Dell to forecast market trends. The direct customer sales approach coupled with their build-to-order model has helped the company advance in the industry while mitigating overhead costs and reducing inventory turnovers. Dell also enjoys a quicker return on investment, which has allowed the company to have adequate liquid capital.

The relationship building and build to order endeavors of Dell have shown their mastery in operating this difficult task. Dell must be able to keep up with demand and have ready parts available for customer specifications. This process involves careful planning in Dell's manufacturing and logistics departments including an information system in place to account for inventory and order requests from customers. Dell's organizational structure is called value web since it operates its ordering system online. Dell's structure allows for it to concentrate more on certain operating process and outsourcing the rest. Dell's structure includes an extensive relationship with external partners to meet manufacturing orders as well as being able to provide quality customer service. Dell uses this organizational structure

to be able to create novel products and services for their customers. This model has allowed Dell to maintain and grow its market share versus competitors over the years.

Dell's manufacturing process is a global production network that includes external suppliers and contract manufacturers. Dell's network of operations spans the Americas, Asia and Europe. Companies like Solectron, Celestica, Quanta and Arima handle the manufacturing of Dell's printed circuit board assemblies and notebook personal computers. External suppliers provide Dell with other parts such as semiconductors, CD-ROM drives, monitors, keyboards and speakers (Kraemer & all, 2000).

Dell personal computers include Windows or can be tailored fit with other software systems depending on the order. IBM, Unisys and BancTech provide Dell various services such as Information Technology consulting, repair and installation. Dell does coordinate with some resellers who are given commission for successful sales procured. Dell began in the United States but they have expanded to other markets in the past ten years, providing the same direct customer sales and build to order model for international clients. Dell's globalization efforts have positively affected the entire personal computer industry.

As of January 2010, Dell has posted nearly fifty three million us dollars in global revenue. The company has grown significantly with ninety six thousand employees worldwide. Dell's organizational structure is divided by region America, Asia-Pacific and Japan, Europe, Middle East and Africa. Dell's headquarters is Austin, Texas and each region has their own regional head, further subdivided by country business managers. Dell is a Fortune 500 company topping the list at thirty-eight as of 2010 (Reuters.com, 2010).

Dell has been named as one of the top five most admired companies in its industry by Fortune Magazine. Dell has recently undergone changes through mergers and acquisitions. In 2009, Dell acquired Perot Systems, The Networked Storage Company, MessageOne, Inc. and Allin Corporation. Dell acquired Alienware last 2006. Dell does not only sell personal computers anymore but has expanded its product range to include data storage devices, high-definition television, cameras, printers and MP3 players. Dell operates in four global business segments: Large Enterprise, Public, Small and Medium Business, and Consumer (Reuters.com, 2010).

Due to global expansions Dell has become a holding company and operates globally through its subsidiaries. The company has also increased its services to include infrastructure technology, consulting and applications, and business process services. Dell operates in four global business segments: Large Enterprise, Public, Small and Medium Business, and Consumer. On November 3, 2009, Dell completed the acquisition of Perot Systems Corporation (Perot Systems). In fiscal 2009, the Company completed the acquisition of The Networked Storage Company, MessageOne, Inc. and Allin Corporation. The regional headquarters of Dell are Hong Kong for Asia-Pacific, Kawasaki for Japan and Bracknell, United Kingdom for Europe, Middle East and Africa (Dell, 2009).

The business activities of Dell vary depending on the region since each has different customer needs. In general, Dell's clients include large corporate customers, home and small business enterprises and the public sector specially governments and their agencies. Dell product development is centralized in its headquarters with most of the products are sold equally available in all regions. Dell still customizes depending on the various markets such as adjusting keyboards and software to be applicable to the local country. The headquarters are in charge of e-commerce and information technology and this is disseminated to the

various regions with modifications. Dell especially takes care of its manufacturing plants, regular upgrades are done in existing plants. The company has opened design centers globally each with a specific design purpose.

The Austin Design Center in the United States is oldest plant the company has, they are in charge of desktops, laptop, storage system and software development. The Singapore Design Center is in charge of Dell's global lines of business the Dell Displays and Dell Imaging that is used in Dell displays, projectors and television. This Design Center was opened in 2005. Dell also has a Design Center in Bangalore, India that is in charge of software development, enterprise solutions, server development, international product support and test engineering (Dell.com, 2010).

