# JAPAN EARTHQUAKE DISRUPTS TOYOTA SUPPLY CHAIN

## INTRODUCTIONS

Companies all over the world have significant problems in their internal and external environments. When it comes to the external conditions, these are issues that are caused by external factors like the weather or climate. Toyota is a company that is having problems with its supply chain due to the earthquakes in Japan. In the past years and even today, Toyota Motor Corp has taken up the leading position in the selling and making of motor vehicles (Sheffi, 2015). They have been known for the longest time now of being quality makers of their products. This paper highlights the problems that Toyota has had to deal with in its supply chain. The paper also illustrates the solutions that might work for the company for them to curb some of the setbacks they have to go through as a company.

## PROBLEMS WITH THE SUPPLY CHAIN DURING EARTHQUAKES

Natural disasters may end up affecting the variables that will determine how a business entity grows and at the long run the variables that are at the forefront would be the impact on the natural resources that is land, destruction of crops and animals, etc. The effect brought about by the earthquake in Japan resulted in the reduction of the GDP of the entire economy of about ninety billion along with a debt that stuck up to 220 percent (Sheffi, 2015). The second variable would be the physical capital accumulation that can be noticed after the disaster with the change in physical capital. The third variable would be the accumulation of human capital. This is also known as the loss of lives.

There are very few people who were in a position to predict how severe the destruction from the earthquake and tsunami that hit Japan in the year 2011 was. These are events that interrupted and disrupted the whole country’s activities including the auto industry (Sheffi, 2015). Matters got a bit more complicated when one of Japan’s nuclear power plant was affected. The floods and the earthquake caused a major power supply and also created a vast area of radiation zone around the plant. Toyota had to suspend some of its operation stages and mostly those that dealt with the assembly of their vehicles mainly because their suppliers such as Aisin Seiki were affected. They were unable to source parts from them hence the reason why they were paralyzed and were unable to move on their own with their car assembly.

Aisin Seiki has been heard time and again saying that they were making the spare parts with orders. They had seen no need to have the spare parts made and stored just in case there were any emergencies like the Earthquake and the tsunami on that matter. The parts that they made were not identical to parts made in any other spare parts supplier (Sheffi, 2015). This is to say that different vendors had their cars spare parts which were a big mistake. If most of these suppliers were to make spare parts that would be used by multiple Japanese vehicles, then they would be able to have some refuge if one supplier was to succumb to damages. Most of these suppliers had kept their manufacturing to the just in time system where most of their spare parts were made by order and to be fitted just as they were gotten from the factory.

Most of the automobile companies that were based in Japan were shut down for some weeks. This was due to the destruction of some of their facilities hence roughly 13percent of the entire world’s auto production was at a halt. Some of the largest automakers that were affected include Toyota, Mazda, and Honda (Sheffi, 2015). These companies shut down most of their spare parts companies along with manufacturing companies. A week after the earthquake, Toyota made several announcements in its bid to stop the production of its vehicles due to the destruction of factories that made spare parts in Japan.

Japan went on to announce the suspension of the production of plants in one of the plants in North America. The company talked about making plant improvements and giving training to its employees in the other facilities based in the United States. These areas in the United States were ideal hence it would have been a major step if they moved their manufacturing plants to the United States instead. Observers in the automobile industry made predictions on half of its capacity would remain none- function for roughly eight weeks post the disaster that occurred in Japan (Leon, 2014). This would result in the jeopardy of roughly a third of the entire world’s production. This would bring up the shortage of spare parts usually being exported around the entire world for that matter.

Industry executives were considering changing a few things in their operations in their vaunted manufacture and supply of the automobile parts. Toyota had been using one manufacturing plant to manufacture spare parts that were apparently common to most of their Toyota models. It would be true to say that 85% to about 90% of the spare parts are normally outsourced along with the materials that are needed for the manufacturing operations in North America (Leon, 2014). As much as it built more of its models in Japan, they would have made the losses much less for the organization to have the plant being transferred to North America to curb such interruptions (Leon, 2014).

