

THE EVOLUTION OF THE AUTOMOTIVE INDUSTRY IN THE CONTEXT OF THE COVID-19 PANDEMIC

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Abstract:

The COVID-19 pandemic had a major impact on the European automotive industry as demand for cars has fallen significantly. Specialists from IHS Markit estimate, in 2020, a decrease in sales volume by at least 22%.

Starting from this premise we will try to identify a series of measures meant to support automobile manufacturers that are facing disruptions due to the SARS-Cov2 pandemic.

The results will highlight the importance of the strategic vision and the influence it has on company performance.

Keywords: R&D, strategy, automotive industry

JEL classification: L6, L60, L62

Introduction

In the context of the SARS-Cov2 pandemic, the World Bank (2020) estimates a 7% decrease in economic activity in heavily industrialized countries as a result of large-scale social distancing measures, tightening of financing conditions and the collapse of external demand. Among the most affected industries is the automotive industry.

The automotive industry generates a turnover of over 7% of EU GDP and invests EUR 57.4 billion annually in R&D, being the largest private contributor.

Numerous studies suggest that sustainable competitive advantages involve considerable investment in R&D that innovative automobile manufacturers hope to recover through the benefits of adopting a competitive strategy and developing strong strategic partnerships. In this context, David Elvers, Chie hoon Song (2014) considers that before any strategic collaboration, the behavior of potential partners must be taken into account and Das and Teng (1998) highlights the importance of partner compatibility expressed by the appropriate cooperative attitude that will lead to increase the probability of success.

Michael A. Cusumano and Kentaro Nobeoka (1992) point out that the high level of productivity and sales growth in the Japanese automotive industry is due to the implementation of specific structures and processes. They do not identify the relationship between productivity and quality but they believe that the implementation of precise conceptual models that closely connect the competitive position of the company with the company's management would be imperative.

The Thai automotive industry is the engine of the economy with a network of thousands of national and international companies that contribute significantly to economic growth. In order to maintain the sustainable competitive advantage Chamsuk Wawmayura, Fongsuwan Wannan and Takala Josu (2017) tried to identify how improvements can be made to the automotive industry regarding its infrastructure and capacity. The structural equation model developed using AMOS software highlighted the key role of CD&I activities in developing the innovation potential of the Thai automotive sector.

Description of the problem

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The cessation of global economic activity had a strong impact on the production process and on the entire supply chain and because of that the automotive industry confronted a pronounced decline in both demand and investment all this causing a decrease of gross domestic product. Closing down plants in Europe and North America has led to the withdrawal from production of about 2.5 million road vehicles for passenger transport, which led to losses of \$ 77.7 billion.

In response to restrictive measures taken by EU member states to prevent the spread of the COVID-19 pandemic, industrial production fell by 27.2% in April this year compared to April 2019. Most of the measures implemented were a negative effect on industrial production the most affected being the production of motor vehicles which decreased in March and April 2020 by 33.5%, respectively 68.5%.

The impact of COVID-19 on the European automotive industry is unprecedented most automobile manufacturers being forced to close production for weeks or even months this year. Although the exact effects are still unknown, statistics indicate the extraordinary impact on automobile manufacturers and on employment in the EU as shown in the table below.

Table 1

**The impact of SARS-Cov2 on European automotive industry
in March-May 2020**

Country	The number of affected employees	Average shutdown duration (working days)	Estimated loss in production (number of vehicles)
Austria	14307	34	26480
Belgium	30000	25	33360
Croatia	700	29	-
Czech Republic	45000	29	155060
Finland	4500	25	11604
France	90000	35	278425
Germany	568518	30	616591
Hungary	30000	22	51552
Italy	69382	41	157933
Netherlands	13500	25	30819
Poland	17284	36	101957
Portugal	20000	35	41525
Romania	20000	31	68673
Slovakia	20000	24	114632
Slovenia	2890	27	19399
Spain	60000	34	452155
Sweden	67000	15	23464
United Kingdom	65455	41	262715

Source: The Automobile Industry Pocket Guide 2020/2021, The European Automobile Manufacturers' Association (ACEA)

According to data provided by the European Automobile Manufacturers' Association (ACEA), between March and May 2020, employment fell in most EU countries, with Germany registering the highest number of unemployed people, followed by France and Italy.

