

Environmental Sustainability in Digital Marketing of Automotive Industry

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Abstract. *The main aim of this article is to analyze and describe the evolution of environmental sustainability in marketing strategy of two companies, namely Volkswagen and PSA Group for the previous three years.*

The first part of the research defines sustainability with a focus on an environmental aspect. The second part forms research questions, research hypotheses and describes researched sample in particular publications published on the main websites of both companies. The third part of this work represents results of this research using visual graphs. The last part evaluates findings and importance of information influence in the context of environmental sustainability

Keywords. Sustainability, environmental sustainability, sustainability marketing, sustainability trend

1 Introduction

Firstly, before we describe individual steps of our research, we would like to introduce terms relevant to our subject such as sustainability, environmental sustainability, and sustainability marketing. There are various definitions but for the simplification and common understanding the following definitions are considered through this article. Sustainability is defined as “the consumption of goods and services that meet basic needs and quality of life without jeopardizing the needs of future generations” (OECD, 2002).

Brundtland Report (1987) went further and coined the term sustainability “Our Common Future”. The term sustainability is not limited only to environmental issues, but also includes the social and economic ones (Kumar et al., 2012). Although authors of this article agree that sustainability is not limited only to environmental issues however this article is focused mainly on environmental sustainability used in marketing strategy. According to Serageldin (1993), environmental sustainability seeks to improve human

welfare and social sustainability by protecting the sources of raw materials and ensuring the waste does not reach levels where it can harm humans. Humanity must learn to live within its biological and physical limitations of the environment.

Belz and Peattie (2012) write in their book of “Sustainability Marketing: A Global Perspective” that sustainability marketing explicitly relates to sustainable development agenda and can be defined as the “building and maintaining sustainable relationships with customers, the social environment and the natural environment”. Noo-urai and Jaroenwisan (2016) further explain that “sustainability marketing involves planning, organizing, operating, controlling of resources, and marketing campaigns that meet consumer needs and demands”. Further, various authors propose that sustainability is an emerging trend which can help companies to achieve cost savings and innovation. Moreover, it is not anymore, an option but the only way to stay competitive in the market (Kumar et al., 2012).

In reference to definitions stated above, companies need to implement environmental sustainability in their marketing strategy. In this paper, we focus mainly on the analysis of environmental sustainability implementation to marketing of two selected companies: PSA Group and Volkswagen. Both companies are leaders in automotive industry and are following trend of environmental sustainability. This assumption is based on fact that both currently are or in the past were listed in Dow Jones Sustainability Index (DJSI). This index rates company’s commitment to sustainability based on following criteria: Low Carbon Strategy, Climate Strategy, Environmental Reporting, Product Stewardship, Customer Relationship Management, and Materiality. PSA Group has been listed for the first time at DJSI in 2016 and Volkswagen has been removed from the index in 2015. The reason behind this decision was Volkswagen’s scandal of manipulated emissions tests for its diesel-powered vehicles (Makortoff, 2015, The PSA Group, 2016). The aim of this article is to compare PSA Group and Volkswagen commitment to

environmental sustainability in their marketing strategy on their official websites.

2 Research problem

Nowadays, the issue of sustainability, whether at social, economic or environmental level, is becoming one of the most discussed topics in worldwide society. Industrial companies are forced to respond by incorporating the idea of sustainability not only into their vision and mission but directly into their business strategies. By pursuing a common ideal that is inaccessible at a given time and space, they create a permanent dynamic approach and thus a sustainable system of this economical-social-ecological process.

Companies we chose for this research are industrial decentralized organizations with divisions that are responsible for products, markets, and results. They act like profit centers with a worldwide presence. In the context of global trends, they had to open up to the issue of sustainability which meets needs of current generations without limiting the capabilities of future generations to meet their own needs.

Synchronizing the strategy of the company and sustainability is one of the roles of management. There needs to be a genuine commitment and prioritization of this topic. It is necessary to make proactive and responsible decisions in order to adopt innovations that have a positive impact, to maintain political justice, ecological balance and economic prosperity, to follow this vision and promote it transparently.

