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Individual Assignment Cover Page

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1 Company Background

Audi AG is an international German-based automobile manufacturer with a legendary history of over 100 years. It positions itself as a mid-level luxury premium brand with outstanding vehicle performance and quality along with elegant designs and comforting features. With a slogan of "*Vorsprung durch Technik*" ("*Advancement through Technology*"), Audi builds its legacy through progressive innovation of technology that satisfied consumers' unmet needs. The company offers a broad production scope from premium to ultra-premium, including economy, sports, SUV, and luxury models. In addition, Audi provides cars with self-produced technology innovations, such as Audi Quattro and Audi Sport. By flooding the market with varying series of products, Audi effectively preempts future entry. Its target market consists of the upper classes, professions, and executives. These people are fortune sufficient and tend to emphasize on quality and innovative technology (Bhasin, 2018). The unique positioning contributes to Audi's horizontal differentiation. It serves the niche premium market and moves away from the mainstream demand, which effectively reduces rivalry restraint on its prices. Similarly, Audi employs vertical differentiation by offering prominent quality cars but with slightly lower prices than its biggest rival in the same market, BMW (Woodard, 2012). By pricing lower with no compromise in quality, Audi quickly gained large and stable market shares. In the period of 2000s, Audi experienced a drastic increase in sales, mainly from the international market of the Middle East and China. It tripled the sales of 653,000 in 2000 to about 1878,105 in 2018 (Volkswagen AG, 2019). With notable success overseas, Audi has established a stable distribution network globally with outlets and streamlined distributors that enable access to its potential customers. As a subsidiary of the Volkswagen Group, the world's largest automaker by sales, Audi shares the manufacturing facilities and components with other members, which vastly reduces the cost of production. Overall, Audi's persistent productivity differences are generated through tradeoffs in its strategic position.

The luxury auto industry that Audi participates in is mature with an extremely high barrier to entry since it requires extensive investments. Some famed competitors include BMW, Lexus, Cadillac, and Mercedes-Benz (D., 2020). As the automobile industry evolved, Audi maintained its dominant position and continued to outperform its rivals with contributions from several critical strategic decisions. Internally, Audi designed and operated a department focusing on motorsport racing in 1981, Audi Sport. It is known as the sportiest supplier in the premium sector as Audi has won numerous races with championship titles since its foundation (Audi, 2021). The department successfully helped Audi build a strong brand with a positive image to its target customers. In terms of external decisions, the most famous one would be the amalgamation in 1932 of four brands: Audi, DKW, Horch, and Wanderer. The merger served mainly as the base stone for Audi AG's early success. Besides, Audi was fully acquired by the Volkswagen Group in 1966. With the acquisition, Audi managed the cost reduction and enhance profitability.

2 Assessment on Key Strategic Decisions in the Past

2.1 Internal Strategic Decisions

One notable example of Audi's key internal strategic decision is the introduction of its Audi Sport department in 1981. It exposed the company to top-level motorsport, which is a niche market of racing cars. The horizontally differentiated sector avoids rivalry restraint on price competition by serving farther from the center demand, enabling premium fees. Besides, the sector's success in races demonstrated the pioneering technology force and production system of Audi, contributing to its high-quality and progressive engineering image to society.

Moreover, Audi thoroughly explored the potential of its tech strength with the racing department, which developed its resources and knowledge to increase its added value. This internal strategic decision coincides with Audi's positioning, further enhancing the unique brand loyalty that the others cannot replicate.

2.2 External Strategic Decisions

In the past 100-year history, Audi has gone through two significant mergers.

The first took place in 1932, with four other independent firms: Audi, DKW, Horch, and Wanderer. The merger led to the symbolic four interconnected rings logo, which implied the inseparability of the companies. Each firm was assigned to particular market sentiment, with a deluxe midsize segment for Audi. It was a wise move since there were many entrants in the early automobile market. Larger firms tend to outlive the competitors and survive the industry shakeout since they have economies of scale for cost reduction. Also, the learning inside each firm would benefit the other members in the group as the resources were pooled and shared, steepening the curve. In addition, the market segmentation acted as a differentiation method to preempt entry. The group flooded the market with varieties and deterred future entries. It also avoided fierce price competition among the members.

