

FedEx Earth Smart: Practices of Environment-Friendly Management

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Abstract

With the recent increasing interest in sustainability management, the latest environmental report tends to be substituted by the expanded sustainability management report. In this work, I would like to introduce the management pattern of a global enterprise that values environmental soundness (environmental friendly) and implements eco-friendly measures. The enterprise chosen in this study is FedEx. In this article, FedEx case is presented how companies can adopt environmental friendly management in their businesses. FedEx has maintained an eco-friendly management since the introduction of the company's eco-friendly transport trucks in 2003, following its development in 2000. In 2005, it installed a solar power plant that can supply up to 80% of the electricity consumed by Oakland Logistics Center in California, USA. FedEx has published the "Global Enterprise Citizenship Report," which contains its business developments in 2009. FedEx has worked hard to minimize the influence caused by packaging of goods to the environment and appealed to customers to use recycled products as much as they can. FedEx also encourages customers to use packaging materials efficiently. A considerable amount of energy has been expended in the eco-friendly programs of FedEx. Although thousands of FedEx vehicles and aircraft operate daily with using large amounts of electricity and fuel, FedEx focuses on energy savings and global environment protection.

Keywords: Sustainable Environment, Environmental Friendly Business, Green Energy.

1. Introduction

Worldwide recognition supports the survival and growth of companies, which cannot be achieved without the development of the society where these companies belong. The value of a company comes from the society, which is the area of corporate activities. The influence caused by enterprises on the society has become greater in terms of size and activity area, and the categories of enterprise stakeholders have multiplied because of different aspects in the present society. In addition, rapid information transfer has become easily available because of the technological development in the fields of information and communication; hence, companies now seek compatibility with the society and actively exert effort to adapt to this new trend. Companies adapt by modifying their corporate management objectives, strategies, organizations, and implementation plans, among others through adopting the concept of "sustainability management," which is reflected and further applied in their business activity goals.

Sustainability management started when it was introduced in business activities following a declaration of "sustainable development" as a new growth paradigm of the human dimension at the UN Earth Summit in 1992. This concept encompasses the environmental management and social contribution activities of companies. Sustainability management was developed as a result of re-examination of existing management systems and revision of environmental and social issues in the management styles of companies.

Sustainability management refers to the management activities that eventually promote sustainable development through implementing an entire process of corporate management activities based on the integration of economic

profitability, environmental soundness, and social responsibility of the enterprise. This concept is similar to those of corporate social responsibility (CSR) and socially responsible management of corporation, which are new concepts. CSR is the term used in the corporate field, whereas socially responsible investment and socially responsible finance are terms used in the investment field.

The concept of sustainable management emphasizes the transparency and ethics of the management in addition to the traditional values of the management anchored in seeking increased revenue through quality and pricing policy along with marketing strategy. The concept further emphasizes the importance of contribution to social development and environmental protection for the public interest, which were previously considered beyond the business scope of companies. This concept is not derived from the simple idea that the corporation shall assume their dividend for the economic, social, and environmental responsibility. Sustainable management is concerned with the companies' recognition of the graveness of certain issues such that the survival and growth of the company depend on the effort to explore ways that could ensure amicable cooperation, consensus, and harmony with various stakeholders.

With the recent increasing interest in sustainability management, the latest environmental report tends to be substituted by the expanded sustainability management report. Moreover, the guidelines of the environmental report also recommend that, in the case of large companies oriented toward global activities, companies should include sustainability management in their environmental report (MOE, 2007a). At present, most companies that produce environmental reports are large corporations; hence, they are already producing sustainability management reports. In this sense, this trend is likely to be even more distinct in the future.

Although sustainability management is represented by economic profitability, social responsibility, and environmental soundness, I speculate that the major global interest depends on environmental soundness. For example, the United Nations Framework Convention on Climate Change (UNFCCC) has been dealing with global warming problem since 1992 and has achieved a fruitful outcome on December 13, 2015. The Conference of the Parties of the UNFCCC (COP21) produced an agreement on a new climate change system to be applied after 2020. This conference was held in Paris, France. The signing of the agreement indicates that the entire world is collectively contemplating to solve global warming problem. Hence, solutions, such as reducing low-carbon emissions and providing alternative ways to stop global warming, are being introduced in various areas.

