



Comparative Study on Tesla and Toyota

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1. Abstract

The automobile industry has become the biggest part of all the generations. It is undergoing a profound transformation with the advent of electric vehicles, spearheaded by companies like Tesla and Toyota, the two powerful automobile industries in today's market. Beginning with an analysis of technological disruptors, this study explores the impact of electric vehicles (EVs), autonomous driving technologies, and connectivity solutions on the industry's future trajectory.

This research paper also conducts an exhaustive analysis of the business models of Tesla and Toyota, exploring their strategies, performance metrics, and distinguishing factors across various segments such as market performance, sales, finances, supply chain management, advertising strategies, sustainability initiatives, SWOT analysis, and more. The study will hold both the qualitative and quantitative approaches. And it will provide a comprehensive overview of the automobile industry's evolution, it will shed light on the new and converging trends shaping its future with the new technology that enhances it more and more.

Keywords:

Technology, Electric Vehicles (EV), Hybrid Cars, Automobile

2. Introduction

The automotive sector stands at a pivotal juncture as the shift towards sustainable mobility solutions gains momentum. This paper aims to provide a comprehensive examination of the business models of Tesla and Toyota, shedding light on their strategic priorities, operational frameworks, competitive positioning, its responses to the evolving dynamics of the automotive landscape and what future do they have.

Electric vehicles (EVs) are automobiles powered by electricity stored in rechargeable batteries or other energy storage devices. Unlike conventional internal combustion engine vehicles, which rely on gasoline and diesel. It uses electric motors for propulsion, resulting in zero tailpipe emissions. They represent a transformative shift in the automotive industry, offering a cleaner, more sustainable alternative to traditional internal combustion engine vehicles.

The comparison between Tesla and Toyota reveals distinct approaches and strategies in the automotive industry. Tesla, focusing on electric vehicles (EVs) and renewable energy solutions, adopts a direct-to-consumer sales model, targeting premium consumers and tech enthusiasts with innovative technology and environmental consciousness. In contrast, Toyota, a traditional automaker, offers a diversified product portfolio including hybrids, fuel-cell vehicles, and conventional internal combustion engine (ICE) cars, relying on a dealership network to reach a broader customer base across various market segments.

3. Literature Review

The business model plays a crucial role in the success of a business. Tesla and Toyota have different approaches in the automotive industry, each following its unique business model. Previous studies have delved into different aspects of these companies, revealing insights into their strategies for product development, customer engagement, sustainability efforts, and financial outcomes. Today, the automotive sector is witnessing the rise of EV vehicles as a new technological advancement. This literature review aims to examine the research that has already been done on the two businesses, emphasizing their different approaches, breakthroughs, and market positions within the EV industry.

The core principles that drive the organization, its operational structure, and its capacity to create value for stakeholders are all included in the business model. Gaining a competitive edge and managing the complex nature of modern business environments requires understanding these factors. [1]

Now as we know, Tesla is an American multinational, automobile Industry in Austin, Texas. They have developed sustainable power-generating systems. They provide the greatest eco-friendly cars.

It is rising rapidly in the automotive industry, Tesla's market value can be said to be overvalued potentially due to its leading role in the Electric vehicle market [2].

In 2030, it is said that the global car number will increase from 1.3 billion dollars, which also includes growth in demand for electric vehicles as lithium-ion batteries become more common [3]. Through the service network, customers can communicate with Tesla more effectively. Tesla continuously monitors every one of its consumers online. It primarily appears in these

Aspects: [4] Customers can contact the after-sale phone to get helpful time-saving solutions in the event of small malfunctions. [5] The company's engineers can perform remote diagnosis to assist the consumer in eradicating the issue if customer care is unable to resolve the problem. [6] The customer can call Mobile Service if the vehicle breaks down, and the business will dispatch an engineer and a Mobile Service vehicle to fix it. The consumer must visit the service center to get the aforementioned issues resolved if they are not resolved internally.

