

A Work Project, presented as part of the requirements for the Award of a Masters Degree in Management from the Faculdade de Economia da Universidade Nova de Lisboa.

**SUSTAINABILITY IN THE SUPPLY CHAIN MANAGEMENT  
A GLOBAL LOGISTICS COMPANY CASE STUDY**

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Management Program, with the supervision of:  
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JANUARY 2020

## **ABSTRACT**

Climate changes are an increasing cause of public and governmental concern. Therefore, environmental sustainability is a priority for a company's potential customers and employees. Companies in the logistics sector are especially pressured to reduce their carbon footprint due to their high fossil fuel consumption. The German company Deutsche Post DHL has significantly reduced CO<sub>2</sub> emissions, while remaining profitable.

This paper studies the drivers of the company's approach to sustainability and whether this strategy is consistent with the business profitability. Using the framework of case study, I conclude that DPDHL has reduced its carbon footprint while adding value to the business.

**KEYWORDS: Supply Chain, Logistics, Sustainability, Environment**

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

## **01) INTRODUCTION**

With increasing concerns on the risks and consequences of climate change, companies contributing to air pollution are under the scrutiny of governments and consumers. To be the preferred choice of clients and employees and maintain profitability, organizations need to engage socially in a credible manner. Global logistics companies operate in the transportation sector, which is responsible for a high share of global CO<sub>2</sub> emissions, and are expected to work on reducing their environmental impact by different stakeholders.

In 2008, Deutsche Post DHL (DPDHL) was the first company in this sector to sponsor an environmental protection program and has been able to reduce its CO<sub>2</sub> emissions by over 75% compared to 2007 levels. The company's effort towards reducing its negative environmental impact and adopting a coherent Corporate Responsibility Strategy has been rewarded by clients and suppliers, which see DPDHL as a reliable logistics partner. With €61,550 million revenues and €3,162 million of EBIT in 2018, DPDHL has proved that it is possible to maintain profitability while also adding value to society and the environment with a well-marketed, coherent and effective corporate strategy.

## **02) TRIPLE BOTTOM LINE AND CORPORATE SOCIAL RESPONSIBILITY**

In 1994, John Elkington developed the concept of Triple Bottom Line (TBL), opposite to the general belief that the bottom line of every business was related to a singular finality of prosperity translated into net profit and shareholder's value. The TBL concept identifies People, Planet and Profit, the three P's to take into account when assessing the health and quality of a business' impact. This philosophy has since then found general acceptance, and nowadays businesses are generally held accountable for all the social and environmental consequences of their activities by governments and stakeholder groups. Customers increasingly pay attention to the impact that the products and services they buy have on the natural and social environment, while more than a third of employees are not willing to work for an organization that is not

aligned to their social values (Bersin, 2019). As a result, managers all over the world are pressured to lead a social enterprise, defined as an “organization whose mission combines revenue growth and profit-making with the need to respect and support its environment and stakeholder network” (Deloitte, 2019). The development of a credible Corporate Social Responsibility (CSR) is therefore perceived as important in order to build an attractive image of the brand, acquire more customers and attract employees. CSR is defined as the social responsibility of businesses, encompassing the economic, legal, ethical and discretionary expectations that society has of organizations at a given point in time (Montiel, 2008). This implies that companies, to be socially responsible, should align their behaviors with the norms and demands of important stakeholders. Therefore, managers face the challenge of running a socially responsible organization, while not undermining net profits and shareholders’ value, since a sustainable financial performance is naturally needed to fulfill the mission of a company. According to the 1987 definition of the World Commission on Environment and Development (WCED), sustainability means “meeting the needs of the present generation without compromising the ability of future generations to meet theirs” (WCED, 1987). Therefore, a sustainable company is not only one whose financial performance is positive, but rather a company that achieves profit while also controlling its impact on society and the planet.

While nowadays scholars and practitioners tend to support the existence of a link between corporate sustainability performance and financial performance, this has not always been the case. Until recently, in fact, scholars and practitioners broadly agreed on the existence of a trade-off between the business’ economic and social interests. A prominent example of this belief is Milton Friedman, who in 1970 wrote an article published on *The New York Time Magazine* entitled:” *The Social Responsibility of Business is to Increase its Profits*”. In this article, Friedman states that every use of resources for an aim that is not to increase profits is a

“tax” unduly imposed by the manager on the organization, because there is a natural conflict of interests between business and society.

It was only in the 90s that some authors started to challenge this point of view; in particular, Porter and Kramer wrote different articles on the subject, arguing that corporate success and social welfare are not “a zero-sum game” (Porter and Kramer, 2006, 2). Although an increase in consumers’ awareness of social and environmental issues often makes managers see CSR as an “obligation” necessary in order to satisfy stakeholders and build or maintain a company’s reputation, according to the authors it can also be a source of opportunity and, if well leveraged, of competitive advantage. Since it is often difficult to quantify the benefits of the investments, it is important for each business to analyze its value chain, in order to focus on the issues that it is best equipped to address. The strategic focus on CSR will have positive and significant impact on society, while at the same time benefitting the company, with the chance to create shared value. In this light, each company should focus on its most pressing issues, and by tackling them it could gain credibility and recognition, while also obtaining benefits for the business.

That this theory is being embraced also in economies where profit has always played a major role has been pointed out by the Business Roundtable recently this year. The non-profit U.S. organization, whose members are Chief Executive Officers (CEO) of important American companies, has published an updated version of its Statement on the Purpose of a Corporation, stating that profit and shareholders’ primacy cannot be the only principles of a company (as it was reported in the document since 1997). On the contrary, CEOs have to build long-term value benefitting clients, employees, suppliers and communities, respecting people and the environment through the adoption of sustainable practices in all the business activities (Business Roundtable, 2019).