This year, in april, Eric-Mark Huitema, general manager of ACEA, who represents Europe's biggest manufacturers of cars, trucks, vans and buses, said it was to Europe's advantage to

revitalize the automotive industry because it is a strategic key that brings an important contribution to the EU's industrial strategy, to the European Green Pact and to the innovation performance.

In this sense, the European Automobile Manufacturers' Association (ACEA) proposes, post-crisis, the implementation of four key principles for a stronger green European car industry:

1. Implementing a strategy that has as main objective the relaunching of vehicle production, in a safe way, based on ensuring equitable conditions of competition and the flexibility to establish new trade agreements;
2. Speeding up investment in renewing the entire infrastructure;
3. Depreciation of type-approval and new vehicle registrations;
4. Stimulating market demand for all vehicle categories.

Methology and Data

ACEA member and one of the most technologically innovative companies in Europe, the Volkswagen Group was strongly impacted by the Covid-19 pandemic situation shown in the following figure.

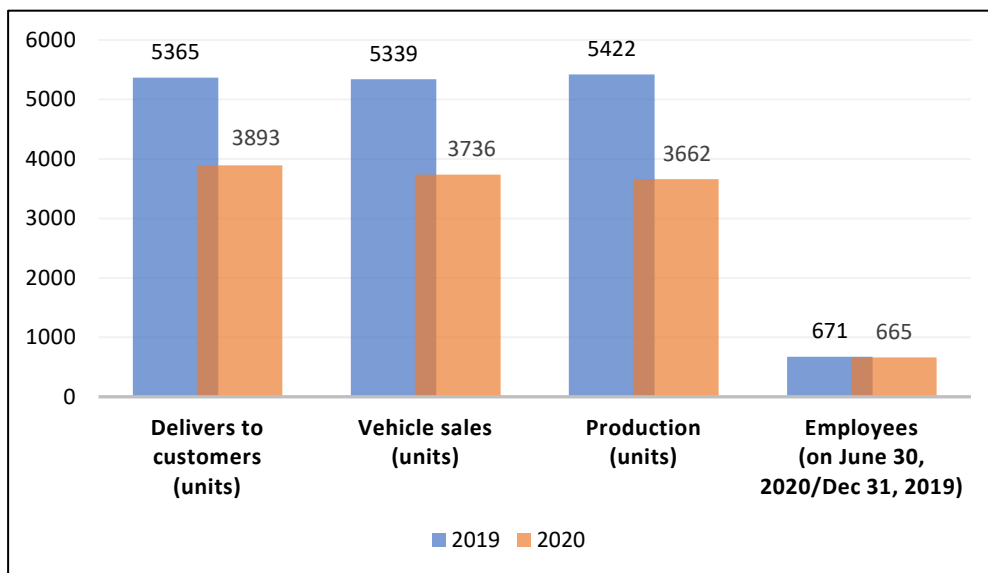


Figure 1 – The impact of COVID-19 pandemic on Volkswagen Group in the first half of 2020 (volume data in thousands)

Source: Half-yearly Financial Report, January-June, Volkswagen 2020.

As can be seen in Figure 1 in the first half of 2020, Volkswagen Group's deliveries decreased with 27.4%, vehicle sales with 30% and production with 32.5%.

If in 2019 the Volkswagen Group delivered in Western Europe about 1.94 million cars and in Central and Eastern Europe about 378 thousand from January 1 to June 30, in 2020 it delivered about 724 thousand, respectively 102 thousand less.

The biggest decrease was registered in the United Kingdom, with 47.8%, followed by Spain with 46.9% and France with 41.2% according to Figure 2.