Toyota is a powerful automobile industry in the market, their cars are said to be more reliable, flexible, and more importantly affordable, especially when we talk about the Indian market where people here are quite price sensitive. They look for quality in their price range. TPS's fundamental elements, such as just-in-time

production and continuous improvement, have been deconstructed by academics to reveal how Toyota has been able to stay competitive in the automotive industry [7].

The development of Tesla Motors is evidence of disruptive innovation and environmentally friendly business methods in the automotive sector. The main ideas from numerous academic publications are compiled in this literature study, which throws light on Tesla's corporate strategy, rivalry, and sustainability initiatives.

A thorough study contrasting Tesla's business strategy with that of Toyota, a mainstay in the automotive industry, was carried out by Li, Lin, and Xu (2021) [1]. The writers clarify Tesla's focus on direct-to-consumer sales, technology innovation, and vertical integration by contrasting these two strategies. Their analysis emphasizes how Tesla has broken with conventional automotive wisdom and how it has strategically positioned itself as a leader in electric vehicle (EV) technology.

Liu's (2021) case study, which explores the valuation measures and competitive dynamics influencing Tesla Motors' trajectory, provides more context for this analysis. Liu gives insightful explanations of the market dynamics influencing Tesla's expansion and investor sentiment by placing the company within the University of Illinois. The market's acknowledgment of Tesla's disruptive potential and its consequences for stakeholders throughout the automotive value chain is emphasized by this study.

By analyzing the worldwide market for electric vehicle batteries as well as recycling and long-term sustainability solutions, Martins et al. (2021) add to the conversation on sustainability. Their study emphasizes how important battery technology is to the car industry's advancement of the sustainability agenda. Martins et al. give a guide for the circular economy by stressing the significance of these concepts and progressive methods.

Furthermore, seminal works by Bellman et al. (1957), Hamel (2000), and Ostenwalder, Pigneur, and Tucci (2005) provide theoretical frameworks for comprehending industry disruption, business model innovation, and strategic decision-making. This literature analysis offers a thorough overview of Tesla's trajectory, from its beginnings as a disruptor to its development as a catalyst for sustainable transportation solutions, by incorporating insights from these various points of view.

4. Research questions

In recent years, the automotive industry has changed a lot in every aspect, many new car brands are in the market with their unique set of products, and many of them have entered the same market with some new changes in their new EV products. There has been a shift in the technology with hybrid cars also in consumer preferences, sustainability concerns, etc., with its focus on electric cars and innovative business strategy, Tesla stands in sharp contrast to Toyota, which is an integral part of the standard auto industry

recognized for reliability, affordability, safety, and originality. To provide insights into this research, this study aims to identify the key similarities, and differences in each automotive brand.

We know that they are good car brands in the market, but what about their CSR activities, how do their CSR activities differ from each other?

With the advancements of new technology, what are their approaches to provide the best and latest to their customers?

If Tesla ever came into India what would be their success rate?

What will be the company's future opportunities and threats? Will they survive in the new future market?

5. Research objectives

This study aims to conduct an in-depth analysis of Tesla and Toyota, two prominent players in the automotive sector. Examining technological innovation, the study will compare and contrast Toyota's more diverse range of products and well-established knowledge of hybrid and fuel-efficient automobiles with Tesla's emphasis on electric vehicles and cutting-edge technologies.

1. To find the distinct strategies and approaches of Tesla and Toyota.
2. To explore the future possibilities of both the company.
3. To understand if Tesla ever came to India will it survive in the Indian market with so many competitors here with their new EV technology and innovation?
4. To determine Tesla's and Toyota's sustainability programs, providing information on CSR policies and how they affect the health of society and the environment.

