

ENVIRONMENTAL ANALYSIS OF AVTOMOBILE INDUSTRY

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1 Introduction

This report critically analyses the external environment and its impact in the case of the automobile industry. The discussion identifies the main drivers of international trade, the key opportunities and threats related to the external environment, as well as relevant industry trends shaping the attractiveness of the sector. The discussion incorporates theoretical models and evidence from the external environment in order to derive results which accurately reflect the contemporary trends.

The chosen automobile company is Volkswagen – a leading manufacturer of 4.9 million vehicles per annum, €76.1 billion in revenue and a wide portfolio of brands, including Volkswagen, Audi, Skoda, SEAT, Lamborghini and others (Burgess, 2022). The large scope of operations of Volkswagen makes the company appropriate for understanding the effects of the global trends.

2 Drivers of the internationalisation process

International trade is one of the key manifestations of globalisation and a driver for internationalisation of companies (Hill, 2007). There are numerous factors stimulating internationalisation. As discussed by Barney (1991), companies try to develop a unique set of resources and competences which support the achievement of competitive advantage in the marketplace. In this relation, international trade allows for reaching scarce and valuable resources, such as raw materials, high-tech equipment and other; thereby, contributing to the competitiveness of business organisations. International trade also supports the specialisation of organisations in the field where they have the best expertise and competitiveness (Barney, 1991). Thus, organisations may focus on the products with the highest value, where specialisation is present, and sell the products in an international marketplace – a key for a more optimal performance (Barney, 1991).

Moreover, international trade also leads to a transfer of knowledge, as business organisations are able to acquire products and services with high technological intensity; thereby, contributing to own performance improvement, if implementing the new technologies in an appropriate manner (Grant, 1996). International trade is also seen as a way of expanding the marketplace and capturing foreign demand for goods (Hill, 2007). This is quite evident in the currently discussed automobile industry, as all main brands, including Volkswagen, have global presence.

3 External analysis

International marketplace provides extensive opportunities but also meaningful risks. The most relevant developments affecting the automobile sector are explored as a part of the external analysis. The identification of political, economic, social, technological, environmental and legal variables under the PESTEL model is a key starting point for the identification of relevant opportunities and threats (Johnson et al., 2017).

