BUSINESS AND SUPPLY CHAIN STRATEGY OF FLYING ABOVE THE DESSERT: A CASE STUDY OF EMIRATES AIRLINES

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ABSTRACT:

Emirates Airlines has been a dominant player in the Middle-East aviation industry earning enormous profits over a decade. However, the profit margin for the year 2017 has plunged lowest in the last 5 years of its service. This research investigates the rationale behind business and supply chain strategy of the organization by applying different tools during this challenging times and proposes recovery strategy from the recent financial scuffle. A case study methodology is adopted to investigate the Business and the Supply Chain Strategy of Emirates Airlines, with the research highlighting the Distinctive Capabilities of Emirates Airlines along with the Supply Chain Risks that prevails the organizations in the Aviation Industry. The findings of the research imparts the intelligence on the Business and Supply Chain Managers to optimize the internal resources & capabilities of the organization that can be imperative in creating distinctive competitive advantage and higher profit margins. Moreover, this research of investigating Emirates growth strategy internationally seems to bring value to other similar airline industry and will be of great value from managerial level to D-level executives for strategic planning process. The case study is limited to Emirates Airlines. However, the procurement risks associated with the purchase of Fuel in the aviation industry can be investigated further.

Keywords: Airlines Industry, Competitive Strategy, Business Strategy, Supply Chain Strategy

1.INTRODUCTION:

Over the years, the introduction of Middle-Eastern carriers such as Emirates, Etihad and Qatar Airways has introduced major shift & modifications to the global air transport and major traffic routes. Among the major carriers of the middle-east countries, Emirates Airline stands out to be the most dominant in the region (O'Connell, 2011). Emirates Airline is a subsidiary of "The Emirates Group" that is owned by the Government of Dubai since its inception in 1985. From the beginning phase of its operation with two leased aircrafts, today the company has expanded gigantically into different sectors across 155 destinations in 83 countries around the globe with a total of 268 Aircrafts at an average age of just 68 months (Emirates, n.d.). Emirates airlines is one of the largest international airlines in the Middle East region and has been raked top among the airline companies in the world. Based in Dubai international airport and wholly owned by the

government of Dubai's Investment Corporation, it operates over 3,600 flights per week from its Dubai hub. Emirates has been headquartered at a multi-million dollar facility situated in Dubai, which handles a strength of 105,000 employees at an increased rate of 11% from the previous year of its operation.

Emirates Airlines is an integral part of "The Emirates Group", which comprises more than 45 companies including Dnata, Fly Dubai, Emirates flight catering, Emirates sky cargo and Emirates Aviation University; making it one of the largest and diverse organization in the middle-east region. Apart from DNATA, Each of the other entities of Emirates Group has been given different management, strategy and goals. For example, Fly Dubai, one of the Budget Airline that is run by Emirates group has its management completely different & alienated from its primary Airline Company 'Emirates Airline'. This strategy has assisted the group to allocate individual goals and responsibilities to each of its entities and evaluate the individual performance of the entity. Emirates Group has been one of the major contributor to the GDP of its home country, where 20% of the United Arab Emirates' GDP came from the Emirates Group (O'Connell, 2011). Such has been the importance of the company to both the Airline industry and the home country. In our study, we focus on the strategical operations of the Emirates Airlines in detail to develop a deeper understanding on the strategical functioning of heavily diversified companies.

1.1 Business Model

Key partners:	**Key Activities:**	**Customer Segments:**	**Customer Relationships:**
Boeing Airbus Dubai International Airport Fly Dubai, Quantas, Malaysian Airlines, Korean Airlines	Aircraft maintenance Baggage handling Ground Handling Airport services Ticketing	First class, Business class, Economy class, Individual Business	Skywards Customer Feedbacks
Sales channels:	**Revenue Streams:**	**Value Preposition:**	**Cost Drivers:**
Booking Apps Travel Agents Airport Online channels	Tickets Excess baggage Cargo Miscellaneous	Branding Offers Ticket Pricing Product Development	Fuel Taxes Staff/Labour Depreciation Aircraft maintenance Airport service charges

Figure 1. Business Model of Emirates Airlines

1.2 Financial Performance:

Despite political unrest in some regions and the visa restrictions from the U.S, Emirates has successfully managed to maintain profits for the record 29th year of operations. The addition of new destinations and the increased capacity of aircrafts & flight frequency has successfully contributed to the increase in number of passengers. However, in 2017, they faced decline in the profit due to increase in fuel cost, global financial crisis, slow growth of economic environment and terror threat in some regions (See figure 2). Despite the unfavorable economic factors and the deterioration of the U.A.E currency against the U.S, the company always maintained the operations to yield a

positive profit value by following a global competitive strategy of growth and constantly modernizing their fleet of aircrafts (Emirates Financial Commentary, 2017). The revenue of the company in 2017 was AED 83,739 Million, which is .3% higher than the previous year. Though the revenue due to passenger travel increased by 0.5% from the previous year, the 5% decrease in cargo revenue has significantly effected the overall revenue of the company (Emirates Annual Report, 2017).

