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Case 4 – Volkswagen Group and AI James Cook

The key issue with Volkswagen Group is its ambition to achieve a leadership position in the automotive industry. This ambition brings several challenges as Volkswagen struggles with finance, mainly through R&D investments, recall incidents, and an overall operation that needs optimization. Volkswagen has shown strong interest in the AI industry and has been actively adopting its features since 2013. To match the four classifications of AI – automated, assisted, augmented, and autonomous intelligence - Volkswagen Group would have to develop four individual AI models or one comprehensive model that handles all in one.

The automotive industry is one of the industries with a long history and many competitors. As the primary customer covers all types of people, innovative yet safe and comfortable designs are mandated. Although a specific model may target a certain people group, the company would still have to consider the use cases of all age groups.

Volkswagen Group’s mission involves their Together-Strategy 2025. This plan may solidify Volkswagen’s dominance by improving four key areas: operation, mobility solutions, innovation, and finance. Volkswagen has been spending more than 12 billion Euros annually to accomplish this. This heavy investment allowed the group to dive into the EV industry, which meets their sustainability goals. However, suboptimal expenditures brought their attention to efficiency.

Competitive Rivalry

There is a strong rivalry in the automotive industry, as the competition involves major companies such as Toyota, Nissan, and Ford. Due to the size of Volkswagen Group, the company holds a firm foundation in the competition. To win the rivalry, Volkswagen must push itself to the limit with leading products.

Supplier Power

Although Volkswagen Group would produce most of the parts within in their in-house factory, for electric vehicles, core components such as the battery relies heavily on third-party manufacturers. In this case, the supplier power is much higher.

Buyer Power

Due to the strong competition and countless alternatives, buyer power is generally high as well. Volkswagen would constantly need to satisfy the buyer’s needs to remain competitive in the market. However, joint ventures and some contracts expanded the market to various parts of the world, accumulating more buyers for Volkswagen.

Threat of Substitution

There is always a threat of substitution with traditional gas-powered vehicles. Public transportation, increased gas prices, and environmental regulations can all play a critical role in limiting the sales of gas vehicles. To meet the sustainability requirements and prepare for the substitutional threats, Volkswagen has been investing in electric vehicles.

Threat of New Entry

The threat of new entrants is relatively low. Because the automotive industry requires strong know-how and technology to produce vehicles, it is difficult for new firms to join the market and compete with pre-existing large companies.

Organizational Structure

The structure of the Volkswagen Group is divided into two major sections: automotive and finance. Within the automotive part, several brands operate unique to their characteristics, allowing diversity within one group. Their marketing and sales are based on geographical regions, such as Asia-Pacific, Europe, North and South America.

Stakeholder Groups

Employees work for the group. Their career and income depend on Volkswagen. They are challenged to develop innovative products using AI, and their interests are related to job security.

Shareholders will want to see good sales figures from the company. They are interested in how well the Volkswagen group performs in the market. Their investment also depends on Volkswagen’s performance.

Customers are one of the most important stakeholders. They would expect well-made products from the company. There are also suppliers who provide materials and parts to Volkswagen, and competitors who directly compete with the same product categories as Volkswagen’s. There are governmental agencies and global organizations that regulate certain aspects of the vehicle that Volkswagen must follow. These regulatory bodies want to ensure that businesses are doing safe and ethical practices.

The first option that Volkswagen could take is to expand its business to the battery industry. As the industry slowly transitioned from gas to electric vehicles, demand for battery cells increased. If Volkswagen could domestically develop and supply the battery pack for its EV products, it would significantly cut costs and free the company from external pressures, such as supplier power. Cheaper production costs will lead to a competitive advantage with lower costs and high margins.

The second option is to invest more in AI: self-driving and safety features. Customers may find such features convenient and innovative, leading to better sales. Since many other companies are investing heavily in self-driving or driving assistant features, Volkswagen should follow the trend to remain competitive.

The last option is to invest in AI but in operations. On top of driving cars, AI can also streamline business operations. Since one of the concerns with Volkswagen Group was the increasing cost and expenses, if AI can analyze and detect inefficient areas where resources are being wasted, the optimization will have a cost-saving effect. This will provide some headroom for the company and streamline its operation.

Among the three options, since the two options share AI as their base, either option is viable, and later progression towards the other part will be much easier on top of the existing AI infrastructure. However, if I were to select one, I would choose self-driving and AI-based safety features because this area touches the customers directly and shows progress within the shortest time. The frontend advancements often bring more attention than backend improvements. Once Volkswagen Group gains AI technology and infrastructure, they may then utilize that AI to optimize the operation flow. While the battery industry is a great option to expand, just like the automotive industry, batteries require in-depth technology to produce high-quality cells, and pre-existing large companies may be challenging for Volkswagen Group to compete as a new entrant.