Understanding Operations, Logistics, And Supply Chain Management Of Toyota Company

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Toyota Company

Introduction

Operation management (Heiser, Render, and Munson, 2017) is a process for the company to create better products or services for consumers. This process includes marketing to generate more demand, production, and operation to improve the already existing product or make a new one and also finance and accounting to see the company performance in the cash flow, financial profit, and loss sheet, etc. Logistics, in simple explanation, is the human and goods movement process. The supply chain is the process from point A to point Z. The picture (see Appendix 1) shows (Slideshare 2017) five steps till the product is ready to collect for the customer. The first step is to get the parts from the vendors. Vendors can be local and outside the country. Later parts go to the manufactory receiving, storing and last bit sending to the production line. Then, the car is sent to the dealer. Then, the product is ready for customers to buy. Operation management is vital for every organization for making a better product, saving the company money, making quicker processes, ensuring a healthy and safe working environment, and better competition. Make sure business all the processes work like one unit. Avoid any waste. For example, any damage, time-wasting, stock overtaking, less making and much much more is included in the operation management process.

Introduction to the company

In this part, we critically analyze the strategic importance of location and the layout of the Toyota manufactory company. The main factories to choose the place (Heiser, Render, and Munson, 2017) there to operate for companies like Toyota are company visions, cheap labor, environmental regulation, easy-reach all the materials and customers, government policies, beautiful region, land or construction cheap coast. For a company like Toyota to make the decisions for the manufactory, it might be for a few decades, if not longer. The issue of expanding and looking for new places can significantly reduce fixed and variable costs. Later any changes are complicated and can cost a lot of money. The map (see Appendix 2) shows (World Economic Forum 2017) that the best countries to do business are from 1 to 10: Switzerland, United States, Singapore, Netherlands, Germany, Hong Kong, Sweden, United Kingdom, Japan, and Finland.

The company management has a philosophy that keeps on evolving from the time the company was established in the 1940s by Taiichi Ohno and Shingo Shigeo. The philosophy has been reflected in terms of “lean manufacturing” and “just-in-time production.” It was instrumental that is used for development. There are managerial values and business methods that are collectively known as Toyota’s way. In 2001, Toyota way that was established that expressed values and conduct guidelines, which all Toyota company workers embraced. Under the two headings ” continuous improvement and respect for people, Toyota Company has summarized its values and conduct guidelines with the following five principles. These are challenges, improvement (kaizen), respect and teamwork.

Based on external observation, Toyota Way has four components, which are:

- The process for the problem-solving.
- Long-term thinking is the basis for management decisions.
- Recognizing that continuing to solve the main problems drives organizational learning in the company.
- Adding value to the company by developing its employees.

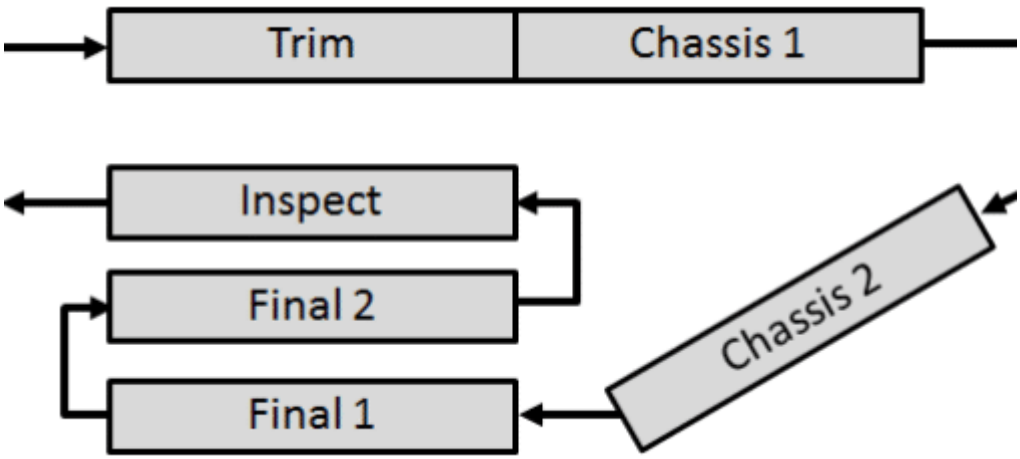
Therefore, Toyota’s way is used to incorporate the company’s production system.

