



Decoding Consumer Purchase Decisions: Assessing the Influence of Sustainability, Brand Trust, and Brand Preference in Toyota Vehicles

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Abstract – This study examines the factors influencing consumer purchase decisions regarding Toyota vehicles, with particular emphasis on sustainability, brand trust, and brand preference. As consumers become increasingly aware of environmental concerns and corporate responsibility, sustainability has emerged as an important consideration in automobile purchasing. At the same time, brand trust influences perceptions of product quality, reliability, transparency, and long-term value, while brand preference reflects consumers' personal attitudes and loyalty toward a particular automobile brand. The study explores how these three factors contribute to consumers' purchase intentions and decision-making processes concerning Toyota vehicles. It considers consumers' perceptions of Toyota's environmentally responsible technologies, product performance, corporate reputation, safety, reliability, and overall brand image. The research adopts a consumer-oriented framework to assess the relationships between sustainability perceptions, brand trust, brand preference, and purchase decisions. The findings are expected to provide insights into the relative importance of environmental and brand-related factors in shaping automobile purchasing behaviour. The study may also assist automobile marketers and manufacturers in developing strategies that strengthen consumer trust, communicate sustainability initiatives effectively, and enhance long-term brand preference. Overall, the research contributes to a better understanding of contemporary consumer behaviour in the sustainable automobile market.

Keywords - Consumer Purchase Decisions; Sustainability; Brand Trust; Brand Preference; Toyota Vehicles; Consumer Behaviour; Sustainable Automotive Industry; Purchase Intention; Brand Loyalty; Green Consumerism; Automobile Marketing; Environmental Awareness.

I. INTRODUCTION

1. Background of the Study

The global automobile industry is experiencing a major transformation as sustainability has become one of the key priorities for manufacturers, governments, and consumers. Rapid industrialization, increasing carbon emissions, depletion of natural resources, and climate change have compelled automobile companies to adopt environmentally responsible business practices. Governments across the world are also implementing stringent environmental regulations to reduce greenhouse gas emissions and promote sustainable transportation. As a result, automobile manufacturers are investing heavily in clean technologies, energy-efficient production processes, and environmentally friendly products.

Toyota Motor Corporation has established itself as one of the pioneers in sustainable mobility by introducing innovative technologies such as hybrid electric vehicles, hydrogen fuel-cell vehicles, carbon-neutral manufacturing processes, renewable energy utilization, waste reduction programs, and water conservation initiatives. These sustainability initiatives help reduce environmental impact while also strengthening Toyota's corporate reputation and competitive position in the global automobile market.

In India, consumer awareness regarding environmental protection has increased significantly. Customers are becoming more conscious of the environmental impact of automobiles and are increasingly considering sustainability-related factors while purchasing vehicles. Along with traditional factors such as price, quality, fuel efficiency, safety, and after-sales service, consumers may also evaluate automobile brands based on their environmental responsibility, ethical practices, and commitment to sustainable development.

Toyota's sustainability initiatives have the potential to influence customer perceptions by building greater trust in the brand and enhancing brand preference. However, the extent to which these initiatives influence consumer purchase decisions in the Indian automobile market requires further examination. Understanding consumer perceptions towards Toyota's sustainability initiatives can help the company develop more effective sustainability-oriented marketing strategies and strengthen long-term customer relationships.

Therefore, this study focuses on the influence of Toyota's sustainability initiatives on consumer awareness, brand trust, brand preference, and purchase decisions. The study attempts to understand how sustainability contributes to



consumer decision-making and how sustainability can be used as an important strategic factor in the automobile industry.

2. Problem Statement and Objectives

Problem Statement

Toyota has introduced several sustainability initiatives, including hybrid vehicle technology, carbon emission reduction programs, eco-friendly manufacturing processes, renewable energy adoption, and environmental conservation practices. These initiatives are intended to reduce environmental impact and strengthen Toyota's position as a sustainable automobile manufacturer.

However, it is not clear whether consumers are sufficiently aware of Toyota's sustainability initiatives or whether these initiatives influence their automobile purchase decisions. Some consumers may be aware of Toyota's environmental initiatives, while others may give greater importance to factors such as price, fuel efficiency, vehicle quality, safety, design, and after-sales service.

There is also limited empirical research examining the relationship between sustainability initiatives, brand trust, brand preference, and consumer purchase decisions in the Indian automobile market. Therefore, this study attempts to examine consumer awareness of Toyota's sustainability initiatives and understand their relationship with brand trust, brand preference, and purchase decisions.

Objectives of the Study

- To identify consumers' awareness of Toyota's sustainability initiatives.
- To analyse the relationship between Toyota's sustainability initiatives and consumer trust in Toyota vehicles.
- To examine the impact of sustainability initiatives on brand preference among Toyota customers.
- To evaluate how brand trust influences consumers' purchase decisions.
- To examine the relationship between brand preference and consumers' purchase decisions.

3. Scope and Significance of the Study

Scope of the Study

The scope of this research is confined to studying the influence of Toyota's sustainability initiatives on consumer purchase decisions within the Indian automobile industry. The study primarily focuses on existing Toyota customers and prospective automobile buyers residing in Hyderabad. It examines consumer awareness regarding Toyota's sustainability initiatives, including hybrid technology, eco-friendly manufacturing, carbon emission reduction, renewable energy utilization, waste reduction, and environmental responsibility. The study further examines

the relationship between sustainability initiatives and important consumer-related factors such as brand trust, brand preference, and purchase decisions. Primary data for the study will be collected through a structured questionnaire from selected respondents. Secondary information will be obtained from Toyota sustainability reports, annual reports, research journals, books, government publications, and relevant automobile industry reports. The findings of the study will provide insights into consumer perceptions of Toyota's sustainability initiatives and their relationship with purchasing behaviour.

Significance of the Study

The study is significant because sustainability has become an important consideration in the automobile industry. Understanding consumer awareness and perceptions can help automobile companies understand the role of sustainability in consumer decision-making.

For Toyota, the study can provide insights into consumers' awareness of its sustainability initiatives and their relationship with brand trust, brand preference, and purchase decisions. These insights can support the development of appropriate sustainability-focused marketing and communication strategies.

For marketing professionals, the study can provide an understanding of how environmental responsibility may influence consumer perceptions and brand-related outcomes. This can help marketers communicate sustainability initiatives more effectively.

For consumers, the study highlights the increasing importance of environmental considerations in automobile purchasing decisions along with traditional factors such as price, quality, fuel efficiency, safety, and after-sales service.

From an academic perspective, the study contributes to the existing literature on sustainable consumer behaviour, sustainability marketing, brand trust, brand preference, and purchase decisions in the Indian automobile industry.

II. LITERATURE REVIEW

1. Review of Literature

Chen (2010)

Chen (2010) examined the relationship between green brand image, green satisfaction, green trust, and green brand equity. The study found that green brand image, green satisfaction, and green trust are positively associated with green brand equity. The study also indicated that green satisfaction and green trust partially mediate the relationship between green brand image and green brand equity. The findings suggest that companies can strengthen



their brand value by developing a strong environmental image and building consumer trust through sustainable practices.

Chen and Chang (2012)

Chen and Chang (2012) investigated the influence of green perceived value and green perceived risk on green purchase intention, with green trust acting as a mediating variable. The study found that green perceived value positively influences green trust and purchase intention, while green perceived risk has a negative influence. Green trust partially mediates these relationships. The study highlights the importance of consumer trust in encouraging environmentally responsible purchasing decisions.

Chen and Chang (2013)

Chen and Chang (2013) examined the relationship between greenwashing, green consumer confusion, green perceived risk, and green trust. The study found that greenwashing negatively affects green trust. The findings indicate that companies need to provide reliable and transparent environmental information because misleading sustainability claims can reduce consumer confidence in the brand.

Yusof, Kaur and Razak (2013)

Yusof, Kaur and Razak (2013) studied consumers' purchase intention towards environment-friendly automobiles. The study examined environmental responsibility, environmental values, environmental knowledge, environmental advertising, and perceptions of environment-friendly automobiles. The findings showed that environmental knowledge influenced perceptions of environment-friendly automobiles, while perceptions of such automobiles influenced purchase intention.

Akehurst, Afonso and Martins Gonçalves (2012)

Akehurst et al. (2012) examined green purchase behaviour and the characteristics of green consumers. The study focused on factors influencing consumers' environmentally responsible purchasing behaviour. The research indicates that consumer attitudes and environmental considerations play an important role in green purchase decisions. The study is relevant to understanding how environmental perceptions can affect consumer behaviour.