Based on statements that were mentioned earlier, it is necessary to identify and characterize the development of sustainable strategies, factors influencing this development, and to present current and future trends.

2.1 Research questions and hypotheses

The main aim of authors of the paper is to characterize the development of environmental sustainability used in the marketing strategy of the two selected leader automobile companies with a key market position, PSA Group and Volkswagen. To address the current state of research, authors have formulated three research questions (RQ) that can be seen below:

RQ 1: What are the most common keywords in press releases of PSA Group and Volkswagen in the context of environmental sustainability?

RQ 2: Which external factors did influence the environmental sustainability trend in marketing strategy over the selected years?

RQ 3: What are the new trends in sustainability of automotive companies PSA Group and Volkswagen?

After interpreting research questions, the next step is to formulate the research hypothesis which is further verified by authors in the submitted paper.

H1: There is a statistically significant relationship between the onset of marketing automotive strategies

and the pressure from society in the context of the sustainability trend.

2.2 The research sample

In the research of this article, which was carried out as part of our project, we explored publicly available articles related to marketing of environmental sustainability. We have categorized these articles based on the year when they were published on the website of the company. Their stratification can be seen in the table (Table 1). In the table below is stated the final amount of press releases per year which are present at websites of PSA Group and Volkswagen. For this year, 2019, is indicated total number of available publications till 27th of May.

Table 1. Total press releases on websites of PSA Group and Volkswagen (own elaboration)

	2016	2017	2018	2019 (27.5.2019)
PSA Group	83	110	115	37
Volkswagen	61	123	139	48

2.3 Research Methods

In order to collect data about environmental sustainability in the marketing strategy of PSA Group and Volkswagen, further analysis of their online marketing is needed. To narrow the research, there are considered only press releases which concern environmental sustainability on their official websites. Both companies have a section for all publications. This section contains all current press releases and news concerning PSA Group and Volkswagen (PSA Group, 2019, Volkswagen, 2019)

To target environmental sustainability in marketing campaigns, the research is based on preselected keywords. If these keywords are present in the marketing then the press release is relevant to the research of this article. To address the research goal, there is implemented a method of keyword searching through software MAXQDA.

MAXQDA is a world-leading program, which helps to collect, organize, analyze, visualize and publish data. It supports various methodological frameworks, including grounded theory, literature reviews, exploratory market research, and qualitative content analyses. It gives maximum of flexibility for complex analyses. First, the software collects all the relevant posts of PSA Group and Volkswagen regarding our selected topic, environmental sustainability. Keyword posts are then classified based on relevance of the post to the research topic. After the process, the analysis of these data can be performed.

Keywords, their variations, and combinations of specified words which are used in the analysis of marketing campaigns and articles focused on environmental sustainability of PSA Group and Volkswagen are:

- sustainability,
- environment,
- ecology,
- emission,
- waste,
- climate,
- biodiversity,
- environmental protection.

These keywords have a direct link to the environment and are highly used in marketing campaigns promoting environmental sustainability, therefore they serve as a base for the analysis of this research.

3 Evaluations of the research questions

In the third part of this article, the authors analysed the research questions that were specified earlier and hypotheses along with formulating the results of analyses.

The results were surveyed for every of the research questions individually and visualised via graphs and tables.

3.1 Evaluation of the 1st. RQ:

What are the most common keywords in press releases of PSA Group and Volkswagen in the context of environmental sustainability?

The first research question focuses on the frequency of selected words in the context of environmental sustainability in Sustainability Reports. The selection process of press releases was done through analysis of titles of press releases and preselected keywords occurrence.

We wanted to focus on up-to-date articles, therefore we considered only the ones that were written in the course of the last three years. As the source databases for analysis, we used the home pages of compared automotive companies PSA Group and Volkswagen. We did not use any other sources in order to avoid redundancy in the analysed data, and also because we wanted to focus on self-presentation of the selected companies.

