Lean six sigma strategies

Transportation, Airlines

The airline industry is the world’s most important source of transportation. People are extremely reliant on it in order to travel for various purposes such as corporate meetings, family reunions and touristic travels. Since people are very reliant on this source of transportation, airlines need to be very precise and punctual. However, with this being a important source of transportation, airlines and the costumers needs to be aware of the unpredicted delays that can occur. Planes can be delayed for unpredicted reasons such as the weather, mechanical failures, and air traffic, reasons we can not predict. With this the airline companies have to figure out ways in order to keep the customers satisfied while still gaining profits. This is the main goal of Six Sigma that they try to achieve. Since United Airlines uses this strategy, I will be using them as an example.

Six Sigma is a process of strategies that forms a measurement of quality to near perfection, specifically no more than 3. 4 defects per million opportunities. This is a strategy that is very important since airline transportation promises a safe and reliable mode of transportation. Some reasons why Six Sigma is needed is to enable airplane to stay safe at all times, and the fear of plane crashes or fatalities. Therefore the airlines are taking into consideration the weather, in flight safety and electronics.

Lean focuses on eliminating non value adding processes, focuses on reducing 7 types of waste which are eliminating waiting time, eliminating over-processing, reducing inventory, eliminating over producing, reducing motion, reducing transport and eliminating defects that shorten the process lead time. While Six Sigma has a focus on improving quality for all the steps in the processes, stresses a zero defect policy, and focuses on a more

market oriented based improvements, this involves defining the problem, measuring how big the problem is, identifying the causes of the problem, eliminating the causes and then securing the solution. When connecting the both Lean and Six Sigma you produce a process that is called Lean Six Sigma, this process puts into consideration of cutting out waste in processes. The process focuses on the main word that is " Efficiency". This is the goal of all types of processes in a business. This involves eliminating any processes that are not valued by the costumers also improving the valued processes to near perfection. " The goal is to eliminate variation, add flexibility and set up systems that maximize the use of human talent"

The first strategy Lean Six Sigma uses is to collect data, by collecting data they will be able to identifying the areas that are in need for improvement to eliminate wasted time. By identifying the areas where improvement is needed, the processes Lean Six Sigma is used to eliminate the problems which causes a lot of delays. The strategies manages the passenger traffic flow at the airport, and the amount of delayed and cancelled flights. The Aviation leaders also get direct comments through surveys in which gives the information to the HR to manage these problems and eliminating them, with them eliminating them they use the Six Sigma strategies in order to make sure that the process that the costumers go through everyday at the airports or in the airplanes. The Six Sigma strategies are to eliminate these problems and to make sure these problems do not reappear. To make sure this is achieved the Six Sigma uses a more market oriented strategy such as asking the customers on what they exactly want from them, this is also used in other markets in order to achieve the expectations of the costumers.

Market Orientation is a marketing approach used by a business that is more outward looking by focusing on making products that they can sell instead of selling products they can make. In this case it would be to make sure that the customers go through a comfortable and safe situation through the words of the customers in the airports and airplanes. One of the reasons for the planes being delayed can be related to weather as it is the largest cause of flight delays. The planes are designed to take on extreme weather, and will manage to fight through its tough currents. Since there have been accidents during a severe storms, the Six Sigma strategies have put into a lot of considerations when it comes to weather.

Although the flights are able to take off during the time of good weather, especially for long distance flights, any type of storm could materialize out of nowhere and could cause a major problem for the flights. Since this a problem due to natural causes and not a planned problem to occur. There is a team onshore that is ready to make any type of decisions on whether or not it is safe to travel, this team help the pilot to determine whether or not there is a safe travel. Through or to make a turn to get around the storm to minimize any type of casualties. Through this process, the onshore team is working on a set of lists in which is Six Sigma based in order to keep the customers on the plane safe and happy. As an example of this would be Air Asia QZ8501 that got lost and crashed 118 people on board.

Although there is no final report on what might have caused the accident, there has been a report on bad weather and the plane had to be navigated around this storm. Once the re-navigation had taken place, the plane flew

right into the storm and lost connection with all ground communications. As stated in the news, “ the weather is a primary contributing factor in 23% of all aviation accidents – including both serious and minor – across the globe.” Although it is very rare that weather itself causes the accident, it is possible. Mostly the reason to airplane crashes is based on the captain’s actions and decisions during the storm. When this is a situation the captain puts the Six Sigma strategies in to use in order to minimize failures in any type of way, by minimizing any failures possible there is a manual with a set of operations. With the captains not using their Six Sigma strategies properly, it can lead to a unimaginable crash. The pilots before taking off are aware of these things, takes into consideration that weather can lead to a crash therefore there might be delays in the air traffic for the safety of the customers and satisfaction of the customers. The weather being a factor of plane being delayed, the flight needs to manage to control baggage handling.

Since it should be easy for the staff to move baggage from one plane to another. Since this should be a easy process there is still lost luggage because the passenger can walk from the plane to the baggage carousel. Since this is a problem, Lean Six Sigma identifies the time wasted, streamline workflows, and creates standards for the time spent finishing and fully satisfy their tasks. Body 3: Another reason a plane can be delayed is for the safety and satisfaction of the customers in the cabin. A pilot’s job is to make sure that the customers are having a comfortable and safe flight from destination “ A” to “ B”. With this the safety in the cabin is very important when the plane is about to take off. One instance is when there is any type of suspicion of individuals in which is customers that has been in contact or

is in contact with any terrorism groups in which then causes a threat to the flight. For instance there has been times where people had to be forced off the flight for the safety of others. A time in which this has happened is on Southwest Airlines when a customer with a name of Khairuldeen Makhzoomi was speaking on the phone in arabic, and said “ inshallah” which means “ God willing” and raised “ red flags” for the flight attendants.