Two theories with regard to the relationship between environmental performance produced from environmental soundness and voluntary disclosure exist. The first theory views the relationship between environmental performance and environmental disclosure as a positive parameter (voluntary disclosure theory), whereas the other theory is a socio-political theory, which observes the relationship between environmental performance and environmental disclosure as a negative parameter (social political theory) (Clarkson et al., 2008). According to voluntary disclosure theory, companies with excellent environmental performance actively disseminate environmental information. By contrast, companies with poor environmental performance attempt to belong to the average environmental performance group by stopping or reducing the disclosure level with respect to environmental performance. According to socio-political theory, environmental information disclosure comprises the function corresponding to the social and political pressures on businesses. The companies with poor environmental performance receive much social and political pressures, which would weaken their legitimacy; therefore, companies attempt to disclose environmental information more actively to change the perception of stakeholders. Many empirical studies have been conducted recently to validate the two conflicting theories (Patten, 2002; Clarkson et al., 2008; Jang et al., 2009), with few consistent results. However, the voluntary disclosure theory, which argues that corporations with better environment performance tend to disclose more environmental information, has presented more viable results.

In terms of cost reduction, the companies that faithfully perform environmental management can achieve increased productivity because they can avoid future environmental pollution and accidents, dispense of proposed costs arising therefrom, and further reduce the consumption of raw materials and energy. Gale and Klavans (1985) also attributed sales growth, cost reduction, and stock price increase of a company to its excellent performance in environmental management.

In this work, I would like to introduce the management pattern of a global enterprise that values environmental soundness (environmental friendly) and implements eco-friendly measures. The enterprise chosen in this study is FedEx.

FedEx has maintained an eco-friendly management since the introduction of the company's eco-friendly transport trucks in 2003, following its development in 2000. In 2005, it installed a solar power plant that can supply up to 80% of the electricity consumed by Oakland Logistics Center in California, USA. FedEx has published the "Global Enterprise Citizenship Report," which contains its business developments in 2009. According to the report, FedEx has been successfully achieving the goal of reducing aircraft emissions by 20% between 2005 and 2020 through accomplishing the 8.33% aircraft emission reduction in 2009. FedEx has shown an improvement of 14.1% with regard to reducing emissions of vehicles other than aircraft.

FedEx has more than 300,000 team members worldwide and has branches in approximately 220 countries at present, including the United States. This company has achieved \$46.5 billion of total sales in 2014 through its various services, such as express shipping, ground, freight, and 10.5 million daily courier service. Five thousand customers visit FedEx in a month. Automated tools are used for tracking packages, and over 9-10 thousand packages arrive at FedEx each day. Approximately 5,000 FedEx facilities operate at present, and the company has more than 47,500 vehicles in operation worldwide. In addition, over 650 aircraft is serviceable at more than 375 airports worldwide.

2. About FedEx

FedEx started as Federal Express, an express delivery company that was founded by Frederick W. Smith in Memphis, Tennessee in 1971. The company is listed on New York Stock Exchange and one of S & P 500 constituents. It provides, among other services, mail and cargo delivery using air and ground transport. FedEx is short for Federal Express, which was used from 1973 to 2000. The company is among the three largest air cargo companies along with DHL and UPS.

Frederick W. Smith submitted a report on the new freight transport system while listening to lectures in Economics at Yale University in 1965. The report proposed to create a hub of baggage in densely populated areas within the United States, suggesting that most of all cargos shall be congregated therein and then shipped away to all corners of the United States in a pattern that is similar to bicycle spokes. Although Smith received a "C grade" with the report, he proceeded with his own initiative thereafter and joined the courier business.

In 1997, a holding company was established, which was in control of several subsidiaries including Federal Express in the air transport sector. In 1998, Federal Express acquired Caliber System Inc. and expanded logistics infrastructure by establishing FDX Corporation. In January 2000, the company name was changed to FedEx Corporation. Since 2000, it has been solidifying its position as an eco-friendly company that focuses on the joint development of an eco-friendly transportation truck.

After establishing a transport hub in Memphis in Central America in 1973, Frederick W. Smith began his business of transport packages from Memphis to major cities in the United States. After introducing a tracking system that can determine the location of shipping cargos and adopting the next-day delivery service, which ensures shipment within 24 h, Smith soon earned a good reputation. In less than 10 years since the company was founded, the sales volume exceeded \$1 billion, and thereafter, the company has grown into a conglomerate with sales volume worth \$10 billion.

FedEx Express, a subsidiary of FedEx Corporation that specializes in air transport business, is the No. 1 supplier in freight transport standards worldwide and has the second largest number of civil aircraft in the world, according to a 2009 study. It has more than 680 aircraft, which ship parcels and freight worldwide to and from 375 areas.