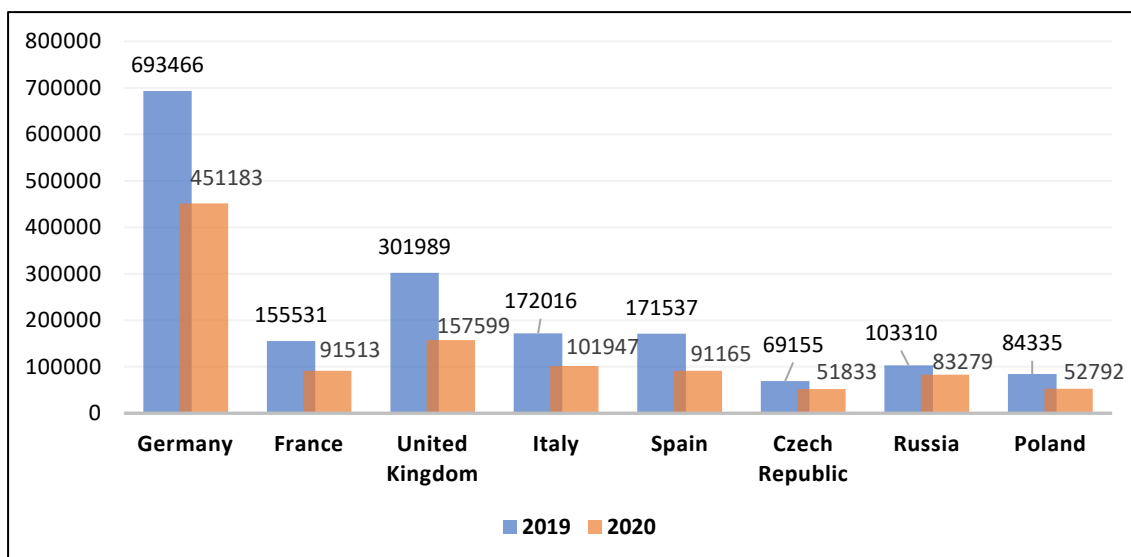


Figure 2 – Volkswagen Group deliveries in 2019-2020 (units)

Source: Half-yearly Financial Report, January-June, Volkswagen 2020

Sales revenues also decreased with 23.2% and total R&D expenditures with 4.8% as shown in Figure 3.

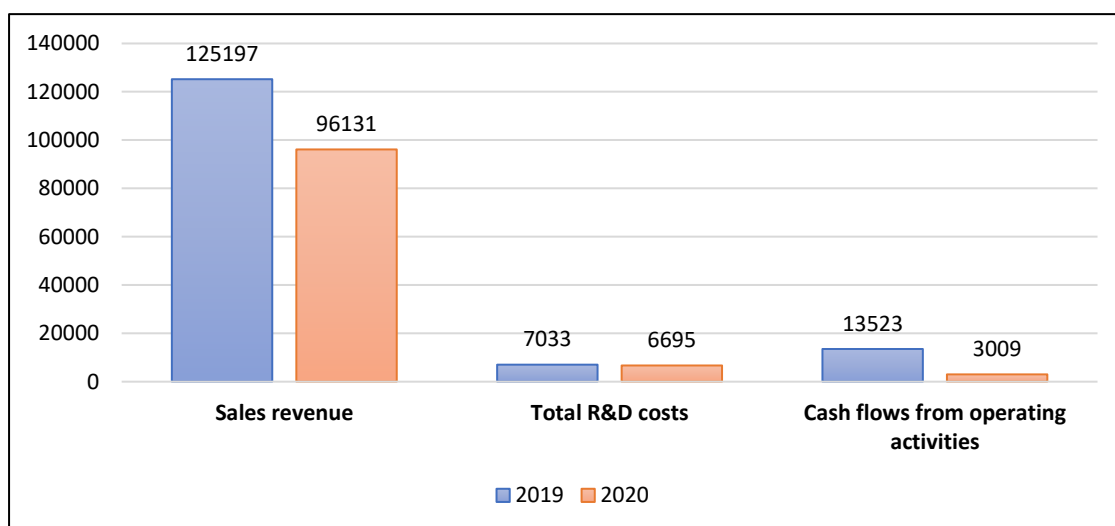


Figure 3 - The financial data of Volkswagen Group in 2019- 2020 (€ million)

Source: Half-yearly Financial Report, January-June, Volkswagen 2020

Referring to the information provided by the Volkswagen Group, we considered it imperative to highlight the safety measures it had implemented in order to support the production process.

In China, Volkswagen has implemented safety measures in 32 of the 33 plants that have resumed operations and thus, no COVID-19 infections have been reported among employees, managing to keep the risk of infection very low.

In order to prevent the spread of coronavirus and to ensure the safety of employees, Volkswagen Group implemented hygiene measures in all plants, according to the table below.