While social sustainability, focused on understanding the impacts of organizations on people and society, is an integral part of sustainable development and it is critical to any business (United Nations Global Compact), for some industries environmental sustainability still represents an issue, strategically more important to address. The United Nations Environment Program (UNEP) in its 2018 Emission Gas Report warned that the Earth's temperature is doomed to increase of 3°C within 2100 - well above the limit of 1.5°C established in the 2015 Paris Agreement. In a context where society and the media are becoming always more attentive for what concerns risks of climate change, governments are starting to agree on the necessity of dramatically reducing greenhouse gas (GHG) emissions in order to preserve the environment and point the gaze towards some sectors in particular.

Transportation plays an essential role in society and for the economy. Critical to wealth generation, these activities enhance people's quality of life by moving goods and supporting consumption in urban areas. On the other hand, as fossil fuel-related sectors, logistics and transportation are also considered a significant limiter to environmental sustainability, seriously contributing to carbon emissions, air pollution and noise. According to the European Environment Agency, transportation is responsible for more than one quarter of the EU's GHG (European Environmental Agency, 2019), while the International Energy Agency identifies it as the second largest source of global emissions, generating over 20% of the world's carbon emissions, behind only electricity and heat production (International Energy Agency, 2017). Taking these factors into consideration, it should not surprise that governments press companies of this sector to reduce their carbon emissions, since they represent an obstacle to the realization of their environmental goals.

### **03) THE GLOBAL LOGISTICS COMPANIES: SUSTAINABILITY ISSUES**

Transportation is a broad sector that includes several industries such as road and rail, air freight and logistics, and transportation infrastructure among others. Global logistics companies, such

as UPS, DPDHL and FedEx, manage the flow of goods through the supply chain, ensuring an end-to-end worldwide efficient distribution, usually connecting over 200 countries and territories by truck, train, ship or plane. Transportation and warehousing are the core activities of these companies, which are held responsible for around 5.5% of global carbon emissions (World Economic Forum, 2009). Producing a high level of CO<sub>2</sub> emissions, global logistics companies have to manage the trade-off between negatively impacting the environment and essentially contributing to wealth generation. They are challenged by external stakeholders to deal with carbon-related activities while being responsible for the economic and financial wellbeing of their organization, embedded in a “field of struggle” (Herold and Lee, 2017). Aware that a poor environmental performance may damage their reputation and in an attempt to obtain stakeholders’ legitimacy, the three above-mentioned organizations all track and disclose emissions in their sustainability reports published annually.

#### **04) DEUTSCHE POST DHL GROUP CORPORATE STRATEGY**

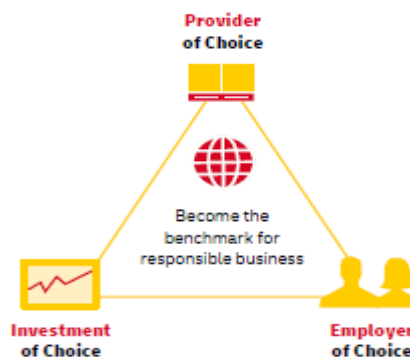
Deutsche Post DHL Group (DPDHL) is the world’s leading mail and logistics company and one of the most important economic operators, employing globally approximately 550,000 employees and being therefore one of the top 10 largest employers in the world (DPDHL, 2018). Listed since 2000, the Company operates in the market as a Group since 2002, organized in four Corporate Divisions: DHL Express; DHL Global Forwarding, Freight; DHL Supply Chain and Post-eCommerce-Parcel (PeP). With €61,550 million revenues and €3,162 million of EBIT in 2018 (DPDHL, 2018), DPDHL has proved to be able to maintain a stable economic situation in a highly uncertain global economic environment, marked by trade wars and a reduction of international trade flows. **See Appendix 1.**

DPDHL’s mission is summarized in the claim: “**Excellence. Simply delivered**”, while its purpose is “connecting people, improving lives” (DPDHL, 2018). The Group recognizes that “customers loyalty leads to profitable growth” (DPDHL, 2018) and therefore promises its clients to offer an excellent service, setting high performance standards for its operations and

customer service. Alongside this, the company's global strategy for 2020 sets the objective of raising brand awareness, making DPDHL the first brand that comes into people's mind when they think about logistics. (DPDHL, 2019)

The strategy consists of the **Three Bottom Lines** and the **Living Responsibility**, as shown in Figure 1.

**Figure 1.** DPDHL Corporate Strategy Goals



Source: DPDHL Corporate Responsibility Report, 2018

In a new interpretation of the TBL concept, the Three Bottom Lines represent the main stakeholders DPDHL wants to be a point of reference for: clients, employees and international shareholders. In order to achieve this goal, at the heart of the triangle DPDHL places the paradigm of the **Living Responsibility**. Aware of the role it plays as global operator, DPDHL recognizes the Group's moral responsibility in contributing to make this world a better place to live in. Apart from becoming a benchmark for the logistics sector in terms of service levels, the company strives for being recognized due to its engagement in corporate responsibility.

The Living Responsibility strategy materializes in three different operational programs: **GO GREEN** for the environmental and climate protection; **GO HELP** for the prevention and resolution of natural disasters; **GO TEACH** for the education of children living in conditions of poverty (DPDHL, 2018). Due to the nature of the global logistics business, DPDHL sees as a priority the engagement in reducing its carbon footprint, improving fuel efficiency and the

use of alternative energy sources; therefore, the GO GREEN program is the one the company has been investing more resources in and the one this research will primarily focus on.