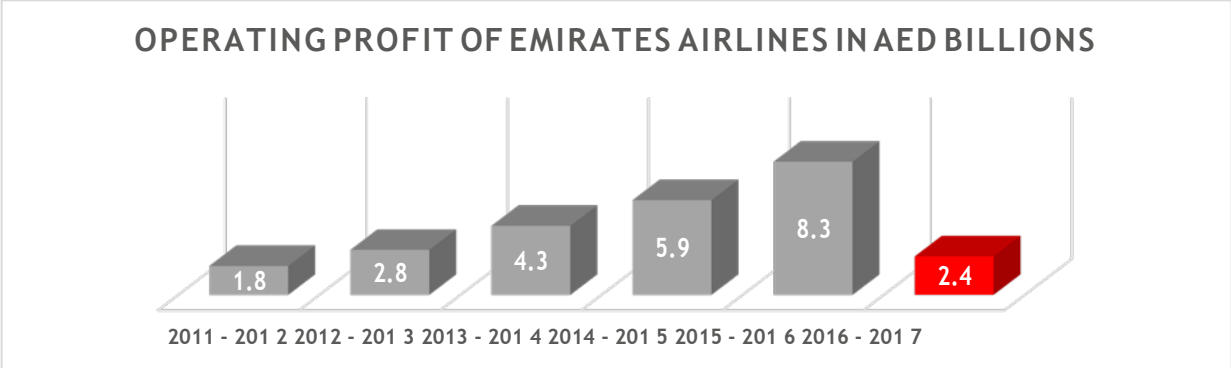

Figure 2. Operating Profit of Emirates Airlines

IATA has earlier forecasted that the profits of middle-east airlines in 2017 would significantly fall due to increased capacity of airlines and the limited demand growth (Cornwell, 2017). Similarly, Emirates has significantly lost 71% of the operating profit and 81% of the overall profit from 2016. In 2017, the operating profit of Emirates was AED 2.4 Billion, compared to AED 8.4 Billion in 2016. Cornwell (2017) stated that "Airlines in the Gulf benefited for years from high oil prices that spurred government spending and regional growth. But demand has softened and travel budgets have tightened after more than two years of depressed oil prices, exposure to weaker markets and currency fluctuations".

2. THE CASE STUDY:

2.1 Emirates fleet:

Airbus A380

Boeing 777

Fleet	102	166
On order	76	173
Destinations	48	107
Cabin Crews	More than 23000	More than 23500
Total passengers	99 million	226.5 million

Figure 3. Comparison of two major Aircraft models being used by Emirates Airline

At the end of 2016, Emirates has retired all their aircrafts apart from their Airbus A380's and Boeing 777 from their active service including the Airbus A330 and A340. Currently they are the largest operator of both A380's and 777's, with several of them under order and are yet to be received. By keeping only two aircrafts in the active service fleet they are economizing their maintenance, training of crew and avoiding extra costs that comes with handling different ranges of aircrafts. The young fleet of Emirates which exhibits an average age of just 68 months are also yielding a higher fuel economy and reduced environmental pollution (Ramanujam, 2016).

2.2 Operational Strategy:

Operational strategy involves incorporating set of activities that create value in the form of goods and service. Service quality and customer satisfaction is what the company focuses on. Strategic decision making in operations management of the system has helped the airline to have quicker and on-time orders (Mohamdi, 2015). The performance of the company can be easily monitored because of high effectiveness in production planning, inventory management and order fulfillment that enables the company to keep hold of operational uncertainty. They also focus on continuous innovation in their products, which have given them a competency among the competitors (Viola Wendel, 2015). Moreover, Emirates Airlines also encourages competition in terms of "Open Sky Strategy" to have a fair play between the competitors (Subosi, 2014). Some of the important operational strategies adopted by Emirates Airlines are:

- Scheduling long haul flights in order to reduce the cost associated with frequent landing
- Incorporation of wide body aircrafts in order to reduce the cost of seats per mile
- Maintaining a lower average age of aircraft which helps in reduced maintenance cost, increased fuel efficiency and customer attraction. The airlines operates wide-body Aircrafts to lower its seat per mile cost
- Long-Haul flights are mostly scheduled in order to reduce the costs associated with landing
- Installing latest technologies in the aircraft in terms of Entertainment, and I.T Technology development for booking, baggage and boarding Services.

Some of the operational strategies mentioned above has transformed to be the core competency of the organization that has enabled to succeed in their service operations and make them stand out from the heavy competition around the world. The increase in revenue throughout the years until 2016 can be attributed to their core operational values that has been well received by the customers around the world.

2.3 Hub and Spoke Operation model

The hub and spoke model is a mechanism that is used to connect different cities using a central hub for easier transit of passengers travelling to different parts of the world. In the case of Emirates Airlines, the hub of Emirates (Dubai) is located centrically between the European and Australasian countries. The location provides ample benefits to Emirates Airline such that out of 7 Billion people in the World, 3.5 Billion people reside within 8 Hour flight Journey from Dubai (Direction, 2012). In order to maximize this advantage, Emirates also provides long-haul to long-haul traffic flows between Asia, Australia and Europe.

