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An Analysis of How The Goodyear Rubber and Tire Company Should Navigate the Covid-19 Pandemic

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Abstract:

The COVID-19 pandemic has affected the world in an unprecedented way with many countries being forced to shut down all non-essential businesses. A majority of people were laid-off or forced to work from home while the state mandated quarantine regulations. Due to fewer people and employees commuting on the roads, tire usage has decreased drastically. Companies, like The Goodyear Tire and Rubber Company, depend on high transportation and automobile usage and thus have been heavily impacted. In the nine months since 2020 began, Goodyear has reported sales of $2.367 billion dollars lower than their sales in 2019, which mostly came from the second quarter when lockdowns were in effect. The major decrease in sales has required Goodyear to analyze their current business practices, obtain knowledge of current consumer behavior, and explore new opportunities as they make the decision to either downsize, pivot, or expand their operations further. This paper consists of information found on the tire industry, car sharing industry, ride sharing industry, transportation industry, and consumer behavior on tires in personal vehicles. This collection of information is to serve as a basis for primary research into how The Goodyear Rubber and Tire company can respond to the COVID-19 pandemic.

Keywords: *The Goodyear Rubber and Tire Rubber Company, COVID-19, pandemic response, AndGo, tire industry, car sharing industry, ride sharing industry, transportation industry, fleet services, consumer behavior on tires, consumer behavior related to personal vehicles, service location, sales, revenue, challenges*

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Introduction and Project Scope

Our team, self-named "Working Tirelessly", has been tasked with brainstorming the adaptation of Goodyear's operations in response to the Covid-19 pandemic. With consumers traveling less, the wear on tires has drastically decreased to its data levels from the 1950's which has negatively impacted Goodyear as a whole -- a company whose tire sales account for two-thirds of their total sales. This report consists of the information our group has found using library databases and scholarly journals. Following the insights gained from our research, we plan to collectively offer a conclusion over what we believe Goodyear should do to recover from this pandemic.

Throughout this report, our team has researched the following topics in relation to Goodyear: the transportation industry, ride sharing industry, tire industry, as well as change in consumer behavior. We aim to discover how prominently Goodyear impacts consumers in these industries and how they were affected by COVID-19.

Background Information on Firm

Goodyear was founded on the banks of the Cuyahoga River in Akron, Ohio by Frank Seiberling. From the beginning, Goodyear has been driven to innovate for the future. Having been the first company to develop synthetic tires for use on Mars, Goodyear is always looking for the next opportunity to push technology forward while providing quality. The Goodyear Rubber and Tire Company started through building bicycle tires in 1898 and has since cemented itself as one of the strongest global competitors in the tire industry. Today Goodyear has 47 facilities in 21 different countries, making their brand known throughout the world.

Goodyear primarily focuses on selling tires and providing auto services. One of their largest brand deals is through NASCAR and NHRA where they are the exclusive provider of

racing tires. This not only provides brand awareness for the company but also pushes Goodyear to put out faster and more durable tires. Additionally, there is a push for innovation as the company is motivated with the task of finding better ways to make and design tires while maintaining their trusted quality.

Goodyear offers a wide variety of tires and services to their consumers, which have unfortunately been shaken by the pandemic, resulting in decreases in revenue when compared to previous years. As their largest product line, their tire operations account for roughly 83% of their total sales in the first three quarters of 2020 (Goodyear Tire, 2020, Q3). This includes consumer, farming, and off-road tires. The remaining 8% of their tire sales in the first three quarters of 2020 include racing, aviation, motorcycle, and other tires (Goodyear Tire, 2020, Q3). In 2019 Goodyear accounted for 11% of the market share for light truck tires and 12% for passenger vehicle tires (*Market Share*, 2020). While holding the second largest market share in the industry, Bridgestone remains the leading producer. Together in 2019, Goodyear and Bridgestone make up 13% of the light truck tire market and 14% of the consumer tires market (*Market Share*, 2020). Goodyear's second largest revenue stream is their service related industries such as renting and repair services via company owned channels. This makes up for 5.8% of the first three quarter 2020 sales (Goodyear Tire, 2020, Q3). Lastly, Goodyear also provides a variety of chemicals to other plants. These chemicals account for $220 million or 2.54% in the first three quarters sales of 2020 (Goodyear Tire, 2020, Q3).

Over the past nine months, COVID-19 has greatly affected Goodyear as a whole. When compared to 2019, Goodyear fell short of their forecasts by $2.367 billion, a 19.64% decrease in sales, with the vast majority of that decrease being in the second quarter (Goodyear Tire, 2020, Q3). Goodyear is at a net loss of $1.317 billion by the third quarter in 2020 (Goodyear Tire,

2020, Q3). Comparing that to the $81 million gain reported at the same point in 2019, this emphasizes the negative impact COVID-19 has had on Goodyear (Goodyear Tire, 2020, Q3). In this period Goodyear also reached an agreement to close down their plant in Gadsden Alabama as cost measures to curtail the production of less profitable production plants (Goodyear Tire, 2020, Q2). In the last quarter, sales numbers have been returning to normal levels which promotes an increase in sales confidence for future market predictions. In the third quarter, sales decreased by 8.86% (Goodyear Tire, 2020, Q3), compared to the second quarter it was 40.97% decrease in the same period last year (Goodyear Tire, 2020, Q2).

Michelin, one of Goodyear's top competitors, faced very similar challenges due to the COVID-19 pandemic. The company was forced to shut down their production due to the mandated lockdowns in various countries. With fewer cars on the road, Michelin's sales numbers decreased heavily throughout the year. They accounted for over three billion euros (3.5 billion USD) less in sales than in 2019, a net decrease of 16% (3rd Quarter and 9 Months Sales, 2020). Michelin was fortunate to have opened some of their plants earlier in the year in an effort to pivot their production towards tires for necessary emergency vehicles, santiziers, face masks and visors, and other medical equipment (Menegaux, 2020). As a result of the struggles of the pandemic, Michelin has centered their ethical lens on becoming a more environmentally friendly company. They joined the Coalition of Energy of the Future and the European Clean Hydrogen Alliance in July of 2020 (3rd Quarter and 9 Months Sales, 2020). The goals of these groups are to become net carbon neutral by 2050 and to be able to become more sustainable environmentally, which Michelin has pledged to initiate. Lastly, Michelin is coordinating an effort to launch European BlackCycle which would be the first in the world to produce tires for end of life tires (ELT) (BlackCycle, 2020). The recycling process of ELT will allow a "lower

carbon footprint, emitting 0.93 kg/CO2/kg tyres less and a lower use of fossil resources, using 0.89 kg fossil/kg ELT less" (BlackCycle, 2020).

Bridgestone is another one of Goodyear's top competitors that was detrimentally impacted by the pandemic. In the first half of 2020, the company accounted for a decrease of 384.45 Billion Yen (3.675 billion USD), a 22.1% decrease when compared to 2019. This decrease in profitability and inability to produce newer designs pushed Bridgestone to announce their sixty day plan to shut down their Port Elizabeth, Easter Cape plant by November of 2020. In July of 2020, Bridgestone also announced a plan for a "third foundation or Bridgestone 3.0" (Kenmochi, 2020). Like Michelin's environmental plans, "Bridgestone 3.0" is a plan to pivot their operations to increase the efficiency of its raw resource use and become more environmentally friendly (Kenmochi, 2020).

Since the lockdowns have been lifted business operations have begun to return to normal levels. However, Goodyear and their competitors have all been negatively impacted by the pandemic which has forced major changes. From our findings, Goodyear has yet to make a major change in their business practices since the Covid-19 Pandemic. Both Michelin and Bridgestone have made major promises and actions to become more environmentally friendly while Goodyear has yet to announce any further efforts to achieve their goals involving their environmental impacts. They could use this to gain the support of more consumers due to these practices. Goodyear needs to begin making plans to implement major changes like their competitors in order to remain competitive.

Secondary Research Findings

Tire Industry Impacts and Analysis

Goodyear has been building confident drivers for over 100 years. With their wide range of tire selections, they are one of consumer's top choices when it comes to buying tires. Based on a SWOT analysis study in 2020 by *Marketline*, a defined strength of the company is their ability to sell tires better than their competitors. Goodyear's sales consisted of $159.2 million units of tires in their fiscal year of 2018. This included 115.1 million units of replacement tires and 44.1 million units of original equipment tires (The Goodyear Tire, 2020).

Goodyear is one of the leading tire makers in the North American market; however, they are also Europe's second largest tire maker (The Goodyear Tire, 2020). Unfortunately due to the recent pandemic, Goodyear's tire sales volume have dropped 50% in the second quarter (Davis, 2020). Tire volume was down 18%, making it 31.1 million units rather than an average of 159.2 million units previously seen and can be attributed to the reduced need of traveling outside the home for work, school, and other activities. People no longer have the need to make long commutes due to stay at home orders mandated by the state. Their outstanding statistics on tire units has declined significantly, hurting the business as a whole.