### **Environmental Sustainability: GO GREEN**

DPDHL was the first logistics group to introduce as a global-wide strategy an environmental protection program. Official sponsor of the COP (Conference of the Parties of the United Nations Framework Convention on Climate Change), the company committed itself to give its contribution to the limitation of global warming by setting efficiency objectives for its Greenhouse gas (GHG) emissions. In 2008, DPDHL became a pioneer in its sector, voluntarily adopting the goal of improving by 30% the efficiency index of the entire group CO<sub>2</sub> emissions by 2020, compared to the 2007 baseline (DPDHL, 2009). The Group reached the predetermined goal in 2016, four years before the deadline; as a result, in 2017 the CEO Frank Appel announced two new challenging targets: increase the carbon efficiency by 50% compared to 2007 levels by 2025, and reduce all logistics-related emissions to zero by 2050, in line with the climate-neutral plan of the European Commission (European Commission, 2018).

To understand how DPDHL has been able to reduce its GHG emissions, and how it plans to continue to reach the goals, it is important to look at how carbon emissions are mainly produced and what elements the organization is focusing on. In 2018, DPDHL produced 29.48 million of tons of CO<sub>2</sub> emissions, 85% of which attributable to the Group and its suppliers' air and road transportation (DPDHL, 2018). As a global logistics company, DPDHL operates its own fleets and buildings and relies on additional capacity provided by transportation suppliers. It is essential to mention that the efficiency goals not only take into account DPDHL GHG emissions, but also those produced by its subcontractors. This decision is not insignificant considering that almost 80% of the total CO<sub>2</sub> emissions are produced by subcontractors' operations. DPDHL asks its suppliers to sign a Supplier Code of Conduct, requiring an effort from them to adhere to the Group's environmental standards. In order to obtain the

subcontractors' diligence, the company must show its own commitment with transparency. It does so conveying to the public the actions undertaken to reduce its Carbon Footprint, basing its CO<sub>2</sub> emissions calculation on internationally recognized standards such as the Greenhouse Gas Protocol and the Carbon Efficiency Index (CEX), a management indicator applied to measure the firm's performance in this area, based on the ENI Protocol 16258 (DPDHL, 2018). Another element of the GoGreen strategy is linked to the proposition of shared value. Considering shared value as "[...] a new way for companies to achieve economic success" (Porter and Kramer, 2011), DPDHL believes to have the capabilities and expertise in order to help client companies reduce their environmental impact, while strengthening its market position. Therefore, the goal of the organization is to go beyond the mere role of a supplier of logistics services, and take on the position of an ecologically-responsible logistics partner. The GoGreen program makes available to clients different eco-friendly solutions in the form of additional services. For an extra charge, DPDHL calculates in detail the exact amount of logistics-related CO<sub>2</sub> emissions generated by a client's shipment throughout the whole supply chain and offsets them through certified climate protection projects. The client company then receives a yearly certificate officially recognized that can exhibit to its own clients. Moreover, DPDHL also offers consulting support to its customers, working with them to identify improvement potential and develop measures to reduce the negative impacts of their business on the environment, optimizing the efficiency of their networks.

The intent of the Go Green package is therefore not only to reduce emissions, but also to **create value** for the clients that take advantage of it. Moreover, by giving customers a mean of making their shipments carbon neutral through an extra fee, if a significant percentage of clients opt for these services, a substantial proportion of the emissions savings can be obtained at their expenses.

As already mentioned above, the majority of DPDHL’s GHG emissions are generated by air and road transportation. The air fleet is made by more than 250 cargo aircraft; being air transportation particularly fuel and emission intensive (Transport & Environment, 2009), this mode is the one contributing the most to the Group’s emissions, also taking into account that DPDHL’s business has been growing in volumes over the years. To tackle this issue, DPDHL has been investing to modernize the air fleet, ordering Boeing 777, known for their superior fuel efficiency. Since the company runs a complex international network among over 220 countries and territories, the entire air fleet, as well as its emissions, are measured by DPDHL Global Office in Bonn. On the contrary, road transportation, which is responsible for the 21% of DPDHL’s carbon emissions globally, and the buildings (2% of the total), are managed by each country, which reports to the Global Office once a year.

**05) DHL EXPRESS ITALY: SUSTAINABILITY STRATEGY INTO PRACTICE**

DHL Express Italy is one of the most important players of the global network, ranking five out of 220 countries and territories in which the organization is present in terms of revenues. For this reason, the country contributes substantially to the GHG emissions and plays a big role in the achievement of the global target of CO<sub>2</sub> reduction. Since 2008 measurements of consumptions deriving from business operations (water/electricity/heating of operating sites, fuel) are carried out monthly. This data is then sent once a year to the Central Carbon Accounting & Controlling Team that carries out the measurement of the emissions produced following a certified methodology.

The 2008-2018 emissions trend for DHL Express Italy shows a sharp reduction of CO<sub>2</sub> emissions produced, compared to the 2007 baseline (-75.8%), with the CO<sub>2</sub>/Kgs gauge that went from 0.12 in 2008 to 0.04 in 2018.