Joshi and Rahman (2015)

Joshi and Rahman (2015) reviewed 53 empirical studies on green purchase behaviour published between 2000 and 2014. They identified environmental concern, environmental knowledge, and functional and green product attributes as important drivers of green purchasing. High price and inconvenience were identified as important barriers. The study also highlighted the gap between

consumers' positive environmental attitudes and their actual purchasing behaviour.

Khandelwal, Bajpai, Tripathi and Yadav (2016)

Khandelwal et al. (2016) examined consumers' intention to purchase hybrid cars in India. The study considered green product information, self-image, social value, emission importance, and social value associated with green products. The findings indicated that seeking green product information and social value associated with hybrid and green products were positively related to purchase intention. The study also highlighted the need to create greater awareness of the benefits of hybrid vehicles among Indian consumers.

Paul, Modi and Patel (2016)

Paul, Modi and Patel (2016) examined green product consumption using the Theory of Planned Behaviour and Theory of Reasoned Action. Their work provides a framework for understanding how attitudes, social influences, and perceived behavioural factors can affect consumers' intentions to purchase environmentally friendly products. The study is relevant to the present research because consumer attitudes and intentions are important links between sustainability perceptions and purchasing behaviour.

Uddin and Khan (2016)

Uddin and Khan (2016) investigated green purchasing behaviour among young Indian consumers. The study examined environmentally responsible purchasing and the factors influencing young consumers' green purchase behaviour. Their work is particularly relevant to the Indian context because it demonstrates the importance of environmental awareness and consumer attitudes in understanding green purchasing behaviour.

Kumar, Manrai and Manrai (2017)

Kumar, Manrai and Manrai (2017) developed a conceptual framework for understanding purchasing behaviour towards environmentally sustainable products. The study examined factors that influence consumers' decisions to purchase sustainable products. The research provides a foundation for understanding the connection between environmental considerations and consumer purchasing behaviour, which is relevant to sustainability-oriented automobile purchases.

Jaiswal and Kant (2018)

Jaiswal and Kant (2018) investigated green purchasing behaviour among Indian consumers using environmental concern, perceived consumer effectiveness, attitude towards green products, and perceived environmental knowledge. Based on data from 351 Indian consumers, the study found that green purchase intention was significantly



influenced by attitude towards green products, environmental concern, and perceived consumer effectiveness. Green purchase intention was also identified as an important predictor of green purchasing behaviour.

How Does Green Product Knowledge Effectively Promote Green Purchase Intention? (2019)

A 2019 study examined the relationship between green product knowledge and green purchase intention using data from 236 respondents. The findings showed that green trust and perceived consumer effectiveness partially mediated the relationship between green product knowledge and green purchase intention. The study indicates that merely providing environmental information may not be sufficient; consumer trust also plays an important role in translating knowledge into purchase intention.

Ahmad and Zhang (2020)

Ahmad and Zhang (2020) examined green purchase intention using a Stimulus-Organism-Response framework. The study considered green trust, green perceived value, consumer social responsibility, green word-of-mouth, and greenwashing. The findings showed that green trust and green perceived value positively influenced green purchase intention, whereas greenwashing had a negative influence. The study demonstrates the importance of trustworthy sustainability communication.

Jain, Bhaskar and Jain (2022)

Jain, Bhaskar and Jain examined the factors influencing electric vehicle adoption intention in India using an integrated UTAUT model. The study considered performance expectancy, facilitating conditions, perceived risk, environmental concerns, and government support. The findings showed that performance expectancy and facilitating conditions positively influenced EV adoption intention, while perceived risk negatively influenced adoption intention.

Alhamad et al. (2023)

Alhamad et al. (2023) examined the relationship between green marketing strategies, green perceived value, green trust, and green purchase intentions. The study emphasized that green marketing can influence consumer perceptions of environmental value and trust, which can subsequently contribute to green purchase intention. The study provides theoretical support for examining sustainability-focused marketing and consumer responses.

Upadhyay and Kamble (2023)

Upadhyay and Kamble (2023) investigated Indian consumers' pro-environment purchase intention towards electric vehicles using the Stimulus-Organism-Response perspective. The study used responses from 1,143 Indian

consumers and examined pro-environment responsibility, pro-environment value, and pro-environment attitude. The research found important relationships between these factors and EV purchase intention, highlighting the role of environmental perceptions in automobile-related purchasing decisions.

Shanmugavel and Alagappan (2023)

Shanmugavel and Alagappan (2023) examined electric vehicle purchase intention by considering environmental product knowledge, environmental concern, perceived behavioural control, and perceived innovativeness. The study combined variables from the Theory of Planned Behaviour and UTAUT. The research indicates that environmental knowledge and concern are relevant factors in understanding consumers' intention to purchase environmentally friendly vehicles.

Investigating the Impact of Green Marketing Components on Purchase Intention (2022)

A 2022 study examined green knowledge, environmental attitude, environmental knowledge, green image, green trust, and purchase intention using data from 300 respondents. The findings showed significant relationships between green marketing-related factors, green image, green trust, and purchase intention. The study also highlighted the mediating role of brand image and brand trust in green purchasing decisions.

Green Marketing: Drivers in the Process of Buying Green Products (2022)

A 2022 study examined green perceived value, green satisfaction, green trust, green word-of-mouth, and green purchase intention. The results showed that green perceived value positively influenced green trust and green satisfaction. Green satisfaction and green trust were positively associated with green purchase intention. The findings demonstrate that consumers' perceptions of environmental value and their trust in a green brand can contribute to purchase intentions.

Panda, Singhal, Jena and Tripathy (2025)

Panda et al. (2025) conducted a study on Indian consumers' green purchase intention by integrating the Theory of Planned Behaviour with a meta-analysis of previous research. The study examined factors associated with environmentally responsible purchasing among Indian consumers. The research provides recent evidence that green purchase intention is influenced by multiple behavioural and environmental factors and helps strengthen the theoretical basis for studying sustainable consumer behaviour in India.

2. Industry / Business Analysis

The automobile industry is one of the major sectors contributing to economic development, employment, technological innovation, and transportation. At the same time, the industry faces increasing pressure to reduce carbon emissions, fuel consumption, waste generation, and other environmental impacts.

Automobile manufacturers are increasingly adopting sustainable technologies and production practices. These include hybrid vehicles, electric vehicles, hydrogen fuel-cell technology, renewable energy, energy-efficient manufacturing, waste reduction, recycling, and water conservation.

Toyota has incorporated sustainability into several areas of its business operations. Its sustainability initiatives include the development of environmentally friendly vehicle technologies, reduction of greenhouse gas emissions, efficient use of resources, renewable energy adoption, waste management, and environmental conservation.

In the Indian automobile market, consumer preferences are influenced by factors such as affordability, fuel efficiency, vehicle performance, safety, technology, maintenance costs, brand reputation, and after-sales service. Environmental awareness is also becoming relevant as consumers are increasingly exposed to information about pollution and climate change.

Therefore, sustainability represents an important area for automobile manufacturers to differentiate their brands and respond to changing consumer expectations.

3. Research / Business Gap

Existing literature has examined green brand image, green trust, sustainability, consumer attitudes, and purchase intentions. However, there is comparatively limited research specifically examining the relationship between Toyota's sustainability initiatives and consumer purchase decisions in the Indian automobile market.

Most previous studies have focused on general green products or broad environmental consumer behaviour. Limited attention has been given to the combined relationship between sustainability initiatives, consumer awareness, brand trust, brand preference, and purchase decisions within the automobile sector.

There is also a need to understand whether consumers are actually aware of Toyota's sustainability initiatives and whether such awareness is associated with greater trust and preference for the brand.

Therefore, the present study attempts to address this gap by examining:

- Consumer awareness of Toyota's sustainability initiatives.
- The relationship between sustainability initiatives and brand trust.
- The impact of sustainability initiatives on brand preference.
- The influence of brand trust on purchase decisions.
- The relationship between brand preference and purchase decisions.

The study focuses on consumers in Hyderabad and provides a specific Indian market perspective on Toyota's sustainability-related consumer behaviour.

