**TITLE:**

**TAKING THE ROLE OF AN EXTERNAL CONSULTANT, THEY WILL BE REQUIRED TO CONDUCT A PERFORMANCE REVIEW OF THE ORGANISATION AND WILL SUBMIT A 2500-WORD REPORT THAT WILL CRITICALLY REVIEW AND EVALUATE A CHOSEN AREA OF INTEREST, DEPARTMENT, OR SECTOR.**

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**INTRODUCTION**

## **TOYOTA MOTOR CORPORATION**

Toyota is a global car manufacturing company with its roots in Japan and has now transcended Japan to have its market across the globe in more than hundred and fifty countries of the world. With about 307.87billion dollars and around 370,000 workers in their global plants, Toyota remains one of the most competitive global auto brands in the world (Toyota Financial Report,2023).

Toyota business plan is strategic, well thought out and intentioned and is geared to remain competitive and take a very large market share in the global auto market. Toyota Business plan is tied to its strategy that symbolizes reliability, innovation, and customer satisfaction; its plan and strategy rely on product innovativeness and development as well as its plan for commitment and sustainability.

In specific, Toyota’s **business plan** includes its objective of improving its brand positioning, increase market share by remaining very competitive in the market, expanding its customer base by venturing into new markets, improving through product innovation, and maintaining a highly sustainable sales growth. Toyota brand seeks to achieve this through delivering global value to their market and other stakeholders (Pereira, 2024).

**Toyota's business model focuses on offering reliable, high-quality cars at a reasonable price through a global network of dealers.** The company prioritizes customer satisfaction, efficient operations, and strategic partnerships to drive sustainable growth and profitability as shown below:

A screenshot of a business model canvas

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### Figure 1: Showing Toyota Business Model (Pereira, 2021)

## **CHALLENGES FACING TOYOTA**

Toyota sales are facing challenges in different fronts of late; it is contending with multiple poor sales performance challenges in different countries. In China, it is reported that sales have reduced by 27% due to fierce competition from competitors and an ongoing price war, in the face of the different promotion strategies deployed by Toyota to edge out competitors (Rueters,2024). In Japan, sales have dropped by 14% which was contributed to by production halts due to quality credibility, and a reported safety test from their small car unit of Dalhatsu (Reuters,2024).

Also, Toyota’s sales performance is evidenced from poor sales return in China, Japan, Thailand and Mexico contributing to the brands global decline of around 40% sales in April 2024. Nguyen (2023) contends that Toyota sales performance has been hit by quality issues leading to the recall of around 9 million cars due to issues of poor acceleration, leading to multiple cases of accidents, injuries and even fatal cases; in turn, Toyota has also been required to provide financial compensation to its customers.

Takahasi, Singh and Bloomberg (2024) further posit that Toyota’s sales performance took a hit and contributed to revenue decline for the company because it suspended shipment of three cars model due to their failing of government certification regulations; as most of the company’s car has not been tested properly for collision safety, and even led them to suspend all engine shipments. This shipment halts further affects assembly lines to produce 130,000 units a year’s leading to Toyota shares dropping by 1.8% in Tokyo.

# **THEORETICAL FRAMEWORK**

Empirical studies in this section seeks to provide a theoretical framework to the already established problem that Toyota global auto brand faced in its poor sales performance as a means of lending credence to the existential sales performance problem of Toyota.

A study by Rajakasera (2013) had examined the challenges of Toyota because of its recall problems across different continents that it operates. The study key objective was to examine the role of social networking sites in the recall process and ascertain the challenges Toyota faced in the market because of the recall. Data was collected from both social media users for the purpose of the first research questions and Toyota marketers for the second research question. From the integration of the collected data, the study found that Toyota sales volume dropped in the global market across continents including Japa because the integrity of the brand has been questioned by the brand customers.

