

DARCARS Automotive Group



American University – Information Technology 355

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Term Project – Written Report

April 22, 2011

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I. Introduction

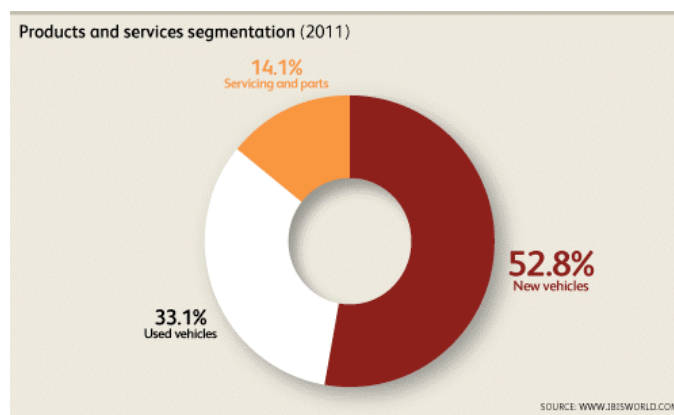
1.1 Executive Summary

DARCARS Automotive Group is a successful group of automobile dealerships due largely in part to their complex operations strategies. It is clear to see how this company works with suppliers and partners through their daily operations and how a large company with many business partners deals with both minor and major operational challenges. By interviewing John Darvish, President of DARCARS, we are able to provide an intimate view into the functional struggles and successes of an automobile dealership in the world's current climate.

1.2 Industry Analysis

DARCARS Automotive Group is a member of the New Car Dealers in the US industry. In the automobile industry, products and services are classified in three categories, used vehicles, new vehicles and parts and services, as illustrated in Figure 1 below.¹

Figure 1: Products and Services Segmentation (2011)



¹ Thormahlen, 2011

New car sales dropped significantly in 2009 and from 2006 to 2011 industry revenues fell by approximately 4.8%. Structural changes to the industry have helped overall car sales increase and have also helped to increase revenues.² The figure 2 below shows revenues in millions of dollars from 1998 until 2011 and the percentage of revenue growth.³

Figure 2: Revenue Growth (1998 - 2011)

Year	Revenue \$ million	Growth %
1998	421,972.6	
1999	473,017.6	12.1
2000	517,018.9	9.3
2001	558,746.6	8.1
2002	558,793.8	0.0
2003	587,398.6	5.1
2004	617,111.0	5.1
2005	624,049.5	1.1
2006	622,526.9	-0.2
2007	657,422.9	5.6
2008	557,910.5	-15.1

² See Thormahlen, 2011

³ See Thormahlen, 2011

2009	401,764.4	-28.0
2010	438,852.9	9.2
2011	486,687.9	10.9

1.3 About DARCARS

DARCARS Automotive Group is one of the largest family owned automobile dealerships in the United States. They are the 13th largest privately held company in the Washington, DC metropolitan area and they are continuously growing and expanding. According to research done by the company, nearly one out of every 500 new cars sold in the United States is from the DARCARS Automotive Group.⁴ DARCARS has over 20 dealerships in Washington D.C., Maryland, Virginia and Florida. The company emphasizes selling quality cars in a high-quality atmosphere. Moreover, DARCARS hopes that their consumers enjoy all of their experiences at DARCARS, from purchasing a car to repairs, parts and services.⁵

1.4 Plan

This paper discusses a number of operations related topics that have caused challenges for DARCARS Automotive Group. Firstly, we will discuss issues that the company has had to face in regards to inventory. Inventory challenges include issues with new cars as well as parts and services largely in part due to the earthquake and subsequent tsunami in Fukushima, Japan. Within inventory, DARCARS must also regularly deal with issues of overall inventory management and estimating inventory

⁴ See *DARCARS Automotive Group*

⁵ See *DARCARS Automotive Group*

demand. Those two important subjects are not only affected by the current situation in Japan but also by seasonal changes. Lastly, a number of things that have helped the company deal with inventory problems will be described. According to both John Darvish and our conducted research, the catastrophe in Japan has heavily influenced DARCARS in how they have managed their inventory.

Another challenge facing DARCARS pertains to the concept of mass customization. Mass customization is an important topic in daily production and operations management; however due to the breadth of car brands, the different varieties of cars that can be purchased and the complexity of an automobile, mass customization can be a nightmare. DARCARS has come up with tools to assist the company in dealing with the challenges that arise from the mass customization of automobiles. In order to successfully deal with mass customization, DARCARS has continuously called for a simplified system of customization that offers customers a number of different packages for each available car, thereby limiting consumers' choices.