In 1966, Audi AG was bought in full by the Volkswagen Group. The members include Volkswagen, Ducati, Porsche, Lamborghini, Skoda, Bentley, and Bugatti. With the world's largest automaker by sales, Audi benefited from sharing costs with the other members. For instance, they share car components and manufacturing facilities to spread the fixed costs. Collaborations between members are conducive to reduce R&D costs (Stricker, 2018). Firms can form relational contracts to cooperate today with a low counterparty risk of deviation since both share the benefits as a group. Also, as more members joined, the group can expand its varieties in the market and consummate its flooding strategy with every section of the automobile industry.

3 Assessment of Audi's Current Strategy

3.1 Market Transition

Despite the early success, Audi has encountered some obstacles in recent years, stemming from the tightening of government regulations and the diesel scandal. In 2015, the Volkswagen Group was accused of manipulating diesel emission tests on over 11 million cars worldwide, which resulted in a high level of pollution emission (Hotten, 2015). To settle the case, Volkswagen has spent around \$30 billion in fines while the number is still increasing. Meanwhile, as the automobile industry entering the mature stage and maintain stability for years, governments have increased the industry's regulations, such as promoting CO2 neutrality. To extend, the EU government requires plummets in CO2 emissions, while China has implemented systems and rules to oversee car makers on emitting. With the rising of environmental issues, a shock is brought to the automobile industry, and manufacturers are forced to adapt.

3.2 Overview of Current Strategy

As Tesla, the technological frontier in the electric vehicle, began to rise in an exploding growth movement, indicating a disruption in the industry. Volkswagen and Audi found it is the timing to adapt to the future trend. In short, Audi is shifting its emphasis to electric vehicles gradually. The company targets to develop a new battery-vehicle architecture with Porsche, construct public charging networks in Europe and U.S with BMW and Daimler, and partner

with Japanese electronics giant Sanyo on battery R&D. Additionally, it intends to attain a complete transition through renewals on employees and product lines.

3.3 Assessment of Current Strategy

First, it is the proper timing for Audi to plunge into the new market. Although the EV market can be considered a small fraction of the automobile industry, consumer preference, technology, rule and regulations, and complementary supplies such as batteries are underdeveloped. With limited common standards on charging methods, operation of charging stations, and sale of batteries, one may describe the sector as in the early phase where there are many entrants and qualitative product innovations. Along with theories of the learning curve, Audi is a latecomer, implying a lack of knowledge on relevant technology and research. The poor performance of Audi's first EV debut also proved the defect. The company needs to learn more about the market demand and adjust the product. Since there is no dominant design, Audi is in the right direction of conducting product invention on battery-vehicle architecture first. The development plan on batteries and charging stations are indispensable complements that may bring a first-mover advantage to Audi before the setup of government regulations.

However, the transition to the EV market implies a reduced scope of profit to capture for Audi. Corresponding with features of early markets, workers lack experience and knowledge on the new technology while suppliers still have high costs when producing complements like batteries. The value created in the industry is still low. Additionally, with massive entrants in the market, experienced laborers and specialized technical workers are in shortage. In other words, learning is mainly embodied in individual workers now, and firms cannot benefit as much. Employees have higher added value and bargaining power for higher wages, which decreases the value that firms may capture. Likewise, most auto manufacturers choose to purchase from a third party and form fierce competition over the suppliers when it comes to battery production. Increasing competition will elevate the lower bound of profits for suppliers, further decreasing value to the car makers like Audi. By building an alliance with Sanyo, the condition will be improved since Sanyo will need Audi's data for production and thus reducing its added value in the relationship.

To strengthen the EV engineering team, Audi plans to create 2,000 job vacancies for expertise while cutting 9,500 original employees by 2025. Although the firm claims that the actual number of layoffs will be smaller due to attrition and voluntary early retirement, it is still a radical strategy in employment, which may cause panic in the firm and thus leads to loss of key staff. Audi decides to activate an incentive measure program that offers job guarantees through 2029 for the 50,000 remaining employees to mitigate the problem. At this transitioning time, the priority of Audi is to acquire those specialized workers with the latest skills and knowledge. Guaranteed employment for the other workers may limit the company's ability to recruit critical personnel for future improvement. However, the situation may be different in the context of Audi. To enumerate, Audi has constantly been encouraging its employees to propose recommendations to change the status quo. As manufacturing companies, the workforce on the streamline has the most exposure to the production and can effectively think of ideas that may enhance the system. According to Audi, the implementations of laborers' suggestions have successfully generated a cost reduction of \$133 million, making contributions to the success of the business (Alaniz, 2018). Hence, job guarantees can effectively incentivize these capable employees to expedite the transition to EV production. On the other side, Audi's plan on keeping these specialized workers as permanent employees accord with the Transaction Cost Theory with Williamson Extension. There is a larger appropriable quasi-rent for these scarce experts since it is difficult for Audi to find competent replacements. As engineers will be recruited to develop innovative battery-vehicle architecture and applicable batteries, Audi does not have the standardized prototype and cannot specify the production specifics in

