Executive Summary

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BUS 225: Critical Business Skills for Success

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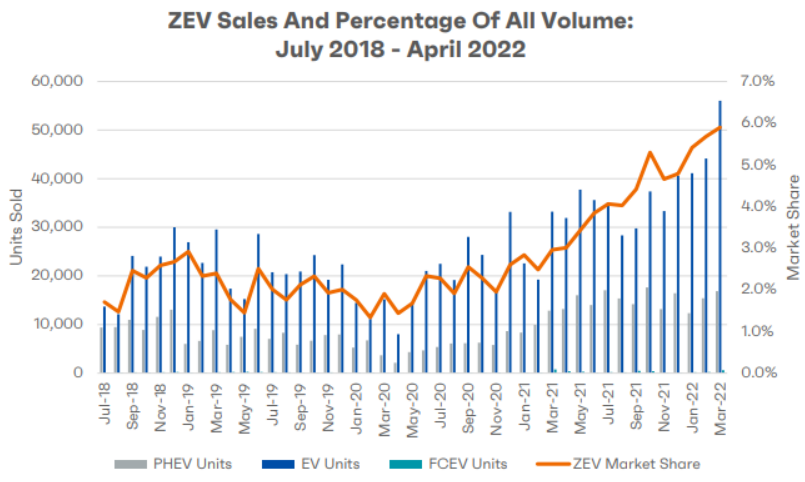
Project One: Executive Summary

Problem

Diversification is important for any company's growth and generates more opportunities for profit through product variety, technological capability, and market reach. Being an engine-based company has opened the door for many great options to expand, but one industry is continuing to gain in popularity and value, which is the electric and hybrid vehicle industry. According to the MarketLine 2022 North America Car Manufacturing report, the automotive industry in particular has four leading players: Toyota, Nissan, Honda, and Hyundai. These major car manufacturers have already begun to tap into the electric and hybrid vehicle industry, using industry alliances as their main strategy, ("Car Manufacturing in North America," 2022). In order for our company to compete with these major players, we need to adjust our strategy by diversifying into the electric and hybrid vehicle industry also. Although these car manufacturers are major players right now, we have a unique opportunity available to us. The COVID-19 pandemic contributed to a country-wide temporary halt in production and supply chain disruption which negatively impacted those leading players, ("Car Manufacturing in North America," 2022). By taking a less common route to utilizing alliances, we can gain a unique edge by partnering with a company like Apple Inc. To analyze the current automotive manufacturing industry as well as the potential electric and hybrid vehicle industry, it will be important to use quantitative and qualitative data to compare descriptive statistics. Data in the form of financial reports, industry standards, interviews, and case studies will help to identify and explain the need for our company to diversify into this new industry. A comprehensive review of the automotive manufacturing industry will provide the starting point for analyzation.

Automotive Manufacturing Industry



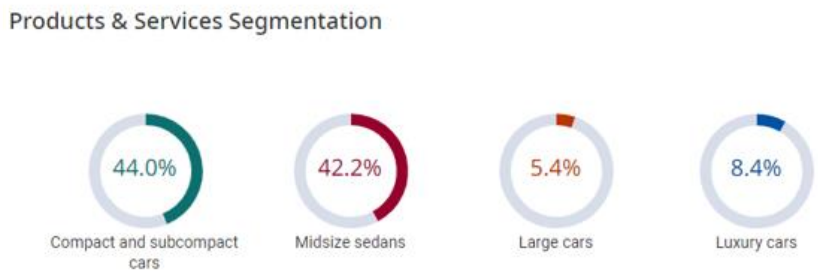
Research of the current United States automotive industry reveals performance insights and future performance projections. Quantitative data from a report from IBIS World shows that the US automotive industry is worth $82.6 billion and growing at an annual growth rate of 7.22%, (Troncoso, 2022). According to the Alliance for Automotive Innovation's latest sales and production summary and forecast; 2022 U.S. sales are $15.3M and

production is up 17% from 2021. The chart featured above shows the sales of zero emission vehicles (ZEV), which account for 5.8% of total vehicle sales as of April 2022. Out of that 5.8%, 4.52% are battery electric vehicles, (“Reading the Meter,” 2022).

