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## **Analysis of Automobile Industry with reference of FORD Motor Company**

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### **INTRODUCTION**

Automobile industry, globally, as well as in India, is one of the emerging key sectors of the Indian economy. Due to its deep forward & backward linkages among the several major segments of the Indian economy, the industry has a strong & fruitful multiplier effect of industrial growth. The rise in efficiency and productivity helps directly and indirectly to accelerate the efficiency of the other sectors through factor movements of goods and people in the economy. Therefore, the industry is recognized as one of the drivers of economic growth contributing significantly to the overall GDP of the nation.

The Indian automobile industry has flourished after economic liberalization in 90s, like never before. This extra-ordinary growth of the industry is mainly due to higher disposable incomes of the middle class and resultant increase in their living standards.

In 1903, Henry Ford, an automotive and industrial pioneer, established Ford Motor Company (F) in Dearborn, Michigan. Ford was the first to use a moving assembly line in the automobile industry, allowing them to mass manufacture their goods more effectively than their rivals. The Model T was released in 1908 and went on to sell over 15 million cars, cementing Ford's position as a significant player in the early automotive industry, with a 50% market share by the 1920s. The firm went public in 1956 and has since grown to be a major player in the worldwide automobile industry. Ford, Lincoln, Mercury, Mazda, Aston-Martin, Jaguar, Volvo, and Land Rover are among the brands represented in the Ford Motor Company's product range. Ford has a financing section, a parts and service division, and they presently control Hertz Corporation, the world's biggest automobile rental company, in addition to their main automotive business. In 2003, Ford was the second-largest automaker in the United States and the world (after General Motors) in terms of car sales.

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### **DEMAND DETERMINATION OF THE INDUSTRY**

#### **PRICE**

The price are the aims that a firm aspires to accomplish via its pricing efforts. Marketing goals and marketing mix strategies are incorporated in the price objectives. Pricing basis refers to a product's original price, which includes all fees and levies. The pricing base of Ford products will rise when additional specifications of the automobile are added. Marketing position, survival, present profit maximisation, market share leadership, and product quality leadership were among the marketing aims. Then there's target costing, non-price position, cost, and organisational factors in marketing mix plans.

#### **INCOME OF TARGETD CUSTOMERS**

Geographic Segmentation: When it comes to market segmentation, countries like the United Kingdom should think about its geographical elements such as nations, regions, weather, and so on (Timothy J. Sturgeon, 2019). When buying a car, the majority of buyers think about fuel usage and environmental effect. As a result, it's best to concentrate on environmental friendliness and target the upper-class levels. (Market segmentation example for cars). Ford may target capital cities where consumers earn a high wage and where their dealerships have been strategically situated in order to take full benefit of the targeted clients based on the UK market. According to (Driver Gender, 2020), 81 percent of men and 70 percent of women have a driver's licence in the United Kingdom. Ford focuses on women, the younger generation, and individuals with a middle-class income. Ford will also benefit if they educate the young people about their environmentally friendly vehicles (Benjamin K. Sovacoolab, 2018).

Psychographic Segmentation: Psychographic segmentation is based on the personality traits and socioeconomic class of the customer. It's divided into three categories: consistency, internal space, and toughness (Elizabeth, 2020). Ford Fiesta is the best-selling, because to its affordable pricing.

Behavioral segmentation is the process of separating people into groups based on their behaviour. Consumer attitudes, knowledge, use rate, and other factors may all be used to define behavioural segmentation. In addition, it aids in the determination of customer loyalty. According to DDB study (Structure of the UK auto market, 2016), 28 percent of Ford customers buy the same model because of its safety, interior room, and low fuel consumption. Ford's desire to get incentives from its consumers aids them in effectively targeting the people they are interested in (Arnomataarnoh, 2014).

Ford Market Targeting: (Newberry, 2018) Market targeting aids in the development of the brand name, goods, and services. Due to its limited market, Ford should focus on FORD FIESTA and Ford Battery Electrics vehicles, according to market segmentation. It displays a high rate of Ford Fiesta sales since this model is marketed towards 18–25-year-old women and teens.

Whereas the eco-friendliness of Ford's battery electric cars (no emissions) might be a factor. Before buying a car, the majority of buyers evaluate the fuel consumption and environmental effect. As a result, Ford may also target this demographic. In terms of market segmentation, Ford Motor Company may target high-income, high-social-class, and high-personality luxury car purchasers. These clients are interested in Ford's premium vehicles, such as the Ford Lincoln, Ford Mustang Mach-E, and Ford Mustang.

### ***Ford's Position in the Market:***

Pricing policies and manufacturing ranges are two factors to consider in product positioning, according to (Meade, 2017). Ford's battery electric vehicles (BEVs) and eco-friendly autos may be segmented and positioned based on pricing strategies, manufacturing technology, and the minds of target buyers, according to Ford market segmentation and positioning.

Ford cars provide high-quality, low-cost, appealing, and environmentally responsible solutions. Positioning illustrates diverse consumers' interests, requirements, and desires in a car, with the corporation attempting to meet those customer expectations to the best of its ability.

### ***PENETRATION LEVEL***

Ford Motor Company's market position as the world's fifth largest automotive manufacturer is bolstered by the company's intense expansion initiatives, which are matched with its generic competitive advantage approach. Organizational development is aided by intensive methods. In this scenario, the shifting emphasis on market penetration, product development, and market development determines Ford's company growth. A generic strategy, on the other hand, describes the whole approach to corporate competitiveness. Ford's generic strategy evolves with time, but its fundamental generic strategy of cost leadership continues to be a powerful influence. The company's tactics to growing its business are determined by Ford's general strategy and intense growth plans.

