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"The Future of the Automotive Industry in Germany: Can They Survive Chinese Competition?"

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The German automotive industry is known for being one of the best in quality engineering and elite luxury; however, in the past couple of years, the market landscape has been shifting. The growing demand for electric vehicles (EVs), fostered by the global increase in awareness towards sustainability, allowed Chinese car companies like BYD and NIO to enter a new segment of the car industry. China was quick to embrace the trend for eco-friendly vehicles, rapidly becoming one of the significant players in the industry and a direct competitor to German manufacturers like BMW and Volkswagen. Unless Germany takes action to adapt to the market or shift to another segment, it risks losing its market share in the global auto industry to Chinese car companies, who have been satisfying the demand for electric vehicles at cheaper prices.

In the past couple of years, the world has become more educated on greenhouse gases and their negative effects on the environment. Following the increase in awareness of sustainability, consumers began acknowledging that road vehicle emission is around 11% of all greenhouse gasses released by humans (Statista Research Department). Eventually, manufacturers polished the production cycle and were able to match the prices for electric vehicles closer to consumer budgets to make them more accessible. Another factor that has contributed to the growth of demand for electric cars was the government, such as tax rebates, which make EVs more affordable to general consumers, prompting them to choose an eco-friendly car over one powered by an internal combustion engine (ICE), hence increasing EVs sales (Chu 284). All those conditions led to a rapid expansion of the sustainable sector in the global automotive

industry. Suddenly, companies are expected to meet environmental expectations by producing eco-friendly products or adopting sustainable production methods. Countries like China have even higher expectations due to government incentives and social factors, such as a status of being an environmentally and socially responsible person (Song et al.). Altogether, this market shift forces Germany— a historical leader in the car manufacturing industry— to seek ways to adapt to not lose its share of the market.

Ever since the birth of the automotive industry, Germany has been heavily invested developing combustion engine cars, becoming experts at it. Such strict focus purely on gas-powered vehicles contributed to a slower development of technology to create electric cars that can compete in the market. China, on the other hand, caught on early and, with the help of the government and quickly developing technologies, was able to fully embrace the market transformation. Even though at first glance it may look as if this should not affect Germany as much, it is important to consider the largest importing country of German vehicles— China. According to Statista's market data and analysis of Audi, Volkswagen and Mercedes-Benz, those large German automotive manufacturers, have China as their largest product-importing market. At the current point in time, Chinese companies provide electric vehicles at the same or even better quality with prices being 20-40 percent cheaper (Zhang and Wilkes). Without such intense incentives and support from the government, it seems almost impossible for Germany to compete on the same level as China, causing them to lose market share and sales. German market share for ICE vehicles in China had also dropped from 25 percent prior pandemic to 15 percent now. Moreover, Germany failed to take over the newly emerged market for EVs, only controlling 10 percent of their market share (Zhang and Wilkes).

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In addition to having lost market share, German companies are forced to deal with the competition of other established car brands, such as Tesla, while simultaneously risking losing their market share all around the globe to China. While German car companies were able to make successful models of electric and hybrid vehicles, they are still far behind in technology. “I believe the German quality label generally still holds, but that's not enough as the world of automotive is changing rapidly," commented Rico Luman regarding Germany’s shift towards EVs (Clifford). Due to that, more people are willing to choose cars from Chinese brands like NIO and BYD. The European Union has clearly shown such preference by voting in favor of EU tariffs on Chinese EVs (Clifford). The trend looks to be leading towards China expanding its market share worldwide, taking over the market that was previously dominated by Germany.

As the investors notice the industry struggling, they sell their shares, which leads to a reduction in the stock price and funding of companies like Mercedes-Benz. Due to the rapid deterioration of their business in China, their earnings are foreseen to become “significantly below” ones of 2023. Sales in Europe also fell by 12.7 percent, compared to those in the previous year. As sales are decreasing, investors shift their focus from German companies to Chinese, since they have more potential (Katanich). Such a trend might have a snowball effect; as funds are pulled back from Germany and reinvested into China, Germany’s automotive industry gets into an even worse financial position, which, in turn, scares away more investors.