The last operation issue that DARCARS must deal with on a daily basis is service quality. Service quality includes not only the customer service experience, but also the employees' overall experience working for the company. Balancing the needs of customers and employees can be a challenge but DARCARS has managed a way to keep both groups happy. The dealership emphasizes the finding the optimal balance between its employees and its customers.

II. Inventory

2.1 Inventory Management

Inventory management is a very important topic in business, especially in the car retail business. Finding the right inventory levels so that retailers have enough inventory to satisfy the demand, but not to spend too much money on holding costs requires good operations management. As John Darvish states, “In a car dealership, excess inventory can kill you. If you don’t have enough, your competitors will eat you alive; if you have too much, you will die with them.”

One of the major reasons why inventory management is very important in the car business is high unit cost. Considering the brand portfolio that DARCARS has, retail prices of the cars that they are selling varies between \$10,000 and \$100,000.⁶ It is easy to see with a rough estimate that they hold more than a couple millions of dollars in the inventory. As Darvish explained in his interview, the holding cost of a single unit varies from \$200 to \$500 per month, depending on the price and brand of the car.

Moreover, one other reason that makes inventory management important and difficult at the same time is the allocation based ordering system that car manufacturers use. As Darvish explained in his interview, DARCARS usually has two or three allocations per month from each car manufacturer. Looking at the allocation system, it is seen that the manufacturer offers some amount of cars at one allocation period and DARCARS can accept the full offer, decrease and accept the offer or reject the offer. This system requires DARCARS to estimate future demand and balance it’s inventory

⁶See John Darvish personal interview

accordingly. Cars usually tend to arrive at DARCARS facilities between two and twelve weeks after the order.

DARCARS management uses all kinds of available information and statistics to measure future demand and order the right inventory. The management team mostly relies on historical data analysis, prior 90-day data, current data and future demand expectations to come up with expected inventory levels. Manufacturers also engage in the decision process by requiring DARCARS to have floor plan assistance from an acceptable organization – either the manufacturer itself or major international banks – so that they do not have financial issues with their inventory in the future. Floor plan assistance in a car dealership is a way of financing the inventory where each loan is secured by a specific collateral.⁷ By having a floor assistance plan, dealers can increase their trade amount and manufacturers can make sure that they will get paid by a safe and/or trustworthy organization, such as a well-known financial institution.

On the other hand, one other important benefit that inventory management gives to the company is to benefit from the right inventory levels. Historically, there have been only a limited number of store managers within DARCARS that have maintained the right level of inventory. They have benefited from the usage of FIFO method (first in first out) and therefore, made substantial profits over the car sales due to decreased holding costs.

2.2 Inventory Demands

In the interview with Darvish, he stated “When your customer has the fever to buy a car, you need to find the car and sell it; if not, they will just go to another dealer.”

⁷See John Darvish personal interview

He was clearly mentioning how unpredictable the demand is in the car business.

Although one might expect some demand patterns in certain time periods, the exact arrival time of demand is unknown. That has been a great challenge on the side of DARCARS during their inventory management.

DARCARS identifies that demand change as the seasonality in demand and they use historical averages to be able to predict the demand and the right level of inventory. Although they are using inventory management software within the company, Darvish did not prefer to reveal proprietary information about which specific inventory control software they use. According to Darvish, historical data analysis results with the conclusion that more people are inclined to buy cars during summer months and those usually are the months customers can not get bargain prices from the car retailers.

Another big challenge for DARCARS is the different demographics for each of their branches. As stated in the beginning of the report, DARCARS has over twenty branches and this makes it very difficult for DARCARS to use the same formula or inventory allocation program to decide the right level of inventory for each branch. Therefore, the company focuses more on the local store managers that are experts in their local market and can make good expectations using the given and predicted information.

2.2.1 Single Period Disruptions

One major issue that the car retail business might face is a single period disruption and its consequences. It is always possible for the retail business to have such one time, single period disruption to the supply chain and they have to accommodate for such occurrences. Using the Japan case as an example, Darvish has explained how there is the uncertainty factor throughout the supply chain and how they are expecting to have

disrupted supply of cars for the summer months which will be discussed in detail in the section below.