Export markets account for 46.9% of industry revenue, or $48.87BN, and 40% of those exported goods are projected to come from Canada and Mexico, (Troncoso, 2022). Automobile dealerships account for 23.3% of the industry’s revenue, with the largest regions being the Great Lakes region (36.6% of all establishments), the Southeast region (28.4% of all establishments), and the West region (23.1% of all establishments), (Troncoso, 2022). Compact and subcompact cars have gained market share as well over the past five years to 2022 and today, they account for 44% of industry revenue, ($45.85BN); while midsize sedans hold close to the same market share at 42%, ($43.98BN), (Troncoso, 2022).

According to Mordor Intelligence’s North American Automotive Market report, United States electric battery vehicle sales increased by 10% from 2019 to 2020, (“North American Automotive Market,” 2022), and the 2021 National Automobile Dealers Association report shows a 6.6% increase in new financing on electric vehicles from 2019 to 2021. Another reputable source breaks down market share by powertrain in 2022, showing internal combustion engines (88.1%), hybrid (6.0%), electric vehicles (4.5%), and plug-in hybrid (1.3%), (“NADA Market Beat,” 2022).

Current market trends in the automotive industry include increasing consumer environmental concerns, automation, and consumer purchasing of big-ticket items like cars. As seen in the infographic below, compact and subcompact cars account for 44% of consumer preference. Midsize sedans, (like Honda Civics’ or Toyota Corolla's), have increased in popularity, since they are generally still capacious yet offer better fuel efficiency then larger vehicles, (Troncoso, 2022).

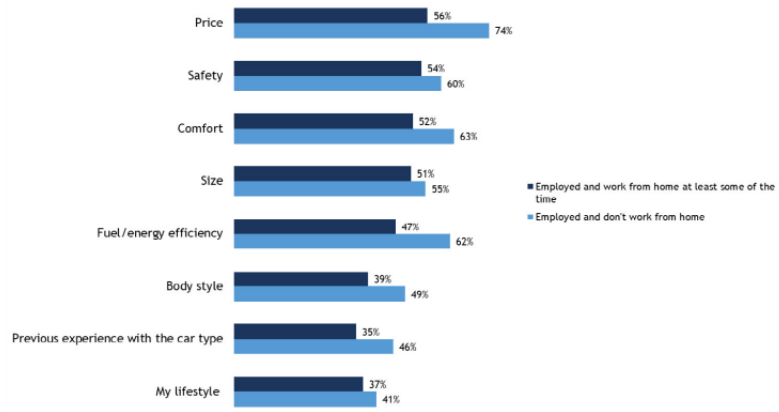


With consumers becoming increasingly more environmentally conscious, the market for hybrid and compact cars has rapidly increased in popularity and according to IBIS World’s 2022 report, is said to “generate the greatest share of revenue moving forward,” (Troncoso, 2022). Just as well, as government policies continue to update standards, electric vehicles will play an important role in meeting carbon reduction goals, (“Fuel Economy,” 2022). “The federal government recently updated fuel economy and GHG standards for 2021-2026, which require continued improvements in fuel economy and GHG emissions," (“Fuel Economy,” 2022).

The past five years to 2022 have been challenging for the US automotive industry. Temporary manufacturer shutdowns and labor shortages severely disrupted the supply chain, as did 2020's overall economic plunge, ("Car Manufacturing in North America," 2022). However, as consumers' economical confidence returns and businesses reopen for employees to return to work, there is expected to be an increased motivation for expensive discretionary purchases, such as vehicles, (Troncoso, 2022). "Consumers returned to shopping the category in force in 2021, bolstered by new confidence in a rebounding economy and pockets lined with new government stimulus," ("Car Purchasing Process," 2021). Mintel's 2022 report, *Perceptions of Car Types,* shows the purchasing factors that influence consumer car-buying behaviors. The Figure 20 infographic below from Mintel's report compares the car-buying factors that affect both consumers who work from home sometimes and consumers who do not work from home.