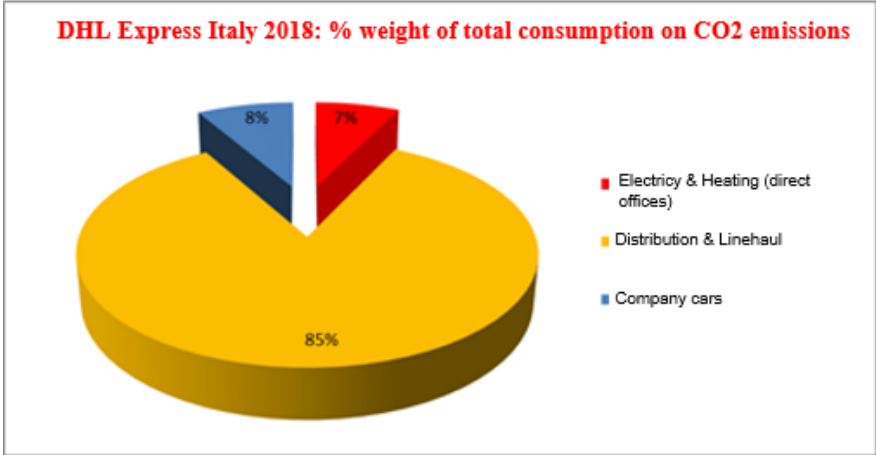
**Figure 2.** DHL Express Italy CO<sub>2</sub>/Kgs emissions

millions CO <sub>2</sub> kg	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Totale	120,35	65,79	51,43	43,76	39,82	34,53	36,38	34,97	27,27	28,70	29,12
CO <sub>2</sub> /Kgs	0,12	0,09	0,09	0,09	0,10	0,08	0,08	0,07	0,05	0,05	0,04

**Source:** DHL Express Italy Internal Analysis, 2019

As already mentioned before, since the air fleet is entirely managed by the Global Office, the emissions DHL Express Italy is held accountable for are essentially the road fleet, buildings and company cars, and in 2018 these were distributed as shown in Figure 3.

**Figure 3.** DHL Italy % weight of total CO2 emissions consumption



**Source:** DHL Express Italy Internal Analysis, 2019

The fleet of distribution and linehaul is responsible for 85% of the total CO<sub>2</sub> emissions produced by the country, and therefore it is the segment on which it is necessary to work more. In line with this, especially since 2014 the country has undertaken different actions regarding the distribution fleet to comply with the Company’s environmental standards. Looking at the emissions reduction percentage per type of polluting factor on the company yearly total emissions reduction, it can be observed that apart from 2013, the highest contribution was always given by the distribution fleet.

**Figure 4.** DHL Italy percentage of emissions reduction per type

	% emissions reduction per type on ITALY total reduction			
	CCAR	BUILDING	FLEET	TOTAL
2009	0%	0%	100%	100%
2010	1%	6%	93%	100%
2011	1%	15%	84%	100%
2012	5%	4%	91%	100%
2013	2%	79%	19%	100%
2014	5%	0%	95%	100%
2015	0%	0%	100%	100%
2016	0%	1%	99%	100%
2017	0%	0%	100%	100%
2018	34%	26%	40%	100%

**Source:** DHL Express Italy Internal Analysis, 2019

Regarding buildings, in 2015 the Company announced the start of an on-going project called Italy 2.0, aimed at modernizing the infrastructures, making them more “green” and efficient; as for 2018 the company’s infrastructures are powered using over 90% of green electricity generated from renewable sources– above DPDHL’s world average of 77%. For what concerns company cars, in the last few years there has been a shift towards hybrid models that reduced their environmental impact considerably. More demanding is tackling CO<sub>2</sub> emissions produced by the distribution fleet (85% of the emissions total in 2018), completely outsourced and worked by external suppliers. This is made for about 80% of Pick-up and Delivery (mainly vans) and for 20% of Linehaul, road connections worked by trucks (DPDHL, 2018). The 80-20 proportion is true both in terms of costs for DHL and of number of vehicles daily on the road. As already mentioned before, in its emission reduction targets, DPDHL takes full responsibility for the CO<sub>2</sub> produced by its subcontractors and has consequently adopted a number of measures to strengthen the collaboration with the distribution suppliers with the aim of reducing emissions while demanding a certain service level and commitment.

As previously discussed, by looking at Fig. 2 it can be observed that DHL Express Italy reduced by 75.8% the production of millions CO<sub>2</sub> kg. Specifically, in Fig. 4 it can be seen that during the past ten years, apart from the exception of 2013, of the total yearly emissions reduction, the biggest proportion has involved a decrease in the pollution attributable to the distribution fleet. Contracts with external suppliers responsible for Pick-up & Delivery and Linehaul are managed by the Partnership Division, within the company’s Finance Department. This division has started to collect data systematically since 2014, therefore comparable data regarding the strategy and the cost structure is available starting from that year.

The year 2014 is a milestone since it marks the start of DHL’s systematic effort toward an increase of the fleet’s efficiency, in terms of emissions and consumptions reduction. Firstly, the decision was taken to modernize the distribution fleet, forcing the replacement of old generation

EURO 4 engines. In fact, starting from 2014, in the contract signed by suppliers and DHL Express Italy, a term has been introduced, specifically requiring the subcontractors' fleet to be made of diesel vehicles respecting emission standards EURO 5 as a minimum requirement. In terms of environmental impact, a shift from EURO 4 to EURO 5 means a limitation of polluting emissions for diesel vehicles: total hydrocarbons (HC) and nitrogen oxide (NO<sub>x</sub>) from 300 mg/km to 230 mg/km, while carbon monoxide (CO) emissions remain limited to 500 mg/km (ICCT, 2016). Moreover, last generation diesel engine are more environmentally-friendly compared to Euro 0 to Euro 4 models, and burn less fuel, therefore less CO<sub>2</sub>, than petrol engine (ICCT, 2019).

Figure 5 shows the evolution of the Pick-up and Delivery external fleet in terms of diesel emission category and power source (data not available for 2015).