Appendixes

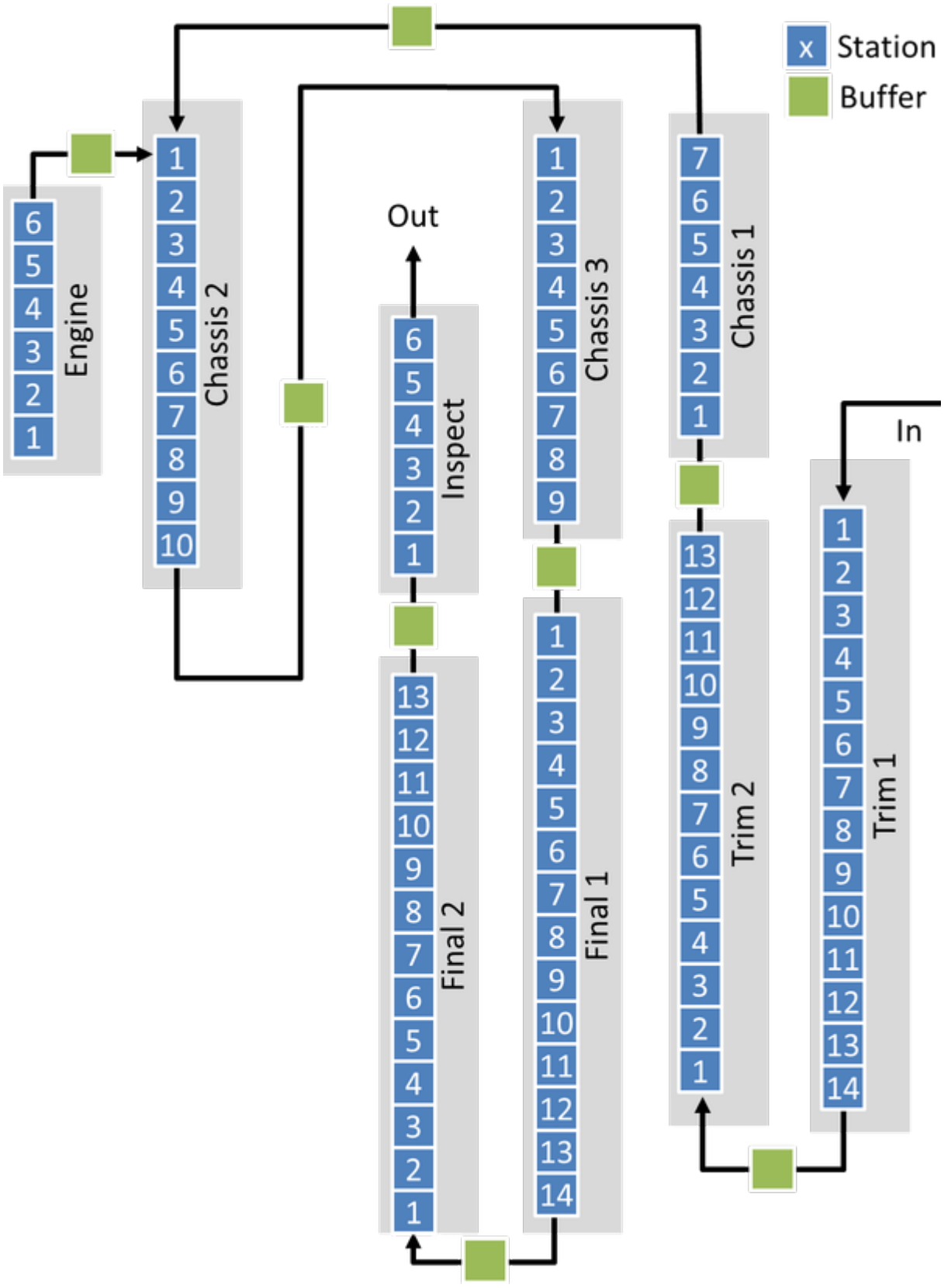
Appendix 1

Appendix 2

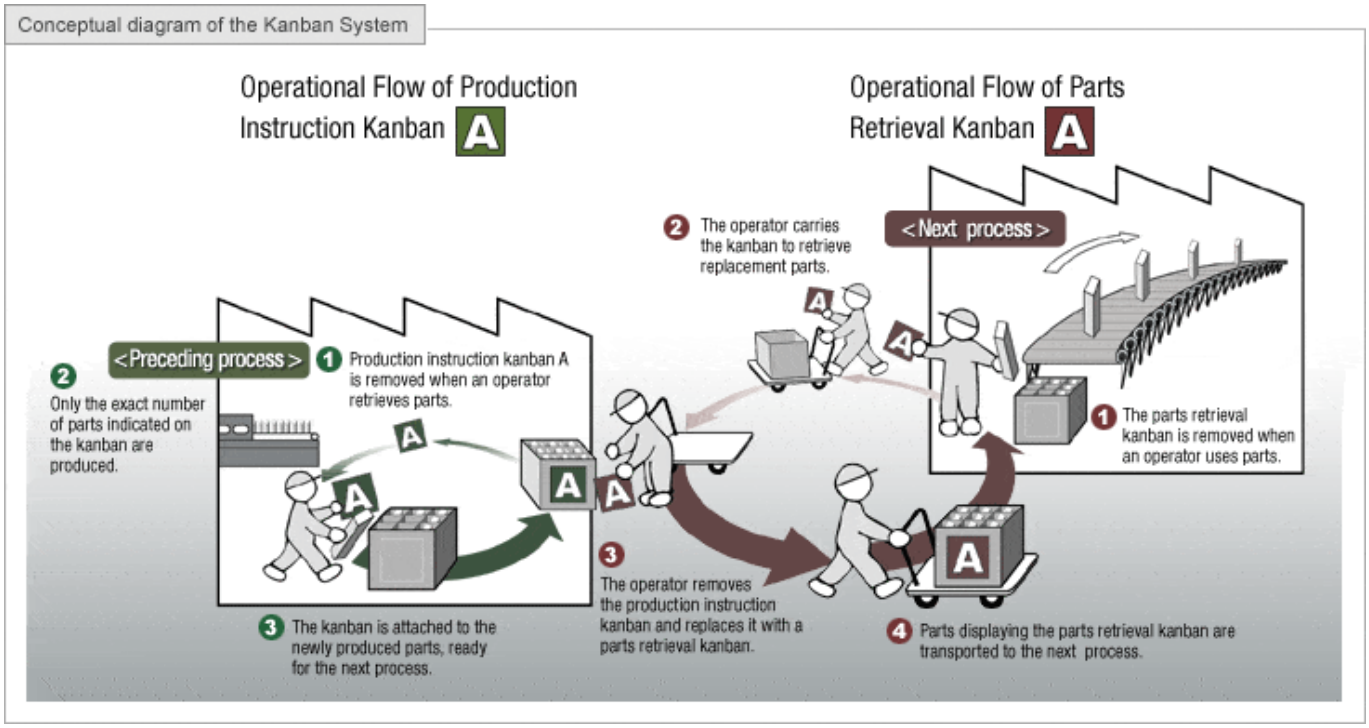
Appendix 3



Appendix 4



Appendix 5



Appendix 6

Appendix 7

Location and Layout

Toyota Company is among the companies that are constantly evolving with the objective of reducing waste in its productivity. Over the last twenty-five years, the company has changed its assembly line layout to improve its efficiency. The previous Toyota plant in 1994 is the represented in Appendix 3, where segment that was long was split into smaller parts, for example, the process starts with one trim, which is then split to two chassis and finally get to the final stage as shown in the Appendix 3.

New Toyota layout plant

There was the establishment of another layout in 2014 from the previous layout that was used since 1994. The layout contains more individual segments that are divided by small buffer stocks that are green boxes. The plant has eight line segments, that are more than the previous plant layout, which has six segments. In appendix 4 below, it illustrates the current layout of the plant. Thus, each small blue box represents one station along the line, and it is approximately operated by one worker (not taking into consideration the team and their leaders). The exact number of employees in line depends on the demand of the customer. This increase in demand increases the number of employees in the plant to satisfy the needs of the customers. One of the ways to adjust the result of the line is by removing and adding employees. The plant operation is very fast, for example, highly automated welding line is faster that is its ability to produce one chassis in just one minute. It is interesting that, rather than cramming the line that is filled with chassis (the western way), (Dudovskiy, 2012), Toyota Company uses a pull system. The chassis is released only at the velocity that the assembly line can handle them. Therefore, in some cases, there are idle stations without chassis in the welding line.