FIGURE 20: PURCHASING FACTORS, BY EMPLOYMENT AND WORK FROM HOME STATUS, 2021

"Which of the following factors impact your likelihood to purchase different car types? Please select all that apply."



Base: 1,208 internet users aged 18+ who are planning to buy a vehicle within the next 3 years

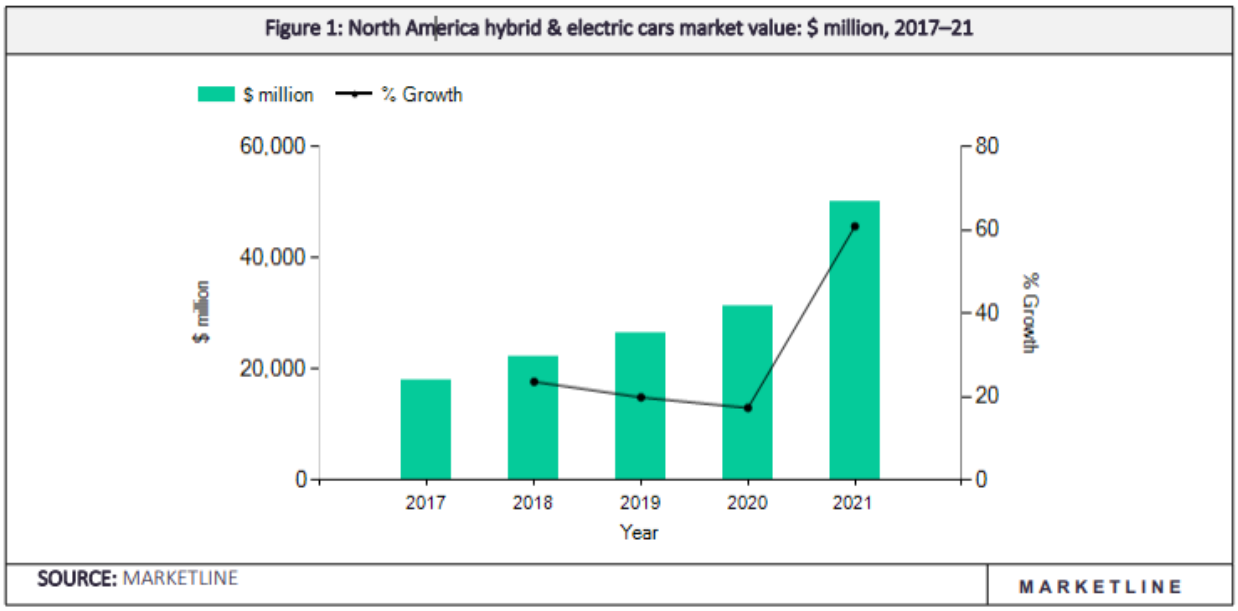
Source: Kantar Profiles/Mintel, November 2021

New Industry

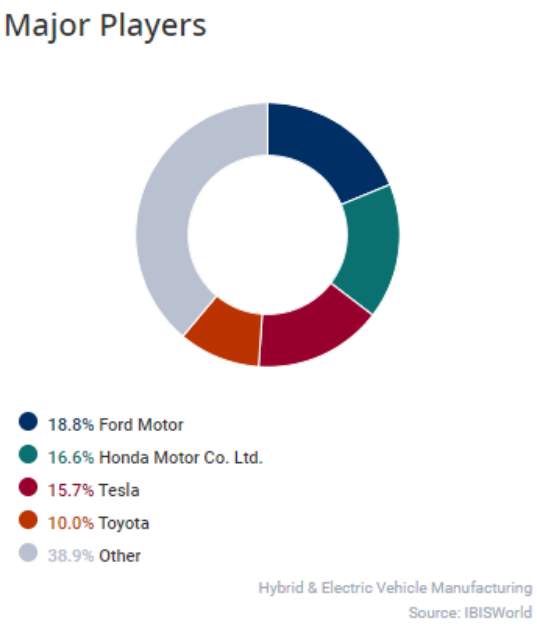
The electric and hybrid vehicle industry in the United States produces primarily hybrid electric vehicles (HEV) and electric vehicles (EV). Electric vehicles (EV) run using an electric motor and have a battery instead of a gas tank. Hybrid electric vehicles (HEV) combine a conventional internal combustion engine system with an electric system. (IBIS World). Hybrid vehicles typically come in two main types: regular and plug-in and use gas and electricity, ("Explaining Electric & Plug-In Hybrid Electric Vehicles," 2021).