Tires are not just needed for personal vehicle use, but can also be used for construction machinery, business vehicles, aviation, and maritime vessels. The range of opportunities here has motivated Goodyear to launch various components of their tire systems in an effort to make them more advanced than their competitors. One example is their tire monitoring system. Goodyear has a feature for machinery tires known globally as the EMTrack OTR monitoring system (Rockproducts, 2018). This system has transformed tires by implementing tire performance monitors for tire tread depth, inflation levels, and other indicators making it easily accessible for

users to measure these levels via the Goodyear EMTrack App (Rockproducts, 2018). This technology allows for industries such as mining and construction to maintain control over the tires on machinery and can even see the cost-per-hour, cost-per-ton and other metrics on the Goodyear tires on machines (Rockproducts, 2018). Ultimately, this allows companies to mitigate future issues that may arise quickly.

Continuing its leadership in the tire industry, Goodyear shows strong performance in tire retreading. The retreading process is the inspection of existing tires for defects. Once detected, companies either use a pre-cure method or mold-cure method to retread the tire for better performance (Cook, 2020). This eliminates the need for consumers to buy completely new tires. Goodyear is a major player in this industry with a 32% share of industry revenue, followed by Michelin with 12.8%, Bridgestone with 11.2% and *others* with 44% (Cook, 2020). Goodyear only has two facilities in the US that offer this service. This industry has a reported opportunity of a predicted high revenue growth for the years of 2014-2019 and the strength of low imports. However, this industry has high capital requirements and a past of low revenue in the years of 2014-2019. The biggest supporters for this industry is trucking, with its consistent need for tire inspection. By hauling goods across the country for companies, trucks are the largest market for the high demand of tire replacing and retreading. Goodyear has done an excellent job targeting the trucking industry in this area.

By continually innovating for customer satisfaction, Goodyear takes pride in its patented UniCircle tires that eliminate the seam where precure molded tires and the ends of the tread stock meet (Cook, 2020). This is known to be a major downfall when using the pre-cure molded method. Although more costly for the company, Goodyear ensures that retreaded tires will look as “good as new” for optimal customer satisfaction. Goodyear also utilizes its extensive network

dealer so that goods are delivered efficiently and products can be offered to customers quicker (Cook, 2020).

Although Goodyear has found ways to stand out from other competitors, it seems to struggle with the market conditions. Reporting from IBISWorld, tire prices are expected to increase in 2019. Since this study, rubber prices have gone up according to the live rubber index on *Trading Economics.com.* With rubber being the number one commodity for tire production, this causes a problem for companies such as Goodyear. In addition to rubber, the next raw material needed for new synthetic tires is crude oil. As the world market price of crude oil increases, the cost of manufacturing new tires also increases. This gives a higher incentive for people to save money and invest in retreaded tires.

According to a study in 2020 by Thomas Crompton, Goodyear holds the largest industry share of revenue out of Bridgestone, Michelin, Cooper Tire & Rubber Company and others. This is a share of 22.7%, followed by its competitors; Bridgestone 22.6%, Michelin 20.3% and Cooper Tires of 6% (Crompton, 2020). However, increased competition and rubber prices have led Goodyear to struggle over the past five years (Crompton, 2020). Due to the virus, both Goodyear and Michelin have reported reduced production of tires. As the virus continues on, all major companies continue to struggle for financial status or how they will recover from this downfall.

Because Goodyear is a large, established company it can benefit from its large economies of scale (Cook, 2020). This allows it to distribute fixed costs among several facilities-- 47 facilities worldwide and fourteen in the US. They have a higher purchasing power over other suppliers, allowing them to negotiate lower prices for raw materials such as rubber. This gives

the company an overall higher operating profit margin allowing them to stay competitive even when market prices for rubber have increased.

Ride Sharing Industry

In his specialized report titled *Car Sharing Providers*, Devin Savaskan states that the car sharing industry reported sales of $1.2 billion in 2019. From 2015-2020, the industry saw growth of 7.5%, and predicts a growth rate of 3.8% in 2020-2025. This industry is made up of twenty-five companies where three of these companies control over 71.6% of the industry. The largest company in the industry is Avis Budget Group Inc, otherwise known as Zipcar, with a market share of 44.1%. The next largest player in the car sharing industry is Daimler AG, otherwise known as Car2Go, with a market share of 22.8%. These two major players are followed by Enterprise Rent-A-Car and Hertz Global Holdings. While direct competition is fairly low with high capital requirements for entry into the market, these companies do face external competition from threats like taxi services, Uber, and Lyft. Car sales in light of lowered oil prices may also increase which will threaten the car sharing industry in the future.

A large amount of growth in this industry is driven by growing environmental concerns as people are buying less vehicles and relying on car sharing to get from place to place. Car sharing reduces the environmental waste produced when manufacturing vehicles and also saves companies money. This is reflected in new car sales being down by 7.3% for 2015-2020. The major players in this industry take advantage of the key success factors of the placement of their fleet, the maximum utilization of their fleet, access to best fleet management technology, and the further establishment of their brand names. Goodyear’s branch company, AndGo, is poised to provide the fleet management tools and technology to allow these companies to thrive.

Fleet Car Leasing Industry

While similar to the car sharing industry, the fleet car leasing industry involves the leasing of fleets of vehicles to companies, governments, and small businesses. In his specialized report titled *Fleet Car Leasing*, Devin Savaskan states that there were reported revenues of $6.1 billion in 2019 by fleet car leasing companies. This is a massive market that Goodyear may be able to benefit from. With a 2.0% growth from 2015 to 2020, the industry is set to grow even further at a rate of 4.0% from 2020-2025. While Covid-19 has led to expected declines of 8.7% in 2020 due to a decrease in economic activity, the industry is expected to rebound quickly once global markets gain control over the pandemic.

Compared to the car sharing industry, the fleet car leasing industry is more competitively diverse. The top four players in the industry account for less than 35% of revenue, with ARI Fleet Leasing having an 11% market share, Element Fleet Management Corp having an 11% market share, and Enterprise Fleet having a 6.3% market share. A more diverse fleet car leasing market presents more potential clients for Goodyear's fleet management and maintenance operations.

Auto Maintenance and Repair Franchises

After mentioning Goodyear's potential customers in the ride sharing and fleet leasing industries, we decided to conduct a competitive analysis of Goodyear's presence in the fleet servicing space. A specialized report by Rohan Jaura titled, *Auto Maintenance and Repair Franchises,* states that the auto maintenance and repair franchises industry reported $8.8 billion in revenue for 2019. The already established and highly competitive industry grew 1.6% from 2015 to 2020, and is projected to grow at 1.1% from 2020 to 2021. The four largest players in the industry makeup 52.2%, but they have lost market share by 4% of the industry since 2015. These

four players account for a high percentage of sales which is surprising when there are over 8,700 competitors in the space. Driven Brands Inc, composed of CARSTAR, SpeeDee Oil Change, and MAACO, represents 20.3% of the market. Jiffy Lube International Inc. represents 18.7%, and TBC Corporation represents 8.6%. While the industry has a high level of competition, Goodyear would likely be able to leverage their existing service centers and brand recognition to secure maintenance contracts with key fleet leasing providers and car sharing companies. With a recently established fleet servicing branch already on the market in AndGo, Goodyear is in a great position to cement itself as an industry leader.

SWOT Analysis of The Goodyear and Tire Rubber Company in the Fleet Services Industry

The following SWOT analysis includes The Goodyear and Tire Rubber Company with a focus on their AndGo operations. This is a compilation of the above information with the intent of applying it to Goodyear's current pandemic situation.

Strengths - The AndGo branch of Goodyear is fortunate to have access to brand recognition and consumer trust that Goodyear has earned over their 120 years of research and manufacturing excellence. Using their strong experience in research and development, Goodyear has already identified their opportunity to expand into the fleet servicing industry. Launched in January of 2020, AndGo currently provides maintenance for consumer fleets in select U.S. markets. While using a different brand to launch these operations, Goodyear will likely leverage their consumer trusted brand to secure contracts in the space. AndGo will be able to utilize Goodyear's already existing and nation-wide network of 2,400 Goodyear tire and service locations to meet the service needs of consumer fleets. The existing service centers allow Goodyear to save capital by repurposing the locations instead of building brand new ones. With an established network of service locations in place, strong research and development supporting

their operations, and an already present parent company reputation, AndGo is positioned to excel in the fleet servicing industry.

Weaknesses - A weakness of the AndGo ventures is the lack of Goodyear's own fleets. With no fleets of their own, the company will have to rely on selling their services to fleet companies. This process requires a commitment to investing in AndGo's operations while not having guaranteed customers. As a manufacturing company severely affected by the pandemic, Goodyear has experienced issues with the liquidity of their assets, and the company may face capital roadblocks when upgrading their service locations with EV and general fleet capabilities. While there aren't many direct competitors of AndGo, the venture will have to penetrate the market of over 8,700 car maintenance franchises throughout the United States.