6. Introduction to Tesla and Toyota

6.1. Tesla:-

Being the most-known car company around the world, this brand has less market share but has the highest valuation in the industry in terms of market capitalization. The company was first started on July 1 2003 by Martin Eberhard and Marc Tarpenning. It started with the first Tesla product, the Roadster sports car, which debuted in 2008. It has become a leading force in the energy and automobile sectors. Known for its electric cars (EVs), Tesla has transformed transportation with its elegant styling, cutting-edge engineering, and dedication to sustainability. With products like the ground-breaking Roadster and the widely available Model 3 (discontinued now), Tesla has consistently pushed boundaries, changing people's opinions about EVs and rushing the world's shift to sustainable mobility. Beyond cars, Tesla is advancing the transition to renewable energy with its cutting-edge energy solutions, such as energy storage systems and solar panels. Tesla continues to reshape industries, inspire innovation, and influence the global future of energy and transportation to build a sustainable energy environment.

6.2. Toyota:-

One of the biggest names in the automobile business, Toyota Motor Corporation is a worldwide symbol of sustainability, innovation, and dependability. Toyota has made a name for itself as a leader in manufacturing techniques by bringing innovative approaches such as the Toyota Production System and Lean Production. It is the type of automobile that has gone through many obstacles like as World War and still is the best manufacturer of car company. Toyota Motor Corporation is a Japanese multinational automotive manufacturer. It was founded by Kiichiro Toyoda and incorporated on August 28, 1937. The company was first started by Sakichi Toyoda as the Toyota group. It developed its first Type A Engine in 1934 and its first product as a passenger car in 1936. Beyond its creative engineering, Toyota is committed to environmental sustainability. It works to reduce its carbon footprint by investing in renewable energy sources and creating eco-friendly automobiles. Toyota keeps pushing the envelope in vehicle technology, setting the standard for innovations in connectivity, safety, and autonomous driving.

7. Comparison of Toyota and Tesla in Different Segments:

We here will compare the two brands in terms of various aspects for a better understanding of this comparative study. By analyzing the key metrics and distinguishing features, this comparison aims to provide insights into how these companies are moving forward and shaping their future.

4.1. Brand perception

4.1.1 Tesla

In today's globe, the majority of people have positive opinions of Tesla. They perceive Tesla to be an extremely clever and innovative firm. Many are fascinated by Tesla's eco-friendly designs and approach to sustainability. People appreciate Tesla even more since its CEO, Elon Musk, is not only recognized but also entertaining. Despite occasional production issues, most people still think highly of Tesla and believe they are paving the way for amazing automobiles in the future.

4.1.2 Toyota

Consumers view Toyota as a trustworthy and positive brand overall. Known for its dependability, durability, and broad availability, Toyota has made a name for itself as a reliable and practical car option. Toyota's focus on quality, affordability, and fuel efficiency appeals to a diverse variety of customers. Furthermore, Toyota's positive reputation in the car industry is a result of its dedication to sustainability and innovation, which is demonstrated by its fuel-cell and hybrid vehicles. Toyota has built a reputation for producing eco-friendly cars owing to its obvious dominance in hybrids, which may be impacting its performance image.

4.2. Technology and Innovation

Tesla champions the acceleration of the transition to clean energy through its EVs and renewable energy products. It leads in autonomous driving features, futuristic concepts like self-driving cars, and AI integration. Whereas, it invests in hybrid technology, fuel cell research, and advanced safety features, combining innovation with proven engineering innovations.

4.3. Market performance

Tesla's brand presence, disruptive market approaches, and inventive product offers have led to the company's explosive expansion in the market. Toyota, on the other hand, has shown resilience and adaptation through its market performance, which displays stability and global market penetration across a wide range of vehicle segments.

4.4. Sales and financial performance

4.4.1. Toyota

When it comes to sales volume, Toyota is a car that is consistently ranked among the best in the world. Toyota has been able to sustain a good sales performance in recent years because of its well-established brand reputation, wide market presence, and devoted customer base.

4.4.2. Tesla

Tesla has become a major force in the electric vehicle (EV) industry. Sales of the company have expanded dramatically as a result of the high demand for its energy and electric vehicle goods.

