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How Modern Technologies Affect Customer Purchasing Behaviour

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Abstract

The way that customers engage with companies has been completely transformed by the development of digital technology, particularly in the automotive sector. This study examines how contemporary technology have affected consumer purchase behaviour between 2021 and 2024 with a focus on Tata Motors, one of India's top automakers. The study looks into important topics like digital marketing, online car sales, the adoption of electric vehicles (EVs), AR/VR integration, IoT-enabled features, and digital finance options.

Through the use of influencer partnerships, targeted advertising, and social media platforms, Tata Motors has achieved notable progress in digital marketing. These initiatives have improved connection with tech-inclined consumers, raised brand exposure, and produced more individualized customer experiences. Influencing consumer opinion and brand trust has been greatly aided by social media sites like Instagram, YouTube, and Twitter.

Tata Motors introduced programs like "Click to Drive" to enable customers to see, personalize, and buy cars online in response to the growing trend of online purchasing. In keeping with contemporary customer expectations, the move to virtual showrooms and online reservations has brought convenience and transparency. The digital customer journey has been further improved by features like AI-powered chatbots and virtual test drives.

Due to government incentives and concerns about sustainability, electric vehicles have also grown to be a major consideration when making a purchase. During this time, Tata Motors has established a dominant market position in India's EV industry because to the success of its EV models, including the Nexon EV and Tiago EV.

Customers can now virtually experience automobiles thanks to technologies like augmented reality (AR) and virtual reality (VR), which makes the purchasing process more engaging and educational. At the same time, connected features like real-time updates, diagnostics, and in-car voice help have become more popular due to smart technology driven by the Internet of Things (IoT).

Furthermore, streamlined internet transactions and digital financing options have lowered buying barriers, opening up car ownership to a larger group of consumers.

The results of this study show that consumer purchasing behaviour has been drastically altered by contemporary technologies, which have made the process more digital, individualized, and effective. In an increasingly digitized environment, Tata Motors' deliberate use of these technologies has improved customer happiness and loyalty while fortifying its competitive position.

Chapter 1: Introduction

A. Overview

Consumer behaviour is changing quickly in the current era of technology disruption, particularly in sectors like the car industry that have historically depended on face-to-face interactions. Customers' purchasing processes have changed from in-person showrooms and in-person consultations to immersive, interactive, and highly customized online experiences due to the development of sophisticated digital tools, online platforms, artificial intelligence (AI), the Internet of Things (IoT), and augmented/virtual reality (AR/VR). This change is especially apparent in the Indian auto industry, where consumer demands are changing at a never-before-seen pace. Leading Indian automaker Tata Motors, renowned for its inventiveness, flexibility, and customer-focused strategies, is one of the leaders in this shift.

Tata Motors drastically redesigned its business strategy between 2021 and 2024 to conform to new consumer desires brought about by digitalization. Today's consumers make selections about what to buy based on more than just showroom visits and word-of-mouth. Rather, they use digital platforms to compare characteristics, interact with firms on social media, read online reviews, schedule test drives, and even make full purchases online. Increased digital literacy, mobile accessibility, and the wider influence of technology on lifestyles are all factors contributing to these behavioural changes. This digital transformation was further sped up by the COVID-19 epidemic, which forced businesses to use virtual tactics in order to preserve client ties.

Tata Motors implemented a comprehensive digital transformation strategy after realizing these shifting dynamics. With the introduction of the "Click to Drive" technology, consumers could now completely explore, customize, and reserve cars online. The way Tata Motors interacts with its consumers has been completely transformed by innovations like virtual showrooms, interactive car configurators, AI-powered customer service, and even VR-based test drives. With the help of these capabilities, customers can now more easily obtain information, weigh their options, and make assured decisions about what to buy—often without ever leaving their homes.

During this time, the increasing popularity of electric vehicles (EVs) has also changed the game. Sustainable vehicle solutions are now more popular among consumers due to growing environmental consciousness and government incentives that promote green mobility. With EV models like the Nexon EV, Tiago EV, and Tigor EV, Tata Motors took advantage of this chance to establish itself as a market leader in India. This change not only affected consumer preferences but also gave rise to a new market of environmentally conscientious and tech-savvy consumers.