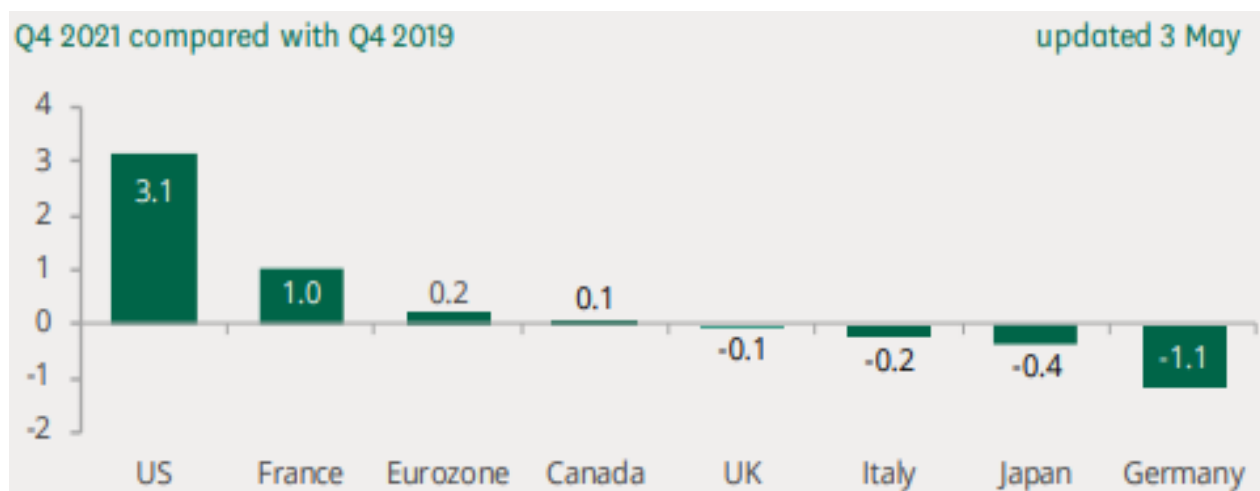
3.1 Political features

Political stability, trade regimes, regulations and other factors affecting the business environment are reflected in the political factors (Johnson et al., 2017). The war in Ukraine is a major political risk determining the global environment. It has caused uncertainty, closure of production facilities in the case of Volkswagen and disruption of trade with Russia (Burgess, 2022). The war uncertainty is a major concern for producers and consumers of automobiles.

3.2 Economic trends

Economies trends, which shape the demand for automobiles, are also quite challenging. As shown below, many key economies continue to be below the pre-pandemic levels in terms of GDP size (Harari, 2022). This means largely stagnating income level and depressed demand for automobiles.

Figure 1 – Comparison of GDP level with the pre-pandemic levels



Source: Harari (2022)

Moreover, high inflation has been a major challenge recently. Its size ranges between 5% and 10% when considering the data from the main advanced economies (Trading Economics, 2022). This is much higher than the policy target of 2% per annum and a major factors eroding consumers' purchasing power.

3.3 Social

Social trends express the growing importance of sustainable products. This is clearly seen by the rapid increase in electric vehicles and other alternatives which have a more limited negative impact on the environment (McKinsey, 2018). At a global level, demographic trends are positive given the continuous increase of population size – a trend supporting future demand for automobiles (Worldometers, 2022).

3.4 Technological trends

Technological trends are also essential for the global automobile sector given the dependence of different innovative solutions. According to the Global Innovation Index (2020) countries have different performance in terms of research and development, innovation output, qualification of the workforce and other factors which could be of help for automobile producers. The trends towards robotisation, automation of processes, Big Data analytics and artificial intelligence are some of the key factors supporting the productivity and competitiveness of the sector.

3.5 Environmental regulations

There are also extensive environmental regulations affecting the industry. Automobile companies have to comply with strict regulations limiting the content of carbon dioxide and other emissions (Pearson, 2022). Moreover, vehicles should have improved characteristics in terms of fuel consumption (Pearson, 2022). Such compliance is typically costly, as it requires extra investments in new processes and materials. Nevertheless, lack of respect to the environmental rules could cause significant financial losses and brand damage, as in the case with the Dieselgate scandal in 2015 when Volkswagen lost \$10 billion of its brand value (Brand Finance, 2015).

3.6 Legal factors

Being a global company also requires legal compliance with the laws and regulations in different countries. Typically, automobile companies have to adapt practices in order to meet specific legal standards in various fields, such as environmental protection, labour legislation, quality standards, health and safety standards and others which are not only extensive, but also depend across countries (Croner, 2020).

4 Industry analysis

The Porter's Five Forces model is a universal framework for assessing the overall attractiveness (profitability) of any industry (Porter, 1979). The model considers five factors which affect a given sector. The bargaining power of suppliers determines the nature of supply of materials and labour, while the bargaining power of customers determines demand patterns (Porter, 1979). In addition, the level of existing rivalry shows the competitiveness of a sector (Porter, 1979). There are also two threats – of substitutes and new entrants – affecting the level of competition and profit margins in a given sector (Porter, 1979). These five factors tend to depend on specific characteristics, as visualised by the following chart (Mind Tools, 2022).

Figure 2 –Porter’s Five Forces overview



Source: Mind Tools (2022)

4.1 Bargaining power of suppliers

The pandemic has led to significant supply chain disruptions which have had a negative impact on supply (Reuters, 2022). The closure of many manufacturing sites and transportation infrastructure has caused meaningful delays in supplies and higher production costs (Reuters, 2022). In particular, the problem has been quite expressed in terms of chip shortage. At the current stage of development, chip shortages are expected to last at least up to 2024 (Fitch, 2022). This is a main component in the manufacturing of automobiles and the shortages cause higher prices as an expression of the increased bargaining power of suppliers (Fitch, 2022). Eventually, there are few

large chip producers, such as Intel, which cannot be replaced, and this is a major challenge for the automobile industry.