**Figure 5.** DHL Italy distribution fleet – Number of vehicles for category and power source

Vehicle Category/Power Source												
Year	Electric	Euro 0	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6	Mehane	Scooter	Bike	Tot
2014	7	0	2	11	224	645	718	0	14	0	0	1621
2015	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2016	37	0	0	0	0	6	1919	123	100	21	1	2201
2017	41	0	0	0	0	3	1613	581	92	23	0	2353
2018	41	0	0	0	0	1	1444	840	96	18	1	2441
2019	40	0	0	0	0	2	1217	1135	93	19	1	2507

Source: DHL Express Italy Internal Analysis, 2019

In the face of a 55% increase in the number of vehicles of the distribution fleet during the past six years, a visible effort has been made in order to replace obsolete models with vehicles respecting new emission standards. If in 2014 55% of diesel vehicles making up DHL distribution fleet were EURO 4 or below, the last data regarding 2019 shows only two vehicles with EURO 4 standards out of 2,354, while the rest respects EURO 5 or EURO 6 standards. An increase in the number of electric vehicles is also to observe, although it remains far from being significant, amounting less than 2% of the total.

Modernizing the fleet with newer and more efficient vehicles is certainly beneficial in terms of emissions and consumptions reduction, but it also implies a cost for the suppliers that need to replace old models to fulfill the terms of contract. According to a simulation based on

information given by some of the most important distribution partners of DHL, the cost structure of their contract is made up for about 20% by costs related to the vehicles (rental or leasing, insurance, maintenance and fuel). See Appendix 3. This means that a vehicle cost increase for the subcontractors translates in a proportional cost increase for DHL Express as well. Figure 6 depicts, for a sample of subcontractors of the logistics company, the year-on-year percentage change of the components of the unit cost (defined in euros per route per day). By this, it is possible to notice that the costs related to the vehicle (excluding the fuel) increased by 14% since 2014.

**Figure 6.** Sample DHL supplier’s contract cost structure yoy % change per cost item

€/RTE Delta % YoY	15vs14	16vs15	17vs16	18vs17	19vs18
<b>Personnel</b>	8%	6%	6%	8%	4%
<b>Personnel cum</b>	8%	14%	20%	28%	32%
<b>Vehicle</b>	4%	2%	8%	2%	-2%
<b>Vehicle cum</b>	4%	6%	14%	16%	14%
<b>Fuel</b>	-11%	-8%	7%	7%	1%
<b>Fuel cum</b>	-11%	-19%	-12%	-5%	-4%
<b>Others</b>	3%	3%	2%	3%	2%
<b>Others cum</b>	3%	6%	8%	11%	13%

**Source:** DHL Express Italy Internal Analysis, 2019

Nevertheless, looking more into detail it can be seen that in the last two years the cost increase has been reducing, and 2019 has registered a reduction of 2% in the voice “Rental/Leasing”, equaling 2017 cost levels. This can be explained by looking back to the year 2014, when DHL signed an agreement with the car manufacturer Fiat Chrysler Automobiles (FCA). DHL committed to buy a certain amount of the Fiat Ducato model, and in return obtained a discount on the rental or leasing instalments, which every supplier working with DHL can get access to. If before each subcontractor negotiated with a different car manufacturer and the costs were uneven, by concluding this agreement DHL Express Italy has been able to standardize the costs for itself and the suppliers. Using its stronger bargaining power, as well as committing to be the guarantor of payment for its subcontractors, DHL has secured more convenient prices for the

suppliers, limiting the cost increase related to modernizing the fleet. Moreover, the decrease of contractual costs owed to the vehicles registered in 2019 can be also ascribed to the fact that at the beginning of this year, DHL signed similar agreements with Volkswagen and Mercedes, opening up to competition.

### **DHL Social Sustainability and Employees' Satisfaction**

Notwithstanding the increasing relevance of environmental sustainability, the success of every company is finally measured by the customers' satisfaction, which can be strongly influenced by the employees they have to deal with. Therefore, social sustainability translated into efforts to improve employees' working conditions is an essential part of the Triple Bottom Line.

City couriers are the "face" of DPDHL; they pick-up and deliver shipments from and to customers on a daily basis and are in direct contact with clients. Therefore, for the business to work in a successful manner, it is important that couriers are satisfied with their working situation and stand in as brand ambassadors. Although the distribution fleet is completely outsourced, it is of extreme interest for DHL to secure satisfying working conditions for the suppliers' employees as if they were its own. Looking at Fig. 6, the cost that has increased the most during the years for DHL – by 32% - is the cost paid to the suppliers for their personnel; moreover, this is also the factor that weighs most for DHL in the contracts (between 67% and 70%). **See Appendix 3.**

Until 2015 the contract that regulated the work of couriers was a prerogative of each supplier, therefore working conditions could vary considerably. By law, DHL responds for its subcontractors' professional misconducts and is therefore punishable in case the suppliers' employees do not operate under working conditions accepted and regulated by law. In 2015 DHL Express Italy decided to standardize the contract of all suppliers' employees adopting the national collective agreement for the workers in freight transports and logistics (*CCNL: Contratto Collettivo Nazionale di Lavoro Autotrasporto e Logistica*). This contract defines pre-

established working hours and monthly minimum wages in compliance with the Italian market price, as well as meal vouchers and increased flexibility. By working with the global logistics company, subcontractors need to accept these conditions, which imply in some cases additional costs both for them and for DHL, having to conform to the minimum wage increase legislated in the last years – the current contract is expiring at the end of 2019 and adjustments will be made starting from 2020.

The question therefore is, whether and to which extent the effort towards improving couriers' working conditions go hand in hand with the environmental sustainability improvements, and how, if so, these two factors contribute to adding business value to DPDHL.

## **06) CASE SYNOPSIS**

The case study aims to understand whether it is possible to reach ambitious sustainability goals while maintaining a profitable business. The example of DPDHL shows that if well elaborated and marketed, a coherent corporate responsibility strategy can allow companies to have a beneficial impact on society and at the same time can help strengthen market positioning within a framework of profitability. The practical case of the Partnership Division of DHL Express Italy has succeeded in creating a business model of shared value between the company and its distribution suppliers. This model has also proved to be virtuous for the environment by helping reducing the organization's carbon footprint, and for society by improving the couriers' working conditions.