As of 2021, the electric vehicle industry has a $17.5BN annual total revenue which is up 10.2% from 2016 and projected to increase by 11.1% in the next five years, (Roth, 2021). For comparison, gasoline operated engines have a $37.3BN annual total revenue which is down 3.3% since 2017 and only expected to increase in the next five years by 0.5%, (Troncoso, 2022). In research from MarketLine, the electric and hybrid vehicle industry annual market growth rate increased by 29.4% from 2017 to 2021, ("Hybrid & Electric Cars in North America," 2022).

The infographic below shows the steady increase in market value for this industry over the past four years.



The level of competition in this industry is said to be high and increasing, (Roth, 2021). The figure below shows the major industry players as of 2021, with Ford Motor Company leading (18.8%), followed by Honda Motor Company (16.6%), Tesla Incorporated (15.7%), and finally Toyota Motor Corporation (10.0%), (Roth, 2021).



IBIS World's report identified 250 factors for success in this industry, with the top four factors being strong supply chain links, use of most efficient work practices, access to the latest available and most efficient technology and techniques, and the ability to expand and curtail operations rapidly in line with market demand, (Roth, 2021).

Trends for this industry include oil price increases, prompting consumers to save on fuel expenses, as well as an increase in consumers' disposable income, (Roth, 2021). "Concerns over fuel economy are increasing the popularity of hybrid and electric cars over other types of cars, while pushing manufacturers to offer more fuel-efficient drive train options," (Roth, 2021). Hybrid vehicles in particular have become more popular among

consumers based on their affordability and availability as opposed to traditional gas-powered and electric vehicles, (Sanchez, 2022). Although electric vehicles continue to experience some barriers such as access to charging stations, governments and automakers have consistently been working to make these vehicles more convenient by introducing tax credits, lowering the purchasing costs, and improving access to charging stations, (Sanchez, 2022). IBIS World's report reveals that consumers growing environmental awareness has been a major trend for this industry as consumers demand products perceived as environmentally friendly, (Roth, 2021). As the economy grows, the demand for environmentally safe products will grow with it over the next five years as disposable income rises, (Roth, 2021).

Porter's Five Forces Analysis of the New and Automotive Industry

	New Industry	**Automotive Manufacturing Industry**
Rivalry among existing competitors	Rivalry among existing competitors is moderate to high, even though there are only four major competitors in this industry with the majority of the market share: Ford, Honda, Tesla, and Toyota. Ford Motor Company holds the highest market share (18.8%). One of the major success factors for Ford in the hybrid market was the introduction of its hybrid Fusion model. However, the Ford Focus EV was discontinued in the United States in 2018, (Roth, 2021). Like many companies and industries, Ford experienced a heavy revenue decline due to the COVID-19 pandemic and was expected to operate at a loss in 2021, (Roth, 2021). Honda Motor Company holds the second highest market share for this industry (16.6%). Honda's success can be attributed to their major research efforts which in turn led to "major developments in robotics, jet engine design and numerous	Even amidst the COVID-19 pandemic, rivalry in this industry is high in large part due to the presence of strong brands, (“United States - Automotive Manufacturing,” 2021). "The automotive manufacturing industry mostly consists of a relatively small number of large-scale companies," (“United States - Automotive Manufacturing,” 2021). This intensifies rivalry by making it difficult for smaller companies to compete. Many of these large-name players have diversified through geographical expansion as well as increasing their range of offerings. This diversity allows them to be more sustainable even during times of increased rivalry or market recession, (“United States - Automotive Manufacturing,” 2021). Overall, rivalry in the automotive industry is high.