In 2008, FedEx was ranked among the "Best Global 100 Brands" selected by Inter-brand, a global brand consultancy. Moreover, from 2009 to 2013, FedEx was included in the "Most Admired 20 Companies in the World" by an annual survey conducted by "Fortune," an economic professional magazine. This company was also selected as the "best job you want to work in the world" by "Fortune" magazine for 12 years (1998-2006 and 2008-2010). In 2012, FedEx was selected as the Best All Cargo Airline and recognized as "Choice of Asia's Best Air Cargo Company (AFSCA)," in an event held by Cargo-news Asia and as the "Best Air Cargo Carrier/North America." AFSCA, one of the most trusted awards events with over 20 years of history in logistics and supply chain industry in Asia, is organized annually by a logistics trade journal, Cargo News Asia.

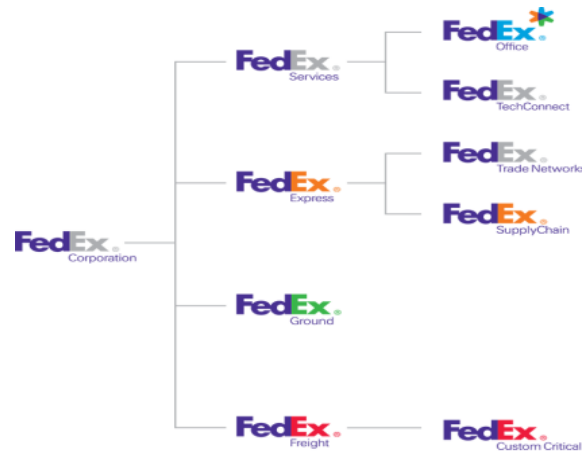


Figure 1. Business structure of FedEx (a)

In the early 2010, US President Barack Obama cited Frederick W. Smith, the founder of FedEx, as one of businessmen that he respected the most.

FedEx began operating in Korea through a distributor in 1988 and, in September 2000, FedEx was converted into a direct managing branch called FedEx Korea.

3. Environmentally Friendly Aspects of FedEx

FedEx offers carbon neutral shipping option in document express services. Through this first-ever unique service system, FedEx customers can select this option at no additional cost and contribute to the environmentally-friendly projects of FedEx by purchasing carbon credits. The document courier service of FedEx is measured based on the amount of emitted carbon dioxide during the shipping process on a yearly basis, and the company plans to purchase the equivalent carbon credits from the non-profit organization BP Target Neutral. Through this, FedEx supports various projects for alternative energy development and energy conservation, such as Dutch bio-gas project, Tanzania highlands forest redevelopment projects, and Thailand landfill gas collection systems worldwide. Carbon-neutral option is introduced in all document express services, such as FedEx International Priority and FedEx International Economy. The total shipping volumes of FedEx are expected to exceed 200 million sheets per year. All document envelopes shipped by FedEx are made of 100% recycled papers and are 100% recyclable.

In April 2010, FedEx constructed the largest rooftop photovoltaic facility in the world on its logistics center in New Jersey, USA. This plant is installed with solar panels measuring 13,000m², which produce 2.4MW electric power and reduce 1,867 tons of annual carbon dioxide emissions. In October 2000, FedEx completed the installation of 1.4MW solar power plant on the roof of Cologne-Bonn Airport.

In 2011, FedEx replaced its existing 4000 freight trucks with excellent fuel-efficient vehicles. The company also decided to introduce lightweight vehicles on a trial basis and increase the number of hybrid and electric vehicles. The 4000 units to be replaced comprised 10% of the entire vehicles owned by FedEx, and the state-of-the-art technology that enables to save fuel by two times will be applied to the new vehicles. FedEx has already been introducing these types of vehicles since 2000. Efficient vehicles could save 250 million l of fuel, which can cover 2.3 billion km. FedEx already operates electric vehicles in London, Paris, and Los Angeles. Moreover, FedEx has purchased additional electric vehicles that will be used in New York, Chicago, and Memphis in the next two months.

The introduction of electric vehicles will contribute in reducing fuel costs and environmental pollution. The company plans to develop electric vehicle technology by inputting various models of electric vehicles in different cities to study and utilize an electricity charging system. Moreover, FedEx plans to introduce five units of lightweight vehicles on a trial basis, which can save up to 35% more fuel than conventional vehicles. The vehicles will be made of composite materials, such as reclaimed rubber, synthetic resin, and glass fiber instead of metal-like

aluminum. FedEx plans to further increase the number of diesel hybrid trucks, even though it has 264 units in its storage.