Penetration of the market. Market penetration is Ford's major intense growth strategy. To expand the business, this intensive strategy entails selling more products to current customers. Ford implements this aggressive growth strategy by expanding its dealership network and increasing sales volume. The strategic objectives of increasing customer retention and increasing sales to existing customers are linked to this aggressive growth strategy. By emphasising the benefits of low costs and increasing differentiation to gain a larger market share, this intensive strategy is linked to Ford's generic competitive strategy.

Product development is the process of creating new products. Product development is Ford Motor Company's secondary intensive growth strategy. This aggressive growth strategy entails introducing new products in order to boost sales. Ford implements this aggressive strategy by investing heavily in R&D for new products like the all-electric Ford Focus Electric. Increased R&D investments for product innovation to improve business growth and competitive advantage is a strategic goal based on this intensive growth strategy. Ford's generic strategy adjustment toward broad differentiation is supported by this intensive growth strategy.

Market expansion. For Ford's growth, market development is either a minor or supporting strategy. This aggressive expansion strategy entails launching completely new products or expanding into new markets or market segments. Ford currently has a worldwide presence, so market expansion isn't as important as it was in the company's early years. In addition, Ford has not made any big strategic actions in recent years to penetrate wholly new sectors or market categories.

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### **AVAILABILITY OF FINANCE:**

The Workings of Ford's Sustainable Financing Framework:

The framework will encompass a wide range of unsecured and securitized financing transactions, including ESG bonds issued by Ford and Ford Credit to support environmental and social initiatives, as well as how Ford's electrification and mobility projects will be reviewed and chosen. The framework

will also regulate how the profits are handled and how Ford and Ford Credit communicate their findings. Each round of sustainable finance will be completely distributed within 24 months.

The net revenues of the long-term financing will be invested and spent in four areas:

**Clean Transportation** — Focusing on battery electric cars and the batteries that power them throughout the whole spectrum of design, development, production, and end-of-life, Clean Transportation designs, develops, and manufactures zero-emissions transportation. Ford, in collaboration with SK Innovation, recently announced the largest U.S. investment in electric vehicles at one time, in new Tennessee and Kentucky mega-sites; collaborating with Redwood Materials on recycling options for scrap and end-of-life EVs and lithium-ion batteries; and offering financing products and wholesale loans to establish or improve EV charging infrastructure.

**Clean Manufacturing** — Using renewable energy, sustainable water and wastewater management, waste management, and energy-efficient structures to further reduce Ford's environmental impact. Ford's new advanced campuses in Tennessee and Kentucky, for example, will be built to have as little influence on the environment as possible – and even to have favourable benefits.

**Making Lives Better** - Expanding Ford's supplier and dealer diversity networks to provide economic opportunity and fairness for minority and/or disadvantaged groups. The goal is to develop programmes and opportunities for minority-owned businesses, women-owned businesses, military veterans, and disabled people, as well as women-focused community ventures and social enterprises, to improve health, develop critical skills, and support child and maternal health, education, and disability support services.

**Community Revitalization** - Creating and refurbishing areas to give job opportunities and access to important services to underprivileged communities. Ford's investment in redeveloping the historic Michigan Central Station and surrounding area in Detroit's Corktown neighbourhood to create a new mobility innovation hub is one such initiative. The initiative brings together a broad group of thinkers and doers to address complicated community issues and increase access and equality for everyone.

Ford's sustainable finance framework is in line with the company's lofty sustainability objectives, as well as the International Capital Market Association and the Loan Market Association's environmental and social principles and best practises. In terms of sustainable funding, these organisations advocate for openness, disclosure, impact measurement, and external evaluations.

A new sustainable finance committee inside Ford will ensure that funded initiatives fit with Ford's corporate social responsibility strategy plan and otherwise satisfy eligibility requirements, in addition to external verification. Senior officials from Treasury, Sustainability, Corporate Finance, Investor Relations, Ford Credit, and Legal make up the committee.

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## KEY ISSUES AND CURRENT TRENDS

With Ford Company of Southern Africa's Silverton Assembly Plant in Pretoria capable of producing over 26 000 different combinations of the Ranger pickup and Everest seven-seater SUV for domestic sales and export to over 100 markets globally, the complexity and technology involved in a modern vehicle assembly plant is simply breath-taking.

When planning and executing the build order for each vehicle that rolls off the assembly line, everything from the chassis design to the wiring harness, engine and gearbox combination, bodywork configuration, left or right-hand drive layout, wheels and tyres, interior trim level, and standard and optional features selected by customers around the world must be taken into account.

Ford's persistent commitment on quality is one part of the manufacturing that stays consistent throughout this process, as difficult as it is. Ford uses an innovative Fits Gate system towards the end of the assembly line, which digitally scans and measures the gaps and flushness between the different body panels on every car manufactured — with over 10,000 vehicles constructed every month under typical working circumstances.

"When it comes to purchase considerations and ownership pleasure, build quality is one of the most significant concerns for consumers," says Ockert Berry, VP Operations at Ford Motor Company of Southern Africa (FMCSA). "We inaugurated the Fits Gate system in 2019 as part of our continued investment in the Silverton Assembly Plant to guarantee that we can consistently build cars of the highest quality."

"We were able to significantly improve the fit of all the sheet metal components, despite the expansion in production capacity and the challenge of increased volumes, by replacing the previous manual inspection of panel gaps and flushness between the bonnet, doors, and tailgate with a computerised system," Berry adds. "As a consequence, customer satisfaction for our locally built automobiles has increased dramatically, ensuring that we meet Ford's most demanding worldwide quality requirements."