According to Darvish, the main stance that they are taking in such situations is simple: “stop selling at bargain prices.”⁸ Although this leaves the company with more inventory on hand for a short while that will have increased holding costs, they will profit more from the sales that they will have in the future. Moreover, the company does not want to lose brand equity by not having any inventory to sell during peak demand periods when the supply is actually disrupted. All adjustments in such situations are required to be made in advance in order to be able to overcome single period disruptions to the supply chain.

2.3 Poka - Yokes

Poka-yokes are the tools that help businesses to prevent mistakes from happening and eliminate the mistakes by either blocking, correcting or eliminating defected processes. DARCARS actively uses poka-yokes in two parts of their inventory management system. Both poka-yokes were developed based on the dealership’s past experience. DARCARS uses these two poka-yokes to prevent defects from happening in the future.

2.3.1 Track “Loss Sales”

As Darvish stated, “There are so many parts in the car industry; you can’t just have them all in hand.” It is not easy in the car business to have all the parts required at all times. There are times when customers come in and request a part, or they bring their car to service and there needs to be a part change; however, DARCARS does not have

⁸See John Darvish personal interview

that particular part on hand. Then they need to buy that part from another retailer or company. DARCARS records that action as a “loss sale” or “loss revenue” and they also record the part bought from other suppliers. Then they use those statistics to decide what to order for the next time.

This is a powerful poka-yoke; because, by preventing the company to have a decreased rate of “loss-sales,” they increase customer satisfaction by providing shorter wait times and increased profits from operations. Secondly, the inventory management is more concerned with the actual level of demand rather than the historical point-of-sale information. Although the point-of-sale information is easy to capture for a retailer, it does not explain how much the retailer would have sold if it had more inventory. For example, you can easily tell how many cans of soda a vending machine sells per week; however, you cannot identify how many more units it would have sold after it’s inventory was sold out. Therefore, DARCARS is using this poka-yoke to identify the true demand in their parts business.

2.3.2 Buy Used Cars Only From Auctions

During the interview, Darvish has touched upon the subject of some store managers trying to profit illegally and unethically from DARCARS. One example that he gave during the interview was, “You need to make sure that the manager does not go to his friend and make a deal to pay \$10,000 to a car that is worth \$8,000 and share the remaining \$2,000.” By this, Darvish touched upon the fact that each branch under DARCARS has it’s own store manager and it is them who buy the used car inventory rather than the main DARCARS managers. Therefore, it is very easy for them to cooperate with other people and misidentify the price of a used car, thereby engaging in

fraud. This is a major problem in a big company that has over twenty dealerships all around the East Coast. In order to prevent this from happening, DARCARS has employed the policy that the store managers can only buy used cars from auctions, not from individuals. It is very hard to estimate the price of a used car and it is very likely that the store managers might want to do “favors” to their friends, relatives or just try to benefit from the transaction.

This poka-yoke helps DARCARS to prevent fraudulent inventory from entering the company. According to Darvish, this poka-yoke is one of the most instrumental tools that they have employed in DARCARS throughout the company history.

2.4 Impacts of the Fukushima Earthquake in the Automobile Industry and DARCARS

In a globalized world, a major natural disaster can affect, disrupt and eliminate vital pieces of the supply-chain. The earthquake and subsequent tsunami in Fukushima, Japan in March 2011, destroyed infrastructure and brought instability to the workforce. Japan is the home to many major technology and automotive distributors. Both Toyota and Nissan, two of Japan’s leading automobile manufacturers, have greatly suffered from the natural disaster, thereby affecting DARCARS’ day-to-day operations. Part of the destruction caused by the earthquake and tsunami are the numerous manufactures that Toyota and Nissan rely on for parts of their cars. In the business environment the effect of one piece missing from the global supply chain is critical. One broken link halts processes around the world. Research into the current event, and Darvish’s explanation of the effects on his dealerships, will help to uncover what occurs to the supply chain during a crisis.

The two major manufacturers that DARCARS engages in business with are Nissan and Toyota. The earthquake and subsequent tsunami have led to major adjustments. It tested the lean manufacturing techniques many corporations pride themselves on. Outsourcing production to East Asia has mainly run on a just-in-time schedule. Just-in-time inventory relies on fast overturn and low levels of inventory in at each piece which reduces costs and increase efficiency. When a critical piece is missing though, the process is halted and severe financial penalties occur. The term critical refers to the computer parts and technical parts that most cars on the road today have embedded in them. It is those parts that Japan produces at the highest quality. In our interdependent world, Japan's crisis is the world's crisis.