## **07) OBJECTIVES**

The extant literature on whether environmental and social proactivity has positive effects on business performance provides mixed results and it is difficult to find an unambiguous response to the question. If on the one hand many practitioners and company managers consider environmental and social sustainability necessary for long-term competitiveness and business performance, on the other hand there are in the literature examples of negative correlation

between sustainability proactivity and some dimensions of firm performance. As a leading global logistics company, DPDHL contributes substantially to wealth creation, but it is also responsible for a high level of GHG emissions production. Recognizing a responsibility towards society and the environment, the company decided to pursue a challenging strategy aimed at reducing its carbon footprint to zero by 2050 improving environmental management standards. The first part of this case study aims at analyzing DPDHL behaviors towards sustainability, looking into the reasons that led the company to embrace this ambitious environmental strategy. Subsequently, the up-close investigation of the Partnership function in the Italian Express division and its relationship with suppliers aims at reflecting on whether the pursuit of environmental efficiency and improvement of indirect employees working conditions can be considered beneficial for the company's TBL. The objective of this case study is to extend experience on the matter, adding strength to the most recent theories oriented at shifting from looking merely at financial profitability, towards a comprehensive approach that sees environmental and social proactivity essential for long-term success.

Since it approaches core concepts about sustainability and its impact on operations, this case study could be of interest for students of courses on these two areas, such as *Operations Strategy* or *Business Models for Sustainability*.

## **08) QUESTIONS & DISCUSSION**

### **QUESTION 1. What are the reasons that led DPDHL to embrace sustainability as a pillar of its Corporate Strategy?**

In order to answer this first question, the chosen approach has involved a methodic review of some of DPDHL's *Corporate Responsibility Reports*, particularly referring to the words of the company's CEO Frank Appel. Moreover, conclusions drawn from this analysis have been presented to a number of employees working at DHL Express Italy for over ten years, and have been enriched with their contribution given during short interviews on the subject.

From a first analysis of the motives underlying DPDHL efforts towards sustainability, there is the recognition of a responsibility originated by the important role played by the company on the international economic scenario. To a significant contribution to wealth generation, corresponds an as much relevant environmental impact mainly in form of greenhouse gas emissions originated by its logistics operations around the world; therefore, as the CEO of DPDHL stated: *“We are the world’s leading logistics company with employees in almost every major community on this planet. As such, we have a special responsibility to use our core competencies to benefit society and to minimize our impact on the environment”* (Appel, 2009). Nevertheless, it would be erroneous to think that DPDHL management decision of minimizing the environmental impact exclusively involves the desire of “doing the right thing”, driven only by ethical purposes. In fact, as Appel recently said, *“we want to do more than create value for our customers and shareholders”* but *“responsible business is just good business”* (Appel, 2018). Therefore, while creating business value is essential, leading a responsible business is not perceived as counterproductive, but is believed to be helpful for this objective.

To analyze the reasons that make a strategy in sustainability useful and led DPDHL to adopt one, a distinction has been made between **market-driven** and **operational-driven** justifications.

The market-driven reasons have the goal to improve the relationship with the customers and enhance company revenues and sales, essentially seeking **legitimacy** through the adoption of a corporate sustainability strategy. As already discussed in the first chapter, nowadays companies are pressured by different stakeholders that have become more aware of the threat that carbon emissions pose to the environment. For this reason, logistics companies, which are important polluters due to the nature of their business, need to enhance the stakeholders’ perception of their behavior as “good citizens” in order to gain credibility towards customers and employees. DPDHL set up different strategies that seem to go in the direction of seeking legitimacy. The

company seems to place a high level of importance on the development of a good brand reputation; in fact, in order to improve performance and meet stakeholders' expectations regarding social and environmental issues, the company regularly conducts qualitative interviews to make improvements and identify topics that are or could become relevant for its business activities. Since the latest results show that stakeholders place a high importance especially to air pollution and energy efficiency and climate change, by choosing to target investments on these topics, the company is able to enhance its credibility as a “green logistics partner” focusing on issues important for customers as well as investors (DPDHL, 2018). At the same time, the wide offer of green solutions and consultancy for current and potential customers fits in the framework of creating shared value and has the objective of turning the company into the point of reference when it comes to green logistics.

In 2008, DPDHL was the first company in the global logistics sector to “[...] *set a clear CO2 efficiency improvement in our own operations* [...]” (Appel, 2009), and the only transport and logistics provider listed in the Global 500 Leadership Index, which recognizes transparency and accountability in climate protection strategies (DPDHL, 2009). Being the first among the global logistics companies to launch a green strategy certainly aims at establishing the company as a benchmark in the sector, differentiating from competitors by gaining the early-mover competitive advantage. Overall, the implementation of a comprehensive, early strategy targeting the reduction of the Group's carbon footprint, together with the effort made towards transparency in the strategy objectives and their measurement, has the goal of gaining stakeholders legitimacy, which is essential in order to influence customers' purchasing preferences and employees selection in a sector where differentiation is not easily perceived.

Under operational-driven reasons there are those initiatives, which lead to operational advantages driven by economic and cost reduction concerns. In DPDHL 2018 Corporate Responsibility Report, within the GO GREEN environmental and climate protection program

there is the description of different ways in which the Group intends to reduce emissions, improve fuel efficiency and increase its use of alternative energy sources. The stated objective of these initiatives is not only to make a contribution to improving air quality in urban areas, but above all to *“help reduce fuel and energy costs [...] and anticipate possible regulatory changes, thus ensuring the strength and stability of the business in the future”* (Appel, 2018). The idea is that through smart route planning and the increase in efficiency of fleets and buildings, improvements in environmental sustainability go hand in hand with costs reduction. Overall, when trying to understand the reasons behind DPDHL sustainability strategy, the underlying idea that seems to stand out is that business profitability and corporate sustainability are not antithetical, but two sides of a coin. In fact, as stated by the CEO, *“products and solutions [...] add business value while also making a positive contribution to society and the environment”* (Appel, 2018). There seems to be the belief, therefore, that minimizing the company’s environmental impact and promoting diversity and inclusion is possible while also adding business value and benefitting profitability.