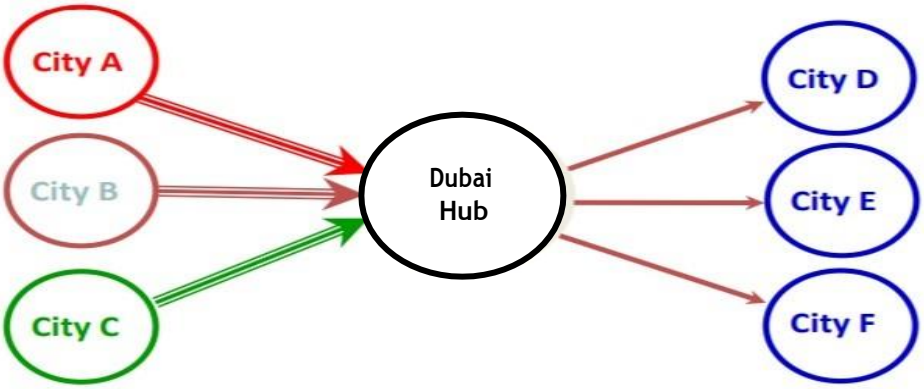

Figure 4. Hub transportation topology

In order to evaluate the efficiency of the actual Hub performance, a comparison was performed by using Emirates and the two other leading Gulf carriers: Etihad Airways and Qatar Airways. They were compared with four International carriers: British Airways, Lufthansa, Air France and KLM which also operates in a Hub and spoke model. The study was carried out by O'Connell (2016) in his journal titled *"A study into the hub performance Emirates, Etihad Airways and Qatar Airways and their competitive position against the major European hubbing airlines."*

Table 1. BenchMarking Hub Performance

Airlines	Main Hub	Iditional Hub	Hub Model	WCR (O'Connell, 2016)
Etihad Airways	Abu Dhabi	-	Single-Fortress Hub	2.31
Emirates Airlines	Dubai	-	Single-Fortress Hub	1.47
Qatar Airways	Doha	-	Single-Fortress Hub	2.17
KLM Airlines	Amsterdam	-	Single-Fortress Hub	1.31
Lufthansa Airlines	Frankfurt	Munich	Multiple-Reliever Hub	1.25
Air France	Charles De Gaulle	Paris Orly	Multiple-Reliever Hub	1.44
British Airways	London Heathrow	Gatwick	Multiple-Reliever Hub	1.13

For this study, the author employed Weighted Connectivity Ratio (WCR) and Average Routing factors (ARF) to compare the Hub performance of the Airlines. WCR states that if the ratio for connectivity is around 2, then the airline company is said to have a very good temporal connectivity and efficient Hub performance, which can be seen in the case of Etihad Airways (See table 1). However, for Gulf carriers in general, a good interconnectivity of operations was observed. If the WCR is close to 1, then connectivity to flights could be due to randomness rather than planned schedules. In the case of Emirates, it needs to be noted that with the highest number of long-haul flights than any other Gulf carrier, the company operates with the highest average sector length

which makes it difficult to organize connecting flights, hence leading to a lower value of WCR. However, the longer time in between connecting flights for Emirates actually translates to longer time spent by passengers in Dubai Duty-Free which is observed as a clever strategic tactic. Also, Emirates is observed to offer more flights than any of the competitors in some of the strategic locations (5 times a day to London and Paris, 4 times to Cape town, twice to Melbourne and once a day to Christchurch), which compensates for its lower Hub performance.

2.4 Competitive strategy

The top companies around the world have been successful over a long period of time by possessing distinctive competitive advantages over their products and services. This strategy plays an important role in maintaining and developing regular & frequent customers for the products and service that the company markets. Emirates Airlines is a prime example which has portrayed the benefits of holding the service & product based competitive advantage that has enabled them to hold a considerable market share in the Airlines Market. One of the recent strategy that has enabled them to enhance the brand strength is the procurement of only Airbus and Boeing Aircrafts into the fleet. Since the company has been procuring new aircrafts for its fleet, the average age of the fleet has also been healthy which indicates better fuel efficiency and sustainability. Among some of the major Airlines leaders (With atleast 100 aircrafts), a comparison of the fleet size with the average fleet age in 2017 was studied and can been in table 2.

Table 2. Fleet Age Benchmarking of major global Airlines (Airlines with atleast 100 aircrafts)

Airlines	Fleet Size	Average Fleet Age (Years)
Emirates Airlines	**268**	**5.8**
Etihad Airways	**110**	**5.4**
Qatar Airways	**196**	**5**
British Airways	**293**	**10-14**
Cathay Pacific Airways	**194**	**10.6**
Lufthansa Airlines	**374**	**11.8**
Singapore Airlines	**113**	**7.8**
Air France	**344**	**12.6**
KLM	**201**	**10.9**

The above list can be observed to be dominated by the Middle-East carriers. It can also be noted that the average fleet age of Emirates was 5.8 in 2017, which is only next to Qatar Airways with 5 and Etihad airways with 5.4. The lower age of the aircraft indicates the existence and inclusion of new aircrafts regularly into the fleet. Thus, it can be concluded that the differentiation strategy of the Emirates Airlines has proven to be supportive for establishing the quality of service and innovations exhibited by the organization

3. FINDINGS FROM THE CASE STUDY

In order to investigate the strategic capabilities that provide the competitive advantage for Emirates Airlines which will enable them to overcome to recent financial scuffle, supply chain drivers and process map are explored, along with the evaluation of supply chain risks. The

findings obtained after applying different strategic and supply chain tools are analyzed and discussed in this section.