The technology is coupled to portable laser measurement gauges that are used by operators on each side of the car to measure the margin and flushness between the bonnet, doors, and tailgate at different specified positions as they travel from front to rear. They're led by a monitor that shows all of the locations that need to be verified for each model and body type.

All of the measurements are recorded and compared to the minimum specification in Ford's worldwide quality control systems. The vehicle is adjusted and the test is redone if it is found to be out of specification in any area. It is only released for the last stage of the travel down the assembly line after the panel gaps and flushness are within the necessary range.

The Fits Gate technology's real-time monitoring enables early identification of any production defects, allowing them to be immediately detected and corrected in the Body Shop or on the Trim, Chassis, and Final (TCF) assembly line, as needed. The data is shared with Ford factories across the world for comparison, and the technology gives complete traceability throughout the vehicle's life cycle, from each measurement to the exact laser measuring equipment used and the individual operator.

"The advantage of the Fits Gate system is that it guarantees that every car that leaves our plant fulfils Ford's stringent workmanship specifications that we are controlled by worldwide for all of our models," says Marko Venter, VOME Body and Paint Engineering manager at FMCSA. "By measuring each car, we are able to go back and make any necessary improvements to guarantee that we retain this workmanship standard for all of our clients."

In many respects, Ford is beginning to understand the full advantages and strength of the One Ford strategy, and they see an opportunity to accelerate their pace of advancement in order to create operational excellence and profitable growth for everybody. □

Deliver Product Excellence with Passion- Delivering product excellence with passion is Ford's second priority. Ford's business is fuelled by its products, and the company's One Ford strategy has enabled them to field the strongest – and most up-to-date – product selection in its history.

Drive Innovation Across the Board- Ford's third objective is to drive innovation across the board. The automotive industry is quickly changing, and new technology is having a substantial influence on Ford's operations.

Focus on Creating Value - They utilise the Creating Value Roadmap (CVR) to operate the organisation and achieve outcomes. Ford's ability to connect with its target consumers is aided by its ability to react to a continuously changing environment and change our plans to stay up.

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## SEGMENTATION:

We have segmentation since we have so many different categories of clients. Because these groups of diverse clients exhibit the following characteristics, segmentation has become crucial in teaching and learning about marketing.

1. grow more numerous; we now have a greater variety of segment kinds
2. Group distinctions have grown increasingly pronounced.
3. The number of groups has grown significantly.

Criteria for Segmentation - items to examine when deciding if a possible group is worthy of being classified as a "segment"

1. Homogeneous - are the individuals in the suggested segment all similar with little distinctions - you might say right handed persons is a segment, but... if half the right handed people were women and half were males, this may not work if gender was also an issue.
2. Heterogeneous - persons in the segments should be quite diverse - right and left handed may not be worth mentioning if you're talking about a market niche for pull-on boots.
3. Significant - the group must be large enough to "generate sufficient sales volume at a low enough cost to result in a profit," according to Sommers 10th Ed. - right handed men may be a large enough segment - right handed men who wear glasses, speak Spanish, and ride right motorcycles may be too small - the group must be large enough to "generate sufficient sales volume at a low enough cost to result in a profit."
4. The rivalry

According to Sommers 10th Edition, a company should target segments "where the number of competitors and their size are such that the firm is able to compete effectively." For example, some people buy trucks, SUVs, cars, and minivans - some companies, such as Ford, have a product segment devoted to truck buyers - car companies, such as Nissan and Toyota, may be advised to avoid selling trucks in North America because the competition is fierce and they may no longer be able to compete effectively.

5. Resources According to Sommers 10th Edition, a corporation should ensure that the section is related to the company's resources. If the company can manufacture variations to fit its key demographics, that's great, but it shouldn't take on additional demographics if it doesn't have the capability, such as a lingerie company adding plus sizes, which would necessitate rearranging the fabric pattern cut-out, affecting fabric costs, waste amounts, and so on.

## POSITIONING:

Ford announced its 2010 product range, which includes a restyled Ford Flex crossover with its unique EcoBoost engine, a high-performance version of its iconic F-150 pickup truck, and restyled Lincoln MKS and MKT sedans.

Detroit-based automotive industry analyst Peter DeLorenzo wrote on Ford's reveal of its product mix to a group of automotive journalists on his blog, [www.autoextremist.com](http://www.autoextremist.com).

"It became clear to everybody that this firm is doing more than simply moving forward; they are actively raising their position in the market with an assortment of amazing items that will revolutionise the company," DeLorenzo stated. "Ford will have the freshest, most current portfolio in the industry over the next 18 months, as well as the newest fleet of cars on the road in terms of age."

According to DeLorenzo, Ford's product selection "is going to pay off big-time."

They've also reduced manufacturing operations to better match supply with demand, and they're working to build a global manufacturing platform that will enable them to leverage common technologies and suppliers for car offers across the globe.

Ford recorded a \$2.3 billion profit in the second quarter, compared to a \$8.7 billion deficit the year before.

Revenue fell 40% to \$27.2 billion from \$41.1 billion the year before, down from \$41.1 billion.

In order to figure out what will sell, Ford and its rivals must aim at a shifting target. Consumer needs alter on a regular basis, depending on the status of the economy and fluctuations in gasoline costs.

"With the exception of the F-150, the days of selling 400,000 or 500,000 vehicles of any vehicle are finished," Hinrichs remarked. "Now we have to find out how to earn the same amount of money while selling less quantities." The most effective method to do it is to target a lot of smaller niches."

"Ford is in a really excellent position, both in terms of product and reputation," says one analyst.