4. Theoretical / Conceptual Framework

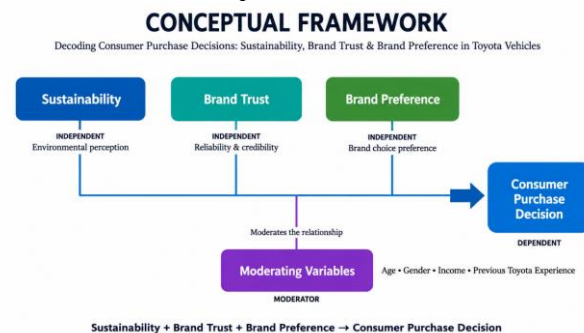


Figure 1: Theoretical / Conceptual Framework

Objective	Null Hypothesis (H ₀)	Alternative Hypothesis (H ₁)
1. To identify consumers' awareness of Toyota's sustainability initiatives.	H ₀₁ : Gender has no significant association with consumers' awareness of Toyota's sustainability initiatives.	H ₁₁ : Gender has a significant association with consumers' awareness of Toyota's sustainability initiatives.
2. To analyse the relationship between Toyota's sustainability initiatives and consumer trust.	H ₀₂ : Sustainability awareness has no significant relationship with consumer trust in Toyota.	H ₁₂ : Sustainability awareness has a significant relationship with consumer trust in Toyota.
3. To examine the impact of sustainability initiatives on brand preference.	H ₀₃ : Sustainability awareness has no significant influence on brand preference.	H ₁₃ : Sustainability awareness has a significant influence on brand preference.



4. To evaluate how brand trust influences consumers' purchase decisions.	H ₀₄ : Brand trust has no significant influence on consumers' purchase decisions.	H ₁₄ : Brand trust has a significant influence on consumers' purchase decisions.
5. To examine the relationship between brand preference and consumers' purchase decisions.	H ₀₅ : Brand preference has no significant relationship with consumers' purchase decisions.	H ₁₅ : Brand preference has a significant relationship with consumers' purchase decisions.

- Carbon Emission Reduction
- Eco-friendly Manufacturing
- Environmental Responsibility
- Green Business Practices

Dependent Variables

- Brand Trust
- Brand Preference
- Consumer Purchase Decision

Consumer Awareness is considered an important study construct and is specifically examined in Objective 1. The study also examines whether awareness is associated with demographic characteristics such as gender.

III. RESEARCH METHODOLOGY

1. Research Design

Descriptive Research Design has been adopted for this study. Descriptive research is suitable because it helps describe the characteristics, opinions, attitudes, and behaviour of consumers regarding Toyota's sustainability initiatives. It enables the researcher to understand consumer awareness, measure brand trust and brand preference, and examine how these factors are associated with consumer purchase decisions. This research design is appropriate because the study aims to examine existing consumer perceptions without manipulating the study variables.

Research Approach

The study follows a **Quantitative Research Approach**. Quantitative research involves collecting numerical data from respondents through a structured questionnaire. The collected data is analyzed using statistical techniques to identify relationships between Toyota's sustainability initiatives, brand trust, brand preference, and consumer purchase decisions. The quantitative approach allows objective measurement of consumer opinions and provides a systematic basis for testing the research objectives.

Research Type

The study is classified as **Applied Research** because it focuses on a practical business problem. The findings are intended to help understand how Toyota's sustainability initiatives are associated with consumer perceptions and purchasing behaviour. The results may also support the development of sustainability-oriented marketing strategies.

Variables of the Study

The major variables considered in the study are:

Independent Variable

Toyota's Sustainability Initiatives

- Hybrid Technology

The overall study examines how Toyota's sustainability initiatives are related to consumer awareness, brand trust, brand preference, and purchase decisions.

2. Data Sources And Sampling

Data Sources

The study uses both Primary Data and Secondary Data.

Primary Data

Primary data is collected directly from respondents using a structured questionnaire. The questionnaire contains multiple-choice questions and five-point Likert-scale statements designed to measure respondents' perceptions regarding Toyota's sustainability initiatives, consumer awareness, brand trust, brand preference, and purchase decisions.

The questionnaire is administered to existing Toyota customers and prospective automobile buyers in Hyderabad.

Secondary Data

Secondary data is collected from various published and reliable sources, including:

- Toyota Sustainability Reports
- Toyota Annual Reports
- Research Journals
- Books
- Government Publications
- Automobile Industry Reports
- Deloitte Reports
- McKinsey & Company Reports
- PwC Reports
- EY Reports
- IBM Institute for Business Value
- Capgemini Research Institute
- Research articles available through Google Scholar and Scopus



Secondary data helps establish the theoretical background of the study and provides information from previous research related to sustainability, green marketing, brand trust, brand preference, and consumer purchase behaviour.

Sampling Design

Sampling refers to the process of selecting a representative subset of individuals from the target population for conducting the research. Since it is not feasible to collect information from every automobile consumer, a sample is selected for the present study.

Sampling Technique

The study uses **Convenience Sampling**, which is a non-probability sampling technique. Under this method, respondents are selected based on their availability and willingness to participate in the study.

The respondents may be approached through automobile-related locations, educational institutions, shopping areas, and online survey platforms.

Target Population

The target population includes:

- Existing Toyota vehicle owners
- Prospective Toyota vehicle buyers
- Individuals interested in purchasing passenger vehicles
- Consumers residing in Hyderabad

These respondents are considered relevant because they can provide information about awareness of Toyota's sustainability initiatives and their perceptions regarding Toyota vehicles.

Sample Size

The proposed sample size for the study was **150–200 respondents**. The respondent-level dataset used for the revised analysis contains 187 response records. After accounting for valid construct-level responses, 185 respondents are available for the main inferential analysis.

Sampling Area

The study is conducted in **Hyderabad, Telangana**. Hyderabad has a diverse automobile consumer base and provides an appropriate geographical setting for examining consumer perceptions regarding Toyota's sustainability initiatives.

3. Data Collection and Analysis

Research Instrument

The primary research instrument used for the study is a **Structured Questionnaire**. The questionnaire is divided into five sections:

Section A – Demographic Information

- Age
- Gender
- Education
- Occupation
- Monthly Income

Section B – Consumer Awareness regarding Toyota's Sustainability Initiatives

This section measures respondents' awareness and understanding of Toyota's sustainability-related activities.

Section C – Brand Trust

This section measures respondents' trust in Toyota based on factors such as reliability, credibility, and sustainability-related practices.

Section D – Brand Preference

This section measures respondents' preference for Toyota compared with other automobile brands.

Section E – Purchase Decision

This section measures respondents' purchase-related perceptions and intentions towards Toyota vehicles.

Most statements are measured using a **Five-Point Likert Scale**:

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

Data Collection Procedure

The questionnaire is distributed among the selected respondents through online and direct survey methods. Respondents are informed about the academic purpose of the study, and their participation is voluntary. The collected responses are organized and prepared for statistical analysis.

Statistical Tools for Data Analysis

The collected data is analyzed using **Microsoft Excel**. The following statistical techniques are used according to the five research objectives:

Objective	Statistical Test	Purpose
Objective 1	Chi-Square Test of Independence	To examine whether consumer awareness level is significantly associated with gender.
Objective 2	Pearson Correlation	To examine the strength and direction of the relationship between



		sustainability initiatives and brand trust.		preference		Preference Composite
Objective 3	Regression Analysis	To examine the effect of sustainability initiatives on brand preference.	Objective 4	Brand trust and purchase decision	Simple Linear Regression	Trust Composite → Purchase Decision Composite
Objective 4	Regression Analysis	To evaluate the influence of brand trust on consumer purchase decision.				
Objective 5	Pearson Correlation	To examine the relationship between brand preference and consumer purchase decision.	Objective 5	Brand preference and purchase decision	Pearson Correlation	Preference Composite ↔ Purchase Decision Composite

IV. DATA ANALYSIS, FINDINGS AND DISCUSSION

1. Data Analysis and Results

This chapter presents the descriptive and inferential analysis of the 185 usable respondent records supplied in the Excel dataset. The questionnaire uses a five-point Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree. Item-level valid responses range from 183 to 185 because some respondents did not answer every statement.

The five objectives are aligned with the requested statistical methods: Chi-Square Test for Objective 1, Pearson Correlation for Objectives 2 and 5, and Simple Linear Regression for Objectives 3 and 4. Construct scores are calculated as the respondent-level mean of the questionnaire items assigned to each construct.