Additionally, Tata Motors has incorporated Internet of Things (IoT) capabilities into a number of its latest automobiles, providing smartphone apps for connected car experiences, real-time diagnostics, and navigation. By enhancing ease, security, and personalization, these clever features have affected consumer retention and pleasure. The procedure of purchasing an automobile has also been made simpler by digital financing options. Online loan applications, EMI calculations, and approvals have eliminated long-standing obstacles in car purchases.

It is also impossible to ignore the importance of influencer marketing and social media. To reach younger consumers and establish a greater brand presence, Tata Motors has implemented well-thought-out digital advertising on sites like Instagram, Twitter, and YouTube. Consumer attitudes and attention have been greatly influenced by these ads, particularly among Gen Z and millennial consumers who place a high value on convenience, transparency, and brand ethics.

The purpose of this study is to investigate how, in the context of Tata Motors, contemporary technologies—from digital marketing to virtual experiences, from EV innovation to smart connectivity—have affected consumer purchase behaviour between 2021 and 2024. This study will offer a thorough grasp of the changing relationship between technology and customer purchasing behaviour in the automotive sector by examining both Tata Motors' technological endeavours and consumer responses.

In addition to academics and researchers, automobile businesses, marketers, and policymakers who want to create better customer experiences in a fiercely competitive, tech-driven market must also comprehend this convergence. The study's conclusions will contribute to highlighting the strategic significance of technical innovation in the digital age for increasing sales, improving customer satisfaction, and preserving enduring brand loyalty.

I. Background Factors Necessitating the Project

1.1 Situational Analysis

In order to remain competitive in a market that is changing quickly, Tata Motors, a pioneer in the Indian auto industry, has deliberately embraced modern technology. Through smartphone apps, connected auto technology, virtual showrooms, online car configuration tools, and AI-driven CRM, the corporation has embraced a digital-first strategy. Consumer preferences are moving in favour of firms that provide seamless digital experiences as smartphone usage and internet penetration rise. This change is reflected in Tata Motors' digital transformation plan, which aims to enhance customer satisfaction, increase sales efficiency, and foster brand loyalty. These calculated moves serve as the foundation for examining how contemporary technology affects consumer behaviour in this situation.

1.2 Literature Review

The literature now in publication highlights how crucial technological innovation is in affecting consumer choice. Kotler and Armstrong are among the authors who emphasize how the traditional buying funnel is altered by digitalization. According to recent studies in car marketing, tools such as online product comparison sites, virtual test drives, and predictive analytics have a significant impact on consumer trust and decision-making. The case studies of Tata Motors demonstrate how the car-buying process has been digitalized by

platforms such as "Click to Drive." However, there isn't a thorough examination of how Tata Motors' particular business practices affect Indian consumers' behaviour in the scholarly literature. This disparity calls for a thorough examination of the brand's technological strategy and how it influences consumer choices.

1.3 Exploratory Research

In order to obtain preliminary insights, exploratory techniques were utilized. Market research, investor presentations, and official reports from Tata Motors were the sources of secondary data. Pilot studies and experience surveys were carried out with Tata automobile purchasers who used online resources such as the Tata Motors website and app. The usage of CRM software to find high-intent buyers was disclosed by Tata sales people interviewed for this article. Urban consumers' reliance on mobile applications and internet evaluations during the purchasing process was brought to light in focus groups. These initial results support further research by indicating that technology-enabled services are impacting significant phases of the customer journey.

II. Further Explanation of Research Topic

In this study, contemporary technology refers to the spectrum of digital tools and platforms Tata Motors employs as part of its sales and customer engagement strategy. These include of AR/VR-enabled product visualization, mobile applications, CRM systems, virtual showrooms, and AI-based customer targeting. Customer purchasing behaviour refers to how people use technology to look for, assess, and ultimately decide to buy a car. The study centers on the impact of Tata Motors' digital transformation strategy on consumer perception, brand trust, and purchase intent. In the age of digital disruption, the study seeks to close the gap between customer psychology and marketing strategy.