The old engines of regular FedEx trucks with mileage between 50,000 and 80,000 km will be replaced with new hybrid engines within the next 10 years. New larger engines can generate stronger power while helping save fuel by 44% and are proven to help decrease particle emission and nitrogen oxide in the exhaust gas by 96% and 75%, respectively. The vision of FedEx in sustainable management is not limited only in improving fuel efficiency by 20% for surface transport vehicles. By 2020, it also sets the goal of reducing carbon dioxide emissions of aircraft by 20%. Starting this year, FedEx has required its new buildings to receive the US Green Building Council Certification LEED. The headquarters in Memphis and the new logistics center in Las Vegas have been already certified with LEED.

In 2015, FedEx issued purchase orders of up to 100 freighter aircraft with B767F model. This measure is intended to reduce fuel costs with the introduction of state-of-the-art aircraft equipment. This decision is derived from a viewpoint that, in the middle of global economic downturn, the highly profitable express demand already reached the breaking point. FedEx plans to take appropriate measures to improve profit margins in flight operation while hastening the ways to ensure cost savings. FedEx first plans to issue a firm order to purchase 50 B767-model aircraft and then will further secure the rights to the options for the remaining 50 orders. The aircraft are expected to be successfully delivered in 2018. On the catalogue price basis, this contract is a great agenda for FedEx to deal with 100 aircraft units, which are valued at more than 2 trillion Korean Won in total.

With the introduction of B767 aircraft group, FedEx aims to reduce fuel costs, which accounted for nearly 10% of the total operation expenses across the entire group of companies. The loading capacity of the plane is 10%-30% less than the cargo volume of MD10 aircraft. However, FedEx seems to consider its response to weak demand trend and purpose of rationalization of air transport capability. By replacing aging aircraft with new ones, FedEx can reduce fuel consumption by 36% and can increase transport volume by 20%.

Among the 673 aircraft in the possession of FedEx as of the end of February, FedEx will have 650 in operation after it retires the 15 aircraft units in the month of June. According to FedEx, B767 aircraft is the main equipment of the new generation in medium-sized groups and has already introduced 21 units (as of the end of May 2015). The company further aims to replace Douglas MD10 aircraft with these airplanes because the bulwark of medium-sized air freighters. B767 aircraft can improve gas mileage by up to 30% compared with MD10 aircraft.

To date, FedEx has saved 100 million gallons of aviation fuel and reduced 976,000 metric tons of carbon dioxide emissions. In particular, FedEx has been implementing Fuel Sense, an eco-friendly project, since 2007. The company has saved 300.003 million gallons of aviation fuel, which can fill approximately 500 Olympic-size swimming pools.

FedEx launched Eco Driving program in 10 countries in the Asia-Pacific region, including South Korea, in 2012. The program encourages FedEx employees to learn the eco-Driving ABCs so that they are accustomed to safe driving and save fuel with less exhaust emissions while creating safe road environment by preventing accidents. The Eco Driving program provides five tips for drivers of motorized vehicles. The five tips are as follows: (1) start slowly, (2) maintain a constant speed, (3) use accelerator pedal appropriately, (4) be cautious not to run air conditioning excessively, and (5) prohibit idleness. Supplementary advices were added in addition to the tips. (1) You are supposed to step on the accelerator pedal gently. (2) Do not rush, and drive smoothly. (3) Switch to higher gear quickly. (4) Maintain a safe distance. (5) Maintain the speed in accordance with the traffic situation. (6) Do not step on the accelerator pedal frequently. (7) Use engine brake. (8) Slow down the speed slowly. (9) Step off from the accelerator pedal with your foot when nearing to a stop sign. (10) Maintain the vehicle cabin temperature at 25°C. (11) Open the windows for ventilation before using the air conditioner. (12) Set "internal circulation" function for the air conditioning. (13) Avoid idling when you stop for longer than 5 s.

On average, 130cc of fuel is consumed in 10min of idling. FedEx has been practicing the Eco Driving program for vehicle operation in the context of introducing eco-friendly programs, and people can take advantage of such kind of environmentally friendly program that can lead to large changes by modifying small habits in daily life.

WHEN IT COMES TO RESPONSIBLE PACKAGING, WE'RE COMMITTED.