After the Tsunami and Earthquake, there was another earthquake later on that led to the halting of about twenty-six Toyota car assembly points. This shows how heavily the supply chain system can be halted ad impacted by disastrous conditions. In addition to Toyota, companies like Hyundai talked of keeping their motorbike stations in Kumamoto shut due to the same earthquakes. Toyota was more likely to shut down its entire operations countrywide while those of Honda were kept running outside of South Japan. This was the second time in roughly three months that Toyota’s operations had been put to a halt (Leon, 2014).

This led to a loss of roughly four million cars being manufactured that week that reports talk of maybe never being savaged. Toyota as a company majorly relied on the “just in time” plan hence that is the reason why most people think they incurred so many losses in the earthquakes in Japan. This is a plan whereby the parts needed are brought out of the factory when and as required. Hence the spare parts are only made when there is an order, and there is an order (Leon, 2014). As it seems this led to the halt of the manufacture of millions of cars because the spare parts were destroyed. There were no spare parts in store for them to just pull out and continue building.

The main factory was in Japan hence Toyota was used to the domestic manufacturing of spare parts that resulted to the halting of all the other Toyota branches in the other cities that were even unaffected by the earthquake. Branches like those in North America were not as busy hence it would have been much better if they were trained to make and supply the materials that were required (Leon, 2014).

The Toyota supply chain was interrupted in that the companies that they were outsourcing from were based in Japan and most of them were affected by the earthquakes in both times. This shows that the company had its main distributers in one country where they were all vulnerable to the same disasters if they were ever stricken (Leon, 2014). The business continuity plan of Toyota as a huge company had major loops that were unexpected. As much as they had the duty to promote employment in their traditional town, they did not think of the fact that all these people would be living in the same area hence if any disaster struck they also would be greatly affected. The earthquake was able to destroy some engine in parts manufacturing in Aisin Seiki Co hence the production shift quite drastically (Tierney, 2014).

As a result of the earthquake, the financial position of the company is likely to have a drastic change. Its profits went down by about two hundred and seventy-six million. With this kind of change, their prices are likely to go high so that they can accumulate and bring back some of the lost revenue (Tierney, 2014). This, in turn, will lead to the company having their position at the top of the charts being taken away from them. There are several reasons that might have led to the back slide of the company. One is due to the increased prices hence the consumers could not reach those prices to buy a car that they could buy from another company. The other reason was that the customers would like to deal with a company that they can trust to always be in business no matter the circumstances (Tierney, 2014).

The integrity of the company has been on the scale for some times because they have not made any changes to show that they can deal with the disasters that curb them from continuing with business. (Tierney, 2014) Japan has been known for time and again for being a country prone to such natural disasters, by now this company must have a way of bouncing back from such calamities or even preventing their effects from affecting them as much as they do.

A company with such resources should be able to be in contact with the climatologists or anyone who has the resources and power to see this calamity coming. This will enable to show that the company is prepared for such dangers and the have social responsibilities over the community that leaves the company. By this, they can give a prior warning to the members of the community so that they look for safety of savage some valuables as they vacate the area that is probably going to be affected (Tierney, 2014).

## SOLUTIONS

After the company took a big supply chain hit following the earthquake and tsunami in Japan, there was a dramatic throttle in the back production of the company to a level that resulted in the company losing its position as the top most automaker I the globe. They were able to announce that they would release a plan that would enable them to lower the risks that they have in their supply chains (Iyer Et. al, 2009). The disaster was able to cost them most of their part suppliers who were often single-sourced to be able to make deliveries on their production at some expected volumes. Toyota stated that it took roughly six months for its entire supply chain to get back to business.

The company has thought of taking up some of its suppliers from different countries which would be a much better strategy instead of out sourcing them from just Japan. Some of the areas of which they will be getting their spare parts from will be in areas that are not stricken by natural calamity as much as those who are in Japan are likely to. With that in mind, they will be able to do more good because they will support new communities hence this will enable them to increase the consumer scale to a higher one. Community support will be through the employment of the native people of the country they will have their manufacturing plant in (Iyer Et. al, 2009).