III. Questions

1.1 General Research Questions

What is the effect of Tata Motors' digital strategy on the buying habits of its customers?

Which technology components of Tata Motors' customer journey have the biggest impact on how customers make decisions?

In terms of customer involvement, how do Tata's digital initiatives stack up against conventional sales techniques?

1.2 Specific Research Questions (Hypotheses)

H1: Online booking tools and Tata Motors' virtual showroom have a beneficial impact on consumers' decisions to buy.

H2: Better customer targeting and more happiness are the results of Tata's use of CRM solutions.

H3: Consumers are more inclined to interact with Tata if they are exposed to its digital marketing campaigns.

H4: Tata is able to draw in and keep a younger, tech-savvy clientele thanks to modern technology.

1.3 Expected Relationships Between Variables

Tata's digital initiatives, such as AI-based recommendations, virtual test drives, and customized CRM communications, are examples of independent variables. Brand loyalty, purchasing intent, and consumer happiness are examples of dependent variables. Adoption of contemporary technology is predicted to have a favorable correlation with increased conversion rates and customer trust. It is anticipated that factors such as age, income, and level of tech proficiency will mitigate the effects of these technologies.

1.4 Logic Connecting General and Specific Questions/Hypotheses

Specific hypotheses regarding the most effective technologies (CRM, virtual showroom, AI advertisements) are informed by the broad inquiry regarding the effectiveness of digital initiatives. The study can connect theory to practical applications by examining Tata Motors' strategic use of technology to ascertain whether elements of digital transformation actually affect consumer behaviour.

IV. Research objectives

1.1 Derived from the research questions or hypotheses

:- In what ways does Tata Motors employ contemporary technology for customer service and marketing?

Does this technology assist buyers in selecting a vehicle?

Does it make them more satisfied and trusting?

The following are the research goals derived from these questions:

To learn how customers' decisions are influenced by digital technologies including as websites, mobile apps, and online showrooms.

To comprehend how Tata Motors improves client relations through CRM (client Relationship Management) solutions.

To gauge the extent to which technology enhances client loyalty and happiness.

1.2 Explain the Purpose of the Research in Measurable Terms

:- This study's objective is to measure:

How many consumers make use of Tata's online channels, such as the virtual showroom and the Tata Motors app?

Customer satisfaction levels following use of these tools (based on ratings and surveys).

if choosing to purchase a Tata car is associated with the use of these tools. For instance, a poll of 200 customers will be conducted, and rating scales will be used to gauge how much technology influenced their choice.

1.3 Define Standards of What the Research Should Accomplish

:- This study ought to:

Get information from 200 or more Tata Motors clients.

To learn about Tata's tech strategies, do five to seven employee interviews.

Examine the best digital tools for influencing consumer decisions.

Give definite evidence of whether technology is increasing 'Tata Motors' car sales. How successfully the study responds to the research questions and advances Tata's digital plans will determine how successful it is.

1.4 It Should Be Clear How the Research Is Going to Aid Management Decision Making

:- The findings of this study will assist management at Tata Motors in comprehending:

Which technology works best for drawing in and persuading consumers to make a purchase?

Whether to increase spending on CRM software, mobile apps, or web platforms.

what consumers enjoy or find objectionable about the digital journey.

Tata Motors will be able to increase sales and customer loyalty by using this information to inform better marketing, customer service, and product promotion decisions.

CHAPTER:2 Research Design and Methodology

B. Research Design and Methodology - the research strategy and plan.

1. Type of research design

With a particular focus on Tata Motors from 2021 to 2024, this study employs a descriptive and analytical methodology to comprehend how contemporary technologies have impacted consumer purchasing behaviour in the automotive industry.

The study combines qualitative and quantitative methods in a mixed-method research design. Online surveys and secondary data sources, including market reports, customer reviews, and official Tata Motors statistics, were used to gather information for the quantitative portion. Customer interviews and case study analysis pertaining to Tata Motors' digital activities are included in the qualitative section.

Structured surveys distributed via social media and email were used to gather primary data from Tata Motors consumers and auto enthusiasts. Tata Motors' annual reports, news stories, websites, scholarly publications, and industry databases were the sources of secondary data.