**QUESTION 2. How does the partnership division of DHL Express Italy reflect the above mentioned Company’s belief that it is possible at the same time to improve sustainability while also adding value to the business?**

In order to answer the question, firstly there will be an analysis of whether the Partnership division’s *modus operandi* has had a positive impact so far on sustainability, helping to reduce the company’s carbon footprint. The second step will be trying to answer whether it is able to do so while also creating business value for DHL.

The Partnership division is in charge of regulating the contracts with the company’s distribution suppliers, handling Pick-up and Delivery. These tasks are completely outsourced and carried on by a distribution fleet of over 2000 vehicles, which represent the main source of DHL

emissions production. At the same time, this fleet performs an essential part of DHL logistics business, apart from being the main touchpoint DHL clients have with the company.

As already mentioned above, in conjunction with 2015 Volkswagen Dieselgate DHL introduced contract terms requiring EURO 5 vehicles as minimum standard for the suppliers in order to work with the company. By imposing these requirements on the one hand, while on the other hand obtaining guarantees and favorable prices from car production companies thanks to its stronger bargaining power, DHL succeeded in supporting suppliers and renewing the distribution fleet. Thanks to convenient prices, the subcontractors can lease newer, more efficient models both in terms of fuel consumption and pollutant emissions.

This aside, during the past two years DHL has worked towards the optimization of processes involving distribution. Analyzing available data and mapping travel time needed by couriers and territory covered, a great work of optimization has been done, establishing a clear productivity KPI's governance, defining a target number of stops per route (SpR) and supporting on redesigning territory coverage. Putting effort on adjusting to this target, the company has been able to maintain approximately the same number of routes (and vehicles), while absorbing a volume growth increasing proportionally more than the routes used to deliver it. This factor also positively contributed to the containment of an emissions increase that would have been inevitable maintaining the same distribution scheme in a context of volume growth.

**See Appendix 2.** Therefore, considering that DHL Italy was able to considerably reduce its carbon footprint, mainly reducing its distribution fleet impact, it is possible to say that the measures implemented by the Partnership division positively contributed to the company's efforts toward environmental sustainability. Moreover, the above mentioned standardization of the suppliers' employees' contracts has been an important step towards social sustainability.

The question whether the Partnership business model also contributes to adding value to DHL business is more articulate and deserves a separate discussion.

To answer, some of the factors said to be positively contributing to improving the company social and environmental sustainability will be analyzed again below, this time considering whether they could also have an impact on the market, helping DHL business.

First of all, it is important to consider that efforts towards route optimization and a more efficient distribution fleet not only help reducing the carbon footprint, but also contribute to and are most likely mainly driven by cost savings, or at least to a cost avoidance in times of volume growth. The same applies to the agreements with the car production companies that result in preferential prices for the subcontractors, which in turn reduce the amount paid by DHL for the vehicle within the contract made with the suppliers. This thematic has however other implications for the company; by using its bargaining power to get deals that facilitate the fleet's renewal, DHL has also set quality standards with the car companies: the vehicles leased by the logistics suppliers are all produced with the company's logo and colors. While previously it often happened that the vans were simply white, or had other companies' logo, nowadays the majority are red and yellow, enhancing the likelihood to be seen and recognized on the street, therefore improving brand recognition. Moreover, the logistics company also sets standards for the van's interiors and can make sure the vehicles are approved for road use and insured, preventing eventual problems and a bad image, since it is legally responsible for its subcontractors.

Another thematic to take into consideration concerns the adoption of the national collective agreement for logistics (CCNL). With the definition of the role of the "City Courier", the personnel in charge of Pick-up and Delivery services for DHL subcontractors receives automatic salary increases when defined by law, gets paid overtime and pension contributions. All these "benefits" might seem the normality, but have not always been guaranteed in the industry, and it is unfortunately still so in some cases. This choice translates directly in a significant cost increase for DHL Express Italy, as it is visible by looking at Fig. 6. In fact, the

costs related to the staff paid by the logistics company increased by 32% since 2014; on the other hand, however, this choice has had many positive implications. As already mentioned before, in a highly digitized world, the courier is often the only point of contact of the client with the logistics company. Employees that see their rights recognized and receive a better salary, with certainty of pension contributions are more motivated and more likely to become the first ambassadors of the brand. Satisfied employees are more likely able to satisfy customers as well, adding value to the business. Although DHL has not conducted a business case on the subject and does not have access to certified numbers since city couriers are not direct employees, an interviewed member of the Partnership division affirmed that *“turnover rate among subcontractors’ employees has significantly decreased since the introduction of the CCNL”* (De Luca, 2019), and the newly appointed Italian Managing Director recently noted that *“the more you go on the field, the more enthusiastic people are about our Company”* (Franco, 2019). All in all, the organization’s commitment towards better working conditions of outsourced employees and the engagement in supporting the suppliers in order to have a more efficient and sustainable fleet have the effect of improving the image stakeholders have of the logistics company. Potential suppliers identify DHL Express as a reliable partner, worthy working for, while on the market, stakeholders appreciate the coherence between the values of the company and the actions undertaken in order to reach the goals set in terms of sustainability targets. Coherence and reliability translate finally in beneficial factors for the overall business, such as employee retention, a positive brand perception and the ability to build trust among clients and shareholders.