Table 2

**Measures implemented by Volkswagen Group in its plants
to prevent COVID-19 infection**

Entrance/exit of employees
Contact limitation
Temperature check (the access is forbidden for those with high temperature)
Delimitation of the distance by marking the floor at intervals of 1.5 m
As a result of the reduction of seats number inside the means of transport, Volkswagen provides a bigger number of buses for its employees
Bus cleaning/disinfection
Wearing masks inside buses
Installing sinks for disinfection before and after turnstiles
Turning the turnstiles is done only with the elbows
Carrying out the activity in safe conditions
Given that the locker room area is heavily trafficked Volkswagen recommends equipping employees at home to avoid contact
Cleaning/disinfection of all contact surfaces is performed twice on each shift
In order to clean/disinfect the sinks are placed at intervals of one meter
Toilets are also cleaned/disinfected twice per shift
It is recommended to wear masks and gloves during the activity
The work areas are extended by placing additional chairs
At the beginning of each shift the employees will be informed of the exact safety and hygiene measures
Assigning clear responsibilities among employees for hygiene, team, quality
Logistics
Proper disinfection of all instruments and surfaces
Installing plexiglas between employees and carriers at the unloading point (avoid direct contact with them)
Providing information about COVID-19 prevention measures adopted through multilingual brochures
Activity organization
Implementation of the flexible work schedule (two working days from home, one day at the headquarters)
Formation of work teams in such a way that they do not carry out their activity simultaneously
Avoid meetings indoors with more than five people
Ensuring a minimum distance of two meters
Encourage online meetings via Skype
Encourage work at home if the job description allows
Breaks
Cleaning / Disinfection, twice per shift, of areas dedicated to daily rest
Avoiding meetings
Closing smoking areas
Gastronomy
One-person access to the kitchen
Adapting the catering concept to the given situation
Reduced variety of food
Lunch is served as a package
The area where lunch/coffee is delimited by tracing the markings at intervals of 1.5 m
It is recommended that a maximum of two people attend to business lunch
One-person access to the kitchen
Adapting the catering concept to the given situation
Reduced variety of food
Lunch is served as a package
Hygiene safety measures
Cleaning/Disinfection before/after the use of shared objects
It is recommended to delimit the distance between offices by marking the floor at intervals of 1.5 m
The access to lifts is allowed for a maximum of two people
Installing separators in areas where employees frequently come into contact with customers
The permanent ventilation of workspaces (the use of air conditioning is not recommended)
The disinfection of the air conditioner by frequent replacement of filters
Prohibition of meetings of any kind (e.g.: breakfast meetings, birthdays, etc.)
Mandatory distribution of existing communication materials
Communication of preventive measures
Press communication of the resumption of production
Ensuring the complete package of information to management and team leaders
Plant visits are prohibited

Source: Volkswagen Group

The Volkswagen Group was severely impacted by the pandemic in the first half of 2020, but the implementation, at an early stage, of measures to prevent Sars-Cov2 infection was successful and therefore reduced the effects of the crisis. With a well-developed plan, the Group has provided to its employees, customers and business partners a safe working environment.

Conclusions

According to specialists from the International Labor Organization, the annual turnover of the automotive industry is equivalent to the sixth largest economy in the world - India.

In the context of the pandemic, the automotive industry faced a sudden and widespread cessation of economic activity.

In Wuhan, the epicenter of the Covid-19 outbreak, renowned car companies such as General Motors, Honda Motor, Nissan Motor, Peugeot Group (PSA), Renault and Toyota Motor were operating, which had to be completely shut down.

In a short time, many plants were closed in Europe, which led to the dismissal of 1.1 million employees in March 2020, more than half of them coming from the German automotive sector.

Considering these aspects, world governments have taken steps to alleviate the impact of Covid-19. The policy monitoring tool provided by The International Monetary Fund draws attention to the measures they take in 196 countries.

It is currently unclear whether these measures will have a positive impact on automotive industry and whether automobile manufacturers will be able to benefit from their implementation and access financial assistance, but according to the Joint Declaration on COVID-19 issued by the International Organization of Employers and the International Trade Union Confederation, on March 2020, social dialogue has a key role in consolidating the confidence needed for their effective implementation.

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