	technologies," (Roth, 2021). One key takeaway regarding Honda, is that they primarily only compete within the electric and hybrid car industry with three car models: Clarity, Accord, and Insight. Tesla Incorporated holds the third highest market share (15.7%). What sets Tesla apart is that they operate as both a technology company and a car company. "Tesla generates industry-relevant revenue through its automotive segment," (Roth, 2021). While this company has grown in popularity over the years, they have continued to struggle with profitability. One of the more recent reasons for this includes the COVID-19 pandemic economic effect, which eventually pushed Tesla to suspend manufacturing operations during the first half of 2020, (Roth, 2021). The company has not been said to come back from this either and is anticipated to be a large contributor to the company's profitability struggle, (Roth, 2021). Toyota holds the fourth highest market share for this industry (10.0%). Although revenue growth declined by -25% from 2020 to 2021, the company has been able to regain some of that with an updated growth of +22.6% from 2021 to 2022. However, this could be in large part due to the overall low electric and hybrid vehicle availability across the board for consumers, (Roth, 2021).	

	"Operators in the Hybrid and Electric Vehicle Manufacturing industry compete primarily on the basis of price, fuel economy, reliability, styling, and utility," (Roth, 2021). Businesses as customers place a higher emphasis on reliability while consumers are mainly concerned with vehicle price and style, (Roth, 2021). While this industry continues to experience external competition from nonhybrid manufacturers, consumers and businesses are anticipated to choose electric and hybrid cars in order to save on fuel costs, (Roth, 2021).	
Threats of new entrants to the market	Due to the limited choices for consumers within this market, (with only a few automakers building a limited range electric and hybrid vehicles), the threat of new entrants for this industry remains low. However, new entrants for this industry can expect to face barriers including the capital-intensive process of manufacturing these cars, which requires "sophisticated manufacturing facilities and robust supply chains," (Roth, 2021). Additionally, strict regulatory standards for safety and environmental concerns must be monitored periodically and followed closely which requires more research and development, (Roth, 2021). Globalization is a	Threat of new entrants for this industry is weak. This can be attributed to the high importance consumers place on brand strength and reputation, making it a difficult industry for smaller companies to enter. Consolidation in this industry also reduces the threat of new entrants as manufacturers work with only a small range of suppliers and the costliness of breaking contractual agreements, ("United States - Automotive Manufacturing," 2021).

	major success factor for major players in this industry as these manufacturers source parts from overseas in companies like Japan and Canada, (Roth, 2021). As it appears, the COVID-19 pandemic's economic effect revealed that most companies, including those major players within this industry, were not prepared for the amount of economic turmoil which was experienced. As a result of the pandemic, regulations set to contain the spread of the virus, (such as stay-at-home orders, quarantines, and mandated business closures), negatively affected the globalization for companies including those in the electric and hybrid vehicle industry, (Roth, 2021).	
Bargaining power of suppliers	In the electric and hybrid vehicle industry, manufacturers spend higher sums on plants and equipment. As a result, these manufacturers have higher capital costs because they require particular equipment to integrate hybrid and electric engines, (Roth, 2021). Necessary raw materials for electric and hybrid cars include lithium, nickel, cobalt, manganese, and graphite; all of which have fluctuated in price over the past few years and more recently rising, (“North America - Hybrid & Electric Cars,” 2022). Companies like Tesla use lithium-ion batteries to power their cars which constitutes higher energy density, (Roth, 2021).	Bargaining power of suppliers in the automotive manufacturing industry is medium. This is because of the reduced ability to switch between suppliers, (due to associated costs), as well as the low differentiation of raw materials, (“United States - Automotive Manufacturing,” 2021). This is somewhat counteracted however due to the tariffs imposed by President Donald Trump on foreign aluminum and steel into the US, (“United States - Automotive Manufacturing,” 2021). "The importance of high-quality steel and aluminum in the manufacturing process increases the supplier power of steel and aluminum producers," (“United States - Automotive Manufacturing,” 2021).