- supply chain drivers and strategy
- supply chain process map
- supply chain risk (strategic fit from EKFC)
- strategical backlogs

3.1 Supply chain drivers and strategy

Table 3. Supply Chain Strategy of Emirates Airlines

DRIVERS	SC Strategy	Justification
Facility	Responsive	The centralized maintenance hangars and other facilities are located close to each other, adjacent to the Dubai airport.
Inventory	Highly responsive	Here inventory plays significant role as proper care and inspection is required along with wide variety of items.
Transportation	Hybrid	The logistical transportation in this section aims at the movement of materials through road and air Though the movement of items are generally within the airport and the facilities that are located adjacent to each other, paving way for efficiency. When it comes to cargo services, focus tends more to factors like scale of economy which might be difficult to attain due to the uncertainty in demand.
Sourcing	Hybrid	Though cost reduction is considered as a factor for labor intense works , quality has been the main concern for the company which overtakes the cost considerations in its service. For example, Emirates has its fleet of only Airbus & Boeing aircrafts, while the maintenance services are sourced in-house.
Pricing	Hybrid	Since Emirates have its name for luxurious travel, high pricing is justified by the services they are providing for first class and business class. For the economy class, the price is somewhat comparable with that of the budget airlines.
Information Systems	Efficient	Emirates deploys Advanced I.T Systems for its functions such as inventory tracking, reservation systems etc. which links the supply chain process together. This allows them to be Highly responsive and highly efficient at the same time with low investment, efficient reservation and inventory management.

From the day of its inauguration in October 25 1985, the supply chain structure of the Emirates Airlines has been emerging and expanding into one of the biggest operations in the airline industry. The Aircraft fleet of the Airline has been increasing gradually every year, which makes it difficult for the regional competitors to match with the current standards of the company. In the year 2011, a huge record was created in the history of aviation industry when Emirates ordered aircrafts

worth $15 Billion. In January 2018, Emirates has given an order of additional 36 A380 aircrafts worth $16 Billion. This gradual increase in the amount of flying machines induces pressure into the supply chain network of Emirates airlines. This is because the increasing number of aircrafts in the fleet requires incorporation of additional workshops, maintenance hangars and ramp spaces for the aircrafts with the average age of 68 months.

Chopra and Meindl (2016) has inaugurated the idea of achieving strategic fit by grouping the supply chain drivers in terms of efficiency and responsiveness, which will aid in improving the overall performance of the supply chain network. Therefore, the table is constructed based on the supply chain strategy of individual functions. From the above Table 3, it can be justified that the overall supply chain drivers works towards hybrid between Efficient and Responsive but more inclined towards Responsiveness. Emirates Airlines, being a luxurious air service provider has strategically planned their drivers to be coordinated closely with each other to reduce the extra costs in the system, and thereby providing the service at a competitive rate compared to their competitors. In order to achieve higher performance in the supply chain cycle, it is important to focus on attaining 'Strategic Fit' by using the existing resources and capabilities to a great effect. Being the national carrier of Dubai, Emirates Airlines has grasped the opportunity of setting up the facilities contiguously, enabling them to save cost and time in the overall supply chain process The integration of the drivers can be seen in the supply chain process map in the next section (3.2)