The reason for this is since 9/11 the security has gotten extremely strict to prevent any terrorism on any plane to happen again. This is very important since there is a high chance of people boarding the plane and terrorising the plane that could lead to casualties. With this Six Sigma strategies comes in to determine whether or not a passenger should be removed from the plane or not for the safety and satisfaction of the customers. This could lead to some delays since the pilots are taking their time to go through the Six Sigma strategies in order to fully achieve any defects or threats to the flight and customers.

Since technology is growing so fast in 21st century, there has to be a lot of considerations on whether or not the technology is reliable for the flight travel in which a flight will be taking. The pilots will go into their cockpits before any passenger sets foot into the plane in order to check their checklists and make sure that the flight is safe for takeoff. If there would be any malfunction with the technology there will be light that will blink in order to catch the pilots attention and to make sure the pilots check the problem and fixes this. What Six Sigma does is to make sure that there is little to no malfunctions in the technologies to be exact, 3. 4 defects per million

opportunities. For this the pilots has to go around and check the planes themselves although there is someone that works for the airline company that takes a look around the plane. Even after someone has already checked the plane, the instructions in the manual demands the pilot to check the flight themselves before any movement of the plane is made. What a pilot does is to check the breakers if any light has been set off, they update the navigation system and to make sure it is receiving signals.

On the outside of the plane the pilot walks around the plane to check if there is any type of leakage of the plane such as fuel, oil, and hydraulic fluid. While they are outside they also check for any dents or other damages in which is not reported by other people. Usually the next step is to check the engine and then start it to verify that is working normally and to check if oil pressure is at a normal rate. Finally as when the flight is ready for takeoff the pilots will make sure that the lights needed for takeoff are on and that the transponder is transmitting signals to the control center. As of the Six Sigma all the checklists in which the pilots goes through is operated with Six Sigma strategies to improve the defects in flight and to make sure a defect can be fixed before the damage turns bigger. Body 5: After all considerations are finalized there is another major point at all airport. And that is the baggage turnovers. When considering baggage turnover, this means that all the baggage needs to be taken care of, such as when a flight is in route the baggage has to be transported from the check in to the plane.

Although this is a safe and easy process, there could be some complications such as when the flight is cancelled, and all the baggages needs to be found

to then be transported to the other flights that the costumers on, since the flight got cancelled. Very seldom all the passengers are changed to the same flight, but the passengers are changed and distributed to several different flights that travel to different locations. With this the baggages needs to be distributed to the different flights before the flight takes off. This can be a lot of hassle and cause confusing. With this there is six sigma strategies that come in hand when considering wether or not something is useless and needed and how to improve the processes by eliminating any time wasting processes. By doing this the Lean Six Sigma process includes using the DMAIC improvement cycle.

DMAIC stands for Define – Measure – Analyze – Improve – Control. By defining costumer value, you put into consideration the value of the customers that their luggage gets to the appointed airport and at the right time. Then the business needs to define the business value, this includes the cost of delays of the flight that goes over the extra costs of how much it will cost to have the airport personnel work more and extra to move around on the luggage around to different airports and the costs of the transportations because of the delay or cancelation of a flight. Then by defining the project goals and project risks. By doing this you have to put into consideration the LSS (Lean Six Sigma) improving method which is defined as “ Optimizing the baggage connection process to significantly improve the financial performance of any type of airline by improving the airlines on-time performance and reducing baggage related connectivity delays while improving the airlines product to the costumer”. After this you measure the process baseline performance, this means that the process goes through a

line of flight delay data that you will use to measure the aircrafts off-loading time needed.

As it is safe to say; Six Sigma strategies is used to eliminate any malfunction and to increase customer satisfaction. Six Sigma to be specific is a strategy is eliminate any malfunction to 3. 4 per million opportunities. By this there is several checklists that is made by Six Sigma in order to make sure there will be no malfunctions in the processes in which a industry, in this case, in the aviation industry to prevent plane crashes and to prevent any delays while keeping the customers satisfied. The customers can be displeased with the service in which is caused by delays due to the reason of weather, on board safety, and malfunction of technology on the airplane.

If Six Sigma was not applied in these situations the process of satisfaction of customers the satisfaction rate would be way less. As defined by Brighthubpn. com satisfaction is defined as “ an overall customer attitude towards a service provider or an emotional reaction to the difference between what the customer anticipate and what they receive, regarding the fulfillment of some need, goal or desire” This means that there needs to be surveys filled by the customer in order to see their satisfaction level, whether or not they are satisfied or not is completely dependent on the customers needs and the experience the customer goes through. With this the Lean Six Sigma focuses on a criteria of

1. Quantifying what satisfies the customer;
2. Identification of the gap between customer needs and the organizations current performance level;

3. Analysis of reason why there is gaps like this;
4. Devising methods to remove such gap.

If there is would not be a Lean Six Sigma strategy the managers in which manages these problems such as delays and satisfaction of the customers, the manager would have to use his own methodology, and that only figures on his own belief of satisfaction, this does not take in mind of the fact that others might not be satisfied with the managers outcome to the problems in which has accrued. Since the Lean Six Sigma takes into consideration of other customers satisfaction levels, the outcome of Lean Six Sigma would possibly be a better solution to the safety, and satisfaction of the customers.