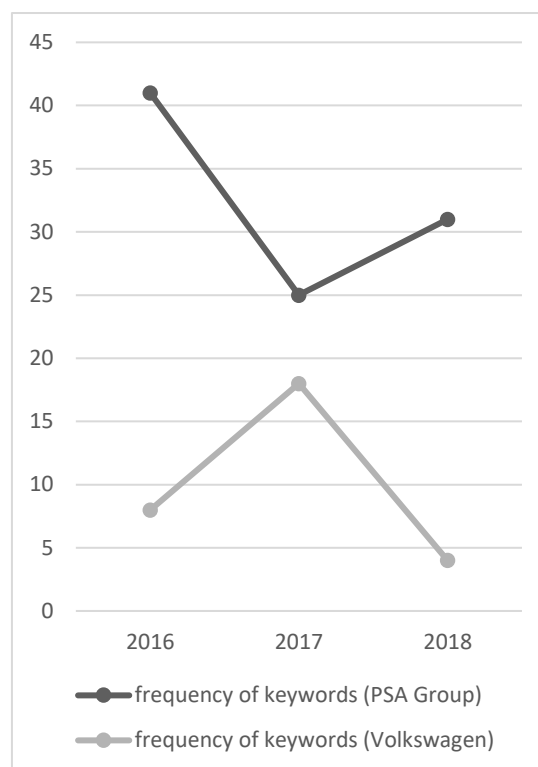


Figure 1. Environmental Sustainability Keywords in press releases (own elaboration)

Table 2. Keywords in Articles (own elaboration)

	2016	2017	2018
Frequency of keywords (PSA Group)	41	25	31
Frequency of keywords (Volkswagen)	8	18	4

Results of the research are depicted in the graph (Figure 1) and the table (Table 2). We can see there that the company PSA Group publishes significantly more articles concerned with environmental sustainability topic than its competitor Volkswagen. In year 2016, the amount of environmentally focused articles of PSA Group is 5x more, in the following year this ratio remarkably decreases, however in year 2018 it increases again to almost 8x more articles. At the same time, we need to consider the ratio of environmental articles to all press releases published by companies in respective years. If we compare such numbers, we could claim that although company Volkswagen in average publishes yearly on its own website more articles, to the environmental issue is markedly paid less attention.

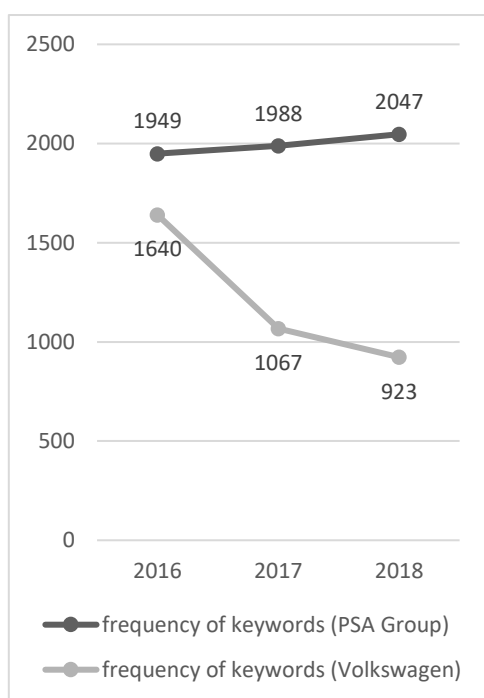


Figure 2. Environmental Sustainability Keywords in CSR Report (own elaboration)

The graph (Figure 2) shows the frequency of environmental sustainability keywords for PSA Group and Volkswagen in their Corporate Social Responsibility reports during three following years. The high frequency of preselected keywords shows that both companies are concerned about environmental sustainability and use it as a part of their marketing strategy. Over the years, PSA Group seems to have increased tendency of engagement in environmental sustainability issues and Volkswagen has a decreasing tendency. Consequently, efforts of PSA Group were also rewarded in 2016 by listing in DJSI. Volkswagen, on the other hand, is not listed anymore in this index and the trend of environmental sustainability in its reports has a diminishing tendency.

PSA Group considers in its reports the following environmental sustainability CSR issues. The strategic issues and significant issues are CO₂ emissions and energy/industrial carbon footprint, material use and recycling of products respectively. The least mentioned issues are for example biodiversity. In detail, results of the reports analyses demonstrate that PSA Group and Volkswagen mostly use in their reports variations of following keywords: environment, emission, sustainability, and ecology. Surprisingly, word ecology scores at the top levels in Volkswagen reports while for Peugeot it is one of the least used words in their marketing strategy.