Opportunities - With new car sales down, both the ride sharing and car sharing industries have seen growth over the last five years. Environmental concerns over the past decade have mixed with global efforts to streamline company operations, allowing ride sharing and fleet service operations to fill the void. This growth across both industries is a promising trend for AndGo when considering the scale of their operations. Investing in being a complimentary service for both of these billion-dollar industries could greatly alter the recovery process from the impacts of Covid-19. The Goodyear Tire and Rubber Company has the opportunity of providing management and maintenance for the fleets in the industry, increasing revenue from their service centers, while also repairing the losses they've experienced in tire sales.

Threats - While fleet services are not greatly impacted by regulations, the ride sharing industry has seen a large amount of regulations put in place over the past few years. Specifically when talking about companies like Uber and Lyft, state governments have begun regulating who can drive, what they can drive, and the requirements they need to uphold while on the job. While

AndGo is currently focused on servicing fleets of vehicles, they face the threat of having these regulations impact them negatively. Regulations of this calibre can hinder their growth in the industry, leading to less vehicles that need to be serviced and ultimately less profit made for Goodyear.

Transportation Industry

For Goodyear, an expansion into the transportation industry could be viewed as a potential solution to the problems they are currently facing from the COVID-19 pandemic. The transportation sector is a category of companies that provide services to move people or goods, and also includes transportation infrastructure (Hayes, 2020). This industry is currently doing well in the COVID-19 environment and there are plenty of chances to grow in emerging economies in regions such as Asia, Africa, and Latin America. There is also a growing demand for delivery services all across the world especially in the online delivery retail sector. An approach that Goodyear could take would be to expand through mergers and acquisitions of smaller companies who are already set up in the industry rather than starting fresh. Goodyear has developed a strong brand and reputation throughout the years in the tire industry and already has a strong distribution network. If they were to acquire a new company to enter this industry, they could utilize their strong reputation and advanced resources along with it. However, there are still plenty of threats when trying to expand into a new industry and the transportation sector is no exception to that. Some threats they would face include competition from already well-known and established companies like FedEx or UPS and new potential rivals such as Amazon and Uber Freight. Additionally, relationships among governments of different countries can be volatile, and strict labor laws would affect international business factors. The uncertainty from the COVID-19 pandemic will make it challenging to try and enter a new industry as strict health

regulations will create trade barriers amongst several countries. Goodyear also lacks the necessary property and equipment to enter the transportation industry at the moment. Investing in new property and equipment to enter a different industry will be very expensive and with all of it happening during a time where sales are already down, expansion into a new industry may be something they should look to avoid. This is especially true because costs in the transportation industry are growing. For example, motor-carrier costs increased by 7.7% in 2019 according to the latest annual report by the American Transportation Research Institute (Savage, 2020). Meanwhile, shipping rates that generate most of the income for these companies is not growing at the same rate as their costs resulting in a dent in their sales (Savage, 2020). There is plenty of room for growth in the transportation industry, but Goodyear would be wise to keep its options open.

SWOT Analysis for Goodyear in the transportation industry

Strengths

· Strong brand and reputation have been built through the years

· Strong distribution network

· Been successful when entering into new markets in the past

· Skilled workforce and good training program

Weaknesses

· Lack of necessary property and equipment to enter transportation industry

· Very expensive to enter a new industry

Opportunities

· Current success of the industry due to the Covid-19 pandemic

· Expand into emerging markets and emerging economies in places like Asia, Africa, and Latin America

· Focus on retail e-commerce and the growing demand for delivery services

· Enter online delivery retail sector

· Expand through mergers and acquisitions of smaller companies who are already set up in the industry

Threats

· Lots of competition from already well-known and established companies

· New potential rivals in the transportation industry such as Amazon and Uber Freight

· Strong labor laws in other countries

· Relationships among governments of different countries can be volatile and could affect international business

· Uncertain times due to the Covid-19 pandemic and that may make it challenging to try and enter a new industry

Consumer Behavior Related to Wear and Tear of Tires and Personal Vehicles

The coronavirus greatly impacted how consumers purchase their own vehicles and tires during the year of 2020. For the sake of the following paragraphs, consumer behavior before the pandemic will be described first and the effects of COVID-19 on consumer behavior will follow after.

The US Department of Transportation Federal Highway Administration states tires last anywhere from 30,000 to 40,000 miles before they need to be replaced. Additionally this administration reveals the average consumer drives 13,476 miles a year, indicating that the useful life of tires is around three years (*Average Annual Miles*, 2018). Those consumers who do

not place importance on their tires will dismiss the need for tire rotations, which will lead to future problems with their car and increase the likelihood of accidents. Tires are a necessary car part and must be taken care of in order for the safe operation of vehicles; hence, why consumers need to be aware of what current tires they have and what options are available in the marketplace. The article *Tires-US-November 2019* by Hannah Keshishian, analyzes the results from surveys about tire purchases in 2019 to better understand how consumers are behaving when it comes to the tire market in the automotive industry. She discovered 40% of consumers do not know what brand of tires they use on their vehicles and 61% of Millennials would only purchase tires if their mechanic made the recommendation. Additionally, the Tire Review Staff claimed in their study, *Consumer Study: Buying Behaviors*, that 89% of people were more likely to purchase tires from retailers who had a rewards program and 39% of people who purchased tires did so with a coupon.

Consumers depend on professionals to inform and guide them in their purchasing decision because they simply do not have the knowledge; therefore, consumers need to feel comfortable trusting the company and sales associates who work with them. The desire for a trusting relationship and preference for a professional to change their tires is why many consumers purchase from tire brand retailers or local tire stores. However, there has been a slight shift of this mentality when researching younger generations such as Millennials and Generation Z due to their high criticism towards authority. According to Keshishian, 85% of Millennials would go to a new tire store if they offered competitive pricing, and 39% of Millennials and Gen Zers would trust a tire brand they have never heard of before (Keshishian, *Tires*). Cost is an important factor when making purchasing decisions to the Gen Z and Millennial generations as this demographic is worried about paying off student loans, debt, mortgages, etc. Additionally,

their current buying power is disproportionate when compared to older generations because this demographic tends to work in the "gig economy" or better described as low income occupations (Keshishian, *Marketing Auto*).

Consumers purchase tires for three reasons: they want to ensure the safety of themselves and their passengers, guarantee they have durable tires, and confirm the price range is suitable for their budget. When it comes to purchasing tires, 49% of people believe there is a correlation between how expensive tires are to how long they last. This belief affirms the statistic that consumers are willing to pay 1.65 times the optimal price point for tires. The optimal price point for new tires is $296 yet consumers stated they are willing to pay around $500 to establish or warrant their peace-of-mind mentality on the road. Consumers are not willing to sacrifice cost for quality tires which presents an opportunity for brands to promote their expensive tires as long as they have competition and are able to explain why the tires cost more (Keshishian, *Tires*). Steven Mayles states that 51% of consumers can not tell when they need to replace their tires and 58% don't think about tires unless they begin to create problems on the road (Mayles, 2017). This statistic creates an opportunity for brands to provide educational content, pricing incentives, and strategic marketing tactics in order to differentiate themselves from their competitors. For example, Keshishian states 64% of consumers purchase tires in a set of four and 67% of consumers believe not all tire brands are equal. Utilizing the information provided here, it would be in the brand's best interest to educate consumers of the idea that tires cost less than replacing an entire car, and be able to highlight price incentives or sales where tires are sold in a set of four (Keshishian, *Tires*).

Following 2019, the coronavirus pandemic swept the nation forcing millions of people to self-quarantine in their own homes. This drastic lifestyle change has required consumers to

purchase products and services via e-commerce based platforms. The direct impact of COVID-19 has compromised the financial stability of consumers as well as decreased consumer confidence within the economy. Keshishian states in her article, *Marketing Auto to Gen Z and Millennials Incl Impact of COVID-19*, vehicle sales have decreased by 47% and have no signs of regrowth any time soon. Thousands of people have avoided public transportation and other public areas in fear of contracting the virus. Keshishian reports 42% of consumers who have access to public transportation are willing to purchase a vehicle during this time in order to travel from one place to another without fear of contracting the virus as it is perceived to be more sanitary than the alternative option. Jeff Cook agrees with this statement in his article, *Shifting Consumer Behavior Reshapes PLT Tire Segments*, and expects the favoring of personal vehicle use to remain in the foreseeable future. Cook also claims companies within the tire industry should begin preparing for the post-pandemic recovery process (Cook, 2020). Keshishian states in her article, *Car Purchasing Process Incl Impact of COVID-19*, that consumers are more likely to drive to other locations and will need to purchase another vehicle in order to accommodate all members of a household. Additionally, the coronavirus has increased the popularity of “car culture” which is defined by Keshishian as, “heavy consumer use of personal vehicles to go everywhere” (Keshishian, *Car Purchasing*). With public areas not being utilized out of fear of contamination, people have had to creatively discover ideas on how to best preoccupy themselves while abiding by health guidelines from the state. Cars have transitioned from mainly being used for transportation to being used for entertainment purposes. Local businesses have provided COVID-19 concerts, drive-through zoo experiences, and there has been a resurgence of drive-in movies. Additionally, road trips have become more popular as more people have become “stir-crazy” and want to escape their quarantine situation in a safe manner (Keshishian,

Car Purchasing). The following information is important to digest as the impacts of COVID-19 have infiltrated the world as we know it. It's encouraging to see consumers riding in their cars during this period as that will translate into maintenance on their vehicles and eventual replacing of tires.