Toyota, the largest Japanese auto manufacturer has been forced to manage the crisis by not only shutting down production in many Japanese manufacturing points, but also at it's American production facilities. If critical parts of the supply chain are missing then there's no sense in building the rest of the car. Although most of Toyota and Nissan's cars sold in the US are made in the US, many key components are made in Japan. All of the major Toyota factories in Japan have been down since the earthquake occurred on March 11. When discussing re-opening dates they had to balance the high level of manufacturing in North America with the low rate in Japan. "Toyota said in a statement on Friday it was cutting production schedules at its North American auto plants 'with production suspended on April 15, 18, 21, 22, and 25'.... Toyota also announced Friday that it would resume output at all its Japanese factories on April 18, but at 50% capacity."⁹ This supports the decision to reduce North American factories below 100%

⁹ See Carig Johnson

capacity when their Japanese counterpart is not sending them their critical parts. The five weeks that most of their factories have been down for has had incredible effects on profit and brand equity.

Nissan is withstanding the same blow to its factories and reacting accordingly. “Nissan Motor Co said output has been stopped at three out of four of its car assembly factories in Japan. Nissan made 81,851 cars in January in Japan, where it manufactured 23 percent of its vehicles.” They will take a major hit financially, as well as Toyota. “Goldman Sachs said in a report that rough calculations indicated the profit impact of stopping production for one day would be about 6 billion yen (\$74.3 million) for Toyota and 2 billion yen for Honda and Nissan.”¹⁰ Major financial impact from this crisis has to spark new supply line management. Pending sales, brand equity and future sales are all negatively affected and result in a serious financial impact.

After two major earthquakes in Japan in the last 20 years, auto manufacturers must incorporate new supply-chain methods. The most important and immediate change must be outsourcing to a new supplier. Single-supplier methods reduce transportation cost but places incredible reliance on the factory or country. The current crisis has accelerated current trends of contracting operations in different nations in East Asia. “This, in turn, could lead to relocation of facilities from Japan to other countries in the region, such as South Korea, Taiwan and China, as firms elsewhere step in to meet demand.”¹¹

Automakers must have a higher transparency of information in their foreign factories. Auto manufacturers have placed too much risk on their operations around the

¹⁰ See Factbox: Japan Quake Impact on Auto Makers, Electronics Firms

¹¹ See Supply Chains: Ripple Effects

world, specifically in Japan. Although, not much warning was given before the earthquake and tsunami occurred, corporations know Japan sit on Pacific Ring of Fire. Geographic diversification in supply chains must occur to prevent future crisis. When we first sat down with John at DARCARS he exhaled deeply and relayed the stress that has been placed on him and his business due to the crisis in Japan. John described his personal prediction ‘as a dark cloud he believes will come in the coming summer months. Currently, he has inventory but he must adjust his techniques on the sales floor. The first cars that will run out of supply to local dealerships such as DARCARS will mostly likely be the cars that are exclusively made in Japan- Toyota’s Prius and Nissan’s Rouge.¹² If he predicts low inventory on these cars and ultimately all models in a few months, he must hold onto the cars he has now. He has told all floor managers and salesman to only sell cars at the top price. No more negotiating that car salesman have been famous for. Thus, resulting in financial loss. He stressed the fact that every minute he holds onto a car, he is losing money.

The crisis in Japan can be a lesson learned if auto manufactures invest in geographic diversification and remove the risk that single-supplier techniques place on them. Now that Toyota and Nissan have reopened their factories, they must properly adjust production levels in Japan and worldwide pieces in the supply chain. As a middleman from the large corporation to the customer, John must adjust his sales techniques and inventory control.

¹² See Erin Ailworth

III. Mass Customization (MC)

According to Da Silveira, Borenstein, and Fogliatto “mass customization relates to the ability to provide customized products or services through flexible processes in high volumes and at reasonably low costs.”¹³ The concept initially surfaced in the late 1980s and today constitutes a modern trend in production and operations management. Mass customization gained popularity following the success of Michael Dell’s company *Dell Computer*. Dell was able to build an empire without physical retail locations, asking customers to order *Dell Computer* products over the telephone or Internet. The American multinational information technology corporation only started assembling the personalized products once the money was in hand. With the model of mass customization, *Dell Computer* was able to “reduce their inventories and manufacturing-overhead costs, to eliminate waste in their supply chains and to obtain more accurate information about demand.”¹⁴ By doing this, *Dell Computer* proved to the world that mass customization, if applied correctly, could ultimately be a win-win situation for both manufactures and consumers.

