

FEDEX AND BUSINESS INTELLIGENCE (BI)

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1. INTRODUCTION

FedEx Corporation is providing logistics services in United States and its headquarters is situated in Memphis and Tennessee. The purpose of this paper is to get an overall know how about the company and how effectively it is using Business Intelligent Systems to support its decisions. The inception of the modern air/ground express industry occurred when the Federal Express was founded in 1971. The FDX Corporation was incorporated in 1998 which later became FedEx in the beginning of 2000 when Federal express acquired the Caliber System Inc. Before the acquisition; the FedEx was only providing services of express shipping, but after, it started looking at the operations of companies such as RPS, Caliber Logistics, Caliber Technology and Caribbean transportation services, Roberts Express etc. when the company changed its name to FedEx in January 2000 then it also rebranded all its subsidiaries. For instance RPS was rebranded as FedEx Ground, Federal Express as FedEx Express and Roberts Express as FedEx Custom Critical. The two other subsidiaries Caliber Logistics and Caliber Technology were combined together to make one unit known as FedEx Global Logistics. Now to handle all the issues related to sales, marketing and customer services, FedEx introduced a new subsidiary known as FedEx Corporate Services. FedEx expanded its services by acquiring Tower Group International and World tariff in 2000 and then combined the two units to make FedEx Trade Network. FedEx Corporation continued its expansion by acquiring a privately held Kinko's Inc. This step was taken for the expansion of retail to the general public. After this FedEx acquired Parcel Direct in September, 2004 and rebranded it as FedEx smart Post.

FedEx has a rich legacy of novelty and has proved itself as an industry leader. It is a group of companies and has more than 290,000 employees which are working all over the world and its service area is expanded in more than 220 countries and territories. For the air operations, it has 697 aircrafts and more than 375 airports. For the purpose of providing ground services, FedEx has more than 80,000 motorized vehicles which are used to provide express, ground, freight and expedited delivery services.

The FedEx is very much concerned not only about the people working inside it, but also the people of outside world and is committed to provide sustainability in connecting people and also improving their lifestyle all around the world. It cares about its customers and value their needs and wants. The aim of the FedEx is to turn the world into better place to live, and work and this is the reason that it fulfills its corporate responsibilities and participate fully in all community and environmental programs.

The mission of the FedEx Corporation includes the concerns of all of its stakeholders including stockholders, customers, employees, partners and suppliers. It is aimed to provide maximum value to its shareholders and to create a rewarding relationship with all other stakeholders. FedEx always strive its best to provide highest quality services which meet the particular requirements of all of its market segments. The strategies which are used by FedEx to get its mission accomplished in an effective way are compete collectively, operate independently and manage collaboratively. The FedEx values its people, services, innovation, integrity, responsibility and loyalty.

The FedEx Corporation is competing in many industries including trucking, logistics services, freight forwarding services, air cargo services, express delivery services and transportation services. United Parcel Service (UPS) is the major direct competitor of FedEx as it is the world's largest package delivery company and transporting more than 15 million packages in more than 220 countries. It is operating with a fleet of about 93,000 motor vehicles and about 500 aircrafts. They are using UPS supply chain, less-than-Truckload (LTL) and truckload (TL) freight transportation through UPS ground Freight solutions to provide logistics and freight forwarding services to its clients. In order to compete with its major competitor FedEx must have competitive advantage to maintain and increase its market share in the industry.

Other than this, FedEx also have competition from the companies which are known as Non-Asset Carriers. These companies don't have possession of any equipment rather they do the work of management for freight movement of shippers and brokers. The advantage of these non-asset companies is that they are similar to brokerage arm but they don't have to incur any expense regarding management of services.