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## PESTEL ANALYSIS

There are several hazards and possibilities in the international business environment. Every global brand must contend with a variety of factors and changes in the business environment, which may be both sudden and frequent. A PESTEL study may assist firms identify some of the primary risks they face when doing business globally. Every such brand must contend with political, economic, and a variety of other risks that determine how favourable the situation will be in various regions of the globe. The position is not uniform throughout the world, and certain nations may be more welcoming to international businesses than others. Some are more politically and economically stable than others. This is a PESTEL study of Ford in the global business climate, showing its risks and possibilities. After the recession, the position for vehicle brands has continued to improve internationally. Ford's company has continued to grow. This PESTEL study will show how these factors impact Ford at several levels in great detail.

**Political issues:** For a large worldwide brand, political concerns are a significant risk. Political quiet is beneficial to companies, since political turbulence may be very disruptive and result in losses. In recent years, the Asia Pacific area has been politically stable. Ford's success in these areas has been nothing short of outstanding. Only in August 2016 did it sell its one millionth car in the area. In this area, sales are rapidly increasing. In most circumstances, political stability translates to economic stability, which is beneficial to business. The situation in Europe has been less steady. As a result, Ford's record in Europe has been considerably less pleasing, but still excellent.

Because of their political and economic stability, Asian markets are dominating. Political unrest also disrupts the supply chain and distribution network, which is harmful to a company's health. Various hidden hazards exist in volatile political contexts. A state of uncertainty constantly exists in countries where the situation is turbulent and the government changes often. Political stability instils trust. The regulatory environment, as well as the government's attitude toward foreign enterprises and foreign investment, all have an influence on the income and profitability of multinational brands such as Ford. Apart from that, it all depends on how supportive the government is of new, fuel-efficient, and environmentally friendly car manufacturers. Governments throughout the world are generally supportive of such brands and goods, which is a positive for Ford.

Economic variables have a significant impact in determining how markets behave and how lucrative the environment is for companies. The recession is over, and things have greatly improved since then. The Asia-Pacific region is at the forefront of the global economic recovery. China and India, the region's trade economies, have continued to prosper well. In these nations, Ford has witnessed very promising and quick sales. In these places, economic progress has led in an infusion of multinational businesses teaming with local firms to break into Asian markets. Economic growth translates to increasing employment rates and disposable income. Both of these elements are beneficial to corporate branding. The more lucrative the climate for these businesses is, the greater the clients' spending power. It allows for rapid expansion and increased profitability. The stronger the global economic outlook, the greater Ford's global sales and profits will be.

Social and cultural variables can have a significant influence on the worldwide operations of major businesses. These worldwide businesses cater to a wide range of markets, each with its own culture and civilization. These cultural variations have an influence on the success of a company's marketing activities and sales. The most recent trends favour businesses with a minimal environmental effect and a positive social image. It is for this reason that most major corporations are engaging in CSR and environmental conservation. Businesses must maintain a positive social image since it influences their popularity and sales. In recent years, the emphasis has turned to more client interaction and enhanced customer service. It's because firms who put a greater emphasis on customer service and are more welcoming to their customers and communities have more sales and income. Customers adore these brands and enjoy shopping for them. Cultural elements must also be considered in order to properly target clients and better advertise your items. Culture and society have an impact on consumer tastes and inclinations. Overall, these characteristics may have a significant influence on the kind of cars and SUVs that buyers choose in a particular area.

**Technological aspects:** Given how significant passenger safety and environmental issues have become in recent years, it's easy to see why technological elements are so crucial in the car industry. Automobile manufacturers such as Ford and Toyota are investing in technology in order to make their vehicles safer and more convenient for its consumers. Any automobile's appeal is influenced by technology. People are seeking for automobiles that use less gasoline and emit less carbon, and hybrid cars are becoming more popular. The industry and consumers are anxiously anticipating the arrival of self-driving automobiles. According to reports, Ford plans to spend more than \$1 billion over the next five years to have its fleet of self-driving vehicles on the road by 2021. It had previously intended to create its self-driving car in-house. However, it is currently investing in Argo, a new autonomous vehicle subsidiary that Ford has completely financed and has a majority stake in. All of the big automakers have taken notice of driverless vehicle

technology, and they are all spending heavily in this area in order to bring the first to market. The technology has sparked a lot of interest, and the large companies are racing to obtain the first mover advantage.

Environmental factors have become more important than ever for businesses in the twenty-first century. Even firms with little environmental effect are making investments in environmental protection. Vehicle manufacturers are developing electric cars (EVs) and hybrid electric vehicles (HEVs) with zero or minimal environmental effect. The environmental friendliness of such automobiles is also a selling point all around the globe. Ford offers a number of appealing EV and HEV cars, including the CMaxEnergi, Focus Electric, and Fusion Hybrid.

"Ford hybrid and electric cars have superior fuel-saving technologies," according to Ford. These cars maximise efficiency whether they're running on electricity, gas, or a mix of the two. And then there's the simplicity. Using a 240-volt outlet, the plug-in hybrid cars can be recharged in under three hours. You'll still have to stop at gas stations whether you drive a Ford hybrid or plug-in hybrid. But maybe just for a cup of coffee."

Legal factors: Laws have a significant impact on the profitability and freedom with which enterprises may operate in a given market. Ford is subject to a number of regulations, including those governing product quality and safety, labour, the environment, taxes, and other business-related legislation. Quality and safety have become more important. Ford has had a lot of troubles in the past with defective gearboxes, airbags, and other concerns, including the 1978 Pinto faulty fuel system design lawsuit. However, in recent years, Ford has remained committed to doing business in an ethical and legal manner. Apart from the legal wrangling, penalties in the millions, such as those imposed in the Ford Pinto case, may result in financial losses for firms like Ford. In the twenty-first century, legal compliance and an ethical image have become essential.