Dell is also present in the second largest world economy Shanghai, China, which handles desktop system development, client system testing and laptop and desktop services. The Taiwan Design center is in charge of laptop and server development and data center solutions. The acquisition of Alienware in 2006 is the last Design Center of Dell located in Miami, Florida. They manufacture high-performance desktop, laptop, media center and professional systems. It is important to note that design centers are different from Dell's manufacturing plant (Dell.com, 2010).

Dell employs a lean management system of "just-in-time" manufacturing approach. This has allowed Dell to eliminate wastages in their production process, keeping inventory low which is critical since computer parts depreciate rapidly over time. The company's manufacturing process starts with an assembly line and software installation. Tests are conducted to ensure quality control. The assembly of desktop computers is done in Austin, Texas and Lebanon, Tennessee however, the latter has been closed. Dell will move its manufacturing business for the North American market to contract manufacturers in Asia and

Mexico. Dell's manufacturing plants in North Carolina will be closed in 2011, only Alienware and Austin, Texas will remain operational. Other major upheavals in Dell's manufacturing plants is the closure of their plant in Limerick, Ireland and was moved to Poland this January 2010. Poland has a lower corporate tax rate and other business incentives, which resulted to the controversial move. This new plant in Poland will serve the Europe, Middle East and Africa market (Reuters.com, 2010).

Dell's manufacturing locations were chosen to minimize the cost of their build to order and direct customer sales business model. This same model is used for all of Dell's operation globally. In order to service its clients better, Dell needs production and support capabilities to be strategically located around the world. The selection of these locations depend on labor costs, transportation and information infrastructure, market access, proximity to markets and government incentives.

The Dell headquarters in Austin, Texas is the founding place Michael Dell built his company. Dell opened facilities in the neighboring city of Round Rock when the local government provided incentive schemes for the company which included tax rebates for over sixty years for the company. Austin, Texas still remains as their headquarters catering to the North American market. The United States remains the largest regional source of revenue for Dell, this is because of the sheer size of the United States market and this is able to balance off higher labor, manufacturing and production costs compared to other regions.

Dell's sourcing process mainly does not outsource the final assembly of its products. Dell's operation strategy is to only outsource subassemblies such as bare bone personal computers and motherboards. The assembly of notebook personal computers is entirely outsourced and their plants only do the final configuration. Taiwan's Mitac Company produces the non-configurable personal computer of Dell SmatStep. The key to Dell's

success in managing information system is that the company itself conducts the final assembly and configuration of most Dell products.

Dell avoids this to maintain a hedge over competitors and potential competitors in its global operations. Dell has also remained true to its original product the Dell personal computers, although they have expanded to sell other variety of products. The production of personal computers still remains as the company's priority. The sourcing system of Dell supports the overall production facility of the company. Decision making such as sourcing, product development and worldwide procurement still remains with Dell's headquarters and this is cascaded downwards to other regions. Dell's sourcing strategy leverages on consolidating its buying power from suppliers since the main agent to do so for global operations is based in their headquarters. This allows the company to get better payment terms (Dedrick & all, 2001).

Personal computer components and systems are sourced using a central system. Other items such as boxes, printing manuals are sourced locally by the regional facilities. Dell is able to take advantage from the low cost of supplies in Asia, and minimum is done in the United States. Sony, Samsung and Acer supply monitors for Dell's Europe, Middle East and African regions while Philips and Nokia supply the American market. This allows Dell to have a wide access to suppliers across the globe. Companies such as Intel, SCI, IBM, Samsung, Toshiba, Sony, Seagate, Maxtor and Western Digital supply Dell's major components. Regionally each has their own set of supplier for less important parts (Dedrick & all, 2001). One of the key business strategies of Dell is that suppliers must have facilities to house their inventories near Dell plants. This significantly helps Dell with their build to order production process, lowering their own risk exposure to excess inventory. Suppliers also have the option to ship materials and all of these practices are done by most of Dell's Asian

suppliers. Dell only pays for materials that are actually used in its assembly line and is not obligated to pay whatever the supplier maintains in the facility.

Dell has various suppliers all over the world but mostly comes from Asia such as hard disk drives, floppy drives, power supplies, CD-ROM drives, cables and connectors, modems, sound cards and video cards. However motherboard production is available by regions such as the American market relies from suppliers from Guadalajara, Mexico. Dell is very meticulous about its sourcing and supplier aspect of the business that when suppliers in Ireland could not meet Dell's requirement, Dell procured their own suppliers externally. The result was many external suppliers decided to buy off local Irish companies and they virtually took over the business in the area. Examples of those companies are Fullerton, Lightening Beech and Trend Tec (Rigoli, 2000).