As more consumers continue to use their vehicles to adventure out of their homes, marketers have had to understand and strategically adhere to the wants and needs of their consumers. Steven Mayles in his article, *At-home 'contactless' car maintenance scheme for drivers worried about the COVID-19 contagion*, presents an opportunity for more companies to partake in during the pandemic. Halford's Mobile Expert and Tyres on the Drive have teamed together to offer zero-contact services where a mechanic will come to a consumer's home and replace their tires or fix other issues while abiding by social distancing guidelines. He states those companies who initiate their support towards communities during this time will nurture customer loyalty and impact consumers' future purchasing decisions. Furthermore, Keshishian highlights the importance of understanding younger generations, such as Millennials and Generation Z, in how they receive and perceive brands. Pertaining to purchasing a vehicle, 62% of Millennials and 55% of Gen Zers prioritize advanced safety features in their next car over new technology. Additionally 75% of Millennials and 71% of Gen Zers prefer to be associated with brands that align with their morals and values. During times of strife, younger generations want to see how brands are going to take care of their employees and customers. According to Keshishian, Millennials are driven by corporate social responsibility as 58% care if employees are treated fairly and 43% want to make sure they are donating products to people in need (Keshishian, *Marketing Auto*). Lastly, 55% of tire consumers utilize social media and OEM websites to conduct pre-research on products before purchasing them (Tire Review Staff, 2020).

Millennials and Gen Zers highly value ethics as 61% of Millennials and 59% of Gen Zers said it was important to do research on a brands ethics before purchasing a vehicle, and 69% of Millennials and 64% of Gen Zers stated it was important to buy from ethical brands. If a company cannot represent their ethics transparently on their ecommerce platform and have not maintained their internet presence, then younger generations will not want to create relationships with those dealerships (Keshishian, *Marketing Auto*). Madeline Winer in her article, *Coronavirus and the Tire Industry: What Does the Future Hold?*, agrees with Keshishian and highly suggests tire brands focus on transitioning to an e-commerce platform, ride sharing services, and mobile or curbside service as these trends will become competitively advantageous in the industry.

The coronavirus has given companies the opportunity to reestablish their presence in the marketplace and nurture their relationships with current and new consumers. Gemma Joyce states in her article, *2020 Consumer Trends for the Auto Industry*, that the top third trend for the year is a focus on friendly customer service. Out of 8,000 people who participated in the survey, ten percent stated they find consumer service important when purchasing cars and tires, or getting maintenance done on their vehicles (Joyce, 2020). Companies should keep four factors in mind when trying to maintain consumer loyalty, which include trust, transparency, understanding, and reliability. Consumers of all ages want to know and feel respected when purchasing vehicles and tires. They do not want to feel "cheated" when it comes to pricing and desire to be guided when making decisions; hence why trust needs to be established when nurturing consumer loyalty. Transparency and understanding is highly valued as consumers need dealers to take the initiative of breaking down vehicle and tire information in order to understand their purchases as well as any financial nuances that might result from their decisions. Lastly, consumers do not have the time or money to spend on numerous vehicle repairs or tire

replacements; hence, why knowing their dealer and product purchase is reliable is important in establishing consumer loyalty (Keshishian, *Marketing Auto*).

The information above provides brands with an idea of how to best adhere to behaviors consumers are currently performing in due to the global pandemic. During this time companies should continue to educate consumers about their products and services through social media and other e-commerce platforms, highlight price incentives, safety features, and other advantages of purchasing from them, act as advisors towards their customers, and keep communication channels open in order to establish trust and loyalty in their consumer relationships. Additionally, companies should offer contactless appointments and maintenance, utilize social media and other e-commerce platforms to clearly communicate actions made to abide by COVID-19 guidelines, and transparently provide ethical standards the company believes in to the public. Lastly, according to an article found in the Nielsen database called, *Driven to Action: Podcast Listeners are a $302 Billion Opportunity for the Auto Market*, it might be beneficial to begin advertising through podcast mediums. The article communicated an increased trend in podcast listeners during the COVID-19 pandemic as more people are listening to a variety of podcasts while performing other tasks. The Neilsen article discovered that more than 35 million Americans were online shopping for a new car and 10.5 million of these shoppers also listened to podcasts. Following this information, 50% of internet vehicle shoppers visited a company's website for more information on a product after hearing about it in a podcast episode, which represents $302 billion in advertising for the automarket. The Nielsen database also stated that podcast listeners are more likely to pay for a service than perform it themselves, which means 16% of listeners are more likely to purchase and replace tires this way (*Driven to Action*, 2020).

Research Summary and Conclusions

We have chosen to research Goodyear's position in these industries to determine what changes they could make in response to Covid-19. However, we did not find enough evidence to rule an economic decision for the tire industry, the car sharing industry, repairs and maintenance industry and the transportation industry at this time. Our team has decided to conduct our primary research on the fleet industry and consumer behavior in the tire industry. We believe Goodyear has a prominent presence in both of these segments and can benefit from expanding their consumer tire market as well as pivoting their focus towards the fleet industry.

Scope into Primary Research

This report's intention is to serve as a foundation of knowledge into guiding us through our own research in both the fleet vehicle industry and consumer behavior within the tire industry. Through targeted surveying of consumers in both industries, we hope to gain valuable insights about how their behavior has changed as a result of the pandemic. This information will reaffirm opportunities we've already found for Goodyear while also presenting new opportunities for us to explore. Analyzing the separate responses of these target segments will allow us to better understand which industry has been most affected by the COVID-19 pandemic and which one would be most viable to pursue in the future. Tasked with deciding whether Goodyear should expand, downsize, or pivot, we aim to provide Goodyear with an educated proposal on how they should realign their operations in response to the pandemic.

We intend to create two separate surveys, one for the fleet vehicle industry and one for consumer behavior in the tire industry, that will be distributed over Mechanical Turk. By distributing this way we will be able to gather data on what Goodyear needs to accomplish as a top priority. These surveys will be constructed to gather information such as:

- Demographics (ex. company and individual)
- Behavior within the industry before Covid-19
- Behavior within the industry during Covid-19
- Expected fallout of the consumer behavior caused by the pandemic
- Desired changes in their respective behaviors or industry

We plan to receive real time data from those who are affected the most in these industries. Upon the completion of our primary research, where we will be surveying customers and major fleet managers, we hope to find the necessary information Goodyear needs to increase their operations.

Primary Research Findings

The following pages will report our findings from the primary research we conducted based on our plans above. We intended to create and distribute two separate surveys, one for the ride sharing industry and one for consumers; however, we found that it was more valuable to only distribute the consumer behavior survey and use open data from several databases to draw conclusions and further brainstorm hypotheses for the ride sharing industry. We plan on structuring the rest of this paper in the following way: first discussing our results from the consumer behavior survey, then discussing the open data we found for the ride sharing industry, and finally discussing our recommendations on how Goodyear could operate and restructure in result of the COVID-19 pandemic. It is also important to note that in the midst of our research The Goodyear Rubber and Tire Company announced their acquisition of Cooper Tires. The acquisition allows Goodyear to strengthen their leadership position in the global tire industry, it gives them the opportunity to create additional value from manufacturing and strengthen their distribution network with increased locations across the globe -- including China, which is a market Goodyear has been looking to penetrate for years, and it increases the ability to support

investments in new mobility and fleet solutions. The acquisition is estimated to bring in about $17.5 billion in revenue, $1.0 billion in operating income, will increase their number of employees to about 72,000, and will increase the number of their manufacturing facilities to above the count of fifty (Goodyear to ACQUIRE Cooper, 2021). With this new information, our team gathered data on the impacts of this acquisition and incorporated it into our final results as discussed below.

Consumer Behavior Survey Analysis

Methods

The following information was found by a survey conducted by our team to receive information and thoughts among consumers of the tire industry. Our results suggest that price sensitivity is the biggest concern consumers have. With this in mind, we focused our questions on how consumers buy tires, their personal product knowledge, their financial needs and their overall thoughts of the process of purchasing tires. Additionally, we asked how COVID-19 has impacted their lifestyle and ability to participate in or request in person car services. Finally, we concluded our survey with questions asking about participants' interests in podcasts or additional learning opportunities for car services and products followed by demographic questions. Our secondary research implies that consumers have a limited amount of knowledge on their own tires or car needs; therefore, we wondered if our results from the survey would support this data.