2. BUSINESS INTELLIGENT DRIVERS

When a company like FedEx faces competition from asset and non-asset companies, then it is vital for the company to take into consideration all the variables related to freight movement present in external and internal environment. When the company will look at the factors, it will find that there is no other option except to invest in Transportation Management System (TMS) to enhance the efficiency of the company operations. The need to use the business intelligent system to support the decision will become obvious when the FedEx will do external and internal factor analysis. Business Intelligent is basically a technique in which computer performs all the function from identifying, extracting and analyzing business data for example, the sales revenue generated product wise or department wise or in regard to associated costs and incomes. This technique is used to get the past, present and future/predictive views regarding business operations. Generally, the business intelligent performs the functions of business performance management, reporting text mining, analytical processing, predictive analytics and benchmarking etc. the purpose of the business intelligent system is to support the company to make better decisions and this is the reason that this system is also known as the Decision Support System (DSS). FedEx uses business intelligent system to streamline the variables which are affecting the business processes. The business intelligent drivers are used by the corporation to drive the performance of its main objectives. The FedEx has a wide range of companies and variety of services and it is difficult for it to have consistent platform for all its services, thus it is quite difficult for it to know which to measure and how to manage key metrics. The factors which affect the hostile view of performance management are rapid change, governance, data availability, expanding or ERP and stakeholder's demands. This is the reason that business Intelligence is essential for the FedEx for its performance management.

FedEx is one of the largest express transportation companies and is generating recorded revenue of about 34,734 millions in year 2010 by delivering small packages of services throughout the United States along with 220 countries globally. In the first half of its operations, the revenue decreased due to the global recession impact. The FedEx uses the Business Intelligence drivers to know about the business needs and competitor intelligent needs. For this purpose, it performs the SWOT analysis along with the analysis of its leading product revenue streams. With the help of the business drivers available today, the FedEx has established a data warehouse which provides current and accurate information from the reliable resources and supports all types of decisions either strategic or tactical.

FedEx is providing both air and ground services on a wide level. It is necessary for the company to have equipment in a ready to use form, all the time, to deliver the service on time. At the same time, it also needs to deliver the services at the affordable cost to all its customers and to all market segments. Another task for the FedEx is to deliver different products and services with different quantities to different locations and at different times. Thus they use business intelligent drivers to manage all their services. With the help of the data warehouse, the FedEx can get the information about rapidly changing business needs of its customer; and can know about its good customers who are contributing 90% towards the business profit. The FedEx aligns its business intelligent team with its strategic goals and thus has made a sophisticated strategic decision support function. The three important drivers which are used by the company are, reducing the costs and wastage after identifying specific areas which needs improvement, identifying growth opportunities and timely and better decisions by analyzing the available corporate information assets comprehensively.

Before the data warehouse, it was difficult for the FedEx to make its partners look, feel and act like parent corporation as there was a problem in getting information to all the business partners. FedEx has introduced its own intelligence software made by intelligence builders and has made a 470 percent return on its investment with the help of it. The Intelligence system can generate reports which ranges from executive level theories to the areas such as revenues generated for business partner or any geographical area are against the budget plan or not. Various tools are also designed in this system for analyzing tactical, operational and administrative activities. This system is also tied to the transaction payment processing system of the FedEx. To calculate the amount which has been given to the service partners all over the world, Auto pay tool is introduced in the intelligence system. The purpose of FedEx intelligence system is to provide information to the decision maker quickly; it is just like telling the customer that his package will get late before it actually happens.

This system is very helpful to provide the collaborative business intelligence environment to get a common frame of reference ranging from planning to performance evaluation.

COSMOS is the real time package tracking system which is used by FedEx to monitor the every step of the delivery cycle and the employees and the customer service representatives continuously enter the information into it. Another operation system used by FedEx is command and control system. It is a satellite based system and enables the company to deliver packages at its fastest, safely and through the surest route in case of adverse weather.

3. HOW INTELLIGENCE IS GATHERED?

The FedEx has used variety of resources to gather information and this includes customers, internal departments of the company and any data available outside the business. Secured internet portal was also used to achieve Information Bridge. The data is collected using 40 web enabled data marts and more than 50 application systems. Most of the required data comes from business units and then the data recorders are used to provide GPS tracking. In the intelligence gathering process in FedEx, the data comes from usually 2 to three disciplines out of five disciplines known as Human source Intelligence, Signals intelligence, measurement and signature intelligence, and open source intelligence.