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## SWOT ANALYSIS

### Strengths

- 4th place on the Fortune 500 (U.S. only)
- 39th on the Best Companies for Minorities List -One of the most well-known businesses in the world
- Have already spent extensively in alternative fuel sources -Ford is considered as helpful, for example. -Their Web approach has decreased automobile manufacture costs by as much as \$380 each car.
- Supported NASCAR, Formula One, and other racing teams following the September 11th attacks - Gave Generously to Help Fight Breast Cancer - Gave Generously to Help Fight Breast Cancer

### Weaknesses

- Stock Price Suffers Due to Firestone Tire Recalls—\$14.70, Lowest in Years -CEO Jacques Nasser and Chairman Bill Ford Jr. Couldn't Get Along -
- Cash Reserves Have Dropped to \$4.1 Billion -\$13 Billion on Acquisitions -\$3.5 Billion to Cover Tire Recalls -Sometimes seen as "safe," "boring"

### Opportunities

- Have a chance to become more environmentally friendly with cleaner engine emissions and by working with environmental groups to help clean up the environment -Ford has already started investing in Solar Power, and has a chance to become a market leader -They can use their Web strategy to cut costs even more -They can capitalise on their perceived generosity by giving to more charities and using the fact in their targeted advertising

### Threats

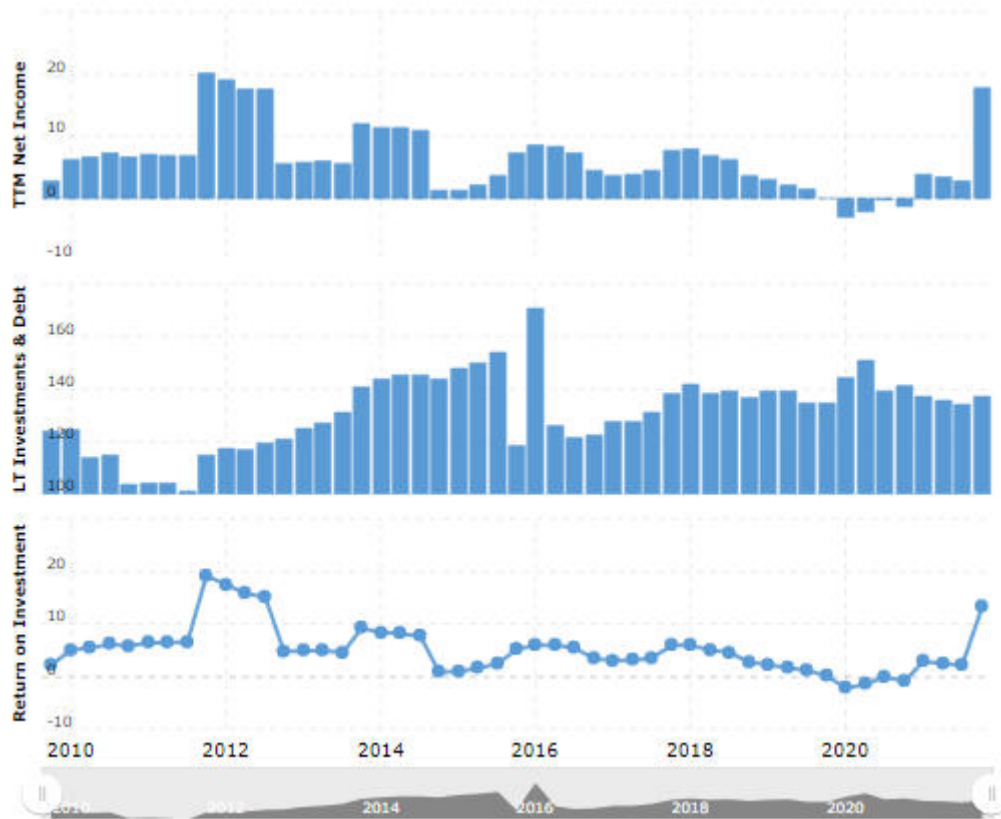
- There is a lot of competition.
- The firm will be harmed by internal turmoil.
- Alternative goods such as natural gas, electricity, ethanol, vegetable oil, sunlight, and water pose a threat.
- The level of rivalry amongst rivals throughout the globe
- The "War on Terrorism" has put the world's markets in jeopardy.

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## FINANACIAL ANALYSIS OF CHOSEN INDUSTRY

### ROI:

The ratio of net income (during a period) to investment is known as return on investment (ROI) or return on costs (ROC) (costs resulting from an investment of some resources at a point in time). A high return on investment (ROI) indicates that the investment's benefits outweigh its cost. ROI is a performance metric that is used to assess an investment's efficiency or to compare the efficiencies of many distinct investments. It is a method of linking earnings to capital invested in economic terms.



Ford Motor ROI - Return on Investment Historical Data

Date	TTM Net Income	LT Investments & Debt	Return on Investment
2021-12-31	\$4.52B	\$137.02B	3.33%
2021-09-30	\$1.34B	\$133.95B	0.98%
2021-06-30	\$2.35B	\$135.69B	1.70%
2021-03-31	\$-0.39B	\$137.18B	-0.27%
2020-12-31	\$-4.41B	\$141.15B	-3.06%
2020-09-30	\$-2.42B	\$139.44B	-1.70%
2020-06-30	\$-5.04B	\$150.74B	-3.57%