There are benefits of splitting the line. One of the reasons motivates the employees. In the company, the employees cannot stop the line also should have the skills and knowledge to solve the problem within a short time. If the problem involves other workers, they cooperate and solve it without conflict. It assists in removing the feeling of guilt by interrupting another worker when one employee needs assistance from them to solve his machine problem. He solves the problem individually and continues working without interfering with others.

Another benefit of this layout is the improvement of the productivity. If the problem occurs, it does not stop the entire line of production, but it stops the section of production that is a segment. Hence, the risk of disruption is wide the productivity of the lines is increased.

The important aspect of knowing is that the layout of Toyota Company began to be changed in 1994 since its establishment. At this time, they introduced the approach of breaking the line into small segments of production. This shows that previous management led by Taiichi Ohno, who was the main force behind the Toyota production system, was against the idea of dividing the lines of production. After the death of Taiichi, the changes change in the operation strategy of the company was introduced that aimed to improve productivity and reduce wastage.

Toyota company operation management covers many sets of roles for the effective and efficient operation of the company. There is a wide set of strategies that are employed by the company for the decisions of the operation management, regional automotive and integrating local market conditions. The company has several decision indicators in different areas of business operation that require strategic approaches. The company emphasizes productivity based on the following decision of operation management.

Design of the goods and services. Toyota Company addresses this area of operation management by

employing advanced technology and quality in designing the products. In this case, the company uses R&D investment to ensure advanced features in its product production. They also integrate dealer's personnel in designing sales services.

Quality management. Toyota's production system is used to achieve the quality of the products manufactured by the company. The company emphasizes the continuous improvement of the production quality that is covered in the Toyota way and other set management principles.

Location strategy. The company uses local, regional and global location strategies in its operations. In this case, the company emphasizes and aims at the smooth flow of business in different areas.

Inventory management. In this area, the company has a strategy that minimizes the level of inventory through the principle of just in time. This approach is covered in the Toyota production system.

Job design and human resource. Toyota Company applies TPS and Toyota Way in this area of operation by emphasizing respect for all the employees and their ideal contribution to production. The use of the Toyota way integrates human resource programs and policies.

Scheduling. Toyota company follows lean manufacturing principles and layout in the scheduling of its productivity operations. The objective of the scheduling strategy for productivity is to reduce operating costs. The cost reduction is maintained by human resources and resource scheduling that normally changes according to market conditions.

Supply chain management. The company uses lean manufacturing for supply chain management. Therefore the company uses the real-time automated system for adjustment in the supply chain activities. This assists Toyota Company in reducing the bullwhip effect in its supply chain.

Layout design and strategy. The layout design that is employed by Toyota Company is based on the application of lean manufacturing principle, which normally has the objective of maximizing the efficiency of workflow. However, the dealership layout design also satisfies the company layout standards but involves decisions from the dealers.

Maintenance. Toyota Company has strategized its operation network facility to support its global business. It has a global human resource network, which supports flexibility and business resilience. Therefore, the company uses its global business reach to make sure stable and optimal productivity is attained.

Just in time

It is the philosophy of the Toyota Company for productivity improvement. It means that the process should determine what is needed at the correct time and the correct amount needed. This enables the company to produce quality products through the complete elimination of inconsistencies, waste and unreasonable requirements on the production line. Therefore, to deliver the order of the customer

faster, the vehicle is built efficiently within the shortest duration possible. For example the efficient production of a large number of vehicles, it is important to establish a production plan that includes parts procurement. Therefore, just in time, focuses on “supplying what is needed, when it is needed and the correct amount needed.” Hence, this production plan was used by Toyota to eliminate inconsistencies, waste and unreasonable results, which the requirement in improved productivity (Hines, 2004).