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Statistical Test Mapping

Table 1: Statistical Test Mapping

Objective	Study focus	Test	Variables analysed
Objective 1	Consumer awareness of Toyota's sustainability initiatives	Chi-Square Test of Independence	Gender × Awareness Level
Objective 2	Sustainability initiatives and consumer trust	Pearson Correlation	Awareness Composite ↔ Trust Composite
Objective 3	Sustainability initiatives and brand	Simple Linear Regression	Awareness Composite →

Respondent Profile

The Excel file contains 187 response rows. Demographic variables contain 185 usable responses, while individual Likert questions contain 183–185 valid responses. Missing values are retained as non-response rather than being replaced.

Gender

Table 2: Gender Distribution of Respondents

Category	Frequency	Valid % / Record %
Female	96	51.9%
Male	88	47.6%
Other	1	0.5%
No response	2	1.1% of all records

Category	Frequency	Valid % / Record %
₹50,001–₹1,00,000	63	34.1%
₹25,000–₹50,000	62	33.5%
₹1,00,001–₹2,00,000	30	16.2%
Below ₹25,000	17	9.2%
Above ₹2,00,000	13	7.0%
No response	2	1.1% of all records

worksheet 20

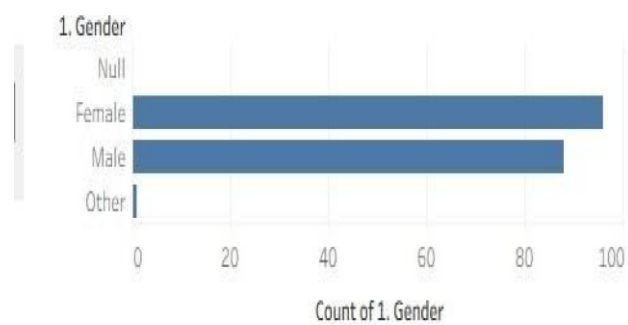


Figure 1: Gender distribution



Interpretation: Female is the largest category, with 96 valid responses (51.9%). The profile describes the composition of the surveyed respondents used in the subsequent analysis.

Age

Table 3: Age Distribution of Respondents

Category	Frequency	Valid % / Record %
36–45 years	60	32.4%
25–35 years	49	26.5%
Below 25 years	43	23.2%
46–55 years	29	15.7%
Above 55 years	3	1.6%
No response	3	1.6% of all records

worksheet 21

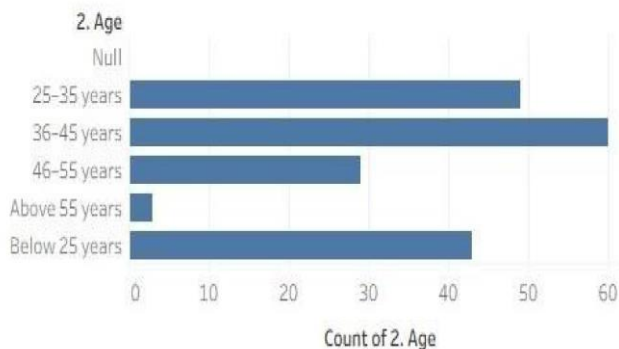


Figure 2: Age distribution

Interpretation: 36–45 years is the largest category, with 60 valid responses (32.6%). The profile describes the composition of the surveyed respondents used in the subsequent analysis.

Monthly Household Income

Table 4: Monthly Household Income of Respondents

worksheet 22



Figure 3: Monthly Household Income distribution

Interpretation: ₹50,001–₹1,00,000 is the largest category, with 63 valid responses (34.1%). The profile describes the composition of the surveyed respondents used in the subsequent analysis.

Educational Qualification

Table 5: Educational Qualification of Respondents

Category	Frequency	Valid % / Record %
Postgraduate	88	47.6%
Undergraduate	58	31.4%
Doctorate	34	18.4%
Other	4	2.2%
Higher Secondary	1	0.5%
No response	2	1.1% of all records

worksheet 23

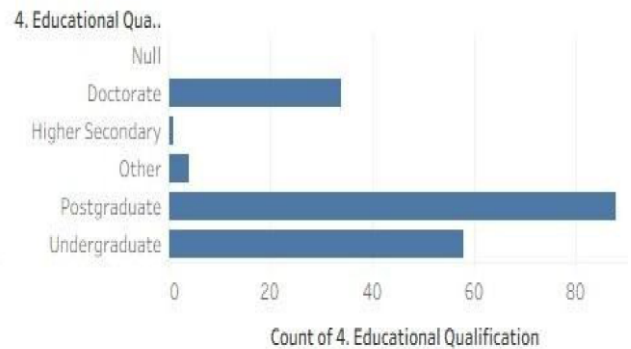


Figure 4: Educational Qualification distribution

Interpretation: Postgraduate is the largest category, with 88 valid responses (47.6%). The profile describes the composition of the surveyed respondents used in the subsequent analysis.

Previous Experience with Toyota

Table 6: Previous Experience with Toyota

Category	Frequency	Valid % / Record %
Have used a Toyota vehicle but never owned one	84	45.4%
Considering purchasing a Toyota vehicle	55	29.7%
Previously owned a Toyota vehicle	33	17.8%
Currently own a Toyota vehicle	8	4.3%
No previous experience with Toyota	5	2.7%
No response	2	1.1% of all records



workSheet 24

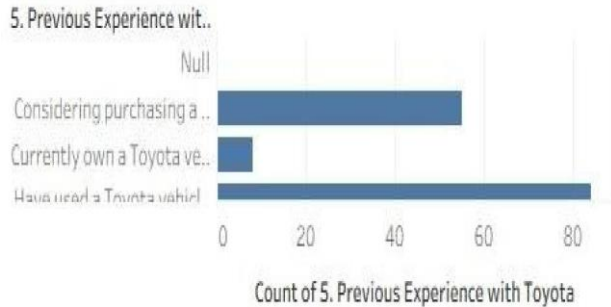


Figure 5: Previous Experience with Toyota distribution

Interpretation: Have used a Toyota vehicle but never owned one is the largest category, with 84 valid responses (45.4%). The profile describes the composition of the surveyed respondents used in the subsequent analysis.

Objective 1 – Consumer Awareness

Objective 1: To identify consumers' awareness of Toyota's sustainability initiatives.

I am aware of Toyota's efforts toward environmental sustainability.

Table 7: Consumer Awareness of Toyota's Sustainability Initiatives

Response	Frequency	Valid %
Strongly Disagree	2	1.1%
Disagree	12	6.5%
Neutral	67	36.2%
Agree	76	41.1%
Strongly Agree	27	14.6%

Interpretation: 103 of 184 valid responses (56.0%) selected Agree or Strongly Agree.

7. I am aware of Toyota's initiatives related to fuel-efficient and environmentally friendly vehicles.

Response	Frequency	Valid %
Strongly Disagree	2	1.1%
Disagree	15	8.1%
Neutral	53	28.6%
Agree	86	46.5%
Strongly Agree	29	15.7%

Interpretation: 115 of 185 valid responses (62.2%) selected Agree or Strongly Agree.

work sheet 1

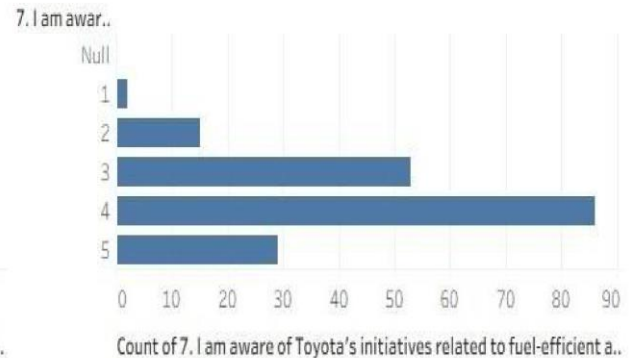


Figure 6: Q7 response distribution

Toyota communicates its sustainability initiatives clearly to consumers.

Response	Frequency	Valid %
Strongly Disagree	2	1.1%
Disagree	10	5.4%
Neutral	67	36.2%
Agree	83	44.9%
Strongly Agree	23	12.4%

Interpretation: 106 of 185 valid responses (57.3%) selected Agree or Strongly Agree.

worksheets 2

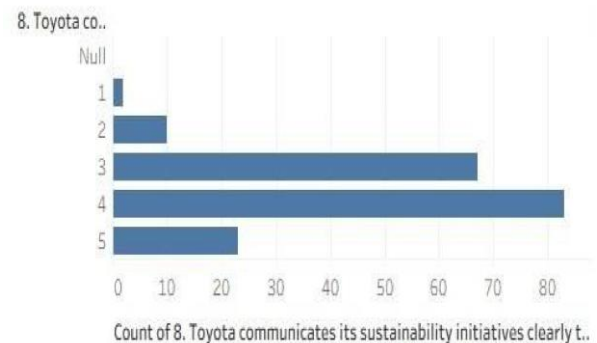


Figure 7: Q8 response distribution

I believe Toyota incorporates sustainability into its products and business practices.