4.5. Supply chain management

4.5.1. Tesla

Tesla manufactures a large number of components domestically and employs a high degree of vertical integration in its supply chain.

At its Giga factories, the company manufactures electric drivetrains, battery packs, and other essential components, decreasing reliance on outside suppliers and increasing production efficiency.

4.5.2. Toyota

The Toyota Production System (TPS), a well-known lean manufacturing system with an emphasis on reducing waste, increasing efficiency, and optimizing value, was invented by Toyota. Its supply chain management strategy is based on TPS concepts, which include Just-In-Time (JIT) production, Kanban scheduling, and continuous improvement (Kaizen).

Toyota works closely with its suppliers to create long-lasting relationships built on mutual trust and shared goals.

4.6. Advertising Strategies

Tesla markets its products and engages customers through word-of-mouth marketing, digital media, and a strong brand image. To keep its brand relevant and competitive in the market where Toyota uses a combination of traditional marketing initiatives, strategic alliances, and media partnerships in its advertising campaigns.

4.7. Sustainability Initiatives

Both Tesla and Toyota are actively engaged in sustainability initiatives, although their approaches differ due to their respective focuses, technologies, and corporate philosophies.

Focusing on electric vehicles (EVs), which seek to lower greenhouse gas emissions and reliance on fossil fuels, is Tesla's main sustainability endeavor, and Products for renewable energy are also available. To lessen its impact on the environment, the company took steps to reduce energy usage, trash production, and carbon emissions in its operations.

Toyota has been at the cutting edge of hybrid car technology, establishing the standard for emissions reduction and fuel efficiency with cars like the Prius. Toyota is a leading proponent of hydrogen fuel cell technology.

4.8. CSR (Corporate social responsibility)

This table makes it easier to understand both firms' CSR initiatives.

CSR (Corporate social responsibility) initiatives

CSR Activities	Tesla	Toyota
Environment Sustainability	✓	✓
Community Engagement	✓	✓

Safety and Innovation	✓	✓
Supplier relations	✓	✓
Employee welfare	Neutral	✓
Product Responsibility	✓	✓
Transparency and accountability	Neutral	✓
Supply chain sustainability	Neutral	✓

Table: 1

8. SWOT Analysis

To understand the company's growth in the future, a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis has been done. Swot analysis is a very common and useful analysis that help us to know the position and future growth of the company.

Tesla

Strength	Weakness
Unique Brand position Specialized in EV cars Influential and known CEO Business model	High production and operational costs High competition High debt Inconsistent demand
Opportunities	Threats
The growing support of Government for the EV cars for being eco-friendly	It directly sells its cars to its customers Which means an increase in the selling price Fluctuations in material prices

<p>Building giga factories allows it to build its own batteries</p> <p>Increase in market</p> <p>Building a Gigafactory allows it to build batteries for its vehicles at reduced costs Building a Gigafactory allows it to build batteries for its vehicles at reduced costs</p> <p>Building a Gigafactory allows it to build batteries for its vehicles at reduced costs Building a Gigafactory allows it to build batteries for its vehicles at reduced costs</p>	<p>Competitions- as other competitors are also entering the new EV market</p> <p>Dependent on suppliers</p>

Table: 2

Toyota

Strength	Weakness
<p>Strong market share</p> <p>Strong sales</p> <p>Highly efficient</p> <p>Hybrid Technology</p>	<p>Tough competition in EV Market</p> <p>Very high recall rates</p> <p>Unable to satisfy different customer segments</p>
Opportunities	Threats
<p>Fuel prices might be high in the future</p> <p>Timing and frequencies of new model releases</p> <p>Demand for hybrid cars</p>	<p>Increase in competition</p> <p>Rapid innovation by other competitors</p> <p>More governor regulations</p>

Table: 3

9. Data collection methodology

For this study, I read a few articles, and research papers and watched some videos related to the topic. Data from a varied sample of respondents was gathered using a survey-based approach to achieve the research's objectives. I created a questionnaire and distributed it to other students of the university and other colleges as well who might have a strong interest in the automotive sector. They provided us with answers based only on their judgment, understanding, and their knowledge in this field. The purpose of the survey instrument was to collect data on a range of consumer behavior topics, such as product preferences and purchase patterns. This research has uses for the approaches of both qualitative and quantitative data.