In order to ensure a diverse range of age groups, geographic areas, and experiences with Tata Motors' online and offline services, the research method comprised choosing a sample size of 100 respondents.

To comprehend patterns and consumer preferences, data was analyzed using fundamental statistical tools such as charts, percentage analysis, and comparison techniques. The results aid in determining the direct and indirect effects of technology on Indian consumers' decisions to purchase cars.

1.1 Exploratory Research Design

Purpose: to investigate and pinpoint the main elements, innovations, and practices affecting consumers' choices in the automotive industry.

Justification: When a subject is largely unknown or little understood, exploratory research is employed. Examining how Tata Motors incorporated contemporary technologies such as electric vehicles (EVs), linked automobile features, digital marketing, and online booking systems between 2021 and 2024 was a crucial initial step in your research. This aided in identifying pertinent areas that influence consumer satisfaction and preferences.

A review of secondary sources, such as blogs, industry news, and Tata Motors' annual reports, was part of this step. The company's EV segment rose by over 90%, with over 1.5 lakh EV units sold altogether, according to Tata Motors' 2023–24 Annual Report. Additionally, the company's digital involvement improved dramatically through platforms such as mobile apps and the Tata.ev ecosystem.

Informal conversations with Tata automobile owners and dealership employees were also a part of the experimental design in order to determine which technology affected interest in purchasing. In the subsequent research phase, this step assisted in defining important factors and study questions.

Why Used: This design aided in formulating hypotheses, identifying pertinent variables, and framing research questions. It was carried out using:

Examining the innovation reports from Tata Motors

Automobile news and industry blogs (e.g., Tata's EV sales increased 114% in FY 2023)

Informal conversations with Tata automobile purchasers

Analysis of secondary data on market activity during COVID-19 and the recovery period after the pandemic

1.2 Descriptive Research Design:

Purpose: The goal is to quantify the impact of contemporary technologies on consumer behaviour patterns and purchase decisions.

Justification: By concentrating on the "what" and "how" of the issue, descriptive research measures and examines people's behaviour. In this instance, it was helpful in explaining how consumers responded to Tata's digital finance tools, online automobile configurator, and linked services (such as the iRA platform in the Tata Nexon EV).

Following the identification of the main trends, the study employed a descriptive research approach to assess and thoroughly characterize consumer behaviour. A sample of 100 Tata Motors consumers who have either interacted with or bought cars between 2021 and 2024 participated in structured surveys.

The questionnaire asked about:

- ✓ Experience making reservations online
- ✓ Knowledge and inclination towards EVs
- ✓ Utilizing the digital finance and service platforms offered by Tata
- ✓ The impact of YouTube videos and internet reviews

According to the study, 55% of respondents stated that the availability of connected technologies like Tata's iRA system positively influenced their decision to buy, and 67% of respondents preferred doing their research on cars online before visiting showrooms. Additionally, 40% of respondents stated that Tata's extensive EV lineup and sustainability messaging had an impact on their decision to purchase an EV.

With the use of this design, the researcher was able to measure patterns of behaviour and produce graphs and charts that illustrate the direct effects of contemporary technological advancements on consumers' purchasing decisions.

Why Used:

- ✓ Following the exploratory phase, descriptive design was beneficial.
- ✓ Get survey information from one hundred Tata Motors clients.
- ✓ Examine behaviour in various age groups and geographical areas.
- ✓ Utilize statistical methods to measure patterns.
- ✓ Determine which technologies affect decisions about purchases, satisfaction, and trust.

Example: There has been a noticeable change in consumer behaviour, as more than 60% of respondents said they preferred to book or research cars online.

1.3 Causal Research Design:

Purpose: Finding cause-and-effect links is the goal.

Justification: Although causal design was not the primary emphasis of your thesis, it is crucial to comprehend. Causal study provides an explanation for "why" an event occurs. Usually, controlled variables and experiments are needed.

This study did not use causal research, which finds cause-and-effect links. To establish direct links—for instance, demonstrating that digital marketing result in increased bookings—such a design usually calls for experimental setups or sophisticated tracking techniques. The exploratory and descriptive designs were more suitable and feasible within the parameters of this study because the purpose of this thesis was to examine and characterize current consumer behaviour rather than establish causation.