4.2 Bargaining power of customers

The bargaining power of customers is mixed. On the one hand, the majority of customers are individual buyers, who cannot exercise a significant price pressure due to their small size and high number (Mind Tools, 2022). Moreover, there are also many loyal customers, as indicated by the high brand value of many automobile manufacturers. For example, Volkswagen's brand value is estimated to exceed \$30 billion which shows the large level of customer loyalty which in turn reduces bargaining power (Brand Finance, 2015)

On the other side, the high inflation rate erodes the bargaining power of customers and they are expected to be more price-sensitive (Trading Economics, 2022). This situation typically leads to a more elastic demand which in turn pressurizes producers to lower profit margins in order to sustain consumer demand (Krugman and Wells, 2017).

4.3 Threat of substitutes

This is a major threat for automobile producers given the fact that users have a wide range of alternatives, including buses, underground services (in urban cases), trains, bikes, motorcycles and others (Kissinger, 2019). In some cases, the costs and quality of substitutes are quite attractive in order to stimulate consumers replace their cars, if necessary.

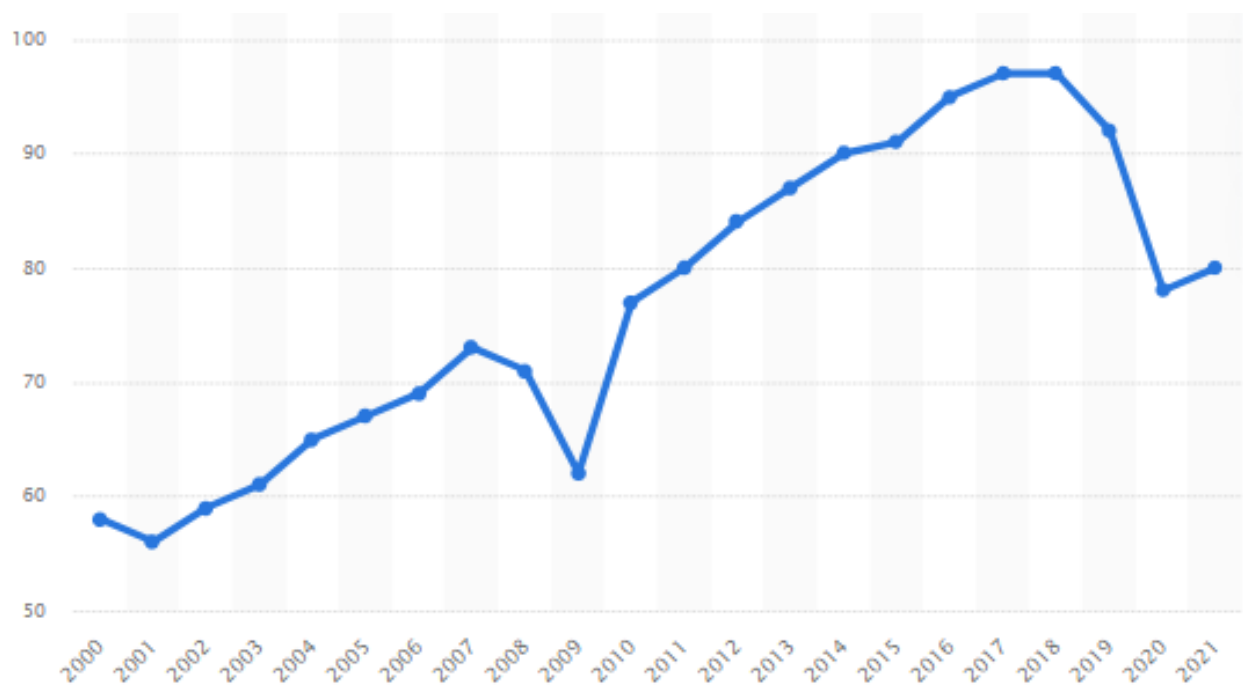
4.4 Threat of new entrants