Response	Frequency	Valid %
Strongly Disagree	0	0.0%
Disagree	12	6.5%
Neutral	59	31.9%
Agree	88	47.6%
Strongly Agree	25	13.5%

Interpretation: 113 of 184 valid responses (61.4%) selected Agree or Strongly Agree.



worksheet 3

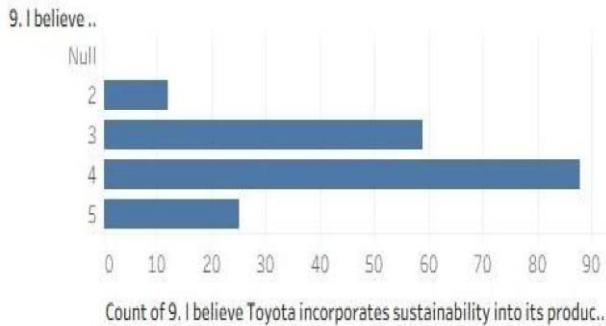


Figure 8: Q9 response distribution

Toyota's sustainability initiatives make me more aware of the company's environmental responsibility.

Response	Frequency	Valid %
Strongly Disagree	1	0.5%
Disagree	5	2.7%
Neutral	64	34.6%
Agree	92	49.7%
Strongly Agree	22	11.9%

Interpretation: 114 of 184 valid responses (62.0%) selected Agree or Strongly Agree.

worksheet 4

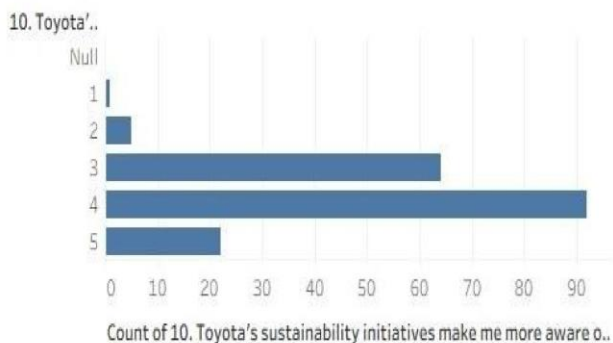


Figure 9: Q10 response distribution

Chi-Square Test of Independence – Objective 1

Objective 1: To identify consumers' awareness of Toyota's sustainability initiatives.

Chi-Square Test of Association between Gender and Awareness Level

Table 8: Chi-Square Test of Independence between Gender and Awareness Level

Gender	Low	Neutral	High	Total
Female	4	10	32	46
Male	4	13	25	42
Total	8	23	57	88

Chi-Square Test Results

Test	Value
Pearson Chi-Square (χ^2)	1.071
Degrees of Freedom (df)	2
p-value	0.585
Significance Level	0.05
Decision	Accept H_0

Interpretation

The Chi-Square test was conducted to examine the association between gender and consumers' awareness of Toyota's sustainability initiatives. The results show that the Pearson Chi-Square value is **1.071** with **2 degrees of freedom** and a **p-value of 0.585**. Since the p-value is greater than 0.05, the null hypothesis is accepted. Therefore, there is **no statistically significant association between gender and awareness level**.

Objective 2 – Sustainability Initiatives And Brand Trust

Objective 2: To analyse the relationship between Toyota's sustainability initiatives and consumer trust in Toyota vehicles.

Q11

Toyota's commitment to sustainability increases my trust in the brand.

Table 9: Consumer Trust towards Toyota's Sustainability Initiatives

Response	Frequency	Valid %
Strongly Disagree	1	0.5%
Disagree	17	9.2%
Neutral	56	30.3%
Agree	84	45.4%
Strongly Agree	27	14.6%

Interpretation: 111 of 185 valid responses (60.0%) selected Agree or Strongly Agree.



worksheet 5

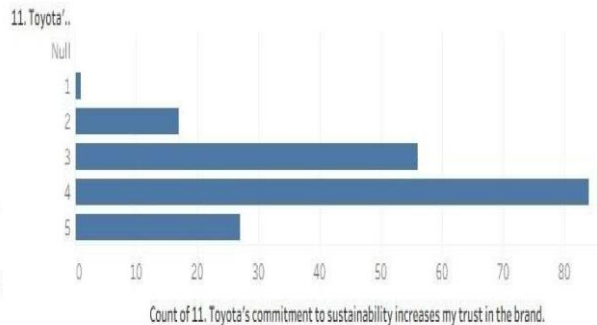


Figure 10: Q11 response distribution

I believe Toyota's sustainability-related claims are genuine.

Response	Frequency	Valid %
Strongly Disagree	2	1.1%
Disagree	16	8.6%
Neutral	60	32.4%
Agree	87	47.0%
Strongly Agree	20	10.8%

Interpretation: 107 of 185 valid responses (57.8%) selected Agree or Strongly Agree.

worksheet 6

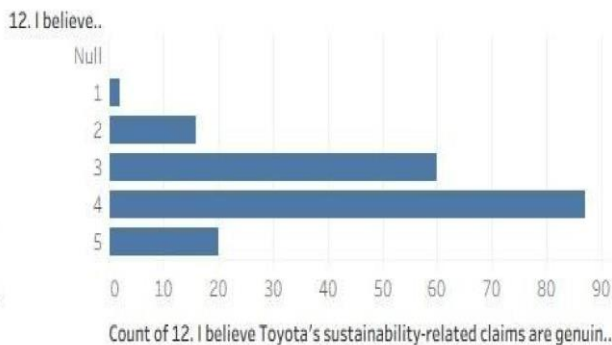


Figure 11: Q12 response distribution

Toyota's environmental initiatives make the brand appear more reliable and credible.

Response	Frequency	Valid %
Strongly Disagree	0	0.0%
Disagree	13	7.0%
Neutral	64	34.6%
Agree	73	39.5%
Strongly Agree	34	18.4%

Interpretation: 107 of 184 valid responses (58.2%) selected Agree or Strongly Agree.

worksheet 7

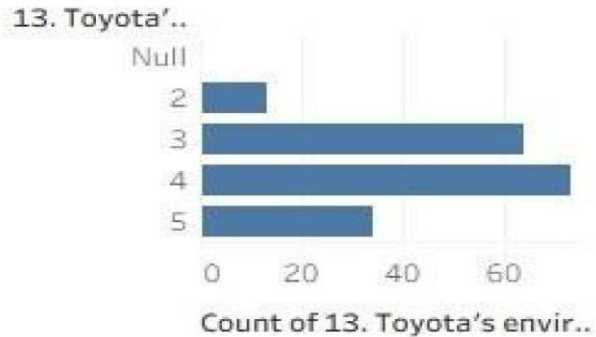


Figure 12: Q13 response distribution

I trust Toyota to fulfill the sustainability commitments it communicates to consumers.

Response	Frequency	Valid %
Strongly Disagree	0	0.0%
Disagree	15	8.1%
Neutral	61	33.0%
Agree	82	44.3%
Strongly Agree	26	14.1%

Interpretation: 108 of 184 valid responses (58.7%) selected Agree or Strongly Agree.

worksheet 8

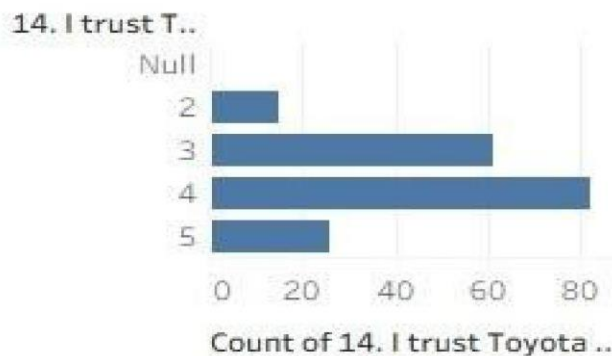


Figure 13: Q14 response distribution

Toyota's sustainability initiatives strengthen my confidence in the brand.

Response	Frequency	Valid %
Strongly Disagree	0	0.0%
Disagree	8	4.3%
Neutral	60	32.4%
Agree	87	47.0%
Strongly Agree	30	16.2%



Interpretation: 117 of 185 valid responses (63.2%) selected Agree or Strongly Agree.