It is important to note that the manufacturing of those supplies were not required by Dell to be done near their plants. Most of the supplier's manufacturing was done in their home country. The build to order model does not require suppliers to be near Dell, but clearly Dell has seen the advantage. A growing trend is for mid level parts such as box builds have established closer facilities near Dell plants. This is because of the high shipping cost for certain parts. Dell's motherboards are assembled locally because of the high demand and as the build to order model requires this should be readily available for customer purchase in order to save time. Otherwise other materials are produced elsewhere and shipped to Dell plants.

Dell's organization usually follows the plant facilities but this is not uniform for all regions since each movement has a specific purpose and varying conditions. Dell's logistics are well organized to support is build to order model such that supply hubs or production facilities should only thirty minutes away from the plant. Dell has a wide distribution area to

account for its logistics strategy. Example would be the Europe, Middle East and Africa region wherein distribution hubs are located in the following areas Limerick for Ireland, Eastern Europe, Middle East markets; Liverpool for the United Kingdom market; Tillberg, Netherlands for middle Europe; Gottenberg, Sweden for Nordic countries; and Johannesburg for South Africa. This is a sample of the logistics preparation Dell utilizes which is evident in the other regions it operates in (Smith, 2000).

Dell sells its products online and their business model is a direct customer sales approach thus, Dell established call centers to meet their customer needs. Call centers provide sales and technical support. Call centers are organized around customer segments, wherein teams of call center agents are formed to cater to one segment such as relationship building and after sales. Dell's call centers are located regionally as well in order to provide a comprehensive telecommunications scope of each area. This is also to maximize the use of the local language in which the call center operates. Some of Dell's call centers are located in Round Rock, Nashville in the United States and Bracknell and Bray for the United Kingdom. Dell also has call centers in France, Spain, Italy, Amsterdam, Copenhagen, Bangalore and Bray. Previously before their closing Dell's Limerick call center handled higher-level technical issues. The facility also served as a back up call center when other regional call centers were down due to a power shortage. The call center was also utilized when other regional call centers has an exceptionally high caller volume which could potentially disrupt Dell's customer service priority.

Dell's marketing strategy is developed by regional headquarters and finally approved by the headquarters in the United States. Marketing strategy is tailored to fit different regions and countries. This only pertains to advertising strategies of Dell. Other marketing functions such as sales are done locally since part of Dell's business model is to employ direct

customer sales approach. This is especially true for corporate and public sector clients wherein each country where Dell is present, they have a sales team that handles the acquisition of these potential customers. Dell's sales force is especially important since they handle large contracts for the company. Dell's sales force is in charge of submitting bids especially for public sector contracts. They also keep close ties with the local industries' purchasing departments in order that they can solicit referrals and close more sales deals. Dell's sales force comprises of account executives, which handles a portfolio of Dell's clients in the local market. They are in charge of generating new sales and encouraging more business from their existing client base. Dell's sales force is essential for the company's customer service quality. They are also an important part in the direct customer sales business model of Dell. Their clients must easily contact Dell's sales force. Call centers support Dell's sales force by providing twenty-four assistance anytime for a customer. Dell's sales force are usually out of the office making sales calls. This has resulted in sales forces in all of the countries Dell is presently operating on. This is part of Dell's marketing strategy and in some countries they may have multiple offices just dedicated for Dell's sales force (Dedrick & all, 2001).

Dell has its own Information Technology and Data centers which supports all of Dell's operations from sales to manufacturing and logistics. Dell's data centers are divided regionally and they maintain their own operational staffs. This is especially important in Dell's online selling business. All of Dell's applications is centrally developed in their headquarters and is cascaded to the different regions. Each regional data center can modify the applications to suit the local market. They are also in charge of employee wide training on any new applications. The location of Dell's data centers are Austin and Round Rock for the American market, Bracknell, England for Europe, Middle East and Africa markets, Singapore

for Asia Pacific markets (Dedrick & all, 2001).