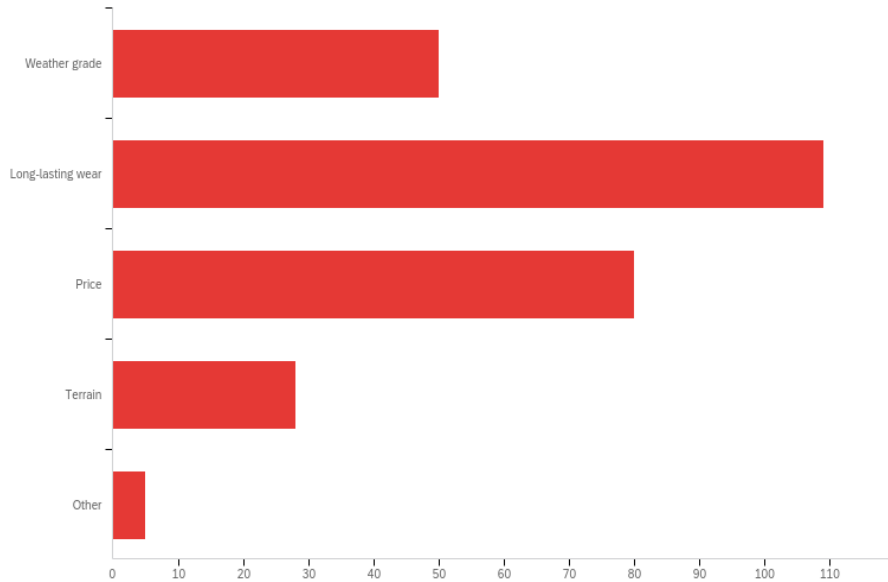
Results

A total of 151 participants were able to complete our consumer behavior survey. Participants were asked to answer honestly and with the intention of helping our study. They were given a range of multiple choice, free response, demographic and likert scale-type questions. In our demographics, there was a large segment of individuals ages 35-44 and 58% were females. Our data also indicated that 78% of applicants have one or two cars at home and the highest percentage of average income was below $25,000. With this information, we were able to come to conclusions based off of our sample.

We kept in mind the research found above from secondary sources as we asked questions to our surveys. In relevance to our secondary research, from the article *Tires-US-November 2019* by Hannah Keshishian, 40% of consumers do not know what brand of tires they have. From our survey, we found that 41% of our participants did not know this information either. We also asked our surveyors how often they purchased tires to see how this correlates with our secondary research.

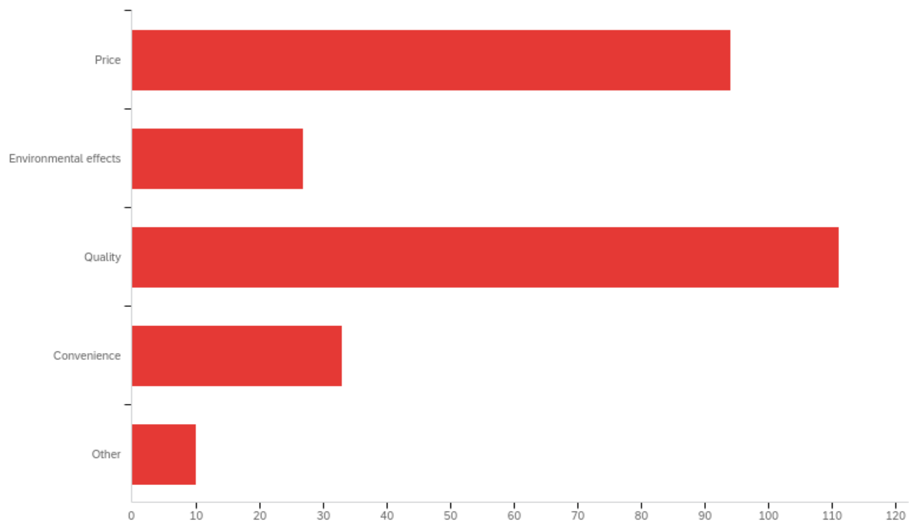
From the survey, which indicates that most individuals purchase tires every two to three years, support Goodyear's statistic that tires are bought every three to four years depending on the usage (How long, n.d., 2021). Contradictory to our research, we discovered consumers are most concerned with the wear of their tires over price, and participants were unsure how to determine the wear of their tires. In regards to price, our survey shows that on average 37% of participants are willing to pay around $400-$599 for a new set of tires. However, our participants stated they are willing to pay as much as $800-$900 for a new set if it is from a trusted company. Figure 1 below shows the results from our survey regarding the question, "What is the most important feature you look for when purchasing tires?".

Figure 1: When purchasing tires, what is the most important feature you look for?



Additional results from our survey show that when participants choose a tire company, they look for companies who specialize in quality over their prices. Figure 2 shows this distribution below.

Figure 2: What influences your decision on choosing a particular brand for tires?

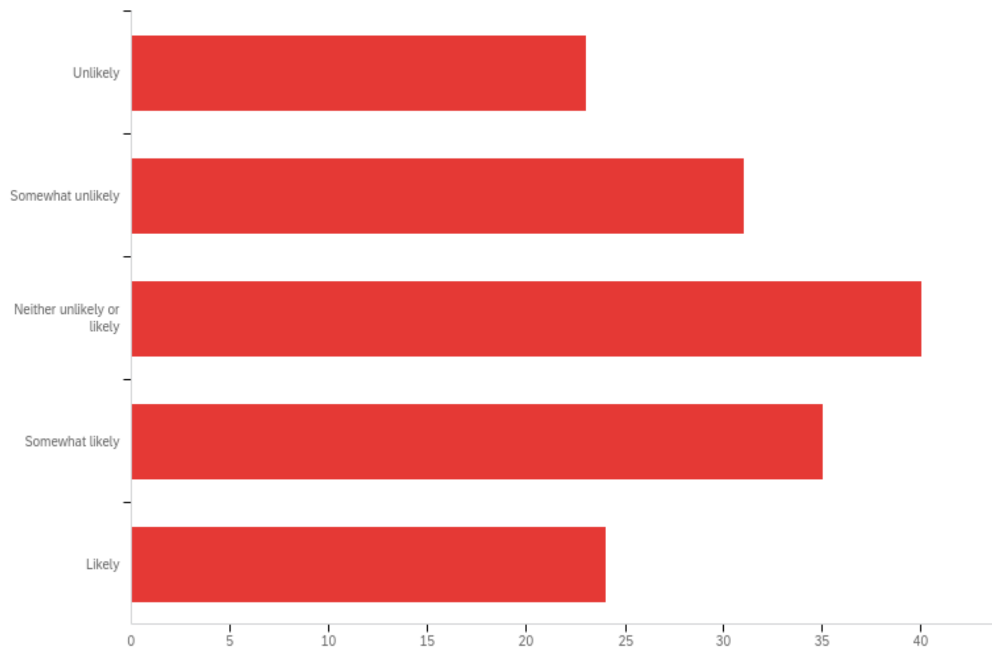


Additionally, our data suggests 72% of our surveyors were not aware that some companies provide contactless at home installation, and only 23% of surveyors said they would choose this option. Goodyear offers contactless service to those customers who purchase their tires online, but our survey suggests a majority of their customers are unaware of it. Also, 8.5% of surveyors were likely to purchase tires online while 45% of surveyors choose in-person communication when purchasing tires. Our sample of 151 participants suggest that people prefer to purchase their tires in-person.

The last variable we wanted to test with our survey is the demand for education regarding car function and maintenance. Our secondary research states that 51% of people do not know when to replace their tires (Mayles, 2017). It also showed that 50% of internet shoppers were more likely to do research on companies after hearing about them on podcasts (*Driven to Action*, 2020). From our research, we believe Gen Z and Millennials would be the main participants of this. So, we asked our participants if they would like to engage in educational programs to increase their awareness of their tires. Our results show that most respondents neither were likely

or unlikely to participate in educational programs if they were offered. Data also suggests that consumers prefer to purchase their tires and have same-day installation all in-person. Figure 3 below displays our results from the question, “How likely are you to participate in educational programs about products and services offered by companies?”.

Figure 3: How likely are you to participate in education programs about products and services by tire companies?



Discussion/Conclusions

The COVID-19 pandemic has impacted how much people are driving. With 38% of our participants driving zero to three times a week, we can see that people are still working from home and are cautious when integrating themselves back into the physical world. However, it was also clear that people desire an in-person experience when purchasing tires as they want to interact with their sales associates and mechanics. Participants also indicated that they prefer to

have same day installation and want to physically see the results. This data suggests that although COVID-19 has pushed for the adoption of e-commerce platforms and services, it's evident that consumers will always want a tangible interaction or experience when it comes to making important purchasing decisions.

Additionally, we can prove that consumers do not know what kind of tires their car needs. From our survey results and secondary research, we have two sources proving that consumers are unaware of their tire brand or when to replace them. Next, we see that consumers value quality over the price of their tires as they prefer to have long-lasting wear over receiving the best bargain. More research is needed in this area as we believe that preferences will continually fluctuate with the seasons and will be different amongst different target segments of Goodyear’s customers.