Agree	92	49.7%
Strongly Agree	30	16.2%

worksheet 9

15. Toyota's..

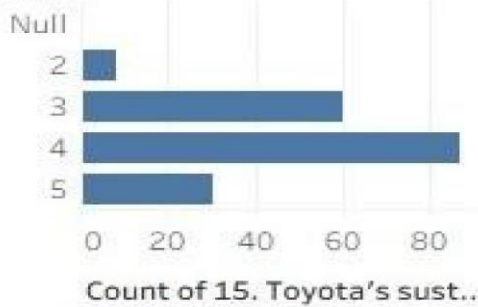


Figure 14: Q15 response distribution

Pearson Correlation – Objective 2

Pearson correlation was used to examine the linear relationship between the awareness composite (Q6–Q10) and the brand-trust composite (Q11–Q15).

Table 10: Pearson Correlation between Sustainability Awareness and Brand Trust

Variables	N	Pearson r	p-value
Awareness ↔ Brand Trust	185	0.752	<0.001

Interpretation: $r = 0.752$ indicates a strong positive linear relationship. The relationship is statistically significant ($p < 0.001$), meaning that higher awareness scores tend to be associated with higher brand-trust scores in this sample. This is an association and should not be interpreted as proof of a causal effect.

Objective 3 – Sustainability Initiatives and Brand Preference

Objective 3: To examine the impact of sustainability initiatives on brand preference among Toyota customers. For statistical interpretation, the regression result is treated as a predictive association rather than experimental evidence of causation.

Toyota's sustainability initiatives increase my preference for the brand.

Table 11: Brand Preference towards Toyota's Sustainability Initiatives

Response	Frequency	Valid %
Strongly Disagree	1	0.5%
Disagree	13	7.0%
Neutral	48	25.9%

Interpretation: 122 of 184 valid responses (66.3%) selected Agree or Strongly Agree.

worksheet 10

16. Toyota's..

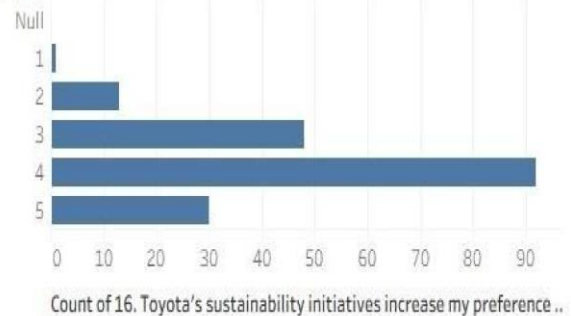


Figure 15: Q16 response distribution

Toyota's environmentally responsible practices positively influence my choice of the brand.

Response	Frequency	Valid %
Strongly Disagree	3	1.6%
Disagree	9	4.9%
Neutral	63	34.1%
Agree	81	43.8%
Strongly Agree	27	14.6%

Interpretation: 108 of 183 valid responses (59.0%) selected Agree or Strongly Agree.

worksheet 11

17. Toyota's..

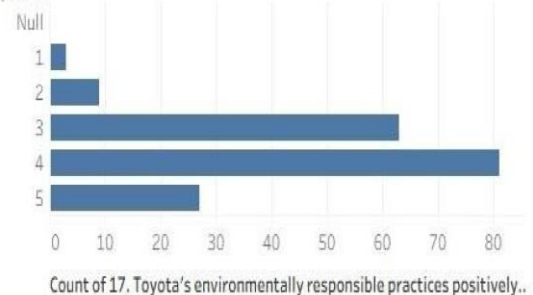


Figure 16: Q17 response distribution

I would prefer Toyota over other vehicle brands because of its sustainability initiatives.

Response	Frequency	Valid %
Strongly Disagree	0	0.0%
Disagree	12	6.5%



Neutral	62	33.5%
Agree	83	44.9%
Strongly Agree	28	15.1%

Interpretation: 111 of 185 valid responses (60.0%) selected Agree or Strongly Agree.

worksheet 12

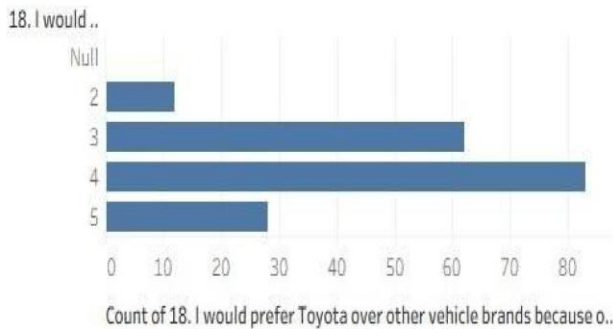


Figure 17: Q18 response distribution

Toyota's sustainability efforts make the brand more attractive to me.

Response	Frequency	Valid %
Strongly Disagree	2	1.1%
Disagree	14	7.6%
Neutral	50	27.0%
Agree	99	53.5%
Strongly Agree	20	10.8%

Interpretation: 119 of 185 valid responses (64.3%) selected Agree or Strongly Agree.

work sheet 13

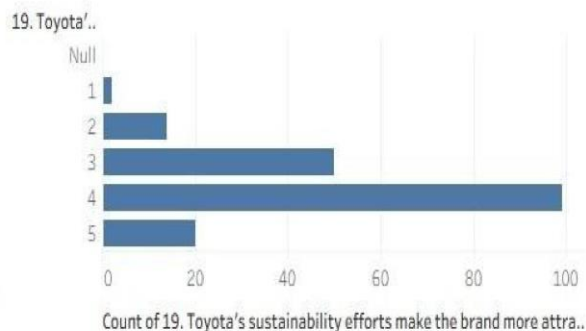


Figure 18: Q19 response distribution

Simple Linear Regression – Objective 3

Dependent variable: Brand Preference Composite (Q16–Q19). Predictor: Sustainability Awareness Composite (Q6–Q10).

Table 12: Simple Linear Regression between Sustainability Awareness and Brand Preference

Model statistic	Value
N	185
R	0.790
R ²	0.624
Adjusted R ²	0.622
F(1,183)	303.468
Model p-value	<0.001

Coefficient	B	SE	t	p-value
Constant	0.578	0.181	3.199	0.0016
Awareness Composite	0.848	0.049	17.420	<0.001

Regression equation: Brand Preference = 0.578 + (0.848 × Awareness).

Interpretation: $R^2 = 0.624$, so the model accounts for approximately 62.4% of the observed variation in brand preference. The awareness coefficient is positive and statistically significant ($B = 0.848$, $p < 0.001$).

Objective 4 – Brand Trust and Purchase Decision

Objective 4: To evaluate how brand trust influences consumers' purchase decisions. The purchase-decision construct is measured using Q20–Q25, and brand trust is measured using Q11–Q15.

My trust in Toyota influences my decision to purchase a Toyota vehicle.

Table 13: Consumer Purchase Decision towards Toyota

Response	Frequency	Valid %
Strongly Disagree	5	2.7%
Disagree	8	4.3%
Neutral	53	28.6%
Agree	90	48.6%
Strongly Agree	29	15.7%

Interpretation: 119 of 185 valid responses (64.3%) selected Agree or Strongly Agree.

worksheet 14



Figure 19: Q20 response distribution



I am more likely to purchase a Toyota vehicle because I trust the brand.

Response	Frequency	Valid %
Strongly Disagree	2	1.1%
Disagree	9	4.9%
Neutral	50	27.0%
Agree	90	48.6%
Strongly Agree	32	17.3%

Interpretation: 122 of 183 valid responses (66.7%) selected Agree or Strongly Agree.

worksheet 15

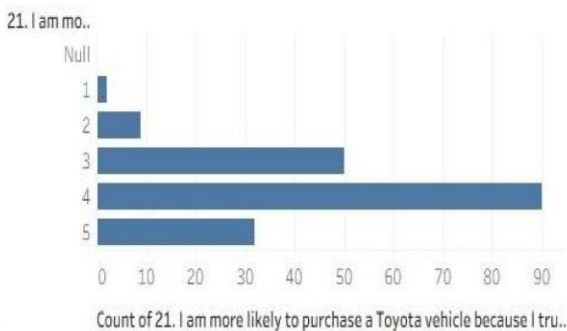


Figure 20: Q21 response distribution

Toyota's reputation for reliability increases my willingness to purchase its vehicles.