Since a business is sustainable if it is able to do well for the environment and society while at the same time remaining profitable and satisfying shareholders, a look must be taken at DHL Express Italy financial situation. Taking into account the turnover development of the Italian division as reported in the company’s financial statement shown in Figure 7, it is possible to

observe that its revenues have been growing between 7% and 11% every year over the period under consideration (2014-2018).

**Figure 7.** DHL Italy 2014-2018 turnover and year-on-year percentage change

	2014	2015	2016	2017	2018
<b>DHL Express Italy Turnover</b>	663,603,888 €	716,081,016 €	788,707,221 €	864,284,293 €	936,737,823 €
<b>Y-o-Y % change</b>	/	7.91%	10.14%	9.58%	8.38%

**Source:** DHL Express Italy Internal Analysis, 2019

Revenue growth depends on many variables, and it is certainly not possible to link this positive trend with one single cause, nor to state whether and to which extent the Partnership division has contributed to it. However, it is important to consider that costs related to the distribution suppliers amount for over a half of total operating costs and are therefore not to be underestimated. The Partnership example seems to show that in praxis, DHL has been able to succeed in managing suppliers’ relations in a way that creates value for society and the environment, while adding value to the business without compromising revenue growth and profitability, in line with DPDHL’s CSR vision.

**QUESTION 3. How can this case study be useful for other companies?**

In today’s society, always more consumers take into consideration the reputation of the brand and its values when making purchasing decisions. Stating to be socially or environmentally-friendly is not enough; theory must be followed by practice, and companies must practice what they preach. There are countless ways to lead a responsible business and innumerable societal problems to tackle, but each company cannot focus and try to solve all the issues.

As a global logistics company with extensive know-how on supply chains and transportations modes, DPDHL set ambitious goals targeting primarily emissions reduction and environmental sustainability. Being responsible for high pollution levels, with coherent marketing campaigns and efforts towards emissions limitations, the company has been able to reduce significantly its carbon footprint. The value creation for society and the environment has been achieved without sacrificing the final goal of every organization: profitability.

This study can be useful for other companies by showing that setting achievable goals, coherent with the business model and values of the organization, it is possible to create value and be financially sustainable at the same time. In fact, building a trustworthy image can be helpful in order to attract motivated employees and satisfied customers.

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A Work Project, presented as part of the requirements for the Award of a Masters Degree in Management from the Faculdade de Economia da Universidade Nova de Lisboa.

## **APPENDIX**

VALERIA GOBBO | 31476

A Project carried out on the Master in International  
Management Program, with the supervision of:  
Professor Miguel Baganha

JANUARY 2020

## Appendix 1. DPDHL Selected Financial Figures

Selected key figures							
		2017	2018	+/- %	Q4 2017	Q4 2018	+/- %
Revenue	€m	60,444	61,550	1.8	16,109	16,926	5.1
Profit from operating activities (EBIT)	€m	3,741	3,162	-15.5	1,181	1,134	-4.0
Return on sales <sup>1</sup>	%	6.2	5.1	-	7.3	6.7	-
EBIT after asset charge (EAC)	€m	2,175	716	-67.1	796	509	-36.1
Consolidated net profit for the period <sup>2</sup>	€m	2,713	2,075	-23.5	837	813	-2.9
Free cash flow	€m	1,432	1,059	-26.0	975	1,307	34.1
Net debt <sup>3</sup>	€m	1,938	12,303	>100	-	-	-
Return on equity before taxes	%	27.5	19.3	-	-	-	-
Earnings per share <sup>4</sup>	€	2.24	1.69	-24.6	0.69	0.66	-4.3
Dividend per share	€	1.15	1.15 <sup>5</sup>	-	-	-	-
Number of employees <sup>6</sup>		519,544	547,459	5.4	-	-	-

<sup>1</sup> EBIT/revenue.  
<sup>2</sup> After deduction of non-controlling interests.  
<sup>3</sup> Calculation [Group Management Report, page 49](#).  
<sup>4</sup> Basic earnings per share.  
<sup>5</sup> Proposal.  
<sup>6</sup> Headcount at the end of the year, including trainees.

Source: DPDHL Annual Report, 2018

## Appendix 2. DHL Express Italy YoY % growth of goods handled – Volume Growth

DELTA % Y-o-Y	15vs14	16vs15	17vs16	18vs17	19vs18
MOVES	17,6%	20,6%	8,6%	5,2%	0,0%
MOVES cumulative	17,6%	38,1%	46,7%	52,0%	52,0%

Source: DHL Express Italy Internal Analysis, 2019

## Appendix 3. % weight of each cost voice in DHL suppliers' contract according to a sample of some of the most important subcontractors.

€/RTE	2014	2015	2016	2017	2018	2019
Personnel	67,4%	69,3%	70,7%	68,7%	67,6%	68,7%
Coordinator	3,2%	3,0%	2,9%	2,8%	2,6%	2,5%
Vehicle Rental/Leasing	7,0%	7,2%	7,2%	7,8%	7,6%	7,1%
Maintenance	3,8%	3,6%	3,5%	3,3%	3,1%	3,0%
Insurance	3,4%	3,2%	3,1%	2,9%	2,7%	2,6%
Fuel	8,7%	7,3%	6,5%	6,6%	6,5%	6,4%
Travel Expenses	0,0%	0,0%	0,0%	2,0%	0,8%	0,5%
Extraordinary	0,0%	0,0%	0,0%	0,0%	3,3%	3,4%
Generals	2,7%	2,5%	2,4%	2,3%	2,1%	2,1%
Finance charges	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%
Margin	3,4%	3,4%	3,4%	3,3%	3,2%	3,2%
Total	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

Source: Internal Analysis, 2019