contracts. It is reasonable to expect more frequent unexpected situations outside the agreement to achieve Audi's demand. Besides, there will be enormous things to add to the contract, increasing the haggling costs. Therefore, the designed personnel management is suitable for Audi based on the current situation.

Lastly, for the operation of product lines, Audi tends to use the flooding strategy as it announces to launch 12 models within two years and broaden to more than 30 kinds by 2025. At the same time, the firm will permanently halt the production of former design icons to commit all the resources to the development of electric vehicles. The overall renewal and expansion plan is undoubtedly expensive, which is only attainable for successful automakers like Audi due to the level of costs. With flooding the EV market with varieties, small rivals may exit the market since there is less scope to profit from experimentation.

4 Evaluation on Current Strategy & Recommendation

4.1 Potential Strategic Challenge

To perform a well-grounded evaluation of Audi's current strategy, I will start with analyzing the lead dog in the EV market, Tesla. Since Tesla has engaged in electric car development for years, its technology is way ahead of the others as its cumulative production increases. While Tesla designs exclusive platforms for electric vehicle production, it tends to hide its trade secrets of battery technology from the market. With the construction of charging stations that only fit Tesla models and no dealer distribution method, the combination of strategies makes it impossible to replicate Tesla's business operating model. On the other hand, Tesla will be a direct competitor for Audi since they target a similar market: people with the rich financial ability and feature-driven customers. Tesla's pricing would be considered as the luxury segment. From current research, Audi's movement is just trying to intimate the path of Tesla. If the company wants to transform into an electric car manufacturer fully and successfully, it has to generate its persistent productivity differences to remain profitable in the long run.

Under a global projection, EV sales will achieve about 15% of the worldwide total by 2025, which exhibits an accelerating growth trend. Undoubtedly, the EV market has displayed conspicuous signs as a disruptive technology, and it is credible to believe the future belongs to electric mobility. As the biggest rival Tesla has entered the industry and accumulated experiences for years, Audi needs to find a way to catch up in a short time with proper models under reasonable costs. Since the EV market is still in the early phase, regulations on production will be more challenging in the future as the market matures. Audi should explore and control the technology now or even shape the dominant design with its innovative technology. However, there are several potential obstacles faced by Audi.

First, Audi is a newcomer to this segment of the industry with depleted experience. Form alliances with other firms like Sanyo that are also new cannot create possible synergies. The production of electric cars incorporates profound differences from the traditional gasoline-powered ones. Although the needs sound similar with range, costs, and the availability of charging stations, the underlying demand is different in nature. Electric vehicles rely on the performance of batteries as engines, and the charging station will be electric instead of gasoline. They only need fewer than 20 components to function, compared to over 2000 parts in conventional drivetrains. With entirely different production specifications, Audi needs to acquire essential updated information and technology in the market and sufficient data that supports further research and development. Although the technology forces with the current alliances are strong in their area, they are in the same condition as Audi, lacking exposure to the EV markets. In other words, the unions will steepen Audi's learning curve but taking a long

time to be effective. Thus, the partnerships will take too much time to consummate, generating substantial opportunity costs for Audi.

Second, the partnership with Sanyo on battery development will diminish Audi's added value. Since Sanyo will also provide the batteries to other brands, the learning within the firms will be beneficial industry-wide. Audi's added value will decrease correspondingly since there is less room to raise prices above the costs if everyone purchases from the same supplier. Also, there is a problem regarding property rights, which I will address specifically in my recommendation.

Third, Audi faces substantial risks on its current resource management plan. The firm proposes to conduct an overall renewal on its product lines shortly. The movement requires precise prediction on the market trend and technology capability to fulfill the objective. The halt on previous models will directly cut one source of revenue, and the future profitability will solely depend on the new department. Granted, dedication to the EV market development with all resources available will expedite the process of innovation and penetration. Audi needs to be in high confidence about their products not to create financial distress for the company. Given Audi's first EV's poor performance, there is a high index of suspicion on Audi's understanding of the market.