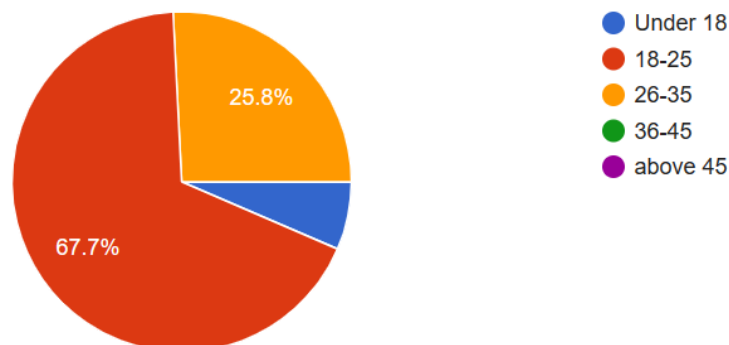
10. Data Analysis

Students and other people who are employed, unemployed, etc. have filled out the questionnaire according to their knowledge, interest, and understanding. Now, according to that data around 83% of the people about Tesla, and 93% know about Toyota. Everyone has a different perspective about both companies. The majority of the people in this data are between the ages of 18 and 35, and a significant number of them are both employed and students. Given their tendency to be more aware of technological developments and environmental issues, younger generations appear to make up the majority of the opinions expressed in this survey.