Toyota’s production system has a control method that is known as the Kanban system that plays an integral role in the system. Sometimes, the Kanban system was referred to as the supermarket method because it was derived from the idea of the supermarket. There is a mass merchandising store that uses product control cards where product-related information is kept, like product name, storage location, and code. Toyota Company employed Kanban signs to use in its production processes. In the company, the process refers to the proceeding process to retrieve parts, through Kanban it communicates which part that has been used.

The Toyota Company applies the concept of just in time, illustrating the stock in the supermarket. That is, supermarkets stock goods that are in demand by the customer when they are needed and the quality required. Therefore, they have all these items available all the time. The company quoted the customer, and the supermarket and the process follow each other, respectively. The next process (customer), the following process (supermarket), the company uses this to retrieve the necessary part when they are needed and in the required amount. By using just in time, the company was able to improve upon the inefficient production system. Even if the proceeding process is making excess parts, the parts are then delivered to the following process (Ambe, 2014). The concept of Kanban system in the Just in time assist the company in manage of parts, Appendix 5 illustrates how this operates.

Lean manufacturing

It is a systematic manufacturing strategy used by the Toyota Company that works to reduce waste within the production process. The strategy takes into account waste created through overburden and waste created when there is unevenness in the workloads. The strategy works based on the perspective of the customer who uses the products. Therefore there is more consideration of the quality of the product manufactured, (Jackson, 2003). The idea of adding value, which is to use lean, is based on the Toyota production system. The system reduces the original waste to improve overall customer values, which has made Toyota company to grow local company to a worldwide company.

Lean manufacturing has tools that assist in identifying and steadily eliminating waste. As the wastes are eliminated, the quality of the products is improved while production costs and time are reduced. The tools used in lean production are value stream mapping, pull system, total productivity maintenance, rank order, cluster, control chart and others.

Toyota Company uses Toyota way to focus on improving the smooth flow of its operation and steadily

eliminating unevenness through the system. The techniques employed by the company include pulling production and production leveling. Therefore, the main objective of the lean is to enhance productivity by simplifying the operation structure of the Toyota Company enough to perform, manage and comprehend the work environment. To achieve this objective, Toyota Company has a methodology that is used to foster lean thinking through the structure of the company. It also has a mentoring process that encourages company organizations and teams to seek third-party professionals who can provide coaching and advice in case of a problem. The structure of the lean manufacturing system is illustrated in Appendix 6 below.

Triple bottom line

The triple bottom line is the system used to assess the business profit-making through sustainability solutions. It is a method that requires the management of the company to look beyond the traditional bottom line of the company to the profit that the company makes environmentally, economically and socially. The triple bottom line is illustrated in Appendix 7.

There is an acknowledgment of the efforts of the Toyota company material handling in Europe in the report; they establish that “together we make the difference and share measurable progress.” The company’s stakeholders and partners come together to meet the target and improve sustainability performance. For example, Eco Vadis, the provider of the sustainability rating of the supply chain, has ranked Toyota company material handling to be among the top companies in the world. This shows that Toyota Company has demonstrated transparency and also has achieved advanced CSR engagements.

Toyota’s material handling aims to eradicate accidents and has succeeded in decreasing lost days in the company by 67% over the last two years. Toyota Company is an official partner of the European Agency for Safety and Health at Work and is among the active partners in this network. Toyota Company is committed to improving safety standards in the provision of training for the forklift operators and managers of the warehouse. Also, Toyota Company is among the top global suppliers for its employees’ practices that are dedicated to cultivating talent and promoting a responsible culture without the company and suppliers base (Jackson, 2003).

The focus of the company is increasing its revenue while lowering emissions through smarter fleets and manufacturing processes. It has a dual impact strategy, which assists the customers in achieving significant energy savings. Quality products produced by the Toyota Company have a significant impact on the triple bottom line. The company strives to remain number one in customer satisfaction. Thus, the company is proud to have universal design experts and customer labels for its products, such as the BT movie N-series and S-series that are care-equipped with a mobility support range.

Recommendation

Toyota Company is among the top suppliers of the vehicle in the world. However, I recommend, based on the manipulation of their operation strategies, that the company remain at the top of the automobile market. The strategy should include a public apology, offering the prepaid maintenance plan and the implementation of the new emergency protocol.

Toyota Company should be willing to apologize to the general public in case its operation has failed or a problem arises with the product it distributed to the customers. And find a conducive way to rectify the problem. This will increase the relationship between the customer and the company, which will improve its sales.