The industry is effectively shielded against new competitors, as many of potential entrants are discouraged by the requirements for significant capital investments in manufacturing facilities and a global distribution network (Kissinger, 2019). Existing brands also have loyal customers, who are unlikely to change their brands, as well as significant economies of scale (Kissinger, 2019). Thus, new entrants, who lack significant size, are likely to be quite uncompetitive in terms of cost control.

4.5 Existing rivalry

The existing rivalry is quite intensive, especially considering the major industry decline during the pandemic. As shown below, the automobile industry output shrank by almost 20 million vehicles due to the pandemic and the recovery has been quite sluggish (Placek, 2022). Thus, ten years of industry growth was effectively eliminated (Placek, 2022). In such environment, existing companies have to compete for a much lower consumer demand which intensifies the rivalry for a market share.

Figure 3 – Global production of automobiles (million)



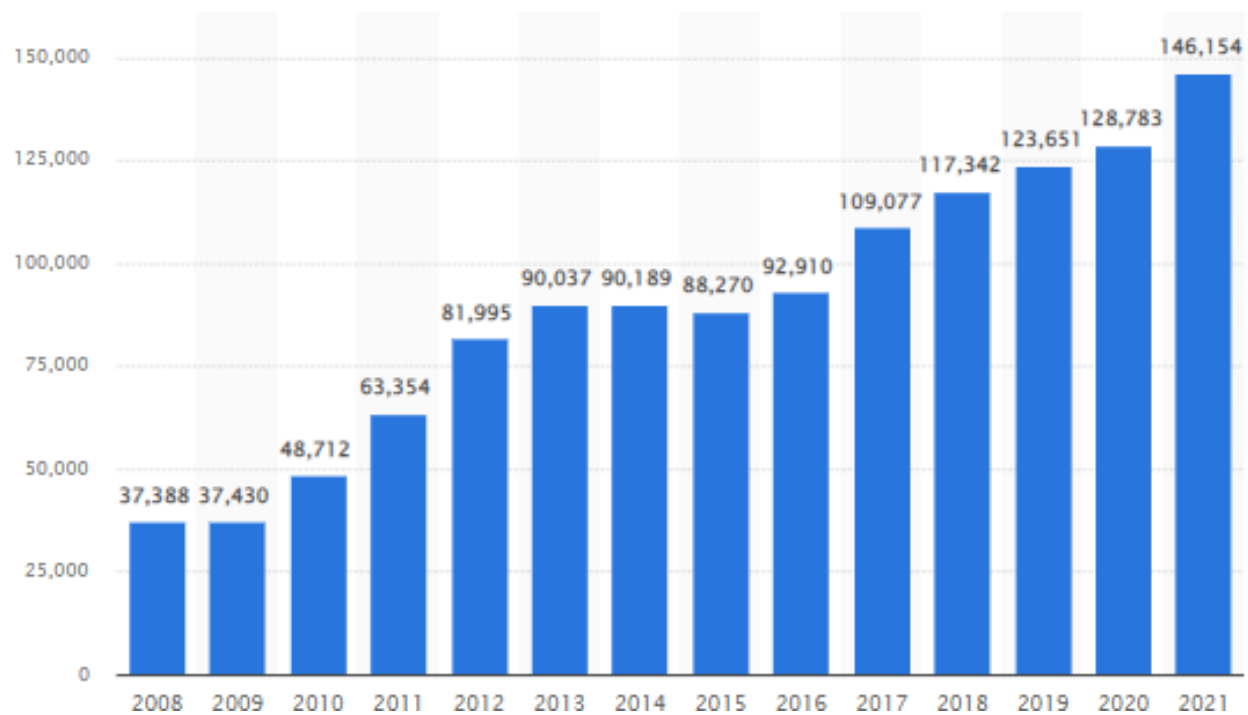
Source: Placek (2022)

In general, the industry analysis clearly shows the exceptionally challenging industry situation. Profitability of industry players is reduced due to restricted supplies, existence of substitutes, as well as intensive rivalry.