	Lithium batteries have a long lifespan and mile range, creating rivalry for other manufacturers in this industry due lithium being a limited resource, (Roth, 2021). Due to the high capital requirement, many automakers in this industry have entered partnerships with big-tech firms to share the cost burden and pool resources, (Roth, 2022).	
Threat of substitute products	In general, standard fuel cars continue to be the main threat of substitution for this industry. Standard fuel cars present a cheaper alternative to the upfront costs of buying an electric or hybrid car. To counter this, manufacturers have moved toward producing a wide range of vehicles that run on different fuel types as a way to keep this threat minimal, (“North America - Hybrid & Electric Cars,” 2022). According to MarketLine's 2022 report on electric and hybrid vehicles, "limited and also inferior alternatives have been found, such as LFP batteries, with manufacturers intensifying investments on research for battery technologies," (“North America - Hybrid & Electric Cars,” 2022). However, some companies have been able to make progress toward battery manufacturing, (Toyota, Volkswagen, Nissan, and General Motors), and they continue to conduct research for	The threat of substitutes for the automotive manufacturing industry is medium. Used vehicles present as the main threat of substitution for this industry, especially during the COVID-19 pandemic as consumers cut costs by avoiding large purchases on items like new cars, (“United States - Automotive Manufacturing,” 2021). However, the increase in fuel prices have resulted in many consumers choosing public transportation methods as well as ridesharing, (“United States - Automotive Manufacturing,” 2021).

	alternatives, (“North America - Hybrid & Electric Cars,” 2022).	
Bargaining power of buyers	Currently, environmentally conscious consumers represent a majority of the customer base for these cars. Buyers within this market are considered a small target group compared to standard fuel cars, yet price sensitivity is lower among this target group, making bargaining power of buyers in this industry limited, (“North America - Hybrid & Electric Cars,” 2022). According to MarketLine's 2022 report, "Even the biggest car buyers do not present large negotiating power," (“North America - Hybrid & Electric Cars,” 2022). Buyer-power is said to increase in the long run due to the competition within the overall auto manufacturing industry forcing automakers to advance in their developments in order to keep in alignment with buyers’ requirements, (“North America - Hybrid & Electric Cars,” 2022).	The bargaining power of buyers in the automotive manufacturing industry is overall low. Automotive dealerships are the main buyers in this industry and are typically few in number, (“United States - Automotive Manufacturing,” 2021). Dealerships are most often associated with specific manufacturers and have exclusive contractual agreements in place which are expensive to break, (“United States - Automotive Manufacturing,” 2021). "As the largest importer of cars across the globe, an increasingly protectionist US would result in foreign manufactured cars becoming less competitive in comparison to US-manufactured cars," (“United States - Automotive Manufacturing,” 2021). This is likely to interrupt the industry overall since manufacturers will have to increase the price of their vehicles.