Lastly in our survey we explored the possibility of providing educational programs for consumers. Our secondary research indicates a rise in podcast listeners since the COVID-19 pandemic began and an increase in purchases of tires based off of effective advertisements through podcast mediums. Most of our participants have never listened to a podcast or bought anything from an advertisement, but we believe this may be due to the size and age distribution of our sample, which is majorly composed of middle-aged married adults. However, with the increased popularity of podcasts in the younger generation, we believe Goodyear could make an impact by using this platform for educational purposes or marketing gains and additionally establish brand loyalty within the younger target segment. If Goodyear establishes a distinct brand loyalty now with the younger generation, they will be able to ensure a decent pool of consumers for the next several years. More research and surveys are needed if Goodyear would be dedicated to engage in this type of communication platform.

Solutions

As we discovered from our results, there is a conflict with the possibility of consumers replacing their tires too early and desiring to have long lasting tires. Goodyear is already a top seller in warranted long lasting tires, so having something that would help customers be more aware of their tire tread could significantly impact the relationship Goodyear has with their customers.

The company Tyrata is a cloud based company that measures the tread life of tires. By using a tread sensor called IntelliTread and a tire pressure sensor, it can decrease the amount of fatalities and tire induced accidents among drivers. It has three different approaches, a drive over system, an external reader and internal tread sensors. The drive over system allows for tires to be on the sensors, while it measures the tread life. The external system is a handheld device that measures the tread life. Lastly, the internal sensors are placed within the tires to scan how much life the tires have left. This data is sent to a portal that consumers can access and monitor their tire life (Tyrata, 2021). We feel that the partnership or acquisition of Tryata and their products would give Goodyear Tire and Rubber Company a competitive advantage in the tire industry.

Limitations

The performance of one survey for consumer behavior presents limits to the quantity and accuracy of the information that was gathered. Government restrictions put in place due to the COVID-19 pandemic created many challenges when conducting primary research. Unfortunately we were unable to perform focus groups or personally distribute our survey and thus heavily relied on web-based distribution services such as Qualtrics and Mechanical Turk. Our survey

was completed by 151 participants who were mostly females. The small sample size increases the rate of bias and error. Despite these challenges, we believe our results provided decent insights to incorporate in our analysis and would be beneficial for Goodyear to see.

Additionally, in the midst of our primary research, the Goodyear Tire and Rubber Company acquired Cooper Tires allowing them to gain a competitive advantage in their Asian target market. This is not a limitation, but rather a solution to the initial problem already solved by Goodyear before we were able to provide suggestions. This is a massive change in the strategic approach the Goodyear Tire and Rubber Company has, but it’s an acquisition that allows for them to access markets they otherwise would not have been able to.

Ride Sharing Industry Report Analysis

Methods

The following information on the ride sharing industry was researched through the use of open data found on the internet. We were able to find research reports on previous surveys already conducted and compare them with each other. Additionally, research was conducted on potential companies Goodyear might want to look into for acquisitions or partnerships. We have provided a SWOT analysis and Mergent Intellect reports for each of the companies presented. Finally, research on recent key legislation initiatives in California are presented for Goodyear to be aware of as government intervention and regulation of the ride sharing industry might enact changes that require Goodyear to re-strategize their business model when adhering to the ride sharing industry.

Results

Previous Survey Data Analysis

According to the 2018 article, *The Economics of Ride Hailing: Driver Revenue, Expenses and Taxes*, authors Zoepf, et.al emphasize the reality that drivers bear all of the expenses associated with their vehicle operations. These costs include the vehicle's depreciation, insurance, maintenance repairs, and fuel-- which varies based on the type of vehicle and the driver. They also emphasize the reality that increasing fares do not result in an increase of earnings because consumer demand fluctuates constantly. Through their research they discovered that most ride sharing drivers earn less than $1 per mile before expenses and their profit before taxes is approximately $0.29 per mile, which correlates to only 70% of drivers actually accruing money. Additionally, 47% of drivers have reported their revenues less than $0.54 per mile indicating that almost half have the ability to declare a loss on their taxes from driving activities. Lastly, as shown in Figure 4 below, the mean driver profit per month is around $661, but taxable income results at $175.40 per month (Zoepf, 2018).

Figure 4: Distribution of calculated taxable profit per month and per mile taken from Zoepf, et. al article.

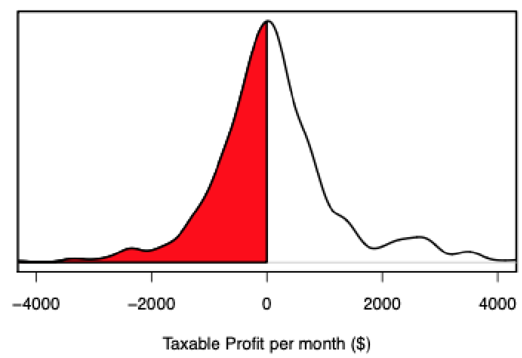


Figure 14: Distribution of calculated taxable profit per month

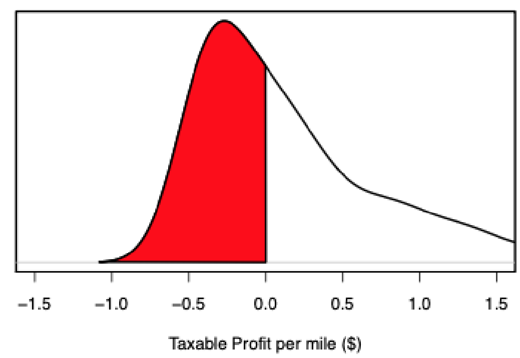


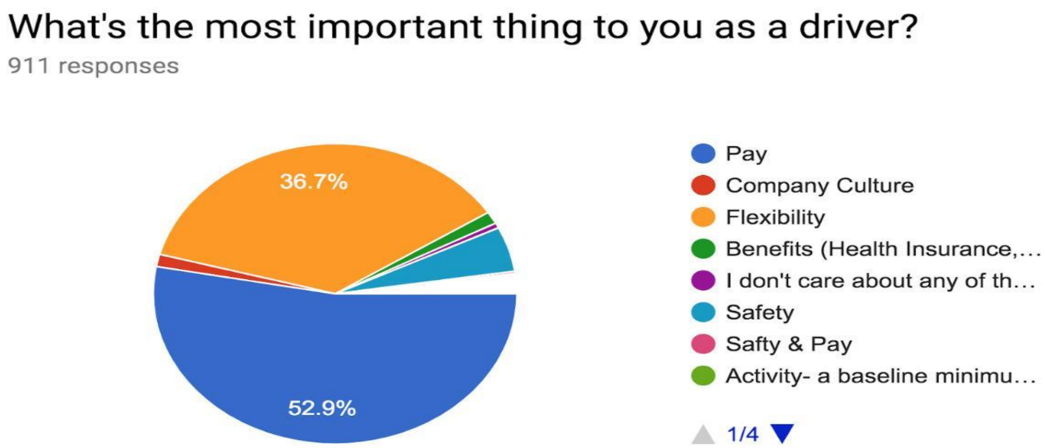
Figure 15: Distribution of calculated taxable profit per mile

The data presented above was then compared to 2020 data found in the article *New Survey Data: Rideshare Driver Income Down by 80% Since Coronavirus Lockdowns Began* written by Brett Helling. Before the pandemic hit, Uber and Lyft drivers were earning $19.36 per hour on average, with bonuses included, which was a much larger earning when compared to the $14.73 per hour they earned in late 2018. However, after people were forced to live in quarantine, the ride sharing industry took a massive shift. Within Ridester's survey, 58% of participants said they were making more than 80% less of what they were originally earning, 72% of drivers said they are either quitting or will be driving less due to the lack of needed drivers and the need to protect their own health, and 77.5% of drivers are worried about being able to pay their next monthly car and insurance payments (Helling, 2020).

When asked, "What is the most important thing to you as a driver?" in a 2019 survey conducted by The Ride Share Guy, 52.9% stated pay was the most important while 36.7% stated flexibility was most important to them. This is shown in Figure 5 below. Additionally, Campbell reports the decline in Uber driver satisfaction rates from 58.2% to 47.8% just after their '180

Days of Change' campaign, which helped drivers earn more money. Uber and Lyft have horrible retention rates with 68% of drivers quitting after six months. Campbell states it was not a surprise to see many drivers leave rideshare driving in 2020 to work in food delivery services such as DoorDash, Shift, Grubhub, Instacart, Postmates, etc (Campbell, 2020).

Figure 5: Pie Chart from Harry Campbell's, The Rideshare Guy, 2020 driver survey.



Description of Potential Companies to Acquire or Partner With

Through our research we found two potential companies that Goodyear should research further. These companies are called Gridwise and Tyrata. An analysis of each company is described below.