The Questionnaire -

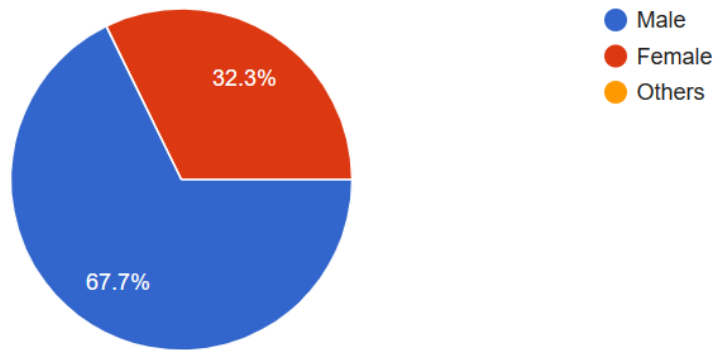
How old are you

31 responses



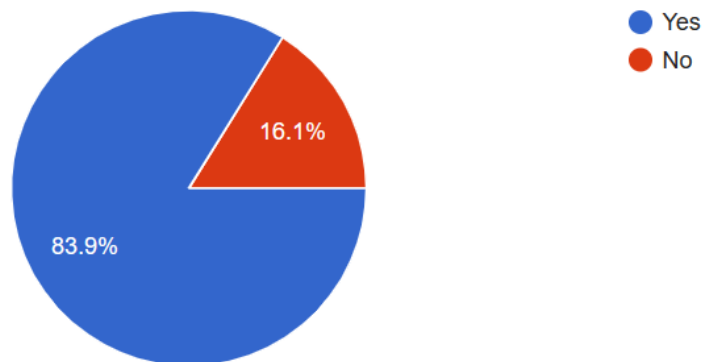
Gender

31 responses



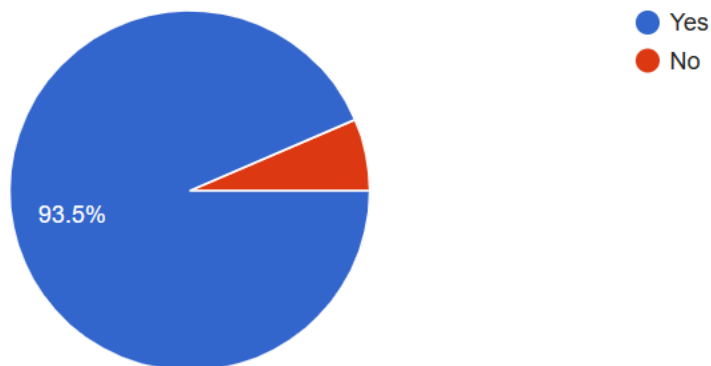
Have you ever heard of Tesla before?

31 responses



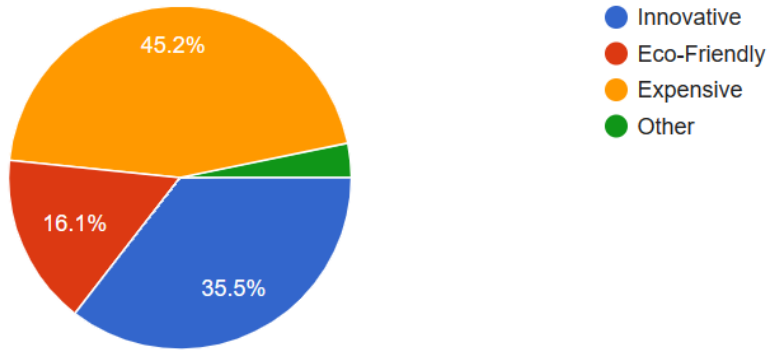
Have you ever heard of Toyota before?

31 responses



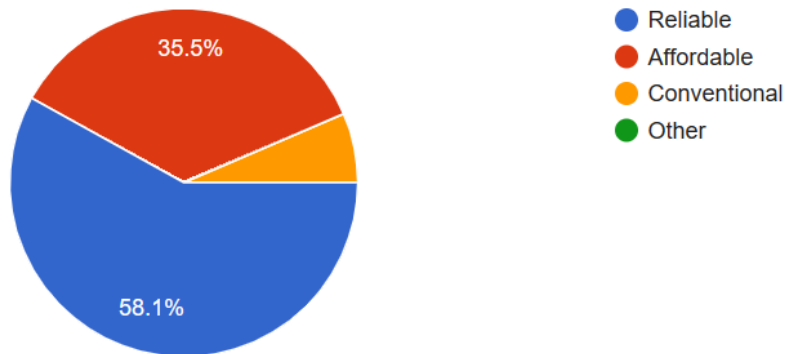
What is your perspective towards Tesla?

31 responses



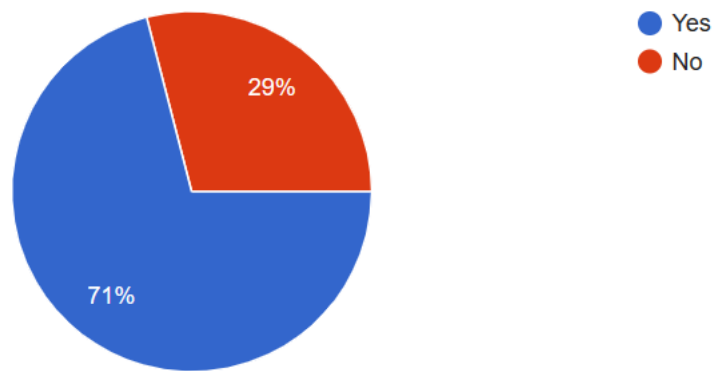
What is your perspective towards Toyota?

31 responses



Would you prefer purchasing Toyota over Tesla ?