**Ford Motor ROI - Return on Investment Historical Data**

<b>Date</b>	<b>TTM Net Income</b>	<b>LT Investments &amp; Debt</b>	<b>Return on Investment</b>
2020-03-31	\$-2.19B	\$144.11B	-1.58%
2019-12-31	\$0.57B	\$134.59B	0.42%
2019-09-30	\$1.66B	\$134.89B	1.21%
2019-06-30	\$2.79B	\$139.35B	2.01%
2019-03-31	\$3.28B	\$139.05B	2.37%
2018-12-31	\$3.20B	\$136.69B	2.30%
2018-09-30	\$3.44B	\$139.29B	2.47%
2018-06-30	\$3.57B	\$138.43B	2.60%
2018-03-31	\$4.54B	\$141.79B	3.37%
2017-12-31	\$4.88B	\$138.27B	3.72%
2017-09-30	\$-1.51B	\$131.20B	-1.19%
2017-06-30	\$0.11B	\$127.50B	0.09%
2017-03-31	\$2.74B	\$127.36B	2.20%
2016-12-31	\$5.79B	\$122.49B	4.28%
2016-09-30	\$14.83B	\$121.45B	11.05%
2016-06-30	\$16.76B	\$126.21B	11.77%



**Ford Motor ROI - Return on Investment Historical Data**

<b>Date</b>	<b>TTM Net Income</b>	<b>LT Investments &amp; Debt</b>	<b>Return on Investment</b>
2016-03-31	\$16.97B	\$170.62B	11.45%
2015-12-31	\$14.35B	\$118.54B	10.07%
2015-09-30	\$12.85B	\$153.91B	8.63%
2015-06-30	\$9.47B	\$149.88B	6.45%
2015-03-31	\$7.66B	\$147.75B	5.26%
2014-12-31	\$7.21B	\$143.64B	4.99%
2014-09-30	\$13.78B	\$145.36B	9.57%
2014-06-30	\$15.07B	\$145.51B	10.74%
2014-03-31	\$14.63B	\$143.81B	10.78%
2013-12-31	\$15.67B	\$140.83B	11.96%
2013-09-30	\$8.42B	\$131.13B	6.68%
2013-06-30	\$8.51B	\$127.08B	6.91%
2013-03-31	\$8.75B	\$124.99B	7.25%
2012-12-31	\$8.91B	\$121.05B	7.51%
2012-09-30	\$9.16B	\$119.49B	7.82%
2012-06-30	\$9.17B	\$116.98B	8.16%

**Ford Motor ROI - Return on Investment Historical Data**

<b>Date</b>	<b>TTM Net Income</b>	<b>LT Investments &amp; Debt</b>	<b>Return on Investment</b>
2012-03-31	\$10.14B	\$117.14B	9.28%
2011-12-31	\$11.15B	\$114.56B	10.52%
2011-09-30	\$11.72B	\$101.16B	11.37%
2011-06-30	\$12.20B	\$103.90B	11.45%
2011-03-31	\$13.09B	\$104.10B	12.00%
2010-12-31	\$12.81B	\$103.35B	11.22%
2010-09-30	\$12.87B	\$114.95B	10.78%
2010-06-30	\$12.15B	\$113.84B	9.98%
2010-03-31	\$7.85B	\$124.67B	6.32%
2009-12-31	\$3.36B	\$123.85B	2.68%

**DUPONT ANALYSIS****Comparable Companies**

<i>(in millions)</i>	<b>GM</b>	<b>TSLA</b>	<b>TM</b>	<b>HMC</b>	<b>TTM</b>	<b>F</b>
Latest Fiscal Year	Dec-21	Dec-21	Mar-21	Mar-21	Mar-21	Dec-21
LTM Period	Dec-21	Dec-21	Dec-21	Dec-21	Dec-21	Dec-21
<b><u>Revenues</u></b>						
Latest Twelve Months	127,004	53,823	30,956,379	14,300,819	2,891,903	136,341
Fiscal Year	127,004	53,823	27,214,593	13,170,519	2,503,425	136,341

Fiscal Year - 1	122,485	31,536	29,866,547	14,931,009	2,616,806	127,144
Fiscal Year - 2	137,237	24,578	30,225,681	15,888,617	3,025,598	155,900
Fiscal Year - 3	147,049	21,461	29,379,510	15,361,146	2,921,088	160,338
Fiscal Year - 4	145,588	11,759	27,597,193	13,999,200	2,698,497	156,776
Fiscal Year - 5	149,184	7,000	28,403,118	14,601,151	2,705,113	151,800
<b><u>Net Income</u></b>						
Latest Twelve Months	9,837	5,524	3,093,419	795,492	(180,140)	17,937
Fiscal Year	9,837	5,524	2,245,261	657,425	(134,514)	17,937
Fiscal Year - 1	6,247	690	2,036,140	455,746	(120,709)	(1,279)
Fiscal Year - 2	6,581	(870)	1,868,085	610,316	(288,262)	47
Fiscal Year - 3	7,986	(976)	2,481,692	1,059,337	89,889	3,677
Fiscal Year - 4	332	(1,962)	1,821,314	616,569	74,544	7,731
Fiscal Year - 5	9,428	(675)	2,306,607	344,531	95,883	4,589
<b><u>Total Assets</u></b>						
Latest Fiscal Quarter Prior	235,194	52,148	58,010,315	20,780,203	NA	267,261
Latest Fiscal Quarter	244,718	62,131	63,618,063	22,249,779	NA	257,035
Fiscal Year	244,718	62,131	62,267,140	21,921,030	3,431,258	257,035
Fiscal Year - 1	235,194	52,148	53,972,363	20,461,465	3,221,213	267,261
Fiscal Year - 2	228,037	34,309	51,936,949	20,419,122	3,071,945	258,537
Fiscal Year - 3	227,339	29,740	50,308,249	19,349,164	3,313,505	256,540
Fiscal Year - 4	212,482	28,655	48,750,186	18,958,123	2,737,544	258,496
Fiscal Year - 5	221,690	22,664	47,427,597	18,229,294	2,619,981	237,951
Fiscal Year - 6	194,338	8,068	47,729,830	18,425,837	2,386,580	224,925
<b><u>Common Equity</u></b>						
Latest Fiscal Quarter Prior	45,030	22,225	21,804,119	8,306,603	505,752	30,690
Latest Fiscal Quarter	59,744	30,189	24,939,554	9,770,862	446,764	48,519
Fiscal Year	59,744	30,189	23,404,547	9,082,306	552,467	48,519