Since the success story of *Dell Computer* in the 1990s, an array of companies from different industries have tried to implement mass customization into their production and operations management.

3.1 MC in the Automobile Industry

The automobile industry is one of the industries has dedicated itself to installing mass customization into their production and operations management in recent years. In

¹³ See Giovanni Da Silveira, Denis Borenstein, and Flávio S. Fogliatto, p. 1

¹⁴ See CNET News

the past, the automobile industry was revolutionized by the concept of mass production introduced by Henry Ford in the early decades of the 20th century. Since then however, consumer behavior in the automobile industry has changed drastically. Automobile consumers of the 21st century are less willing to spend money on mass-produced products and instead are interested in products that are tailored specifically to their needs and demands. Naturally, this change in consumer behavior called for the introduction of mass customization into the industry.

Production and operations experts however have since voiced great concerns about utilizing mass customization in the industry. According to William Mistler, an operations management (OM) expert from the Pennsylvania State University, “mass customization, in its purest form, is not practical in today’s world in the automobile industry.”¹⁵ In his opinion, unlike the computer industry, an average car is put together of approximately 3000 parts, therefore making costs of inventory extremely high. Furthermore, the average weight and size of cars cause high transportation costs. Lastly, the costs involved with manufacturing a truly customized product for each customer are explosive due to the complexity of automobiles.¹⁶

Despite these valid concerns, auto companies such as BMW, Ford Motor, and General Motors continue to find the concept of mass customization in their industry extremely appealing. After introducing mass customization into Ford’s supply chain management in 1999, Bob Rewey, former Ford employee stated, "At Ford Motor Company, mass customization equals innovation, customer satisfaction, speed to market

¹⁵ See Mistler, p. 19

¹⁶ See Mistler, p. 32

and quality."¹⁷ He further added, "Mass customization provides product excitement, allows us to respond quickly to customer wants and gives customers more choices from Ford."¹⁸ Clearly, the pioneer of mass customization in the automobile industry had high hopes for its success.

Interestingly enough, car manufacturers alike who dedicated themselves to implementing mass customization have decided to follow the "build-to-order (BTO) approach, a variant of mass customization."¹⁹ BTO is sometimes referred to as the make-to-order (MTO) approach and according to Robert Jacobs and Richard Chase, is very fitting for manufacturers that "make the customer's product from raw materials, parts, and components."²⁰ The bottom line is that the notion of introducing mass customization into the automobile industry is relatively new and it will therefore take time before its success, or lack thereof, can be fully quantified. Nevertheless, car manufactures are "convinced that the costs they can wring from their business systems by switching to BTO are enormous, that the benefits to customers are numerous, and that the difficult challenges they face in implementing BTO can be overcome."²¹

Despite having doubts about the effectiveness and benefit of mass customization to the automobile industry, William Mistler has already looked forward and been able to identify the newest mass customization trend in the automobile industry, namely "e-customization." E-customization is basically a form of mass customization via the internet. In Mistler's opinion, the new trend will "allow all divisions and customers of an

¹⁷ See The Ford Motor Company

¹⁸ See The Ford Motor Company

¹⁹ See CNET News

²⁰ See Robert F. Jacobs and Richard B. Chase, p. 17

²¹ See CNET News

automobile company to access information in real time.”²² Mistler expects e-customization to “decrease the time to market of products, as well as reduce the wasted efforts on projects changed by other divisions.”²³ The key feature of e-customization is the real-time access element. Using the Internet, a company can use e-customization to instantaneously see trends in the marketplace, thereby providing them with the ability to react to changes in the market more quickly. What is meant by this is that by logging on to the internet, both the company and the customer can for example see current inventory levels. With this information, the company on the one hand can reorder inventory from its supplier, while the customer on the other hand can use the real-time information to influence what to purchase at what time. In that sense, the customer could for example see that currently DARCARS has seven blue Toyota Camris in stock but no black one. Instead of waiting three weeks for a black Camri, the customer may decide to buy the blue car today.

The benefits of e-customization seem immense, yet only time can tell what impact it will have on the automobile industry.