Earthquakes are not things that are unpredictable hence most of the time they can be read, and warnings can be given. This will enable the company to make preparations in time for them to inhibit major losses to the company and the people that live around it (Iyer Et. al, 2009). As stated earlier a company such as Total has funds that can give it straight access to the geological stations or such like institutions that can be able to read the climate and predict such calamities earlier in advance. On that note, the company will be able to notify its suppliers to vacate of make arrangements on how to save some of the valuable items that will be required for the reviving of the company after the calamity is passed.

As stated earlier on, the company has dormant stations like those in North America where not much is being done. Training can be done to more employees on how to make spare parts so that the company not only has the source of spare parts but multiple sources (Iyer Et. al, 2009). It took the company up to six months to get its supply chain up on its feet when it can take you much shorter time than that. Through training their employees, they can be able to give new skills to people who can teach those skills to others, and within no time, the company will grow to be larger than it was with a supply chain that will be bigger than any of its competitors (Iyer Et. al, 2009).

It is always best to be ready mainly when it comes to manufacturing industries. Most of these manufacturing industries have to go downs where they store up their finished products just in case the demand for their goods is higher of there a problem with the supply chain. Toyota should look into doing the same where they know that their goods will be safe and whenever a calamity is likely to occur then they can have some spare parts in store to work on and stabilize their profits (Iyer Et. al, 2009). As stated earlier on, there must be an increase in the prices of the spare parts so that they can try and recover some of the lost sales and profits. With the storage of the spare parts, the consumers will not have to feel the pinch of the transferred costs.

The other solutions would be to try, and model cars that would use spare parts from all Japanese made cars. This is most likely the best solution that they have come up with so far. This will make work easier for the company and make the suppliers bring down their prices because ever another supplier will be supplying the same make of spare parts all over Japan. It will be all over Japan because these suppliers will be spread all over just in case there is a disaster in some part of the country then they can still have the goods coming in (Iyer Et. al, 2009).

The prices given to cars will be reduced a great deal because cars will be having shared spare parts. With these, consumers will be able to choose from whatever make because they all have the same parts. With that, the manufacturers will have to reduce their prices to give their vehicles an extra edge to attract more customers to their vehicles (Iyer Et. al, 2009).

The company also asked the suppliers that make up special spare parts for the cars to make or hold inventories that are large enough than those they have been carrying. These special spareparts are made by just one supplier hence if a disaster were to happen, they would lead to no suppliers or very little for that matter (Iyer Et. al, 2009). It would be very important if they opened up other branches in many other different places so as to try and curb the risks of a single supplier and the rest of the supply chain as well.

Toyota is a huge company because it has its branches in many other countries hence what it did is that it made each of those branches independent. This is to say that each of those branches had their supply chains (Wisner Et. al, 2016). By detaching them from the mainstream, they liberated the other branches from suffering the main branch in Japan would supper if they were to be hit by any disaster. On that note, these small branches would have to look for their suppliers who would be manufacturing the spare parts and selling them to the specific branches they are in contract with (Wisner Et. al, 2016). This will enable the company to spread out their suppliers and reduce the risk of taking six months to rebuild their supply chain.

 Sasaki has the plans to open up supply stores in the United States and Europe. This is a good strategy because most of the natural calamities prone to Japan are not in this areas. Toyota at the moment longs to have a grip on the prowess of the company’s supply chains (Wisner Et. al, 2016). Through expanding to other continents, they will be able to expand their territory and have a strong footing especially if damages occur in Japan which is the main Toyota Centre for the entire Toyota Empire.

### CONCLUSION

The paper above stipulates some of the problems that Toyota has had to incur as a company during the time when earthquakes hit Japan. Most of their suppliers were affected hence this resulted in Toyota closing down their operations for a while to evaluate the situation on their supply chain. The action had to be taken to keep the company at number one hence they decided to make independent supply chains for their branches. They also tried to standardized spare parts for all Japan mad cars and lastly spread out their suppliers to different places.

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