In another different study, Shin, Richardson and Soluade (2014), examined sales from automobile recalls. A case study of Toyota study specifically examined the impact of the well-publicized recall of November 2009 to January 2010 on the Japanese auto industry, and as well as the market performance of Toyota. Data were collected over 6 months from different secondary sources and from the integration of both the primary and secondary collected data, the study found that the Toyota recall had a major negative consequence on Toyota with Toyota loosing around 20% of its market share in the global automobile industry.

Again, Gokhale, Brooks and Tremblay (2014) examined the effect of Stockholder Wealth of Products Recalls and Government Action: The Case of Toyota Accelerator Pedal Recall. The study examined how the recall of Toyota in the market affected their sales performance and stockholder wealth of Toyota stock owners. The study deployed the event study analysis to examine the effects of each event on Toyota sales performance and stock returns. From the events stock analysis, the study found that Toyota recall caused the stock market return to fall by 19% and negatively affected the market sales performance of Toyota.

In another seminal work, Nguyen (2023) seminal work examined Toyota’s recall crisis: root causes and solutions. The study examined Toyota recalls from 2010 to 2023 and its impact on their sales performance. The study from analysis of extant data made some revealing findings as it relates to Toyota market performance: in 2010, Toyota had a 16% decline in sales compared to the previous year due to the recall it had the previous year, and such poor sales performance has never been witnessed in the decade before 2010. Again, Toyota’s stock prices fell by approximately 10% in total and relative 30% to the S&P index from September 2009 to 2010; to show how poor Toyota performance was in the market, Ford Motor stock rose by over 80% in the same period showing that competitors in the auto market benefitted from Toyota’s poor performance in the market. However, the study found from a secondary source (Wall Street Journal) that Toyota lost around 5 billion dollars in same years due to payment of litigation costs to casualties and warranty costs they paid out. The study further found that Toyota recall set them back in the market by around 3 billion dollars and was likely to rise to 5.5 billion in the following year while some predictive analysis of financial companies placed Toyota on negative watch due to poor sales performance accruing from their numerous problems. Finally, the study found that Toyota would lose 16.4 million from fined imposed on them by USA National Highway Traffic Safety Administration.

In another study, Mella and Malamut (2024) examined the Toyota market performances in the wake of the recall crisis. The study examined secondary data to examine how Toyota has performed in the market over its recalls of different brands of vehicles. The study found that Toyota has lost 2.45 trillion Japanese Yen which is equivalent to around 15 billion US Dollars to the market. Again, it was found that Toyota’s shares fell by 4% in overseas trading. The implication of the findings is that Toyota poor market performance is a problem that is rooted in different vehicle recalls over the years and this has affected the brand sales and market performance in diverse ways which includes poor sales, losses in shares, stocks and other market values that has emboldened its competitors in the market.

# **DATA DISCOVERY**

For my Data Analysis, data was sourced from Kaggle and extracted just over eight thousand rows of data for an American car dealership for the year 2022 and 2023. The dataset has 17 columns and 8384 rows.

**NOTE:** this is because there was no official Toyota data that contained a large enough dataset to meet the assignment criteria

This dataset contains information about car purchases, including vehicle details (ID, model, transmission, colour), customer demographics (name, gender, annual income), purchase date and location (dealer name, region), and transaction details (price, dealer number, body style).

### **Key Variables:**

* **Vehicle Information:** Car\_id, Model, Transmission, Colour, Price ($)
* **Customer Information:** Customer Name, Gender, Annual Income, Phone
* **Purchase Information:** Date, Month, Year, Dealer\_Name, Dealer\_No, Dealer\_Region, Body Style

### **DATA PREPARATION**

Microsoft Excel was used to transform the data by checking for empty rows and deleting unnecessary column and ensuring that there are no duplications.

Thereafter, the excel sheet was uploaded to Power Bi for data visualization and further analysis.

### **DATA PLANNING AND BUILDING**

As mentioned earlier Power Bi was used for the visualization, which contained:

1. Five Data cards
2. Two donut charts
3. One pie chart
4. One stacked bar chart
5. One clustered column chart
6. One line chart
7. One clustered column chart.