3.2 Evaluation of the 2nd. RQ:

Which external factors did influence the environmental sustainability trend in marketing strategy over the selected years?

The second research question focuses on the external environment which affects companies in their marketing strategy. Based on our findings, one of key events affecting application of environmental sustainability in companies was introduction of Sustainability Development Goals in 2015. They were set by United Nations General Assembly for 2030. The most used keywords in the content of PSA Group and Volkswagen articles are Environment, Sustainability Climate, Waste, and Ecology. Our results show these keywords are directly connected to the Sustainable development goals.

These goals are Affordable and Clean Energy, Industry Innovation and Infrastructure, Climate Action, Sustainable Cities and Communities. Consequently, these sustainable goals are considered as the main external factor affecting the environmental sustainability engagement in marketing strategy of PSA Group and Volkswagen.

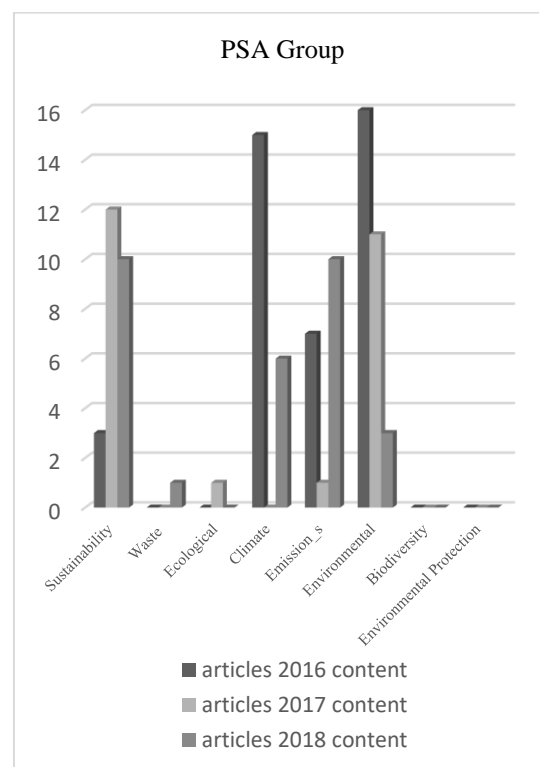


Figure 3. Specific keywords inside of specific articles (own elaboration)

Articles admitted in this research were selected through empirical research based on criteria such as relevance to environmental sustainability strategy and the possibility to be compared through three following years. This research shows that the most recurring keywords in marketing strategy of PSA Group are environment, climate, and sustainability, as we can see in the graph (Figure 3).

The tendency of the most used word environment in articles of PSA Group had its peak in 2016 right after the Sustainability Goals introduction. Nevertheless, later the frequency of this word diminished and for

2019 seems to be gaining on its popularity. Second most used word in press releases is the climate. In 2016 we can see high usage of this word. In the following years this phrase reached its minimum and shows to return to popularity again in 2019. The word sustainability in context of environment has an increasing usage tendency over the years and demonstrates the company’s rising engagement in environmental sustainability issues.

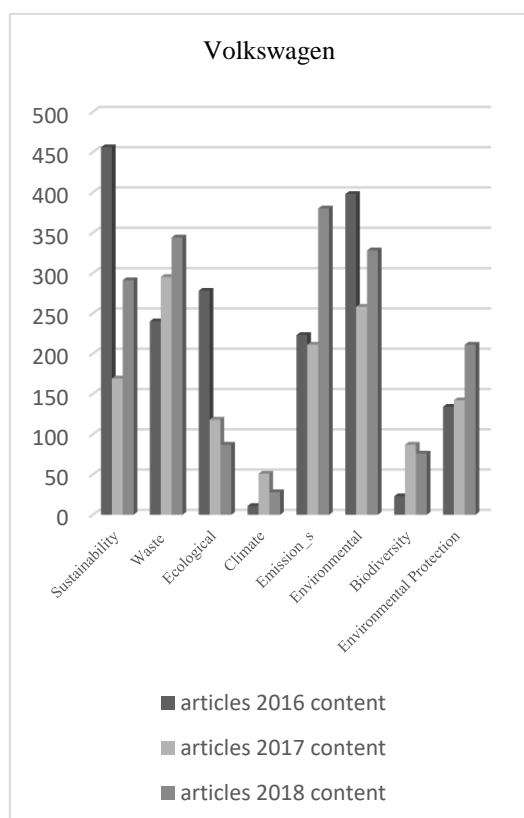


Figure 4. Specific keywords inside of specific articles (own elaboration)