3.2 MC and DARCARS

In our interview, John Darvish, President and Owner of DARCARS, voiced his concerns about mass customization in the automobile industry, explained how in his opinion auto makers should change their production habits, and offered insight on the specific tools that DARCARS uses to respond to individual consumer demands.

²² See Mistler, p. 36

²³ See Mistler, p. 36

According to Darvish, the problem in the industry today is that “there are currently 900 different car makes and models in the United States.”²⁴ When taking into account that every car comes in a different color and with different individual parts, the customer is presented with “tens of thousands possible scenarios.”²⁵ Therefore, DARCARS has “been pushing the automakers for years to stop making cars available in nineteen hundred different ways.”²⁶ Instead Darvish calls for auto manufacturers to produce cars in different “packages,” tailored to the broader needs of the consumer, thereby making cars “a lot simpler.”²⁷

Darvish also shared with us his insight on the specific tools that DARCARS uses to better understand and cater to the customer’s needs and demands. Firstly, if there is “a part or feature that a customer wants added to the car, it can be ordered directly from the factory and installed by DARCARS.”²⁸ Secondly, DARCARS uses trends reports “that show what exactly has been sold in the last 90 days to see what’s hot.”²⁹ These reports indicate to DARCARS “what people want.” Thirdly, DARCARS utilizes a setup that they call “Dealer Exchange.”³⁰ This tool allows DARCARS to utilize its large networks of car dealerships to offer the customer the specific car demanded, even if it is out of stock at the specific retail location. Not only does this tool service the specific demands

²⁴ See John Darvish Personal Interview

²⁵ See John Darvish Personal Interview

²⁶ See John Darvish Personal Interview

²⁷ See John Darvish Personal Interview

²⁸ See John Darvish Personal Interview

²⁹ See John Darvish Personal Interview

³⁰ See John Darvish Personal Interview

of the customers, but also creates an interdependency between the DARCARS dealerships as according the Darvish, “what goes around, comes around.”³¹

IV. Quality

During the past ten years, Total Quality Management (TQM) has been a subject that has gained much popularity in the business world. TQM is the management of the entire organization from all business dimensions, including the products and services it offers to a customer. The function of TQM is to constantly look for improvements within your company or business. Today, a business must surpass its competitors in more ways than one; quality of service is a dimension that must be taken into consideration. In a research study done by Thomas Powell, the different facets which are associated with Total Quality Management, such as quality training and process improvement; do not generally produce an advantage, but features such as open culture, employee empowerment, and executive commitment have been shown to provide many forms of compensation³². This study demonstrates that quality in the workplace is highly valued and may potentially lead to an advantage over your competitors. The design quality or value of a product includes: performance, features, reliability/durability, serviceability, aesthetics, and perceived quality. From our research we have noted that DARCARS exemplifies design quality by possessing all of these components. Their vehicles have high levels of performance, great features, good aesthetics and they are also classified as reliable. We will be examining their serviceability and perceived quality.

John Darvish asked: “Who is more important, customers or employees?”. The answer is both, they each complement each other. There must be a sense of employee

³¹ See John Darvish Personal Interview

³² Powell

empowerment in the company to give them the confidence necessary to demonstrate high quality service to customers. At DARCARS, as John Darvish mentioned, they demonstrate respect towards every employee, no matter their position. DARCARS helps to empower their employees by including them in all important business meetings and decisions. There is representation from every part of the company present in business meetings to give the feeling of equal respect and to get input from all business areas on a given subject. The day to day operations of the dealership are not a secret to their employees and managers are given the freedom to make their own plans. DARCARS has created incentives to motivate employees through the pilot program called Presidents Club. The program allows employees to get a commission whenever a car they have sold comes in for parts or service repair. It is still in its beginning phases, but, results have shown positive feedback and high customer service. Customer service is a large part of DARCARS quality requirements due to their close customer contact. “Countless studies within the business sector have forever proved the importance of customer service when measuring the success of a company”³³. Serviceability is an important factor to keep in mind when trying to sell a high priced item like a car. When purchasing a vehicle, customers what to weigh all of their possible options. It is not a decision taken lightly, so, dealership employees must gently persuade the customer to buy *that* car. Employees should be give off a feeling of hospitality in the dealership and make customers feel welcome and comfortable. As DARCARS slogan goes: “See what it’s like to love your dealership”. DARCARS wants to demonstrate an atmosphere of

³³Marrin

comfort and trust between customers and employees. John Darvish's advice from a selling perspective is, "have fun with customers."