4.2 Recommendation

In short, my recommendation for Audi is to conduct integrations with small technology companies that have some progress in developing the batteries and thus the battery-vehicle architecture. The critical point is to gain access to the most updated information and technology in the market to make a downward movement on the learning curve for the firm.

The improvement in battery technology has been slow since the 19th century with insufficient market players. Under the market condition, more entrants joined and began researching and developing much earlier than Audi. Small EV manufacturers are unable to produce on a large scale to spread fixed costs and make profits to conduct further research due to the expensive production of batteries. In contrast, Audi has the financial ability and economies of scale with support from its parent Volkswagen Group, where most competitors cannot match. It is also ideal under the theory of entrepreneurial markets for existing firms. To survive with disruptive waves, the incumbent can purchase successful disruptors and take advantage of their existing strategic merits. In the case of Audi, the firm has been renowned for its technology innovation for decades, indicating a solid tech team with capabilities to realize the transformation. With confidence in technology advancement ability, the top priority for Audi is to attain information for self-development. As a shred of evidence, Audi has invented the Quattro system in 1980 and has been in a leading position for AWD systems (Jack Daniels Audi of Paramus, 2017). With adequate capability, it is credible to believe that Audi can eventually invent a new type of battery for production use by itself. In this way, the company can obtain information required promptly, which solves strict time constraints.

Concerning the partnership, it is more beneficial for Audi or Volkswagen Group to have complete control over the technology development team. According to the firm theory of property rights, the owner of the assets should be the party whose non-contractible investment is more sensitive to bargaining power following unprogrammed adaptation. As an electric vehicle manufacturer, batteries will be the most critical components for operation and as the foundation of future performance improvement. It is almost impossible to write complete contracts about the technology since it contains massive uncertainties. Audi can expect huge unprogrammed adaptations and high AQR within the relationship. In addition, innovation is Audi's core competency. The firm should fully utilize its tech strength and thus generating profits. Like Tesla, Audi's self-created batteries will minimize the problem of declining added value because the firm will no longer require a supplier for battery production and improvement.

One alternative is to establish relational contracts with these small firms. It is not ideal since there are high temptations to break the contracts, especially when every participant is racing on the technology now. Competitors with the same condition, such as BMW, will compete for the tech progress, while Tesla may acquire these firms to ensure its dominant position in technology. By the same token, the joint development of EV architectures with Porsche is enforceable since both firms belong to the Volkswagen Group. (Ingolstadt/Stuttgart, 2017) They share the collective benefits and thus alleviating potential deviations for profits.

For the last challenge, I will suggest Audi not entirely halt the previous product lines. For tradeoff between resource management, the company can shift the focus of its tech strength to the EV market while maintaining the basics production of the best sellers. Although Audi may not worry about the liquidity problem with the support of Volkswagen Group, it takes time for the company to adjust for the transition and the consumers to accept the change. Since the industry is in an early stage, the company will need to consider massive capital spending on R&D, and it is vital to have secure funds to support the technology development. As Audi captures the actual trend in the EV market in the future, it can gradually shift all the companies into EV production.

4.3 Assessment of Risks

One associated drawback of the amendment is that it would be costly and time-consuming for Audi to conduct thorough research and compare the companies to choose the best ones for acquisition. Since Audi is not familiar with the EV market, there is a high level of information asymmetry between Audi and existing small firms, leading to adverse selection in the market. A tradeoff between the effectiveness of knowledge acquirement and timeliness is placed for Audi to decide. If the company only conducts plain investigations on disruptors, it is plausible that the investment will not generate expected returns in terms of progress in technology innovation. Furthermore, there will also be issues when implementing integration in aspects of management. Differences among corporate culture may affect the productivity of new employees and thus reduce the benefits from the acquisition for Audi.

Another aspect comes from the confidentiality problem, which may concern Audi's persistent productivity differences in the EV market. Since Audi shared car components and manufacturing facilities with other subsidiaries in the Volkswagen Group, the other members may ask the factories to produce the same type of batteries and analyze the formula for personal usage. Moreover, suppose the innovative tech is successful. In that case, the parent company may directly ask Audi to share with the other members to maximize the total surplus at the expense of Audi's added value.

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