### **DASHBOARD JUSTIFICATION**

The dashboard solution was developed, with a particular focus on Toyota and how it performs alongside major American vehicle brands, it is also intended to address the key challenges faced by dealerships and to exploit opportunities for improving sales performance. The dashboard integrates various data points related to car sales, customer demographics (gender), dealer performance, and market trends. The primary aim of this solution is to provide actionable insights that can guide strategic decision-making, optimize sales processes, and enhance customer satisfaction.

### **DATA AGGREGATION**:

Aggregation functions like SUM, COUNT, AVERAGE, etc., were used to consolidate data. Aggregation was essential to summarize large datasets into meaningful metrics. For example, summing the sales revenue ($33M) and counting the total units sold (1110) provided an overall view of Toyota’s performance. These aggregated metrics are crucial for understanding the scale of operations and performance over time.

### **FILTERING AND SLICING**:

Filters and slicers were applied to isolate specific segments of the data, such as sales by year, model, gender, colour, etc. Filtering allowed for a focused analysis on aspects of the dataset. For example, isolating sales by gender or colour preferences provided insights into consumer demographics and preferences. This helps in identifying trends and disparities that could inform marketing strategies or product offerings.

### **PIVOT TABLES AND PIVOT CHARTS**:

Pivot tables and charts were likely used to cross-tabulate and visualize relationships between different variables (e.g., sales by model and year, or transmission type and sales volume). Pivot tables enabled the comparison of multiple dimensions simultaneously, such as sales by year across different manufacturers. Pivot charts then visualized these comparisons, making it easier to identify trends and patterns that might not be immediately apparent from raw data alone.

### **DATA VISUALIZATION**:

Various visualization types (pie charts, bar charts, line graphs) were used to represent the aggregated data. Visualizations provided a clear, intuitive way to interpret the data. For instance, pie charts were used to show the distribution of sales by transmission type and gender, highlighting significant differences at a glance. Bar charts helped compare sales across different models and manufacturers, making disparities in performance immediately visible.

### **TREND ANALYSIS**

Line charts were used to track the sales revenue trend over time. Trend analysis helped in understanding the direction of Toyota’s sales over the years. By visualizing the decline or growth in sales, stakeholders could assess the effectiveness of past strategies and make data-driven decisions about future actions.

### **COMPARATIVE ANALYSIS**

Comparative bar charts were used to evaluate Toyota’s performance against other manufacturers. This method was critical to understanding Toyota’s position in the market relative to competitors. By comparing sales revenue, the analysis highlighted Toyota’s shortcomings and areas where competitors are outperforming, which is vital for strategic planning.

### **DEMOGRAPHIC ANALYSIS:**

Pie charts were used to analyse sales by gender and customer preferences by colour. This analysis helped identify the customer segments that Toyota is currently serving well and those that might be underserved. For example, the large gender disparity in sales pointed to a potential market gap that Toyota could address through targeted marketing and product design.

### **DAX (DATA ANALYSIS EXPRESSIONS):**

DAX formulas were likely used to create custom calculations, such as calculated columns and measures. DAX was essential for performing complex calculations that went beyond basic aggregation. For example, calculating year-over-year growth rates or creating a custom measure to compare Toyota’s performance against the industry average.

A close-up of a graph

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### Figure 2: Power Bi dashboard (Patrick, 2024)

## **ANALYSIS OF DASHBOARD**

### Total Sales Volume (Revenue and Units Sold):

* **Revenue**: Toyota has generated $33M in sales revenue between 2022 and 2023, which seems to be significantly lower compared to the total dealer sales of $231M. This suggests that other brands are outperforming Toyota in revenue.
* **Units Sold**: Toyota has sold 1,110 units, but this number is not broken down by models or compared directly to other manufacturers in the chart. However, given the overall revenue, it’s likely that Toyota’s units sold are fewer compared to some competitors.