Fiscal Year - 1	45,030	22,225	20,618,888	8,012,259	630,785	30,690
Fiscal Year - 2	41,792	6,618	19,348,152	8,267,720	601,796	33,185
Fiscal Year - 3	38,860	4,923	18,735,982	7,933,538	954,279	35,932
Fiscal Year - 4	35,001	4,237	17,514,812	7,295,296	580,619	35,578
Fiscal Year - 5	43,836	4,753	16,746,935	6,761,433	763,597	29,170
Fiscal Year - 6	39,871	1,084	16,788,131	7,108,627	562,619	28,642

#### Comparable Companies

	GM	TSLA	TM	HMC	TTM	F
<u>Return On Equity</u>						
Latest Twelve Months	19%	21%	13%	9%	NA	45%
Fiscal Year - 1	14%	5%	10%	6%	-20%	-4%
Fiscal Year - 2	16%	-15%	10%	8%	-37%	0%
Fiscal Year - 3	22%	-21%	14%	14%	12%	10%
Fiscal Year - 4	1%	-44%	11%	9%	11%	24%
Fiscal Year - 5	23%	-23%	14%	5%	14%	16%
<i>Average</i>	<i>16%</i>	<i>-13%</i>	<i>12%</i>	<i>8%</i>	<i>-4%</i>	<i>15%</i>
<i>Median</i>	<i>18%</i>	<i>-18%</i>	<i>12%</i>	<i>8%</i>	<i>11%</i>	<i>13%</i>

#### Benchmarks

#### Ticker

General Motors Company	NYSE:GM
Tesla, Inc.	NasdaqGS:TSLA
Toyota Motor Corporation	NYSE:TM
Honda Motor Co., Ltd.	NYSE:HMC
Tata Motors Limited	NYSE:TTM

**LEVERAGE ANALYSIS:**

Ratios	2020	2019	2018	2017	2016
<b>Financial Risk (Leverage) Ratios</b>					
Total debt-to-equity ratio	6.06	6.82	6.45	6.85	6.15
Total debt-to-equity ratio (excluding deferred taxes)	6.35	7.13	6.83	7.38	6.63
Total financial debt-to-equity ratio	4.90	5.47	5.19	5.48	4.93
Interest coverage ratio (accounting-based)	4.25	4.60	9.89	4.32	6.56
Interest coverage ratio (cash-based)	12.30	14.70	20.23	13.58	11.46
Total debt-to-assets ratio	0.86	0.87	0.87	0.87	0.86
Total financial debt over invested capital	0.69	0.70	0.70	0.70	0.69
Long-term financial debt over invested capital	4.69	4.27	3.84	3.48	2.90

**WORKING CAPITAL MANAGEMENT ANALYSIS****INDUSTRY ANALYSIS**

## 1) Rivalry in the Industry:

- This industry has a lot of competition. General Motors is the largest participant in the industry by volume, followed by Ford, DaimlerChrysler, and Toyota (Reuters, 2019).
- Different businesses provide different incentives to entice people to purchase their own automobiles, therefore this ranking is subject to vary based on the measures done by firms to attract customers. Ford had previously been highly successful owing to volume and scale advantages, and it was expected that they would eventually overtake GM as the industry's largest player. Ford, on the other hand, remains in second position thanks to the acts of its arch competitor, GM (Taylor III, 2018) Due to the tyre issue and the poor marketing of the baby Jag, Ford received negative press, whilst GM presented incentives such as the "GM military offer".
- Car demand has been dropping since the 1990s, despite the fact that it is still high. A big number of businesses are battling to meet the current demand.
- In October, US automobile sales fell by 14% as a result of the sleek design and price incentives offered by Japanese manufacturers, leading Ford and GM to lose market share while Toyota and Honda gained.

## 2) Substitutes as a Threat

Substitutes pose a minor danger to the automobile sector. Other modes of mobility exist, but none provide the usefulness, convenience, independence, or value that autos provide. Switching to a different mode of transportation, such as the train, may be costly in terms of personal time (i.e., independence), convenience, and utility (e.g., luggage capacity), but not always financially (e.g., round trip train fare on MARTA would most likely be less expensive than the cost of fuel consumed on a similar round trip, daily parking, car insurance, and maintenance). The exception to this statement arises in high-density metropolitan areas across the world. Alternative forms of mobility (e.g., walking, public transit, bicycling, etc.) are generally favoured in these locations since they are less expensive than vehicles. In various regions of the globe, there are also underlying societal and cultural

norms that prevent individuals from having vehicles. Many countries are not as dispersed or mobile as the United States; they are confined by geography, race, class, or religion, and the demand for personal mobility is not as high as it is in the United States. The American goal of "a vehicle [or two] in every garage" is no longer desired or required by the rest of the globe. However, the marketing departments of major automakers are trying very hard to shift this paradigm, and all indications are that they are succeeding, as seen by unparalleled worldwide production levels. Most people with the skills and means to buy a car will do so if they live in a society with the requisite infrastructure (such as roads and gas stations).