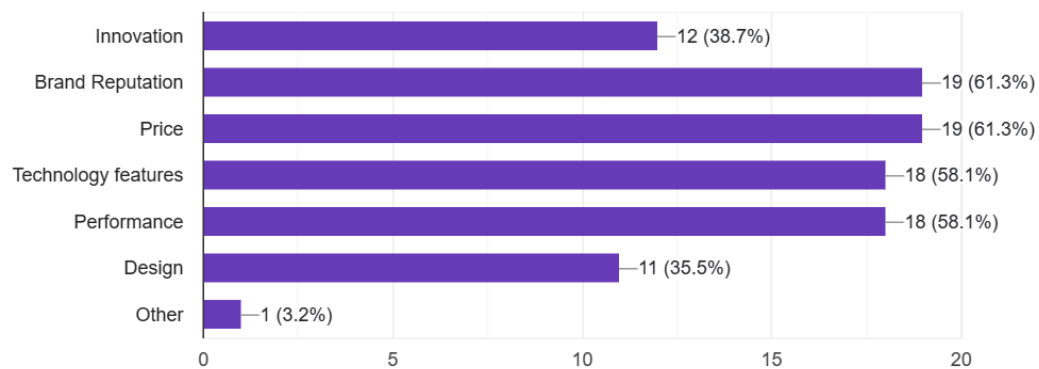
31 responses



What factors influence your decisions while choosing between the two automobiles?

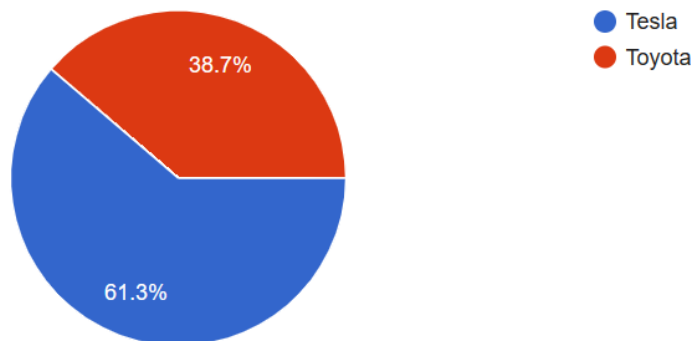
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31 responses



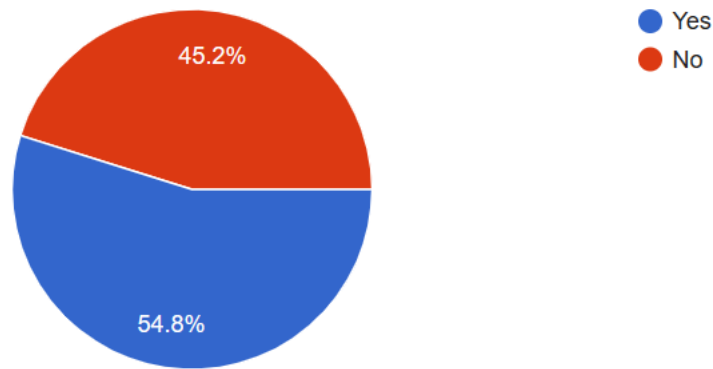
From which brand you would consider buying Electric Vehicles, knowing that Telsa is specialized in it ?

31 responses



Do you believe Tesla will have a better future in India?

31 responses



11. Findings and suggestions –

Levels of Awareness: According to the questionnaire, 83% of participants were aware of Tesla, while 93% were aware of Toyota. These figures represent a sizable portion of the population. This suggests that the questioned populace holds a significant perception of both organizations.

Demographics: The bulk of responders are between the ages of 18 and 35, suggesting that younger people are more vocal about their thoughts about Toyota and Tesla. Furthermore, a sizable segment of the population polled is made up of both working adults and students, indicating a wide variety of viewpoints.

11.1 Suggestions-

Addressing Affordability Issues: Tesla ought to give top priority to plans that would increase product accessibility, particularly in developing nations like India. To increase its consumer base, this can include launching more reasonably priced models or looking into creative financing solutions.