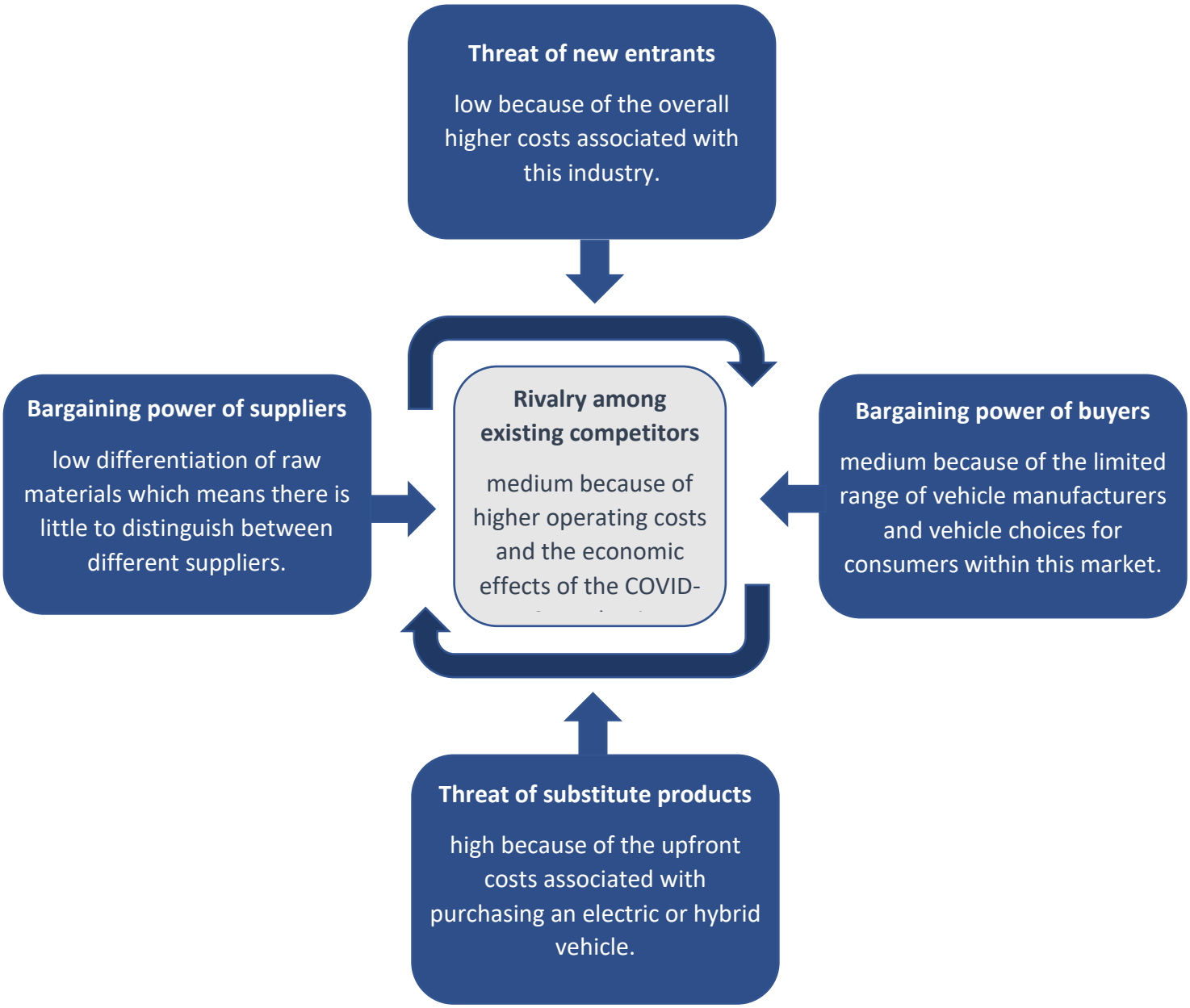
Comparison of the Industries

The Porter's Five Forces analysis to compare the industries shows that diversifying our company into that sector would be a useful decision for our company to expand our portfolio and increase revenue. The electric and hybrid vehicle industry is strong and rapidly growing as consumer demands continues to shift toward environmentally safe products. Both industries have a limited threat of new entrants, and buyer and supplier power are also in the low to medium range. This works in our favor if we can partner with an established tech-company such as Apple Inc. We can share the cost burden and ultimately pool our resources to utilize each other's strengths.