The company should offer a prepaid maintenance plan for the vehicle for a stipulated moment when all the vehicles that were recalled are reinstated to owners, that driving vehicle will be nervous about what the company is doing. Based on CNNMoney.com, the company has recalled about five million vehicles. With the prepaid servicing plan, Toyota company owners can take their vehicle to an auto shop and get it repaired. This will keep away customers inconvenience, (Jackson, 2003).

There should exist a new emergency protocol that will assist the customers and company in case of a large recall. The company should have a strategy that will enable communication with car owners either by phone or by letter to inform them of the updates that they should know.

Conclusion

Therefore, based on the current operation strategies and the culture of the Toyota Company, it's progressing well in the automobile market, which gives it a stable position in the market. The management of the company should continue expanding the company to areas that have not been reached by competitors to increase its sales. It is important for the Toyota Company to do more research on the market to identify the opportunity to improve the quality of their products and market share (Lambert, 2004). If Toyota Company stops researching a new way to improve its products, there will be stiff competition in the market that may outdo it from the top position. Other companies like General Motors, Ford, Nissan, and others are key competitors of the Toyota Company on the market. Therefore, Toyota Company should analyze the market, identify the threats and weaknesses and use them to improve its productivity.

Self-Reflection

Toyota Company supply chain management is the element of Toyota's operation strategy that is based on the Toyota production system. The company's success has been worldwide as it's followed by other companies' interest in the Toyota production system has a principle that is expressed in

terms of lean manufacturing. According to (Liker, 2005), listed components of Toyota supplier partnering hierarchies are interlocking structures, mutual comprehension and trust, compatible capabilities, control system, joint improvement actions, information sharing, learning, and kaizen. Just in time system in the company assist in the organization of the flow of information and decision rules, which enable the company to realize the advantage of the JIT principles.

The element of just in time system is proactive in exposing issues, total quality management, production base in Kanban eliminate waste, continuous improvement, reducing inventory by the company involved in the supplier's planning process, focusing on cooperation and improving machinery. Based on Kanban, each part of the container that is used for transportation has a card. The new stock of the part is required if the current stock is used and the card is removed by use of the signal of restocking the parts. Kanban is well integrated into Toyota's production system. It is so because Toyota Company has a limited number of parts that have stable demand on the market. The product mix of the Toyota product is low, and exchange is not frequent.

Capacity planning for every company is the function of the supply chain management for that company. Toyota Company has a Toyota way philosophy that handles capacity planning where it strives to eliminate inventory. To achieve this objective, the company relies on a pull system that enables the company to manufacture a vehicle that is already ordered. The main objective of the Toyota Company's capacity planning is continuous improvement.

The pioneered operational excelled that adopted by the total company is one of the important strategies that is used by the company in its operation. It leads to the use of the lean concept which has the objective of providing superior care to the customer and eliminating all wastes in the manufacturing operations. The lean concept is based on the pull system, which has the main aim of eliminating waste in the manufacturing process. Inventory management of just in time enables the total company to get a competitive advantage over other vehicle companies because it does not have a large amount of inventory in the warehouses. Toyota Company only creates inventory at the time there is an order from the customer. This strategy assists the company in reducing storage expenses, thus reducing the operation cost of the company. Also, the Toyota Company does not maintain its standard stock. The company orders new stock after the current stock is exhausted to avoid accumulation of inventory in the warehouse, thus reducing operating expenses.

Currently, Toyota Company faces stiff competition in the global market that forces it to seek other opportunities to develop a competitive edge over its competitors to widen its shares in the market so the company can survive. Supply chain management is an aspect of Toyota Company to focus properly and identify ways to improve its operation. Improved supply chain management results in a reduction of production costs and increased efficiency. Therefore, Toyota Company requires the implementation of a strategic approach that will lead to the improvement of the supply chain.

Toyota company is currently among the modern companies in the world that have a history of conducting successful business practices. Every section of the company is well strategized, which

makes it have successful progress in its operation. The success of the Toyota Company is the base principle of Kanban, just in time, lean manufacturing, kaizen, company philosophy and others, which give the company a competitive advantage over its competitors.

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