Response	Frequency	Valid %
Strongly Disagree	2	1.1%
Disagree	10	5.4%
Neutral	53	28.6%
Agree	87	47.0%
Strongly Agree	33	17.8%

Interpretation: 120 of 185 valid responses (64.9%) selected Agree or Strongly Agree.

worksheet 16

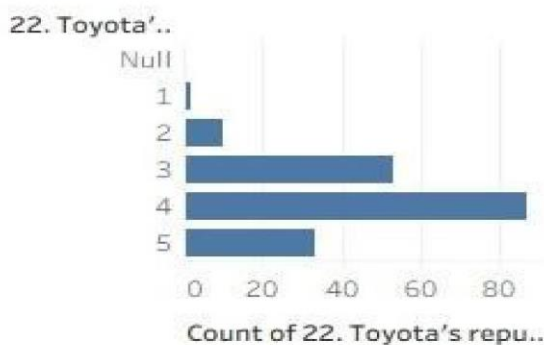


Figure 21: Q22 response distribution

My preference for Toyota influences my decision to purchase a Toyota vehicle.

Response	Frequency	Valid %
Strongly Disagree	0	0.0%
Disagree	8	4.3%
Neutral	63	34.1%
Agree	78	42.2%
Strongly Agree	35	18.9%

Interpretation: 113 of 184 valid responses (61.4%) selected Agree or Strongly Agree.

worksheet 17

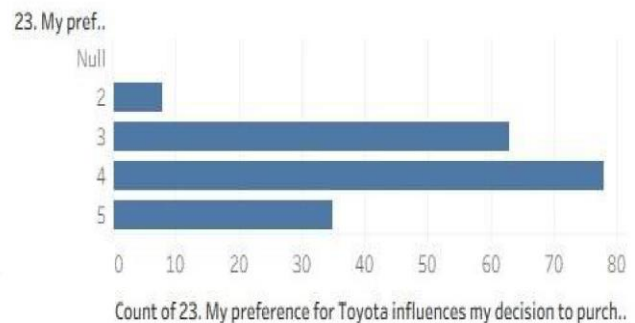


Figure 22: Q23 response distribution

When choosing between similar vehicle brands, I am more likely to consider Toyota if it is my preferred brand.

Response	Frequency	Valid %
Strongly Disagree	2	1.1%
Disagree	6	3.2%
Neutral	60	32.4%
Agree	83	44.9%
Strongly Agree	33	17.8%

Interpretation: 116 of 184 valid responses (63.0%) selected Agree or Strongly Agree.

worksheet 18



Figure 23: Q24 response distribution



I would seriously consider purchasing a Toyota vehicle when I have a strong preference for the brand.

Response	Frequency	Valid %
Strongly Disagree	0	0.0%
Disagree	7	3.8%
Neutral	63	34.1%
Agree	82	44.3%
Strongly Agree	33	17.8%

Interpretation: 115 of 185 valid responses (62.2%) selected Agree or Strongly Agree.

worksheet 19

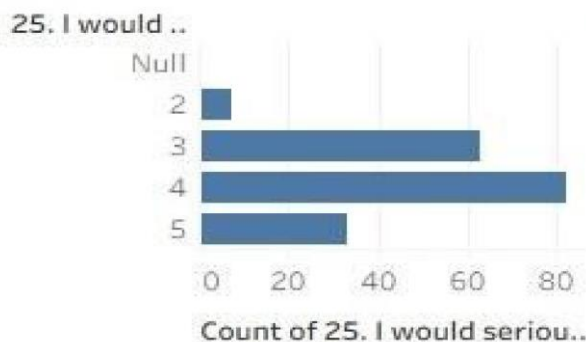


Figure 24: Q25 response distribution

Simple Linear Regression – Objective 4

Dependent variable: Purchase Decision Composite (Q20–Q25). Predictor: Brand Trust Composite (Q11–Q15).

Table 14: Simple Linear Regression between Brand Trust and Purchase Decision

Model statistic	Value
N	185
R	0.766
R ²	0.586
Adjusted R ²	0.584
F(1,183)	259.234
Model p-value	<0.001

Coefficient	B	SE	t	p-value
Constant	1.012	0.173	5.858	<0.001
Brand Trust Composite	0.748	0.046	16.101	<0.001

Regression equation: Purchase Decision = 1.012 + (0.748 × Brand Trust).

Interpretation: R² = 0.586, so the model accounts for approximately 58.6% of the observed variation in purchase decision. The brand-trust coefficient is positive and statistically significant (B = 0.748, p < 0.001).

Objective 5 – Brand Preference and Purchase Decision

Objective 5: To examine the relationship between brand preference and consumers' purchase decisions. The analysis uses the brand-preference composite (Q16–Q19) and the purchase-decision composite (Q20–Q25).

Table 15: Pearson Correlation between Brand Preference and Purchase Decision

Variables	N	Pearson r	p-value
Brand Preference ↔ Purchase Decision	185	0.795	<0.001

Interpretation: r = 0.795 indicates a strong positive linear relationship, and the relationship is statistically significant (p < 0.001). Respondents with higher brand-preference scores tended to report higher purchase-decision scores.

Descriptive Construct Summary

Table 16: Descriptive Statistics of Study Constructs

Construct	Mean	Std. Deviation	Valid N
Awareness (Q6–Q10)	3.661	0.616	185
Brand Trust (Q11–Q15)	3.664	0.647	185
Brand Preference (Q16–Q19)	3.684	0.662	185
Purchase Decision (Q20–Q25)	3.751	0.632	185

All four construct means are above the neutral midpoint of 3.00, indicating generally favourable responses across the four measured dimensions in the surveyed sample.

Findings and Discussion

The analysis shows no statistically significant association between gender and grouped awareness level ($\chi^2(2) = 1.071$, p = 0.585). In contrast, awareness and brand trust are strongly positively correlated (r = 0.752, p < 0.001), and brand preference and purchase decision are strongly positively correlated (r = 0.795, p < 0.001).

The regression models are statistically significant: awareness predicts brand preference with R² = 0.624, and brand trust predicts purchase decision with R² = 0.586; both model p-values are < 0.001. Because the study is cross-sectional and observational, these findings indicate statistical relationships and predictive associations rather than experimentally established causal effects.



Objective-wise findings of the study are summarised below.

Objective 1 – Awareness: Between 56.0% and 62.2% of valid respondents agreed or strongly agreed with the individual awareness statements (Q6–Q10), while roughly 29–36% remained neutral. The Chi-Square test showed no significant association between gender and awareness level ($\chi^2 = 1.071$, $df = 2$, $p = 0.585$), so the null hypothesis H_{01} is accepted.

Objective 2 – Sustainability awareness and brand trust: Pearson $r = 0.752$ ($p < 0.001$, $N = 185$) shows a strong, significant positive relationship; H_{02} is rejected.

Objective 3 – Sustainability awareness and brand preference: The regression model is significant ($R = 0.790$, $R^2 = 0.624$, $F(1,183) = 303.468$, $p < 0.001$). Each one-point increase in awareness is associated with a 0.848-point increase in brand preference; H_{03} is rejected.

Objective 4 – Brand trust and purchase decision: The regression model is significant ($R = 0.766$, $R^2 = 0.586$, $F(1,183) = 259.234$, $p < 0.001$). Each one-point increase in brand trust is associated with a 0.748-point increase in purchase decision; H_{04} is rejected.

Objective 5 – Brand preference and purchase decision: Pearson $r = 0.795$ ($p < 0.001$, $N = 185$) shows a strong, significant positive relationship; H_{05} is rejected.

All four construct means (Awareness 3.661, Brand Trust 3.664, Brand Preference 3.684 and Purchase Decision 3.751) lie above the neutral midpoint of 3.00. Overall, respondents who are more aware of Toyota's sustainability initiatives tend to report higher brand trust and brand preference, and higher trust and preference are in turn associated with a stronger purchase decision.

3. Managerial Implications

- **Make sustainability communication a visible part of the brand story.** Although most respondents are aware of Toyota's sustainability initiatives, about one-third gave a neutral response on the awareness statements. Toyota's marketing team can convert this neutral group by communicating its hybrid technology, emission-reduction and eco-friendly manufacturing efforts more clearly.
- **Use awareness to build brand trust.** The strong positive correlation between awareness and brand trust ($r = 0.752$) suggests that clear, transparent and credible communication of sustainability initiatives can strengthen consumer trust in Toyota.
- **Position sustainability as a driver of brand preference.** Awareness explains about 62.4% of the variation in brand preference ($R^2 = 0.624$), so

sustainability-related messaging can be integrated with Toyota's product and brand positioning to strengthen preference over competing brands.