From the research of articles of company Volkswagen result (Figure 4) that most used words in context of sustainability during three years are words waste, emission, and environment.

The frequency of using phrase waste shows an annual increase. We can assume that this fact is related to pressure from society in which resonates the need for reduction of waste produced by big industrial plants. Similarly, the word emission has also recorded its peak what has a correlation with the worldwide initiative to minimize waste.

The most discussed topic, in general, is still the word environmental. Here, we can also include environmental protection. In year 2017 experienced a small fall but generally we can see that has the leading position because this topic intertwines with all searched phrases. On the contrary, Volkswagen puts the lowest emphasis on topics related to climate and biodiversity of environment.

3.3 Evaluation of the 3rd. RQ:

What are the new trends in sustainability of automotive companies PSA Group and Volkswagen?

Companies PSA Group and Volkswagen committed to sustainable, transparent and responsible management of their businesses. The third research question focuses on answers of the biggest automotive companies on challenges of tomorrow in the context of sustainability in European Union.

Electric offensive: Volkswagen presented a completely automated driving saloon of the future. New ID. cars will be emission-free and can be operated via voice and gesture control.

In the context of environmental sustainability Volkswagen expects in the future from their automotive production 3 main pillars:

- electromobility
- efficiency
- zero emissions locally

The heart of emission-free cars is fast-charging batteries, which drive the vehicle. Today, it is possible to charge them almost anywhere: home, through Wallbox, through public chargers or fast-charging stations. This system is economically integrated into the floor of vehicle, where is carefully protected.

The PSA strategic plan Push to Pass and PACE! include the initiatives and programs of environmental sustainability. According to Oekom research, Groupe PSA has been one of the most responsible companies in the automotive sector for three following years since 2016. The Group has been a leader in environmentally friendly fuel consumption of its vehicles, product life cycle through eco-designs on its products and management of the supply chain according to environmental standards through innovations in mobility. The trends explained in detail follow:

Car sharing: New trends such as urbanization and digitalization are constantly emerging. In order to meet the needs of customers, PSA Group launches project Free2Move for B2C and B2B customers. It is a new brand of shared services and mobility of PSA Group. The project consists of Free2Move Car Sharing, Free2Move Smart Services, Free2Move Fleet Sharing, and Free2Move Fleet Management and Free2Move Lease. In this article we focus mainly on environmental sustainability aspects of the project. However, most levels of the project connect directly to environmental sustainability. In B2C, Free2Move application provides carsharing services. The application provides data such as all nearby, available vehicles (bicycles, motorbikes, cars) from various carsharing providers. After the prices and technical details for each option are compared and then the customer can book the vehicle. The Free2Move Fleet Sharing and Free2Move Fleet Management cars are equipped with an eco-driving option which gives the drivers personalized advice on how to drive with lower CO₂ emissions. In 2019 Free2Move Services is

offering new solutions dedicated to electrified vehicle charging.

Electrification

- **Electric vehicles**

The company created even a Business Unit dedicated to electric vehicles. This proves the strong commitment to electrification trend.

The specific projects are for instance Emov which is a service starting from the cooperation of Free2Move and Eysa. Through this project PSA Group provides to its environmentally conscious customers renting option of electric cars Citroen C-Zero with zero emissions. Further the PSA Group continues in Opel portfolio electrification. First fully electric Opel/Vauxhall Corsa will be made in Zaragoza and projects with electric engines are also present. Further the group is also aware that the charging of electric cars is nowadays not an easy task. Therefore, it offers access to a French network to more than 6300 electric charging stations for Peugeot & Citroën vehicles and like that even more supports environmental sustainability.