First of all, FedEx outline the needs of the customers and then it makes a plan to collect information from different sources. Both open and closed sources are used in FedEx to get the information. The open sources includes internet, newspaper and books etc. while the closed sources are those which have restricted access and there should be a lawful reason to access that information. After collecting the relevant information, the intelligence analyst gets the relevant material out of all the information and then analysis process starts. This process is helpful to identify the suitable targets and challenges face by the organization. After the analysis phase, the dissemination process get starts and it requires timely delivery of the information.

The FedEx has made it easy for its customers to access relevant information, so lots of information can be taken from the clients. The FedEx uses an EDI system to get the requests from the customers and also proposals and bid sheets. The FedEx consider that customers are very important tool to provide information and this information can be used to develop business practices to create value.

External business factors provide important information which the FedEx uses to operate business efficiently. The weather is an important factor which affects the delivery schedule and this is important to know that whether there are chances of delay in shipment due to adverse weather conditions. This is important information and then delivery times are re-scheduled accordingly. The role of economy is very important in service industry as this can cause change in freight rates tremendously. The FedEx keeps an eye on the economy because the economic conditions are responsible for making the decision about the right amount of equipment available.

APEC tariff database, command and control and COSMOS systems used by FedEx are very good source of information, as timely information of every phase is entered into them. These systems are very helpful to have control over shipments at each and every step. With the help of COSMOS and tracking to service guarantees, FedEx has been able to get 100 percent customer satisfaction. FedEx call center technology is also remarkable as it is handling more than 500,000 telephone lines of 46 call centers daily effectively and efficiently. FedEx is still striving to get more technology advancement to provide its customer convenience and satisfaction.

4. TYPES OF DATA WAREHOUSES USED

Most of the time, the business intelligence system applications use data which is gathered by data warehouse, also called data mart. The FedEx uses the mix of both types of data that is real time and traditional data in their warehouse. Real time data is more important than the traditional data as it is used to track equipment. It is also used when there is need to communicate with customers or venders. A real time tool used by FedEx is transportation management tool of Oracle and this is very helpful in managing fleet, planning operations and communicating with customers.

There is no doubt that many service firms who are providing shipping services are working on very low profit margin. So real time data analysis is utmost important for them as they can't afford any type of service failure. The importance of real time data cannot be ignored but this is quite costly and increases the load on the company so FedEx also uses traditional data for reporting and different sorts of reviews such as maintenance and driver performance reviews. When company

uses traditional data then it is essential to keep good control on both driver and safety of the equipment. The traditional data is stored and analyzed at different times when required.

5. THE BI USERS

Business Intelligent system at FedEx aims to provide resource planning for the organization and it can be used by the business analyst and managers as well. Managers can use this system to lower operational cost and increase equipment utilization. All other employees performing their specific tasks can also have access to their relevant information. Business intelligent system generate reports regarding business operations, sales and marketing etc. and these reports can be used by the relevant person to get the specific information. For instance transportation planners can use reports displaying load to know when the company has failed to deliver its services on time. If the company uses a manual process then it will be very hectic. Agents can also use specific information to get the timely information about the problem and then can fix it easily by developing different strategies. The customers are very important for the FedEx and business intelligent system has provided ease to the customers as they can get all the relevant information in seconds by calling the customer service center. Agents can easily manage pickup and delivery times with the help of timely information.

The brokerage is very important unit of the organization and business intelligence also play sits role here to decrease total transportation costs and to manage resources effectively. Back office departments also get benefits of intelligence systems. Accounting department can keep track of receivables and payables and also of customer accounts and claim department can use the system to keep record of freight damages and claims.