To ensure customer satisfaction DARCARS sends surveys to their recent customers and the results of these are looked at on a day to day basis. Employees then build weekly reports on customer satisfaction to provide to the company. An important part of quality management is always looking for ways to improve. DARCARS wants to ensure that they provide the best service possible to their customers. When employees find out that a client decided to go to another dealership and purchased a vehicle there, DARCARS takes it upon themselves to call these lost clients and ask: "What would you change?"(speaking about the DARCARS experience). The results found indicate that in some cases, customers may have gone to the competitors for very simple reasons. An example given by John Darvish was that after calling a number of lost customers, they found out they left simply because there were no parking spaces available at the time. Management then decided to implement a valet parking system at their dealerships. As we can see, the results of surveys and phone interviews are taken very seriously at DARCARS.

During our interview we found out that 65% of DARCARS customers are repeated or come in by referrals. This percentage indicates customer loyalty and John Darvish gives all the credit to the employees at DARCARS. The company wants to encourage their customers to come back by providing the best possible service and atmosphere. Small details are really a valuable key to success; such as sending postcards on a past customers birthdays. This, as John Darvish explained, makes these customers think about DARCARS for their next vehicle purchase. The customer who might have

gone to another dealership and bought a car there will be surprised with the high quality serviceability and will express this to his friends, co-workers and family members. By word of mouth DARCARS has been gaining popularity with some of these high quality techniques. We can conclude that DARCARS is a high quality company which empowers employees and wants to ensure the best possible customer satisfaction.

V. Conclusion

In order to effectively conclude the research and this report, it is vital to come forward with a SWOT analysis in an effort to present DARCARS' current strengths, weaknesses and opportunities.

As mentioned in the executive summary, DARCARS is an established brand in the Washington Metro area, with a long and successful history. The dealership network enjoys both high brand awareness and a high referral rate. Moreover, as is apparent from the company's website, DARCARS has a surprisingly diverse product offerings. A further strength is that DARCARS can rely on its experienced and well-trained staff. Ultimately however, DARCARS, being the dealership that it is, has the power to determine the price. Individual managers decide independently what price to charge for their products, free from regulations and oversight.

Nevertheless, the company does have weaknesses. As demonstrated by impacts of the Fukushima earthquake, DARCARS is extremely dependent on its suppliers and therefore vulnerable. A single incident in a distant part of the world can have major ramifications for the company, most importantly due to the inability to hold its necessary inventory levels. A further weakness is that the demand in the automobile industry is

seasonal. While there are months with high sales levels, during some months, sales levels can be very low, in some cases even making it impossible for the dealer to break even. Furthermore, inventory costs are high, requiring dealers to quickly sell products while being alert to the fact that low inventory levels might negatively impact sales. Lastly, DARCARS is very dependent on its staff. In the case that a number of key store managers leave the dealership network simultaneously, John Darvish will himself in a very difficult position.

There are however a number of opportunities that DARCARS faces in the future. The current economic recovery has boosted car sales. This trend is likely to last longer, giving DARCARS the opportunity to be extremely profitable in the upcoming months. Furthermore, DARCARS has very strategically managed its inventory following the Fukushima earthquake. While other dealerships sold their cars, DARCARS decided to hold on to their inventory, thereby giving them the opportunity to sell their cars at even higher prices once other dealerships stock-out. Lastly, the automobile industry is currently undergoing a transformation. Major automobile corporations are investing in more eco-friendly technologies, most significantly hybrid and electronic cars. These new product lines could represent a new source of revenue for DARCARS.

Despite facing future opportunities, DARCARS is concerned by future threats. Future disruptions to the supply chain could throw the company back further. The point of concern is that these single-time occurrences are unpredictable and therefore severely damaging. Moreover, a future increase in competition would also be threatening. Most importantly however, the current high price of oil is threatening to DARCARS. Not only are people buying fewer cars, but people are also deciding to make use of public

transportation in an effort to save money on gas. If estimates by the former Saudi oil minister hold true, crude oil prices might surpass \$200 or \$300 a barrel in the upcoming months. This development would minimize DARCARS profits, most significantly during its strong summer months.

What stood out to us in this project was the vulnerability of car dealerships to a disruption in their supply chain. In that sense, we gained an understanding of how important production and operations management are.

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