3.2 Supply chain process map

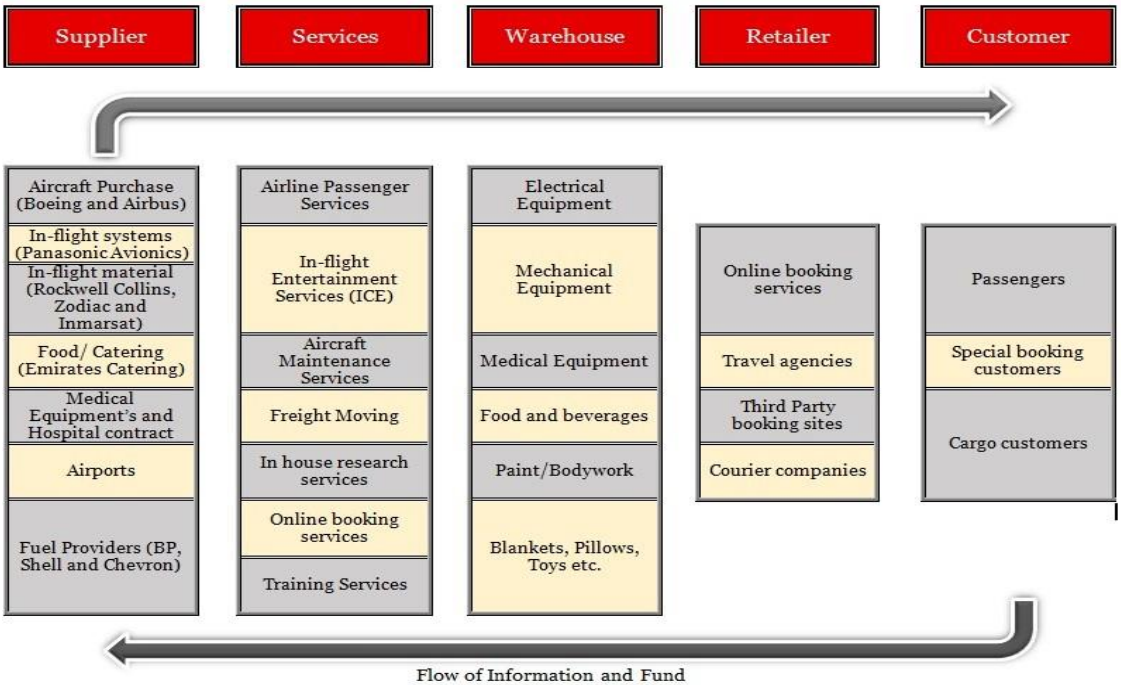

Figure 5: Emirates Supply process map

The supply chain process of Emirates Airlines involves extensive collision of different suppliers including its own source for the enhancement of the supply chain surplus. The process flows through a sequence of operation initiated from the supplier process where the essential equipments and services which do not fall under the distinctive capability acquired by the

organization are procured from the external source. The activities under each department of the supply chain process is listed in the above figure 8. Throughout the process, the flow of information and fund takes place through each department. In order to increase the efficiency in the system, supply chain integration plays a major hold. Palma-Mendoza (2015) has stated that "At the core of gaining competitive advantage through Supply Chain Management (SCM) is Supply Chain Integration (SCI); when integration is achieved, the supply chain operates as a single entity driven directly by customer demand" (pp.620). In order to maximize the efficiency of the connectivity and reduce cost, the use of I.T Systems play a major role for this supply chain integration.

3.2.1 Supplier/Procurement:

Emirates uses tendering process to select products and service that they like to purchase or outsource. As a result, the company have more than 500 suppliers supplying the different departments of the airlines (Basit, 2015). Apart from sourcing Aircraft and fuel as mentioned in section 4.4, the other materials sourced by Emirates Airlines are:

- **In flight Systems (Entertainment & Electronic Systems):** Emirates was the first airline company to provide in-flight entertainment for all classes within their flights. Currently their in-flight service is called **"ice"** (Information, Communication, and Entertainment) which allows passengers to choose from 1200 channels including movies, sports and music, which is the combination of Panasonic Avionics Corporation's 3000i systems, along with Rockwell Collins Airshow application and Inmarsat's internet facility.

Figure 6. In-flight entertainment system

- **In flight materials:** Aircraft seats on all emirates flights are supplied by Texas based company Zodiac seats, this is accomplished in partnership with Panasonic Avionics to fit LCD screens and entertainment systems. First class seats on the A380 feature the zero-gravity seats by Mercedes-Benz. Emirates has also made a deal with Thales to equip future Boeing 777X aircrafts with Thales Avant entertainment systems (Figure 6).
- **Food for Catering Services:** Catering is provided by Emirates Catering Services which is located adjacent to the Dubai International Airport and Dubai Investment Park. Emirates flight catering facilities is one of the largest airline catering facility in the world managing roughly 200,000 meals daily on an average. This also includes Food Point situated in Dubai Investment Park (Sundarakani et al. 2018). Moreover, there is also the option for meals based

on age, diet and personal preferences, halal meat served on all flights. In the year 2017, Emirates has served 23 million meals on all of their flights. These dishes are meant to reflect on different festivals like Eid, Ramadan, Easter, Oktoberfest, Chinese New Year and many more based on the destination of operation. Moreover, premium flyers to Japan can also enjoy special menus in collaboration with local caterer in Japan.