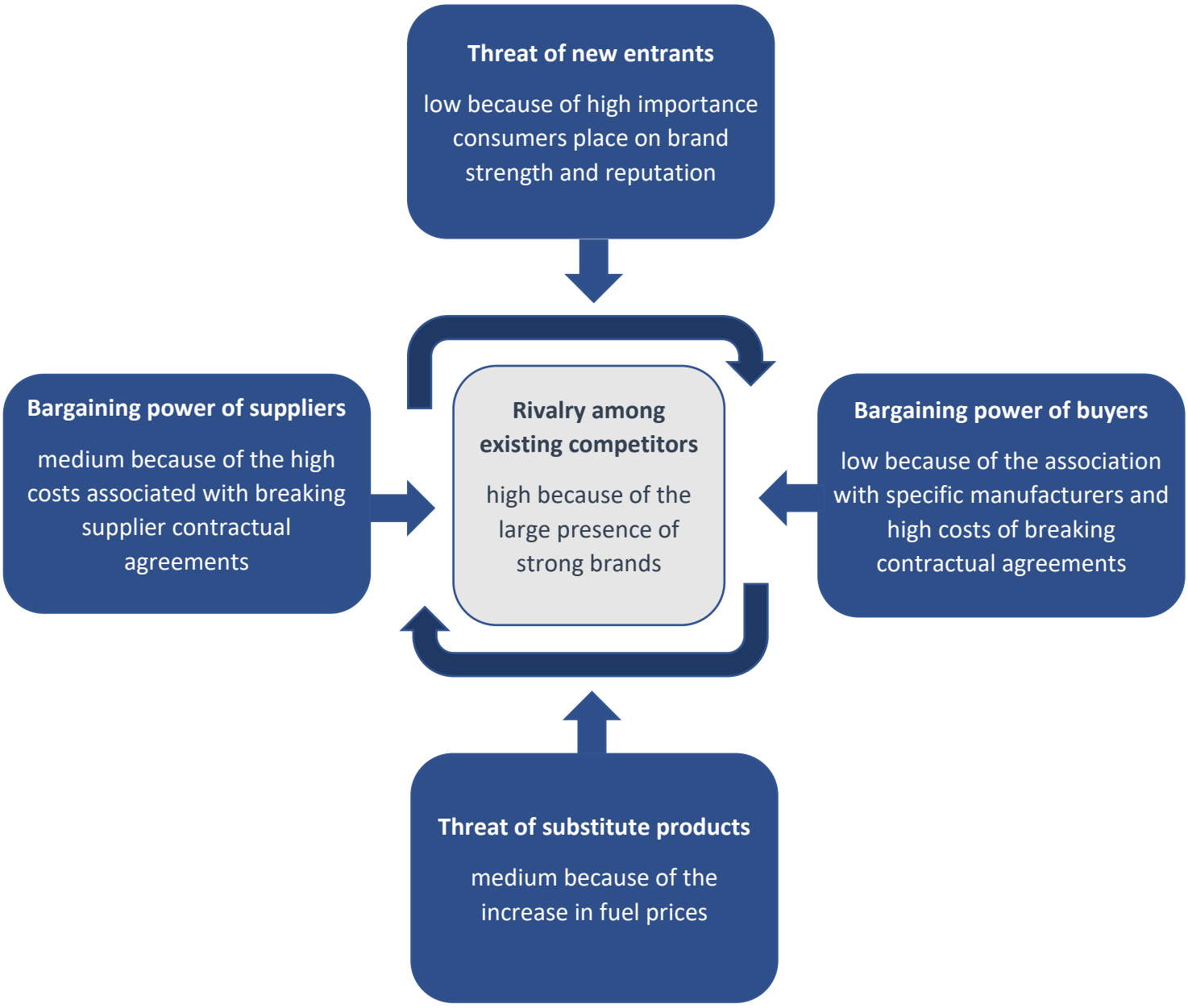
Summary of Findings

Consumers are focused on price, reliability, and quality within both industries. Since we already manufacture high quality motors, it will be easy for us to expand our portfolio to include electric and hybrid vehicles while keeping our product quality at a high level. As long as we maintain our standards for high quality, the threat of consumers choosing alternatives will be low. In addition to this, Apple Inc. is well-versed in technology, making them highly capable of introducing refurbished batteries which in turn keeps costs lower. Since both of these industries are similar, expanding our portfolio into the electric and hybrid vehicle industry is a wise decision for our company.

Porter's Five Forces Analysis Chart—New Industry



Porter's Five Forces Analysis Chart—Automotive Manufacturing Industry



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