Dispatchers are the one who are managing the equipment maintenance schedule and also drivers. They can use the intelligent system to keep the track of maintenance and lifecycle of the equipment. They can also check the availability of the drivers to perform the operations timely with the help of business intelligence system. The business intelligence system is equally beneficial at all levels of organizational structure.

6. BI TOOLS AND TECHNOLOGY USED

Transportation Management version of Oracle is very helpful in creating reports and analyzing data. This tool has the ability to manage the whole supply chain and can not only manage companies own operations but also can manage whole transportation lifecycle.

Business intelligence in FedEx is used by managers of all the departments. Digital dashboard and online analytical processing tools are used to analyze data in real time in sales, marketing and finance departments; another important technological tool used by the FedEx is for the communication of drivers and the dispatchers. FedEx uses COSMOS tracking system and command and control system for managing the data efficiently. FedEx never compromises on the technology and it would not be wrong to say that technology is its competitive advantage and it has made a very efficient and safe system with the help of technological advancements and has earned 100 percent customer satisfaction.

7. ANALYSIS USED

FedEx converts the data into useful information in three basic steps. First is data warehouse where data is stored, second is business intelligence where data is processed and the third is multidimensional analysis and then the data is sent to specific locations. Subset, scenario dimensions, filters and multidimensional modeling are used to analyze data to derive different results from it. Subsets provide groups of information while scenario provides help to financial department of FedEx. Quarter over quarter analyses is used to get the specific information about any region or business unit. Filtering is important step in data analysis as it removes the irrelevant data to provide only the relevant data to be processed. For example if the sales staff wants to filter data and just want to get the top customers by revenue, then they can use this option to get the required data for analysis.

8. MAJOR BENEFITS OF BUSINESS INTELLIGENCE SYSTEM

The FedEx has acquired both financial and operational benefits by using Business Intelligence System tools. They have reduced their overall cost and have increased productivity with the help of Business Intelligence. The customer loyalty

and creation of a company culture which will use the technology in the upcoming time and will help company to progress are, some of the advantages which are not measurable. The business intelligence tools have made it easy for the company to develop a competitive advantage and to expand their business without worrying about complications of managing business. The operational cost has become less because the business has achieved efficiencies in operations, handling resources and making strong transportation management decisions. The right amount of capacity and right location of equipment is another advantage which the FedEx has achieved with the help of Intelligence system.

The financial information of the FedEx is also highly organized and there is no problem in sending the invoices and tracking receivables and payables. It has also become easy to keep track of customer's account and to access them. With the help of business intelligence, it is no more difficult to enter into new industries and markets and this is the reason that FedEx is providing its services in many countries effectively as business intelligence has allowed them to manage end to end logistics with increasing visibility and integrating the whole process.

CRM tools, EDI and web interfaces have increased the number of loyal customers to FedEx. FedEx is using technology to synchronize and automate all its business operations and this has resulted in increase in sales productivity and creating additional revenues.

Another important tool of business intelligence is analytics. If you don't analyze the data to know about the business performance and to form future strategies then the data is useless. With the help of this tool FedEx is now able to analyze customer base and revenue models and has increased their bulk operations.

9. COSTS ASSOCIATED WITH BI INITIATIVES

No doubt, business intelligent system provides a business bulk of advantages but it is costly at the same time. Wider access and greater insight are some of the advantages provided by business intelligence system but the cost is really high and most of the organizations are not taking advantage of this beneficial tool just because of its cost. They are waiting for the cost to drop down. FedEx is not such organization and is taking the advantage of BI system at its most. FedEx used several providers before reaching at the place where they can introduce their own business intelligence software. They used the Oracle Management Transformation tools to avoid their previous lengthy evaluation process. The best thing about FedEx is that they don't worry about the cost and always strive to achieve latest technology for their operations because they know this is one of the key factors for their success.