3.2.2 Manufacture/service

- **Airline passenger services:** The Emirates Airlines serves services such as travel (First class, Business Class & Economic class), Food, online check-in, assisting disabled passengers, service desk, boarding & lounge service and Baggage services. The baggage handling services for all flights are carried out by Dnata. As Dubai International Airport is their central hub, over 35 million bags are handled every year. Emirates has been working continuously to innovate and improve its process. An example for the previous statement can be attributed to their recent new addition of "baggage collection from home" service to their list. Moreover, Emirates has also partnered with BMW group to provide chauffeur services to the airports for business class passengers making use BMW 520i Estate models.
- **In House Research Centre (R&D):** R&D Centre of Emirates is responsible for the continuous improvement of the existing products and technologies through research and innovation. This department of R&D has a played a huge role in helping Emirates Airlines to maintain a competitive advantage over its competitors. One of their recent innovations is the Live TV Facility for its passengers where they can stream their favourite shows live onboard. The team of researchers also work on improving the systems of Maintenance, baggage tracking, crew & flight scheduling systems and onboard entertainment systems.
- **Engineering Centre:** This facility located at the North of Dubai International Airport is considered one of the largest free-spanned structures in Dubai which is equal to 100 FIFA pitches put together (Basit, 2015). It employs 5500 personnel of which 1200 are engineers. Each of these hangars are designed to accommodate check-up and maintenance of two A380s at a given time. Here, the aircrafts are scheduled for 'A' checks and 'C' checks based on age and number of flying hours. 'A' checks are carried out twice a day on each aircraft, whereas 'C' checks are carried out whenever engine, fuselage components and seating have to be refurbished. These hangars are equipped with roof mounted cranes for docking the planes during structural repairs. As for spares, these hangars are required to keep around 97% of parts needed for maintenance, this is because most of the suppliers are in Europe or USA, meaning Emirates will have to keep lots of spares in its inventory (Halligan, 2015). The company needs to periodically refurbish seats as well as headphones muff which involves disinfecting them.
- **Flight scheduling system:** Emirates makes use of Hub and Spoke model for their operations with Dubai International Airport being the central hub. This makes their transportation network more efficient, as they are required to maintain lesser number of nodes (Refer Section 2.3). Hence for long haul flights from the Western Hemisphere to Asia and South Asia pacific, the flights stop over at Dubai International Airport and are reconnected to their final destination from the Dubai hub. Thus, Emirates can connect more number of destinations while having their planes filled with passengers, all travelling to a common hub, in another sense the

airline company achieves better efficiency and operates on economy of scale (Berntsen, 2016). Also because of a large fleet of aircrafts and a fully-equipped exclusive hangar, the company is able to schedule several flights in a day, meaning passengers have to spend lesser time waiting for a connecting flight to their final destination. Passengers making hub connections benefit from closely timed flights, single check-in, more convenient gate and facility locations, and reduced risk of lost baggage (Cook, 2008).

- **Computer reservation and check-in Services:** Customers can book their tickets through the online platform provided by Emirates in its website. They can also book tickets from their retail outlets as well as other 3rd party applications and services. Emirates provides customers with the options of online check in services one day prior to the flight schedule. Moreover, Emirates also provides the service of baggage collection from the customer's homes to the airport.
- **Training Institutes:** The Emirates Flight Training Academy (EFTA), has successfully signed an agreement with Boeing for training curriculum and software support in their academy. This is considered the most advanced pilot academies in the world.
- **Skywards Rewards:** Emirates values the loyalty of the customers through its Skywards initiative which provides benefits for the frequent flyers in miles. Emirates Skywards members can access the award-winning lounges using the "pay-to-access" functionality. Other benefits include products like First Class lounge wear, skincare from VOYA, and amenity kits from Bulgari.
- **Dedicated Lounges:** Emirates is also known for owning its own dedicated network of lounges for Business and First-class customers. With the opening of the facility at Boston Logan International Airport, the company now manages a total of 41 lounges across the globe including the exclusive Moet and Chandon champagne lounge (Emirates Group, 2017). This longue is also operated with the partnerships with Costa Coffee and a health hub with Voss water. The economy class passengers can purchase this service using pay-per-service options.

3.2.3 Warehouse/Distribution

They have two warehouse locations adjacent to the Dubai Airport and Al Maktoum Airport for the Material spare parts and Two Emirates Catering Facility Warehouse near the airport and Dubai Investment Park (Emirates Flight Catering, 2017). The location of warehouse adjacent to the airport has helped them to maintain efficiency in logistics and cost optimization. They use the warehouse for storing materials such as paints, pillows, blankets, food, equipments (Electrical, Electronic, Mechanical), medical equipments Interiors and toys.

3.2.4 Retail and Marketing:

The airline sells its tickets through its offices situated in different countries. They also provide the option of online booking in its website. Travel agencies and other third-party websites like MakeMyTrip and Cleartrip also sell the tickets of emirates airlines in different countries. They provide different class of tickets like Business class, First class and Economy class. The marketing management of the Emirates Airlines is one of the best in the world. Emirates hires skilled

professionals who are experts in brand management in order to promote its Service. Some of the marketing activities undertaken by the company includes sports sponsorships, advertisements and maintaining the "Fly Emirates" slogan. The company portrays itself as a premium brand that keeps the passengers' safety as its utmost priority.

3.3 Supply Chain Risk

The supply chain process of Emirates airlines is a vast network involving numerous players. The participation of the stakeholders and their coordination will arbitrate the smooth and efficient operations of supply chain activities. Though the company has its contingency plans in place in case of any unpredicted risks arising in the supply chain, the political aspects of the aviation business brings in risks that can alter the operations permanently. Some of the risks prevalent in the system are:

***3.3.1 Disruptions*:** These involve numerous natural or man-made disruptions like natural calamities which cannot be avoided or man-made disruptions that cannot be foreseen (Tang, 2006; Stecke et al, 2009). For example, Emirates Airlines flight from Dubai to London and Dublin were cancelled on March 2 due to harsh weather conditions (Khaleej Times, 2018). Due to the availability of technologies, Natural calamities can be foreseen in advance and the length of disruption can be calculated accordingly. But in case of political influenced disruption, the duration cannot be estimated or calculated. An example of this situation cannot be attributed to the current political situations between Qatar and Middle-East countries where flights to Qatar from Dubai has been cancelled until further notice from the Government (Emirates, 2018).