- **Powertrains**

In the vision of energy transition, PSA Group is focusing on developing next generation powertrains. Powertrains electrified will further improve efficiency in reducing CO2 emissions.

Circular Economy: To prove its dedication PSA Group founded also a Business Unit dedicated to the circular economy in the aftermarket.

- **Use of re-used spare parts**

Group PSA tries to become the leading retailer of used spare parts in Europe. In order to achieve it most of the posts include new partnerships which can help the group to achieve its goal. The most articles concerning this project were published in 2016, after the number of releases decreases.

- **Euro Repair Car Service**

Aims at becoming the reference multi-brand service, maintenance & repair network for the motoring public.

All these programs want to achieve the circular economy with focus not on production but rather on after-sale service.

Emissions:

- **Real-world fuel consumption**

PSA Peugeot Citroën decided to take a unique approach by publishing real-world fuel consumption data for its cars in order to be transparent with customers. PSA became the first car producer to adopt this approach. This project was mostly advertised in 2016 and in 2018 there are almost no posts which include this amazing project.

- **Turbo pure tech engine**

In 2019, for the 4th. consecutive year, PSA Group has won the engine of the year at International Engine of the Year Awards in Stuttgart. From the environmental sustainability perspective, this engine offers a 4% improvement in fuel consumption and a 75% reduction in particulate emissions through the

use of a gasoline particulate filter (GPF), meeting the Real Driving Emissions (RDE) conformity factor of 1.5 set by EU regulations for 2020, three years in advance. The marketing posts including this environmentally friendly engine were the highest in 2016 after they decreased and from 2018, they are again more used in the marketing strategy.

Sustainable plant: In the project Excellent Plant PSA Group addresses among key challenges such as performance of the industrial organization, manufacturing technologies in the digital age, a human factor also sustainable plant. The sustainable plant includes resource optimization, eco-design, and more compact facilities. The highest occurrence in their marketing strategy including this trend was in 2018.

The most press releases on the website of the company certainly include references to project of electrification and development and support to use electric cars. The lowest number of posts of PSA Group marketing is related to sustainable plant.

3.4 Evaluation of the hypothesis

H1: There is a statistically significant relationship between the onset of marketing automotive strategies and the pressure from society in the context of the sustainability trend.

At a time when general public criticized company Volkswagen, for manipulating results of emission tests of their vehicles we can see the higher intensity of published articles focused in fact on environmental area of production (Figure 1). However, in this trend the company did not continue. On the other hand company PSA Group which was not criticized for manipulation of emission tests increased its activities to represent themselves in environmental area and this trend still rises.

According to results, authors refuse the hypothesis H1 and do not confirm it even though it can be claimed that there exists a correlation between research variables for company PSA Group.

4 Conclusion

In this article, the authors answered three research questions and evaluated H1 hypothesis. Both companies PSA Group and Volkswagen use in their press releases keywords which represent environmental sustainability. The research shows that the company PSA Group publishes significantly more articles concerned with environmental sustainability topic than its competitor Volkswagen. Following our findings, Sustainability Development Goals set in 2015 are the key external factor affecting the trend of environmental sustainability in digital marketing of chosen automotive companies PSA Group and Volkswagen. Both companies tend to achieve and are already following new trends which are in correspondence with Sustainability Development

Goals. The strongest trend found in digital marketing strategy of both companies is electromobility and reduction of car emissions. PSA Group is further also engaged in initiative of Circular Economy. Despite, both companies are engaged in their digital marketing in environmental sustainability and following trends of the future, the hypothesis that claims a relationship between onset of marketing automotive strategies and the pressure from society is denied in case of Volkswagen. After the scandal of Volkswagen there is not proved any correlation between the two variables. On the other hand, for PSA Group authors see correlation between the research variables. With the increased awareness of customers for environmental sustainability, PSA Group corresponds adequately and there is high amount of press releases regarding environmental sustainability in their digital marketing strategy. For authors the environmental sustainability in digital marketing is not anymore an option for companies but rather a necessity how to remain competitive in current market.

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