10. DECISIONS SUPPORTED BY BUSINESS INTELLIGENCE

Business intelligence supports any type of decision ranging from day to day operational decision to more strategic and tactical decision. The FedEx Corporation values its employees and customers fully and it does not rely on software to make the decisions. It allows its managers to make all strategic decisions by using their own wisdom and perception. However, they can take help from the data and results of the system. Usually, operational decisions are supported by business intelligence as it generates reports by taking historical and periodical data. So these results are the same when they are generated by human being as well so these results are reliable. So it does not make any difference if the decisions regarding equipment placement, customer relations and rate quotes are made by using the business intelligence tools. Another thing can be done that the analytics and real time data is entered into the dashboard to provide ease to the user to take help from this data to make a decision. The benefit of this system can be understood from the example that if a customer calls to request a quote to ship then the availability of the data will make it convenient for the agent to see whether the equipment is available or not. He can also see the customer payment history to decide about the personalized rate for the specific customer.

11. STRATEGIC ADVANTAGES

Along with the operational and tactical advantages, the business intelligence has provided the FedEx strategic advantages by providing the information in a compiled form. Sales, human resource and operational department are no more separated and they work together in collaboration. These business intelligence initiatives have helped the corporation to increase productivity, enhance revenue along with improving customer satisfaction level.

Business intelligent system keeps record of all type of data and now customers can get any type of information about the company ranging from payment schedule to importing data to the system to study. With the help of business intelligence,

the FedEx get the strategic benefit as it can do strategic data analysis easily. The organization gets many benefits from strategic data analysis such as providing access to financial and statistical reporting and to hide data which is measured rarely. It also provides a single opinion about the data by gathering it at one platform and by applying data mining and data farming techniques. The key departments of any organization are sales, marketing, finance and human resource and accurate decisions regarding all these departments can be made in the light of some relevant data. So business intelligent tool has helped the FedEx in its strategic decision making by providing the modern technology of analyzing data. The strategic decision making is the crucial step for any organization and if the business intelligence is that much helpful in this decision making, then it must be a critical and essential tool for any organization.

12. OPERATIONAL AND TACTICAL ADVANTAGES

Business Intelligence provides all types of advantages including strategic, operational and tactical to FedEx Corporation. It has made the access and analysis of data very simple and easy and this has helped FedEx to perform overall operations more effectively. Now it is not difficult for transportation planner to make an outlook for the spot market as he can analyze the workflow quite easily. Business intelligence has made keep track of each phase of delivery very simple by providing effective communication system. Now drivers can talk about their position and availability with dispatch. Now the handling of problem is not as difficult as it was before and has reduced the chances of failure delivery. The operational advantages give the organization immediate and quick rewards in the form of efficiency while tactical benefits provide the company long term growth benefits. With the help of business intelligent technique, the FedEx is getting tactical advantage and can now make long term and sound decisions by analyzing future trends. The expansion of business in term of product or market, closing the business at some locations and opening it at some other locations are some of the future decisions in which business intelligence help the company by providing historical data then analysts make assumptions about different factors such as number of drivers, fuel price etc. and determine whether it is feasible to open a new operating center at specific location or not. With the help of business intelligence the FedEx has experienced increase in customer satisfaction and reduction in unbilled miles.

13. RECOMMENDATIONS

FedEx is a highly reliable and can be trusted in case you want to ship your important international express shipments. The reason is because it provides fast and reliable service and use sophisticated tools such as real time shipment tracking, custom tools and transmit tools along with fast and clear custom clearance system. The system of the FedEx is very good but the price is issue for most of the people and it should try to revise the price to get most of its customers satisfied for the price.

The reason of the success of the FedEx along with their organizational culture and values if that they are well aware of the importance of technology in this fast moving world. This is the reason that they are not hesitant in investing and adopting up to date technologies for their operations. Another great thing about FedEx is that they don't rely on current technology; rather they continuously try to get the contemporary technology to have competitive advantage over their competitors. They use the business intelligent technique but along with this they also use other modern technologies such as COSMOS etc. to get the most accurate data to support decision making. They continuously monitor their process and change their strategies according to the new market segment and existing market conditions.

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