Started in 2016, Gridwise is a mobile app targeted towards gig workers in the transportation industry. The app provides real-time data related to driver's personal earnings, peer benchmarking and mileage, but also offers premium features including travel logs, and updates on local events. As of April 2020, roughly 400,000 drivers used the Gridwise app and

numbers are growing. Gridwise has been successful with their business model which revolves around helping gig-drivers maximize the time they spend driving. A SWOT analysis for Gridwise is provided below and a Mergent Intellect report is located on page 46 of this document.

Strengths:

- Great access to the gig-driver market
- They have been able to raise money and have a wide array of investors backing them.
- They were able to find niche within the apps-for apps space with crowdsourced information.
- They are able to use this information to provide tools for rideshare and delivery drivers that help them maximize their earnings.
- They are able to effectively direct drivers to high demand locations and events while tracking mileage and expenses.

Weaknesses:

- They are still a small company and are not very well known by the public yet.

Opportunities:

- Potential partnership with a company that already has a well-established brand and could provide more resources.

Threats:

- There are other companies out there competing with them in this niche market (Rydar, SherpaShare, and Mystro).

Another potential company that Goodyear should look to acquire or partner with is Tyrata and as mentioned above they are a sensor development and data management company who offer wireless sensors and systems that act as a tread wear indicator which monitors and reports on vehicular tire tread depth in real time (Tyrata, 2021). They have patented an IntelliTread sensor technology that acts as a tire tread wear indicator that monitors, tracks and predicts tire tread wear over the life of any tire in real time (Tyrata, 2021). Tyrata has a customer base where they serve individual consumers, fleet management companies, and high-performance specialists who depend on the integrity of tires for safety, efficiency, and profitability (Tyrata, 2021). Tyrata is a company that is not in competition with Goodyear, however they have a customer base that is very similar. A SWOT analysis for Tyrata is provided below and a Mergent Intellect report is located on page 47 of this document.

Strengths:

- Wide consumer base – they serve individual consumers, fleet management companies, and high-performance specialists.
- They have an exclusive license with Duke University to patent sensor technology that monitors tire tread wear in real time, warning drivers and fleet management operators when tire rubber has grown dangerously thin or when the tire and suspension system are in need of maintenance.
- IntelliTread real-time data provides historical tire tread wear information that makes tire maintenance predictable.
- Tyrata tire tread depth sensor enables data analytics systems to improve safety in consumer vehicles and reduce maintenance costs in large fleet management operations.
- There is no competing technology available for remotely and directly measuring tire tread depth in real time, making this a trendsetting innovation.

Weaknesses:

- They are still a relatively new company without much of a proven track record yet.
- They are a small company and therefore lacking resources compared to other larger companies.

Opportunities:

- Since 2005, the U.S. Department of Transportation (DOT) has required every new vehicle to be equipped with a Tire Pressure Monitoring System (TPMS) to increase safety and reduce the number of low tire pressure-related accidents.
- Potential partnership with a company that already has a well established brand and could provide more resources.
- Growth in fleet management companies could allow for more business.
- There has been interest in monitoring tire pressure that did not require a handheld gauge or technician. The challenge was the lack of sufficient TPMS sensor technology to accomplish this. Their technology could help address this issue.
- There is a pressing and completely unmet need for real-time tire tread monitoring in consumer and commercial vehicles to improve safety, efficiency, and performance.

Threats:

- People have been driving less during the pandemic and there has been less use of tires. With less tires being used and worn down, there could be less of a need for tire tread sensors.

2021 Key Legislation Dealing with Ride Sharing

One of the major restrictions that prevents ride sharing companies from providing benefits for their drivers is the classification of employee versus independent contractor. In the United States, ride sharing drivers are currently classified as independent contractors; however, this is under serious debate and could change in the near future. According to the Department of Labor, if drivers fall under the employee classification, then they will be paid at least minimum wage and be given workers compensation, medical insurance, unpaid family/medical leave, taxes such as social security, as well as any additional benefits the company may offer. These extra employee expenses will hurt the company's profit margin and will likely cause an increase in prices. It is not ideal for companies in the ride sharing industry, such as Uber and Lyft, with the vast majority of their workers already not being classified as employees to be forced into this transition. These causes alone are influencing ride sharing companies to reject the move towards employment and do their best to prevent the reclassification.

There are currently two areas of contention in the world dealing with this reclassification. According to the Department of Industry Relations in California, one of the major contention areas is California's invocation of Assembly Bill 5 (AB 5) in September of 2019. This bill changed the ABC test which the majority of other states use for this determination of employee of contractor. This test has three different key questions. Is the employee free of control of the employer, is the work outside the normal course of business, and is the worker already designated themselves or work in an established independent trade or business? The alterations to the bill made it more difficult to classify a worker as an independent contractor and essentially forced them to classify their workers as employees instead (Ballotpedia, 2020). Under AB 5, ride sharing companies will fail the first and third questions. Companies such as Uber and Lyft were

forced to take legal action and constructed Proposal 22 which was intended to make an exemption for companies within the ride sharing industry in Assembly Bill 5. Extraordinarily, this proposal was the largest funded proposal in California history with the vast majority of the funding coming from the major ride sharing companies and was passed in November of 2020 (Ballotpedia, 2020). It also required the ride sharing companies to provide a set minimum wage and health care based on your “engaged time”. Engaged time is defined as the time when the driver accepted the request and finished it. As of April 2021, the drivers remain as independent contractors; however, Proposal 22 is still participating in ongoing lawsuits challenging the constitutionality of its contents (Ballotpedia, 2020).

According to Adam Satariano of the *New York Times*, in February 2021, the Uber vs UK lawsuit which started in 2016, reached its conclusion. The UK Supreme Court has stated that their drivers are to be classified as employees and have rejected Uber’s appeal. Uber must now pay drivers the minimum wage, a future pension, and paid leave for more than 70,000 employees. The ruling also redefined when the work times are for the drivers, which indicates that drivers are working from the time they turn on Uber's app until they turn it off. The court found that Uber does allow their drivers to have free control of what jobs to choose and when to work while working; however, they found that Uber obtains too much control of their drivers through contracts signed by drivers. This factor alone was a key point in the UK Supreme Court’s decision.

Discussion/Conclusions

Previous Survey Data Analysis

We can draw the following conclusions from the three surveys used above. For the article written by Zoepf, et.al, many drivers did not claim ride-hailing to be their main career, which means any additional profit they received from this job would be extra cash; however, it is important to remember that this reality is not valid for all participants. Also, in 2018, many drivers would drive while losing money due to their inability to fully associate the accounting of costs needed to maintain their vehicles such as repair costs and insurance (Zoepf, 2018). In the article written by Helling, we see a major decline of drivers due to the lack of income as well as the need to protect themselves from the COVID-19 virus. Many of these ride sharing businesses are doing less business and are losing drivers as more people either quit driving all together or switch to other growing delivery gig-services such as DoorDash or Grubhub (Helling, 2020). Luckily for Goodyear, as long as people continue to drive their cars, they will have consumers who have a need for tires. For the article written by Campbell, we see drivers leave Uber and Lyft due to their dissatisfaction with the companies responses to the COVID-19 epidemic and safety of drivers as they instead switch to work for food delivery services. These drivers were not able to maintain reliable cash inflow due to the lack of requests from consumers as well as the support they needed from their parent companies i.e. Uber and Lyft (Campbell, 2020).

From these conclusions, we can identify that drivers within the ridesharing industry truly value pay and flexibility, and how these two factors are delivered mechanically. It is not enough for drivers to get extra money through bonuses, as they rather prefer to receive more pay through minimum wage guarantees validated by political legislation to insure stability. It’s important for

Goodyear to track these trends as they will be able to provide services and package deals of tires tailored for what their consumers need during specific time periods. It would be beneficial for Goodyear to utilize the values of these rideshare workers and incorporate them into creating payment plans for tires.

Description of Potential Companies to Acquire or Partner With

With AndGo operations underway, Goodyear has invested resources into branching out of their traditional business ventures. As a fleet servicing and monitoring company, AndGo presents the challenge of penetrating this new market. Goodyear is an established company with a great reputation in the fleet services market and the company may want to look into partnering with existing players in the ride sharing market to increase profitability as well as efficiency in the industry. For this reason, along with their patented technology, we believe that Tyrata would be a great company for Goodyear to acquire or partner with in the future. It would benefit their individual consumers from a safety perspective as well as help them reduce maintenance costs within their AndGo fleet management operations. Incorporating Tyrata's business products and models in Goodyear's fleet operations would improve the safety of their drivers and also enhance efficiency of tire usage that will reduce AndGo costs. These fleets incur millions of dollars in tire-related expenses each year; therefore, an improvement in tire tread monitoring technology with a tire tread sensor and the added efficiency of a timelier tire replacement would have substantial economic benefits for fleet management companies (Tyrata, 2021).

A partnership or acquisition of Tyrata would allow Goodyear to incorporate their IntelliTread technology in order to further assist current stores and other operations under the brand name. Our research indicates that currently this technology lacks competition and

therefore makes it a unique innovation desirable for the advancement of Goodyear's success in the tire industry (Tyrata, 2021). Additionally, this technology opens brand new avenues for data analytics on tire tread wear based on vehicle, geography, and other conditions, which would transform the efficiency of tire design and use across the industry (Tyrata, 2021). This would add a new aspect to the Goodyear Tire and Rubber Company and give them an advantage over their competitors in the tire industry.