- **Focus on trust and preference to influence purchase decisions.** Brand trust explains about 58.6% of the variation in purchase decision ($R^2 = 0.586$), and brand preference is strongly related to purchase decision ($r = 0.795$). Sales and marketing strategies should therefore build trust through reliable sustainability claims and reinforce preference through customer experience.
- **Adopt a common communication approach across customer groups.** Since no significant association was found between gender and awareness level, Toyota need not design gender-specific sustainability campaigns; communication can be planned on a common basis and refined using other segments such as age and income.

V. CONCLUSION AND RECOMMENDATIONS

1. Conclusion

The present study examined the relationship between Toyota's sustainability initiatives, consumer awareness, brand trust, brand preference, and consumer purchase decisions. The study was conducted using primary data collected through a structured questionnaire from consumers in Hyderabad. The analysis was based on the responses obtained from the respondents, with 187 response records in the dataset and 185 valid observations used for the main construct-level inferential analysis.

The findings indicate that respondents generally expressed favourable perceptions towards Toyota's sustainability initiatives, brand trust, brand preference, and purchase decisions. The descriptive results show that sustainability-related factors are relevant dimensions of consumer perception towards Toyota vehicles.

With regard to the first objective, the study examined consumer awareness of Toyota's sustainability initiatives. The awareness composite mean was 3.661, indicating a generally favourable level of awareness among the respondents. The Chi-Square test was conducted to examine the association between gender and grouped awareness level. The result, $\chi^2(2) = 1.071$, $p = 0.585$, indicates that there was no statistically significant association between gender and grouped awareness level in the surveyed sample.

For the second objective, the relationship between sustainability-related awareness and brand trust was examined using Pearson correlation. The mean score for



brand trust was 3.664. The analysis showed a strong positive correlation between awareness and brand trust, with $r = 0.752$, $N = 185$, $p < 0.001$. This indicates that respondents with higher awareness scores also tended to report higher brand trust scores.

For the third objective, the relationship between sustainability-related awareness and brand preference was examined using regression analysis. Brand preference had a mean score of 3.684. The regression model was statistically significant, $F(1,183) = 303.468$, $p < 0.001$, with $R^2 = 0.624$. Awareness had a positive regression coefficient of $B = 0.848$, $p < 0.001$. This indicates a positive statistical relationship between awareness and brand preference within the surveyed sample.

For the fourth objective, the influence of brand trust on purchase decision was examined using regression analysis. The mean score for purchase decision was 3.751. The regression model was statistically significant, $F(1,183) = 259.234$, $p < 0.001$, with $R^2 = 0.586$. Brand trust had a positive regression coefficient of $B = 0.748$, $p < 0.001$. This indicates a positive statistical relationship between brand trust and purchase decision among the respondents.

For the fifth objective, the relationship between brand preference and purchase decision was examined using Pearson correlation. The analysis showed a strong positive correlation between the two variables, with $r = 0.795$, $N = 185$, $p < 0.001$. This indicates that respondents reporting higher brand preference scores also tended to report higher purchase-decision scores.

Overall, the study shows that sustainability awareness, brand trust, brand preference, and purchase decision are positively related within the surveyed sample. The findings suggest that sustainability-related perceptions form an important part of consumers' evaluation of Toyota. However, the study is based on cross-sectional and self-reported data; therefore, the statistical relationships identified should not be interpreted as proof of causal relationships.

The study therefore provides useful insights into consumer perceptions of Toyota's sustainability initiatives and their relationship with brand-related outcomes. The findings can assist in understanding the role of sustainability communication, consumer awareness, brand trust, and brand preference in the automobile purchasing context.

2. Recommendations and Implementation Plan

Based on the findings of the study, the following recommendations are proposed for Toyota:

1. Strengthen Sustainability Communication

Toyota can continue to communicate its sustainability initiatives through websites, social media platforms, advertisements, dealerships, and other consumer communication channels. Information should be presented in simple and understandable language so that consumers can easily understand Toyota's environmental initiatives.

Increase Consumer Awareness

Toyota can conduct consumer awareness campaigns explaining its sustainability initiatives, including hybrid technology, carbon emission reduction, eco-friendly manufacturing, renewable energy use, and environmental conservation.

Highlight Practical Benefits

Sustainability initiatives can be communicated together with practical customer benefits such as fuel efficiency, reduced environmental impact, efficient vehicle technology, and long-term value. This can help consumers understand how sustainability-related technologies are relevant to their everyday vehicle usage.

Improve Transparency in Sustainability Communication

Toyota can provide clear and transparent information about its sustainability objectives, environmental performance, technologies, and progress. Transparent communication can help consumers better understand the company's sustainability efforts.

Strengthen Brand Trust

The study found a positive statistical relationship between awareness and brand trust. Therefore, Toyota can maintain consistent communication regarding its sustainability activities and provide clear evidence of its environmental commitments to strengthen consumer confidence.

Strengthen Brand Preference

Toyota can integrate sustainability into its marketing communication while maintaining emphasis on important customer considerations such as quality, safety, technology, fuel efficiency, and customer service.

Monitor Consumer Perceptions

Toyota can periodically conduct consumer surveys to understand changes in sustainability awareness, brand trust, brand preference, and purchase consideration across different consumer segments.

Implementation Plan

Recommendation	Implementation Action	Expected Outcome
Strengthen sustainability communication	Use social media, websites, advertisements	Improved consumer awareness



	and dealerships	
Increase consumer awareness	Conduct sustainability awareness campaigns	Better understanding of Toyota's initiatives
Highlight practical benefits	Communicate fuel efficiency, environmental and technological benefits	Improved understanding of sustainability value
Improve transparency	Share sustainability goals, initiatives and progress clearly	Greater clarity regarding sustainability claims
Strengthen brand trust	Maintain consistent sustainability communication and customer engagement	Improved consumer confidence
Strengthen brand preference	Integrate sustainability with product and brand communication	Greater consideration of Toyota
Monitor consumer perceptions	Conduct periodic surveys and customer feedback studies	Better understanding of changing consumer expectations

The implementation of these recommendations can help Toyota communicate its sustainability initiatives more effectively and understand how consumers respond to them.

3. Limitations and Future Scope

Limitations of the Study

The study has certain limitations that should be considered while interpreting the findings.

- **Geographical Limitation:**
The study is limited to consumers in Hyderabad, Telangana. Therefore, the findings may not represent consumers from other cities or regions of India.
- **Sample Size Limitation:**
The main analysis is based on 185 valid respondent records. This sample may not represent the entire population of Toyota customers and prospective buyers in India.
- **Sampling Technique:**
Convenience sampling was used for collecting responses. Therefore, the sample may not fully represent the characteristics of the wider consumer population.

- **Self-Reported Data:**
The study is based on respondents' self-reported perceptions and opinions. Actual purchasing behaviour may differ from reported purchase intentions or decisions.
- **Missing Responses:**
Some questionnaire items have missing responses, resulting in differences in the number of valid observations across individual variables.
- **Brand-Specific Scope:**
The study focuses specifically on Toyota and does not directly compare its sustainability initiatives with those of other automobile manufacturers.
- **Cross-Sectional Nature:**
Data was collected at a particular point in time. Consumer perceptions may change because of technological developments, environmental awareness, economic conditions, and changes in the automobile market.
- **Statistical Interpretation:**
The correlation and regression results indicate statistical relationships or predictive associations. They should not be interpreted as experimental evidence of causality.

Future Scope of the Study

Future researchers can extend the present study in several ways.

- Future studies can use a larger and more diverse sample covering different cities and regions of India.
- Comparative research can be conducted to examine Toyota's sustainability initiatives alongside those of other automobile brands.
- Future research can examine whether sustainability awareness, brand trust, and brand preference differ across age, gender, income, education, and previous Toyota experience.
- Longitudinal studies can be conducted to examine how consumer perceptions of sustainability change over a period of time.
- Future research can combine questionnaire responses with actual purchase and behavioural data.
- Researchers can examine consumer perceptions towards hybrid vehicles, electric vehicles, hydrogen vehicles, and other sustainable mobility technologies.
- Future studies can examine the role of green marketing, social media communication, environmental knowledge, and corporate reputation in shaping consumer responses to automobile sustainability.
- Further research can investigate whether sustainability perceptions influence customer loyalty and long-term brand relationships.



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