3.3.2 Delays: Inflexibility at the supply source will effect the operations considerably. As Emirates will require numerous suppliers for their aircraft maintenance, a delay from one of their suppliers will greatly disrupt the daily maintenance A-checks. In order to ensure efficient operations, Emirates is required to keep 97% inventory for spares in its warehouse. Moreover, delays can also be precedented due to natural calamities and airport slot. Mellat-Parast (2015) has stated that the profitability is vastly affected by the service quality provided by the Airlines. Therefore, delays are not just a major supply chain risk, it can also be a catalyst for a business failure due to the inefficiency and inflexibility of the source which could have been avoided with proper planning.

3.3.3 Receivable Risk: Emirates has for long been perceived as a premium Gulf carrier and the largest airline company in Middle East. The company has also been very popular when it comes to long haul flights with Dubai as a stop-over, however for short haul flights Emirates' air fares are considered too expensive and passengers are more attracted to budget airlines. The risk of customers turning away to budget airlines is always viewed as a threat, as the financial power of the general public within the Middle East region has greatly reduced.

3.3.4 Fuel prices: The fluctuating price of fuel will cause an adverse effect on the operational cost of Emirates airlines. Whenever a supply network is designed, managers always look to maintain cost efficiency to increase revenue. However, fluctuating fuel prices makes it harder to maintain an efficient supply chain as fuel prices account to 30% of the total operational costs.

Moreover, the company doesn't get any special subsidy on fuel prices, meaning the company has to pay the same international rates for Aircraft fuel as its competitors.

3.3.5 Procurement Risk: Due to Emirates' hub and spoke model, all of their planes are serviced in Dubai, but service for the largest fleet of 777 or A380 requires a huge stock of machine spares to run round the clock. As there are several suppliers for their aircrafts, keeping inventory of each of these components will be tedious. Many of these components will be procured in Euros, meaning the exchange rates will also harm supply chain cost. To mitigate this risk Product Supply Agreements (PSA) are signed between Emirates Procurement team and the component suppliers to ensure aircraft parts are of top quality and delivered on time. Therefore, it is important forecast the requirements efficiently to mitigate the procurement and the intellectual property risks.

3.3.6 Systems Risk: There are possibilities for disruptions in IT systems governing the airlines operations. The system breakdown in the Air Traffic Control Centre can heavily effect the operations of several Airlines in a day and can lead to delay and disruptions of services. Since the maintenance and schedule systems make the integral part of the day to day operational activities, the breakdown of I.T systems that govern and connect these elements together will bring in huge financial losses for the company.

3.4 Strategical backlogs & Strategic Drift:

Emirates has been a fine example for its competitors on how to continuously improve the process with innovation and not get stuck in the history. Emirates has been the leader of innovation in the aviation industry since its inception. It has made sure to update and develop new strategies for its functional activities, which helped them cope up with the environmental changes in the airline industry. It has successfully deviated itself from the path dependency in almost all sections of its organizations. This is because, the company was never reluctant to accept changes that is required for the growth of the company. However, the strategical steps to improvise the market share and the recent financial scuffle is discussed in section 4.

4. RECOMMENDATION

The research offers some of the strategical and managerial implications for the Emirates Airlines to overcome its recent financial scuffle and consequently increase its brand & market around the world. The strategical recommendations are divided into achievable vision with different timelines to accomplish:

1 Year Plan:

- Advertising the Awards and Recognition attained over the years to improve their market share.
- Since Emirates airlines is one of the strategic customers of Airbus and Boeing, they can request for additional bargain in prices and after sales service that can help the company in reducing its operating costs.
- The company has to tilt their strategy towards adopting the Block-chain Technology in order to stay competitive in the market
- Continuous replenishment can be done using the automated and IT system to reducing the supply chain related costs
- Increase the temporal connectivity between flights, and reduce the dwell time between

connecting flights to satisfy customers better.

3 Years Plan:

- The business units of emirates airlines looks positive and does not require it to go for divestment due to its successfully handling of the operations. But the units can be restructured to eliminate the duplication and leverage the strength of the Emirates brand (Redpath, 2017). This can benefit both the catering as well as the Travel Services.
- Emirates can lower 50% its overall cost of ground operations by linking technological systems like Flight information processing, ULD (Unit Load Device) management and resources management systems to manage the real time logistical process (O'Connell, 2011).