Why can Germany not shift their focus to other regions? The answer may not seem obvious at first, but automotive markets in the United States and Europe are already saturated and do not have as much potential as Chinese markets do. Tesla has capitalized on the market for EVs in the United States and Europe, being one of the first to embrace the trend of eco-friendly vehicles, while China is rapidly taking over the market, exporting their vehicles to more

countries. Germany has already secured their position in those markets for ICE vehicles. However, government subsidies for EV production have been ended abruptly (Clifford), and Germany's technology is not yet developed to a level fit to compete in the EV market, so investing in further expansion in that direction might be useless and not worth the efforts (Zhang and Wilkes).

On the other hand, China is not the only country with potential for the automotive industry. Germany can shift their focus from China to other developing countries where there are still few competitors, like Africa. According to Statista, the electric vehicles market is expected to reach an annual growth rate of 8.86 percent by 2029 ("Electric Vehicles – South Africa"). Unlike China, Africa is just starting to experience major urbanization and economic growth, boosting the demand for personal transportation. Africa's gasoline infrastructure is not well developed; however, the abundance of natural energy resources makes it possible to build electric charging stations for cars. Wind and solar energy can be used to source the stations with energy in a sustainable manner, creating the infrastructure for EVs (Statista, "Electric Vehicles – Africa"). A combination of very little competition in the market, an increase in sustainability awareness, and a lack of established gasoline infrastructure in many parts of Africa create a perfect environment for the German automotive industry to focus its resources on expanding operations and market share in that location. Overall, the African car market might be the golden fountain for Germany, since it is unsaturated, expanding, and has little competition.

Another country with high potential is India. According to Charmaine, India had reported their target to have 30 percent of registered private vehicles by 2030; however, so far EVs only make up 2.5 percent. The reason for such sparse numbers is the lack of infrastructure to support eco-friendly vehicles. On the other hand, India is the most populated country in the world,

generating enormous potential for demand if the conditions are suitable. The Society of Indian Automobile Manufacturers reported a 30 percent growth in registrations of passenger vehicles and two-wheelers from October 2023 to October 2024, which indicates a rapid increase in demand for transportation. Just like in Africa, India's environmental awareness has been growing, creating potential for electric vehicles to grow in demand. German brands like Volkswagen also have a positive reputation in India as high-quality manufacturers, which fosters trust in the community. If the government of India funds the improvement of infrastructure for electric vehicles, their demand might skyrocket. Nevertheless, Tesla remains a major competitor for Germany, even in the Indian market. If German automobile manufacturers decide to shift their strategy to focus on expanding into the Indian market, then they would have to find a way to differentiate from Tesla to be able to compete. For example, Germany manufacturers can concentrate their focus on design convenience and driving performance. Since high quality engineering has always been the key specialty of German cars, it is a possible direction for differentiation by improving on better performing electric engines that would perform better, than Chinese or American ones. By developing a customer-centric design that focuses on comfort they could also differentiate and stand out from other EVs. Lastly, if German manufacturers use their resources to engineer the first car battery that will not use harmful chemicals, such as lithium, they will become the first and the most eco-friendly car company of all. Even though it may be challenging, if all is executed properly, Germany might be able to expand their operations by focusing on India's automotive market.

With the current rapid changes in the global economy and the environment, to remain competitive Germany must pick one of the two routes: improve the quality of their electric vehicles and become better than their competitors or differentiate themselves and focus on a

specific niche where no one else can produce better than them. The German car industry could abandon its goals of expanding into the electric vehicle segment and focus only on ICE vehicles; however, there is a chance that by doing so they commit to a risk. Some people may argue that batteries used in electric and hybrid cars are extremely harmful to the environment; however, gas extraction, refinement, and usage may be just as damaging. In addition, gas is finite, it is estimated that with such usage pace, fossil fuels might be depleted in 90-120 years (Lorenz). If depletion happens, then our world will be forced to switch to other alternatives to power our vehicles, such as electricity. Hence, unless Germany takes a proactive approach to innovation and EVs, then eventually it will get too far behind in technology to stay competitive. Their best bet is to stay dynamic and invest in improving their technology, whether that is done by financing more research on EV production or collaborating with other car companies that have perfected the production by now. Research and expansion to markets, such as India or Africa, could also be a way to move forward for the German automotive industry. There will be certain challenges, such as infrastructure development and competition; however, there is a large potential for growth in those markets.

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