Extend Market Reach: In areas with unrealized potential, both Tesla and Toyota stand to gain from extending their respective markets. This could entail forming strategic alliances, focusing marketing efforts locally, and customizing product offerings to meet the demands of certain target markets.

Prioritize Innovation and Sustainability: Both businesses should keep giving priority to innovation and sustainability in their product development and marketing strategies, given the younger demographic's interest in environmental issues and technology breakthroughs. They can better appeal to the values and tastes of their intended audience by doing this.

Adjust to Changing Consumer Trends: In the fast-paced automobile sector, agility and flexibility are essential for maintaining a competitive edge. To stay relevant and hold onto market share, Tesla and Toyota should both keep a careful eye on consumer trends and preferences and be prepared to modify their business plans as necessary.

Invest in Brand Image: Tesla can improve its brand reputation by emphasizing aspects other than innovation, such as dependability, customer service, and community involvement. Toyota currently has a good brand image. Both businesses may stand out from the competition and increase client loyalty by developing a strong brand identity.

12. Future Possibilities of Tesla and Toyota

As for respondents' opinions regarding the future success of Toyota and Tesla, the data indicates that opinions are nearly evenly split. While the majority of respondents recognized Tesla's success, they still think that Tesla is expensive for the Indian market.

Tesla's Growth: The company can expand its market reach and solve affordability issues, particularly in developing nations like India, which may be an important factor in its future growth.

Toyota's Dominance: Toyota is well-suited for long-term success because of its emphasis on innovation, cost-effectiveness, and dependability, particularly in markets where these attributes are prized. The company's potential to stay dominant in the automobile sector will depend on its capacity to capitalize on its image as a brand and adjust to shifting consumer tastes.

13. Conclusion

The automotive sector is unexpected with never-before-seen opportunities and difficulties brought forth by customer choices, environmental concerns, and technology innovations. This study examined the business strategies of two industries—Tesla and Toyota—across a range of market categories. We learned about their perspectives on technology, sustainability initiatives, and other topics by doing a comparative analysis.

Development of the Automotive Sector: The introduction of electric cars (EVs) has sparked a significant change in the automotive industry. Toyota, continues to develop with its fuel-cell vehicles and hybrid technology, while Tesla is challenging traditional norms with its focus on electric vehicles and renewable energy sources. Both businesses, which serve a range of customer demands and preferences, represent distinct industry trends.

Brand Perception and Innovation: Due to its innovative designs and state-of-the-art technology, which captivate customers all over the world, Tesla is seen as a leader in innovation. Toyota, on the other hand, is admired for its dependability, usefulness, and dedication to sustainability. With its individual brand image and offerings, each company has carved out a niche for itself in the market, appealing to different customer categories.

Market Performance and Sales: Tesla's disruptive strategy, ground-breaking products, and direct-to-consumer sales model are the main drivers of the company's phenomenal market expansion. Conversely, Toyota sustains a robust market presence by virtue of its extensive product line, well-established brand reputation, and widespread market penetration. Both businesses demonstrate flexibility and resilience, even though they use distinct approaches.

Supply Chain Management and Sustainability Initiatives: Toyota and Tesla take distinct tacks when it comes to supply chain management; Toyota uses the Toyota Production System (TPS) to promote lean production, while Tesla places more emphasis on vertical integration. Regarding sustainability, Tesla prioritizes electric vehicles and renewable energy sources, whereas Toyota supports fuel-cell vehicles and hybrid technologies, in line with their distinct business ideologies.

Market Performance and Sales: The primary forces behind Tesla's extraordinary market expansion are its disruptive approach, innovative products, and direct-to-consumer sales model. On the other hand, Toyota maintains a strong market presence due to its vast range of products, strong brand recognition, and deep market penetration. While using different strategies, both businesses exhibit resilience and flexibility. This comparative analysis gives us important new insights into the forces reshaping the automobile industry and what major competitors are doing to survive in a time of exceptional chaos.

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