Dell also uses service partners especially in providing quality customer service. This is especially important to Dell since the what to target small and medium businesses to become their clients. Dell's main strategy for delivering world class customer service is to make sure these are located near to customers systems integration, service and repair, and consulting; all of which is part of relationship building. Dell avails of service partners that work in the same capacity that they do which is provide services on a worldwide or regional scale.

For System integration, Dell's partner is Electronic Data Systems they are responsible for installing Dell servers. They have to make sure this is linked with end user devices. For Service and repair, Dell's partners include IBM, Unisys, Wang and Banctec. Most technical problems are handled by Dell's call center however for those with increased technical problems, Dell solicits the help of expert partners. The extent of Dell's customer service priority shows that after at the most two hours from receiving a technical problem of a client, Dell's partners must respond immediately. For Consulting, Dell's partners include Arthur Andersen and Gen 3, which facilitates the company in formulating global marketing strategies, such their e-commerce business (Smith, 2000).

Although Dell has a direct customer sales approach, they've realized that there are some considerable gains with resellers. They began to supply its product to major retailers in the United States including Wal-Mart, Staples and Best Buy. They also began to do so in Canada's Staples Business Depot in 2008. Dell has also adopted a new business strategy, by opening Dell retail stores wherein consumers can come in, test and buy their product. There is still a market segment that is wary from purchasing computers online. Dell has opened a retail store in Budapest and Moscow (Dell, 2009).

Conclusion and Recommendation

Dell has truly come a long way from its humble beginnings in 1985. They have truly embraced globalization, which is reflected in their complex and diverse working environment. From a meager start up capital of three hundred thousand us dollars, Dell now boasts of a double-digit billion-dollar revenue. This is no small feat for a small company that was born in Texas. Dell's paramount success can be attributed to its commitment to its business models of direct sales customer approach and build to order system. Through these models, they were able to cut a niche market for themselves in a highly competitive personal computer market. Dell has employed a lean management system to reinforce its business models, which is the use of the "just-in-time" approach and streamlining of its operational process. Dell is in the business of not wasting time, not their own time and most especially not their customer's time. They have been able to add value to their products, which accounts for their large sales growth from acquiring new customers to generating repeat sales. Dell also has a strong organizational structure that supports their relationship building with their customers. They have been able to successfully simplify their obviously complex business strategies, which in the end satisfies their customers. Dell's commitment to continuous improvement from upgrading their manufacturing plants to creating innovative and novel products has made them the envy of other companies. As long as Dell accepts and adjusts quickly to changing market environments and makes thorough research and planning prior to any implementation of business strategies, the company is sure to be a leader in the industry for a long time to come.

Bibliography:

Dedrick, J. and Kraemer, K. (1998). Asia's Computer Challenge: Threat or Opportunity for the United States and the World?. Oxford University Press: New York.

Dedrick, J., Kraemer, Palacios, K. and Tigre, J. Paulo Bastos. (2001). Economic Liberalization and the computer industry: Comparing outcomes in Brazil and Mexico. World Development, 29(7):1199-1214.

Dell, M. (2009). Direct from Dell Strategies that Revolutionized an Industry. Harper Paperbacks: New York.

Kraemer, K., Dedrick, J. and Yamashiro, S. (2000). Dell Computer: Refining and extending the business model with IT. The Information Society, 16(1):5-21.

No author. (2010). Dell Global Product Development. Dell.com. Retrieved 5 June 2010 from <http://content.dell.com/us/en/corp/d/corp-comm/cto-global-prod-dev-loc.aspx>

No author. (2010). Dell company information. Reuters.com. Retrieved 5 June 2010 from <http://in.reuters.com/finance/stocks/companyProfile?symbol=DELL.O>

Mahoney, J. and Pletz J. (2000).Dell Continues Pursuit of Its Internet Strategy. Austin American-Statesman: Texas

McWilliams, G. (2001). Dell Gears Up To Slash Costs, May Trim Staff, Wall Street Journal, February 9: A3

McWilliams, G. (2000). Dell Computer Halts Sale of WebPC Line After Only 7 Months, The Wall Street Journal, July 11: B6

Rangan, V. and Bell, M. (1998). Dell online. Harvard Business School . Vol. #9, April 15.

Rigoli, J. (2000). U.S. PC Distribution Channels, 1Q00 Analysis, IDC Bulletin #22485.

Smith, R. (2000). Explaining Relative Firm Performance in the Personal Computer Manufacturing Industry: A Balanced Scorecard Framework. June 2000. University of California Press: Irvine.