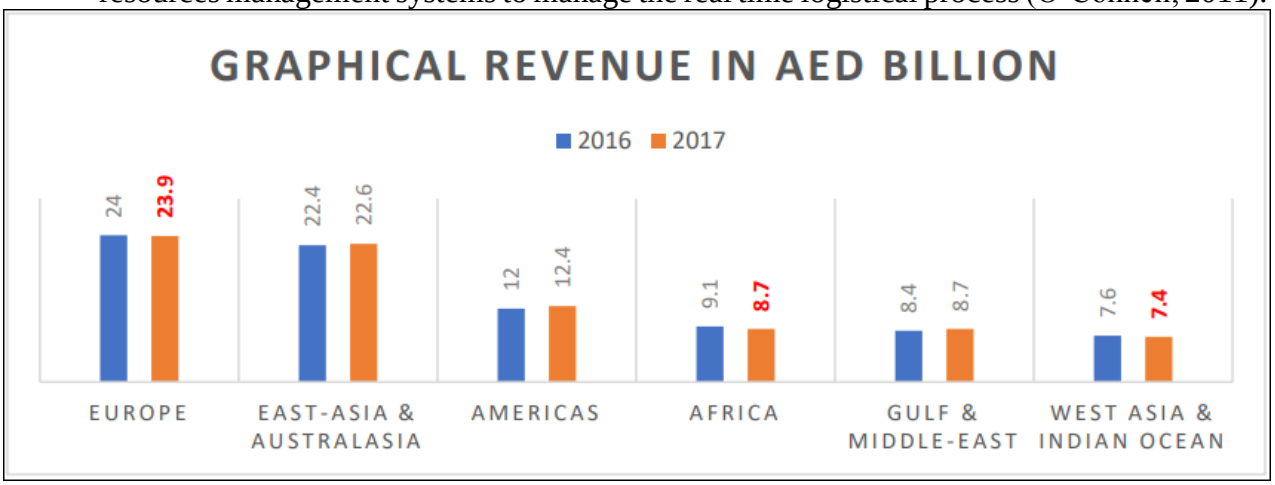

Figure 7. Graphical Revenue of Emirates Airlines

- From the above figure 7, it can be noted that the Emirates revenue in Europe has fallen by .4%, the revenue in West Asia & Indian ocean has fallen by 2.6%, while the highest fall in revenue of 4.4% was recorded in Africa. The company can modify its marketing strategy with respect to their culture in the African continent to increase its revenue in the region.
- Fuel agreements can be established with suppliers such as Shell, BP, and Chevron for obtaining the fuel for fixed price for some period of time. This will help overcome the fluctuation in oil prices and control the overall operating cost.
- In order to tackle the risk of supply chain disruption due to terrorism or political altercations, Emirates Airlines can either create or join hands with their Competitors for a strategic alliance concordant to the 'SkyTeam Alliance' which constitutes Airlines like Air France, Delta and Saudi Airlines.

5 Years Plan:

- Developing another hub in the newly built Al Maktoum (Dubai world central) Airport to expand their operations with additional flights, maintenance Hangars and Warehouse storage, instead of depending on the single hub. Since the base of operations are already established in Dubai Airport terminal 3, further development in the newly constructed Dubai World Central Airport can be accomplished in lower costs.
- Expand into new market segments and new destinations through merger and acquisition. Instead of vertically integrating its organization, they can acquire budget airlines in potential

markets. They can use their knowledge and expertise from their core field to capture new markets. This will also give them access to new international routes and also consequently increase the Airport slots. This will help expand their supply chain operations and become more efficient. After acquiring the company, it is advisable to retain the same management and branding in order to maintain the customers. Since diversification can drain the resources, Emirates need to carefully plan with respect to its financial considerations.

5. CONCLUSION

Emirates Airlines follows the pull view of the supply chain process where the order execution is based on the response to the customer order received. Its vertically integrated airport service provides ample benefits to the Airlines. Moreover, Emirates is well supported by its catering services which plays as an efficient supply chain strategy by controlling all the supply chain process, which helps in achieving the cost efficiency for economy class passengers (Sundarakani et al, 2018). In case of first class and business class, emirates shifts towards responsive supply chain strategy in order to achieve the highest level of service quality.

Achieving 'Strategic fit' in the service operations of the organization plays a dominant factor in overcoming financial obstacles. Emirates has been constantly holding a competitive edge over its competitors due to its productivity and the cost efficiency. Since there is an urgent need to improve the aviation's environmental performance number (Budd, 2013), Emirates can concentrate on this section by bringing in Transformative technologies in aviation that can be used to make potential changes in propulsion system and ATC Efficiency, either by its self or through its suppliers. These innovations can complement wider policy to ensure a more environmentally sustainable aviation Future.

In order to diversify the regions industrial base for the post-oil era, the aviation sector has been deeply concentrated by the Arabian Gulf regions (O'Connell, 2011, p.339). As a result, today; Dubai has developed itself into one of the major trading hub of the middle-east region with significantly improved economic performance and tremendous growth in terms infrastructure and population (Kamarudeen, 2018). This statement can be supported by the fact that the 20% of Dubai's GDP was contributed by the Emirates Airlines Company (O'Connell, 2011). Regardless of the lower net income during 2016-17, the company is anticipating a better and economic and business growth in the coming years through the upcoming Expo-2020. With the extensive growth in logistics and distribution sector in Dubai, along with centralized location of its facility, Emirates has been well placed to take the advantage of Supply Chain expansion and operation.

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