A close up of a number

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### Figure 3: Data Cards (Ugboh, 2024)

### **TRANSMISSION PREFERENCES:**

* The sales by transmission show a nearly even split between automatic (48.75%) and manual (51.25%) transmissions. This split might not align with consumer preferences, which could be skewing towards one type more heavily, possibly affecting sales negatively.

A blue pie chart with text

Description automatically generated

### Figure 4: Pie chart showing Transmission preference (Ugboh, 2024)

### **SALES BY GENDER:**

* There is a notable gender disparity, with 78.25% of sales being made to males and only 21.75% to females. If the overall market has a more balanced gender distribution or a higher female customer base, Toyota might be missing out on a significant portion of potential customers.

A blue circle with text

Description automatically generated

### Figure 5: Donut chart showing sales by gender (Ugboh, 2024)

### **COLOUR PREFERENCES:**

* The favourite vehicle colour appears to be black (49.62%), followed by red (31.23%), and pale white (19.15%). If Toyota’s offerings are skewed away from these popular colours, it could be contributing to lower sales.

A blue and orange pie chart

Description automatically generated

### Figure 6: Donut chart showing sales by vehicle colour (Ugboh, 2024)

### **YEARLY SALES REVENUE:**

* There is a noticeable increase in Toyota sales in 2023. In contrast, other manufacturers like Chevrolet, and Ford have relatively higher sales, indicating better market performance or strategies that Toyota might not be capitalizing on.

A graph of blue bars with white text

Description automatically generated

### Figure 7: Yearly sales comparison by each manufacturer for 2022 and 2023 (Ugboh, 2024)

### **TOYOTA MODEL-SPECIFIC SALES:**

* The graph on “Toyota Sales Revenue per unit Price ($) by Models” shows that certain models like the Tacoma are performing better, while others like the 4Runner and Avalon are underperforming. If Toyota’s less popular models are taking up more of the sales strategy or production focus, this could be impacting overall sales negatively.

A graph with blue squares

Description automatically generated

### Figure 8: Toyota different Model revenue sales for 2022-2023 (Ugboh, 2024)

### **COMPETITION ANALYSIS:**

* The “Sales Revenue per unit Price ($) by Vehicle Manufacturer 2022 - 2023” graph shows that competitors like Chevrolet and Ford are significantly ahead in sales. This suggests that these brands might have more appealing products, better marketing strategies, or stronger brand loyalty.

A graph of sales per unit price

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### Figure 9: Donut chart showing sales by vehicle colour (Ugboh, 2024)

# **CONCLUSION**

In conclusion, from the available data, it is pertinent to conclude that data analytics can never be over emphasized in sales performance analysis in the auto mobile industry given its intricate importance in decision making. The analysis concludes that Data analytics could help brands such as Toyota is circumventing its sales decline it they had properly deployed the tools of data analytics for identifying patterns, severity of the sales decline in the initial stage, and other indicators that could have pointed to their issues in the market such as the use of data analytics for optimizing inventory, sales volume and supply chain logistics could have played a more potent role in managing their sales performance decline.

# **RECOMMENDATIONS**

It is highly recommended that Toyota as a company:

1. **Align Product Offering with Market Demand**:

Toyota should review and align its transmission offerings and model popularity with market demand. For example, focusing more on automatic transmissions if market data suggests a trend towards automatics.

1. **Targeting Gender Preferences**:

Increase efforts to attract female customers through targeted marketing, product features, and perhaps more female-oriented vehicle designs.

1. **Colour Offering Adjustments**:

Consider offering more vehicles in black, red, and pale white colors, as these are preferred by customers.

1. **Revise Sales Strategies**:

Investigate why certain models underperform and either phase them out or improve them based on customer feedback and market trends. Focus on promoting and possibly expanding the more successful models like Tacoma.

1. **Analyse Competitor Strategies**:

Investigate what Chevrolet and Ford are doing differently in terms of marketing, pricing, customer engagement, and product offerings that might be driving their higher sales.

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