2021 Key Legislation

With the ongoing lawsuit of Proposition 22, the final decision in the UK could be used in California to help push the government's desire for drivers to be considered employees instead of independent contractors. The UK lawsuit decision also has the ability to create a chain-reaction amongst other countries to shift towards creating their own laws and regulations supporting employment over independent contractors. Hundreds of millions of dollars have already been invested for these two suits alone, so if more countries decided to shift, ride sharing companies could be in major trouble. Not only this, the public has been slowly pushing for the employee classification as well. A study from the University of California in Berkeley found that the drivers only made $5.64 after expenses and thus encourages governments to push towards classifying these drivers as employees (Jacobs, 2021). At this rate, ride sharing companies need to understand how they will offer benefits to their drivers under the possible new classification and how this change might impact them financially. It is recommended that Goodyear investigate further with these companies about a potential partnership if the reclassification of the drivers does indeed happen.

Solutions

A possible solution Goodyear could incorporate, now having the knowledge that their consumers value flexibility and are price sensitive, is to create a tire subscription plan. Consumers would be able to subscribe to a monthly subscription that would give them a bundle of services and discounts on tires all for a specific set price each month. The subscription plans could be organized by the average mileage a driver would perform throughout the month and the driver would have the option to “graduate” into larger plans or pause their subscription based on their fluctuating needs. A possible name for the plan would be “Tiers of Tires: Goodyear’s Tire Subscription Plan”.

As stated before, the opportunity to acquire Tyrata would be beneficial in the overall success of Goodyear due to its IntelliTread technology that acts as a tire tread wear indicator to monitor, track and predict tire tread wear over the life of any tire in real time. Additionally, a partnership with Gridwise would allow Goodyear to access the gig-driver market which is a space that Goodyear has had trouble penetrating, and in return, Goodyear could supply Gridwise with access to an established service network across the country. This integration has seamless potential as Gridwise could recommend Goodyear service locations on their platform in order to draw consumers with vehicle maintenance needs to Goodyear locations. While not currently included in the application, Gridwise could integrate tire tread analytics and tracking as well. In summary, Goodyear would essentially be able to buy access to a community of gig-drivers with vehicle maintenance needs.

Limitations

We experienced several limitations while conducting a data analysis of the ride sharing industry which include: inaccessibility to raw data through privacy protection shields placed on specific databases, lack of consistent or stable data as the impacts of COVID-19 are uncertain and are rapidly evolving, lack of data on gig-drivers for servicers such as Uber, Lyft, and Doordash, and the anticipation of government action on new laws or regulations that will pivot operations of major companies in the ride sharing industry. Despite these limitations, we found that the data we were able to use has been beneficial in our overall decision making process in how The Goodyear Tire and Rubber Company should respond to the COVID-19 pandemic.

Recommendations for Future Research and Action for Goodyear

In re-iteration, the uncertainty of the COVID-19 pandemic has caused The Goodyear Tire and Rubber Company to re-strategize their business operations as tire sales decreased due to the lack of consumers on the roads. We have found a few solutions relating to consumer behavior and the ride sharing industry that The Goodyear Tire and Rubber Company may be able to incorporate into expanding and pivoting their business strategy moving forward. Those recommendations include providing a tire subscription plan, partnering or acquiring Tyrata Inc and Gridwise Inc, gaining a presence in the podcast industry to reach potential consumers, and continuing to watch government action on passing or rejecting Assembly Bill 5 regarding the push to make rideshare drivers employees.

The first recommendation we have that would combat the challenges COVID-19 has presented to Goodyear in the past year would be to provide a tire subscription plan for their customers. As stated in our consumer behavior primary research above, the most important

factors consumers look for when purchasing tires are quality and price. In our ridesharing primary research we discovered that drivers value pay and flexibility the most when it comes to their job, and we discovered the difficulties drivers have with car maintenance as these drivers bear all of the expenses needed to promote safe vehicle operations. Additionally, COVID-19 has put financial restrictions and limitations on all workers that has led people to be frugal with their money. These key findings show that consumers are unable or unwilling to make large purchases right now, especially tires, unless it is absolutely necessary or they know the product they buy will sustain over a longer period of time. A tire subscription plan would allow customers to pay a monthly set rate for their tires and any car services Goodyear provides. The subscription plan could be categorized based on the amount of miles the consumer's car has and could then be paired with specific maintenance services that most commonly correlate with the consumer. Additionally, consumers would have the opportunity to graduate into different levels of the subscription plan as well as unsubscribe based on the consumer's fluctuating needs. A possible name for this subscription plan could be, "Tiers of Tires: Goodyear's Tire Subscription Plan". Subscription plans for tires is uncommon in the tire industry and would be beneficial to implement now as consumers are determining and reestablishing their loyalties to brands based on how they respond to their consumer's needs as a result of the pandemic. Giving consumers the opportunity to try out Goodyear's tires and services without having to spend more than they feel comfortable with allows them to have a better understanding of Goodyear's products and create loyalties to the brand. It is important to note that Goodyear's competitor, Bridgestone Americas Inc., has just recently announced the launch of their own tire subscription plan in December of 2020. In Europe, Bridgestone launched their program called Mobox which allows consumers to pay a set amount each month for any type of tire or car maintenance that may be

needed. The company was successful in their venture overseas and have decided to bring the model back to the United States where the implementation process has already begun in their company-owned stores located in Nashville, Tennessee. According to the article, *Bridgestone Pilots Subscription-Based Service Platform,* Mike Manges interviews President and Chief Sales Officer Riccardo Cichi about Bridgestone's future plans. Cichi states that they are still in the testing phase of their subscription model and plan on launching it in 2021 alongside the support of their dealers and partners (Manges, 2020).

Secondly, in order to gain a competitive edge over their competitors, the Goodyear Tire and Rubber Company would find it beneficial to acquire or partner with Tyrata and Gridwise as both of these companies would give them access to markets and services they were unable to obtain or provide before. Given that both of these companies are smaller in size, we believe an exchange for their unique services with Goodyear's popular brand and plethora of experience and information would create an enriching relationship that would transform the tire industry.

Lastly, we believe the Goodyear Tire and Rubber Company would benefit by continuing their research of marketing in the podcast industry as well as maintain an understanding of the recent actions taken by the government towards making gig-workers employees of larger companies, ie. Uber and Lyft, within the ride sharing industry. These two topics will greatly impact Goodyear by first helping them understand how consumers receive their information and how to market to them in the years ahead, and second giving them an idea of how to best strategize their approach in providing their services and products within the future of the ride sharing industry.

08-052-8652. GRIDWISE, INC

Key Information

D-U-N-S Number	08-052-8652
Employer ID Number (EIN)	046256494
Physical Address	507 AMBERSON AVE,PITTSBURGH, PENNSYLVANIA, USA
Zip code	15232-1412
MSA code	PITTSBURGH, PA
Subsidiary Status	Non-Subsidiary
Manufacturer	YES
Marketing Pre-Screen Score	Low
Marketing Pre-Screen Ranking	2 (Likely to pay)
Company Type	Private
Employees (All Sites)	11
Employees (This Site)	11
Employees Total (Year 1)	11
Year of Founding	2016
Primary SIC Code	73710301 Computer software development
Primary NAICS Code	541511 Custom Computer Programming Services
Sales	$61,444
Minority Owned	NO
Latitude	40.45577100
Longitude	-79.98086500
Phone	(864) 316-8477
Website	http://WWW.GRIDWISE.IO

Historical Financial

Year	Sales volume	Employees This Site
2017	$50,000	2
2018	$50,000	2

Year	Employees All Sites
2017	2
2018	2

People * Maximum 2000 People

Title	Name
Mng,MBR Chief Executive Officer	Ryan Green

Key Information

08-106-1364. TYRATA, INC.

D-U-N-S Number	08-106-1364
Physical Address	101 W CHAPEL HILL ST # 200,DURHAM, NORTH CAROLINA, USA
Zip code	27701-3255
MSA code	RALEIGH/DURHAM/CHAPEL HILL, NC
Subsidiary Status	Non-Subsidiary
Manufacturer	No
Marketing Pre-Screen Score	Low
Marketing Pre-Screen Ranking	1 (Most likely to pay)
Company Type	Private
Employees (All Sites)	6
Employees (This Site)	6
Employees Total (Year 1)	6
Year of Founding	2017
Primary SIC Code	30110301 Retreading materials, tire
Primary NAICS Code	326211 Tire Manufacturing (except Retreading)
Sales	$336,780
Minority Owned	NO
Latitude	35.99691500
Longitude	-78.90397500
Phone	(919) 210-8992
Website	http://WWW.TYRATA.COM

Historical Financial

Year	Sales volume	Employees This Site
2018	$310.000	6

Year	Employees All Sites
2018	6

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