Hurdles to Entrance:

- The automobile sector has its own set of barriers to entry. In terms of reputation, money, expertise, technology, and already big product portfolios, the top ten automobile companies wield enormous influence.
- Established industry businesses are merging, which may be damaging to new entrants and certain existing enterprises. Consider Rover's status in the United Kingdom. Rover's valuable components were already bought by BMW and Ford, leaving Rover to produce low-quality, obsolete cars, eventually leading to its bankruptcy in April 2005.
- Automobile manufacturers must spend considerably in research and development due to the previously stated environmental and technical issues. Newcomers to the business may find it challenging to compete with current major companies' investments.
- It is expected that entering the market with cars that use alternative sources of energy and vehicles that are environmentally friendly would be one of the methods to overcome the hurdles to entry in this business.
- As previously said, Chinese automobiles are making their way into the market. They are said to have been able to circumvent the entrance obstacles owing to the costs of their autos. Chinese automakers are able to create automobiles at a cheaper cost than American automakers thanks to inexpensive labour and components. (2019, China Daily) Substitutes Pose a Threat
- Despite the fact that people are growing more conscious of global warming and preferring alternate modes of transportation like as trains, buses, and bicycles, automobiles and other private vehicles are still seen as a necessity, particularly for those who do not reside in city centres. As a result, no genuine danger of replacements is seen to exist now.
- If automobiles that utilise other sources of energy besides diesel and gasoline are released to the market in the future, they may cause challenges for the industry's present manufacturers.

Buyer Influence:

- Inflation and interest rates have a significant impact on purchasing power, which is further influenced by gasoline price variations. Buyer power, on the other hand, remains significant in the business, confirming the industry's competitive competition.
- There is fierce rivalry in the sector, with comparable items with slight distinctions. Other incentives are being offered by car manufacturers to entice purchasers to their brands. For example, in the United Kingdom, Ford is offering free improvements worth up to £2,000 to its clients (Ford UK).
- The sort of automobile sold is determined by consumer preferences. With increasing interest and inflation rates, people are looking for automobiles that are less expensive to operate over time.
- To attract customers to their goods, businesses use aggressive marketing strategies. These marketing initiatives include extra perks, pricing incentives, and add-ons, to name a few.

Power of the Supplier:

- Supplier power has an impact on this industry's businesses, although it is still very modest.
- However, in order to benefit from economies of scale, firms are reducing the number of their suppliers and increasing their orders on their existing suppliers (BBC, September 2005). Suppliers provide certain components necessary for the production of vehicles as well as spare parts for future repairs.
- As a result of these activities by vehicle manufacturers, competition among suppliers is intensifying. Suppliers are lowering component pricing and offering other financial incentives, resulting in a win-win situation for both carmakers and suppliers. Automobile manufacturers profit from lower-cost components as well as economies of scale resulting from their huge orders. Suppliers gain from huge, long-term contracts with automobile manufacturers.

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## PROBLEM IDENTIFICATION, PROBLEMS ANALYSIS AND REMEDIAL MEASURES

The eight disciplines issue solving (8Ds) technique was established at Ford Motor Company and is used by quality engineers and other professionals to approach and solve challenges. Its goal is to detect, fix, and eliminate reoccurring issues by focusing on product and process improvement. It creates a permanent corrective action based on a statistical study of the issue and by discovering the fundamental causes, it establishes a permanent corrective measure. Although it began with eight phases or 'disciplines,' it was eventually expanded to include an initial planning step. The logic of the PDCA cycle is followed by 8D. The following are the disciplines:

- D0: Actions for Preparation and Emergency Response: Make a plan to solve the situation and define the requirements. Assist in emergency reaction.
- D1: Form a Group: Form a group of individuals who are familiar with the product or procedure. When it comes to issue resolution, teammates bring fresh views and ideas.
- D2: Explain the issue: Specify the issue by defining the who, what, where, when, why, how, and how many (5W2H) of the problem in quantitative terms.
- D3: Create an Interim Containment Plan: Identify and execute containment measures to prevent the issue from spreading to other customers.

D4: Identify and confirm root causes and escape routes: Determine all possible reasons that might account for the problem's occurrence. Determine why the issue was unnoticed at the time it happened. All causes must be proven or validated. To map causes against the impact or issue stated, five whys or Ishikawa diagrams might be used.

D5: Check for Permanent Corrections (PCs) for the issue that will help the customer: Quantitatively validate that the chosen fix will address the issue using pre-production programmes. (Confirm that the adjustment will resolve the issue.)

D6: Identify and Implement the Most Effective Corrective Activities: Identify and implement the most effective corrective actions. Also, actual proof of progress should be used to substantiate remedial interventions.

D7: Prevent Recurrence / System Issues: Modify management systems, operational systems, practises, and procedures to avoid recurrence of this and comparable issues.

D8: Congratulate your team's main contributors: Recognize the team's work as a whole. The company should express its gratitude to the team in writing.

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## CONCLUSION

Despite the fact that Ford Motor Company is one of the world's biggest corporations, we can nevertheless link accounting patterns to major events in the company's history. Downsizing may help you run a more efficient and agile business. However, this necessitates the recruitment and training of highly trained employees. The human resource department is in charge of the majority of this process, which is responsible with keeping a workforce capable of meeting current and future difficulties. This task is multiplied in a multinational corporation like Ford by the cultural potpourri that makes up the company's employees. Ford India is ceasing operations due to losses of roughly \$2 billion, indicating that it was not as lucrative as Ford had intended. Following Ford India's announcement that it will no longer be producing automobiles in India, a large number of Ford workers in India were laid off. Furthermore, this article does not seek to oversimplify an obviously complicated process; rather, it only tries to present a high-level summary of some key factors to consider. Ford has done well overall, and with a restructure in 1996 to reduce expenditure and boost efficiency, the corporation is aiming for future phases of growth.