100% of FedEx® packaging is recyclable, and 52% is made from recycled content. You can be sure you're getting packaging that's as environmentally responsible as it is durable. And that can help make every shipment worry-free.

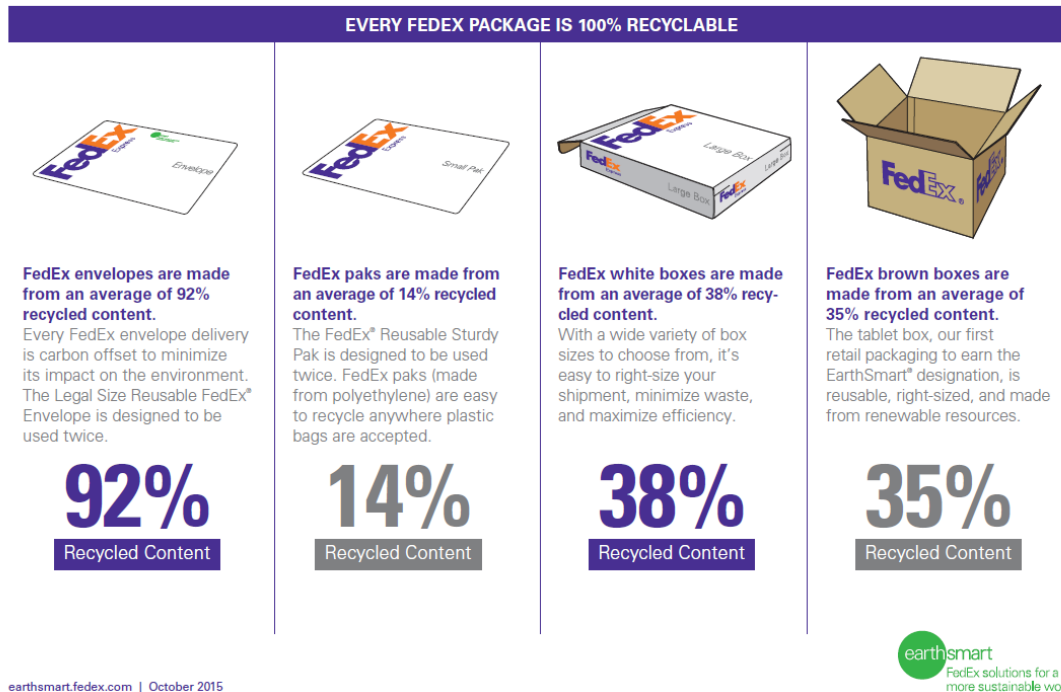


Figure 2. Business structure of FedEx (b)

FedEx Korea held the “FedEx packaging recycling ideas competition” in commemoration of the launch of the industry's largest pack size, Ex-large Pack (hereinafter XL pack), in 2011. At the event, the participants who submitted the best ideas on how to use the FedEx packaging for recycling in everyday life were selected and awarded with prizes. XL pack of FedEx is produced with at least 15% recycled polyethylene to protect the environment. XL pack (52cm × 44) is the largest among other FedEx packs and enables to pack large-size cargos more efficiently. FedEx has continuously worked hard to minimize the influence caused by packaging of goods to the environment and appealed to customers to use recycled products as much as they can. FedEx also encourages customers to use packaging materials efficiently.

4. Results and Conclusions

FedEx is known as “the most favorable company to work for,” “the most admired company,” “the company with the most wanted workplace,” and “the company with the lowest turnover rates in the industry,” among others. FedEx did not at all achieve remarkable growth within a short period, along with its titles, by chance.

In view of such a high-speed growth, note that the constant search for change in human relationships within the company and the unwavering principle that humans are of prime priority have played a great role in the remarkable technology development and business innovation of FedEx. Domestic companies should not neglect these efforts if they desire to survive in fierce competition in the international community.

A considerable amount of energy has been expended in the eco-friendly programs of FedEx. Hundreds of thousands of vehicles and aircraft operate daily, and in hundreds of FedEx workplaces worldwide, large amounts of electricity and fuel are used. With the aim to protect the global environment and reduce energy costs, FedEx focuses on energy savings in the long run. Domestic companies should learn from the practices of FedEx and dare to choose energy-efficient measures to achieve long-term effects, although these measures may necessitate greater expenditure in

short time range. Moreover, domestic enterprises should keep growing with innovations, along with eco-friendly efforts, so that they would continue to grow as companies that could compete internationally.

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