5 Internal analysis

The key resources of Volkswagen refer to its solid capital stock. The company has consistently increased the size of own capital by reaching more than €146 billion in 2021 (Carrier, 2022).

Figure 4 – Size of own equity (€)



Source: Carlier (2022)

The company also has a wide range of brands under management, as earlier mentioned in the introduction, which leads to a diversification of revenue streams (Burgess, 2022). The human capital of the company is also a key for being innovative, productive and competitive in the marketplace. At the current stage of development, Volkswagen employs almost 663 thousand professionals around the globe with niche skills and specialisation (Volkswagen, 2021). As earlier mentioned, the brand (intangible) value is also quite significant by exceeding \$30 billion and indicating strong customer loyalty (Brand Finance, 2015).

Volkswagen also has its internal weaknesses. The company has suffered financial losses, associated with product recalls in the last several years which undermine the quality perception of products (Jurevicius, 2021). The performance of the brand was also quite negative during the pandemic when profitability significantly declined; thereby, demonstrating the susceptibility to external shocks (Burgess, 2022). Volkswagen has also been lagging behind in the key high-growth segment of electric vehicles (Jurevicius, 2021). As also noted, Volkswagen has halted production in Russia due to the military conflict.

The SWOT analysis is included in the discussion in order to summarise some of the main findings. The strengths and weaknesses reflect the main internal characteristics of Volkswagen (Johnson et al., 2017). Moreover, the model summarises the key opportunities and threats which are derived from the analysis of the external environment (PESTEL) and the automobile industry (Porter's Five Forces). Thus, the SWOT model, as shown below, provides a detailed overview of the key internal and external trends (Johnson et al., 2017).

Table 1 – SWOT analysis of Volkswagen

Strengths ▪ Significant financial resources ▪ Strong and globally recognisable brand ▪ A wide product portfolio diversifying revenue streams ▪ Innovative culture and new product development ▪ Extensive human resources	Weaknesses ▪ Losses due to product recalls. ▪ Lagging behind in the key growth segment of electric vehicles. ▪ Financial losses and susceptibility to external shocks amid the pandemic. ▪ Disrupted production process in the Russia-based manufacturing sites after the outbreak of the military conflict
Opportunities ▪ Post-pandemic recovery and industry growth. ▪ Technological progress stimulating new product development. ▪ Strong global demographic growth. ▪ Opportunities for growth in the sustainable electric vehicle segment.	Threats ▪ War and political uncertainty. ▪ Eroded bargaining power of consumers amid high inflation and GDP stagnation. ▪ Stricter environmental and legal regulations. ▪ Restricted supply of key components. ▪ Intensive industry competition.

The evidence from the SWOT analysis clearly shows that Volkswagen has a wide range of internal strengths which stimulate business growth and resilience to shocks. Thus, the automobile producer may benefit from the external opportunities, as shown in the analysis. The SWOT model also identifies key internal areas for improvement in order to stability the long-term strategic performance of Volkswagen. Research findings also identify external threats which pose a threat to the global trade regime and competitiveness of automobile companies. Such threats should be carefully monitored and mitigated as a part of the strategic development of the brand.

6 Conclusion

To sum up, the automobile industry experiences challenging times amid a series of unfavourable external developments. Companies like Volkswagen are forced to change their business models and internal functioning in order to improve performance and resilience in an uncertain global environment, supply shortages, disrupted trade and fierce competition. Moreover, the negative effects from the global pandemic continue to negatively affect the sector and it is necessary to be explored in more details as a part of additional analysis. Considering all, the results from the strategic report are informative regarding the main trends and potential areas for future development.

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