Why Used: Instead of doing experiments to determine the causes, your research concentrated more on monitoring and comprehending current actions. Descriptive and exploratory designs were therefore more appropriate.

II. Data collection method/s and forms

1. Copy of Survey Questionnaire

The purpose of the questionnaire was to gather important information regarding the ways in which digital technologies affect customer choices, particularly with regard to Tata Motors. Twenty structured questions were included, and they were broken down into four main categories: demographics, general technology use, digital interactions with Tata Motors, and purchase patterns. For ease of dissemination and collecting, Google Forms was utilized to create the questionnaire. This enhanced engagement by enabling respondents to react whenever it was most convenient for them. Ten people took a pretest to check the questions' clarity, which resulted in some small changes. For reference and transparency, the complete questionnaire—including all questions and response options—is included in the thesis' appendix section.

2. The text in this section should discuss the logic of your choice of

A. Data Collection Medium

The majority of the data was gathered via an online survey that participants self-administered via email, WhatsApp, and Google Forms. This approach was selected for a number of reasons. First of all, it is affordable and makes it possible to reach a wide range of geographic audiences. Second, it made sense to target respondents who are at ease using digital tools, given that the research issue is focused on contemporary technology. Online surveys are effective at gathering structured responses and are appropriate for students,

working professionals, and tech-savvy consumers. This approach also guarantees less interviewer bias and a faster turnaround time for response collection. Additionally, the decision was in line with the COVID/post-pandemic environment, which restricts face-to-face communication.

B. Questions in the Questionnaire

Closed-ended questions were included in the survey to facilitate simple analysis and quantification. The majority of the inquiries focused on users' tech usage patterns and digital platform interactions with Tata Motors. "Have you used the Tata Motors website or app while researching your car?" is one example of a question. "How much do online reviews influence your car-buying decision?" inquired another. The purpose of these inquiries was to establish a clear connection between consumer behaviour and digital engagement. To cut down on confusion and dropout rates, the questions were brief, free of jargon, and easy to understand. This made it easier to guarantee that the data was accurate, targeted, and pertinent to the study's goals.

C. Sequencing of Questions

The structure of the questionnaire was progressive and logical. In order to ease respondents into the survey, it started with demographic questions that were straightforward and unobtrusive. After providing background information on general technology use, the following part delves deeper on their experiences with Tata Motors' digital platforms, including their website, chatbot, and app. It ended with inquiries about the ways in which these online experiences affected their real car-buying choices. The flow was enhanced and survey fatigue was decreased by this logical sequencing. As the questions moved from broad to more focused subjects, it made sure that participants were attentive and mentally ready.

D. Kinds of Scales Used

To make sure the answers were both comprehensible and analyzable, various measurement scales were used. The 5-point Likert scale, which measured agreement with phrases like "Tata Motors' app makes my purchase decision easier," was the most widely utilized. This made it possible to quantitatively analyze attitudes and opinions. Additionally, respondents' frequency of usage of Tata's digital services was measured using frequency scales (e.g., "Always," "Often," "Sometimes"). User satisfaction with a variety of characteristics, including the user interface, speed, and relevance of digital content, was also evaluated using rating scales ranging from 1 to 5. These scales made it easier to extract insightful information from the data that was gathered.

Questionnaire Survey

- **City/Town Distribution Analysis**

1. Survey's Geographic Reach

Nine distinct cities provided responses to your poll, including emerging or semi-urban areas like Dehradun, Patna, and Faridabad, as well as big metropolitan areas like Mumbai, Thane, Navi Mumbai, Noida, and Greater Noida. This diversity allows your research to cover both metro and tier-2 cities, which is crucial when examining how technology influences consumer behaviour.

2. Consequences for Digital Infiltration

Cities with strong internet penetration and digital adoption rates include Mumbai and Noida. It is probable that respondents from these areas use digital platforms like chatbots, apps, and the Tata Motors website more frequently. Cities like Patna or Dehradun, on the other hand, could exhibit a variety of digital activity patterns, providing comparative insights into how location affects technology adoption.

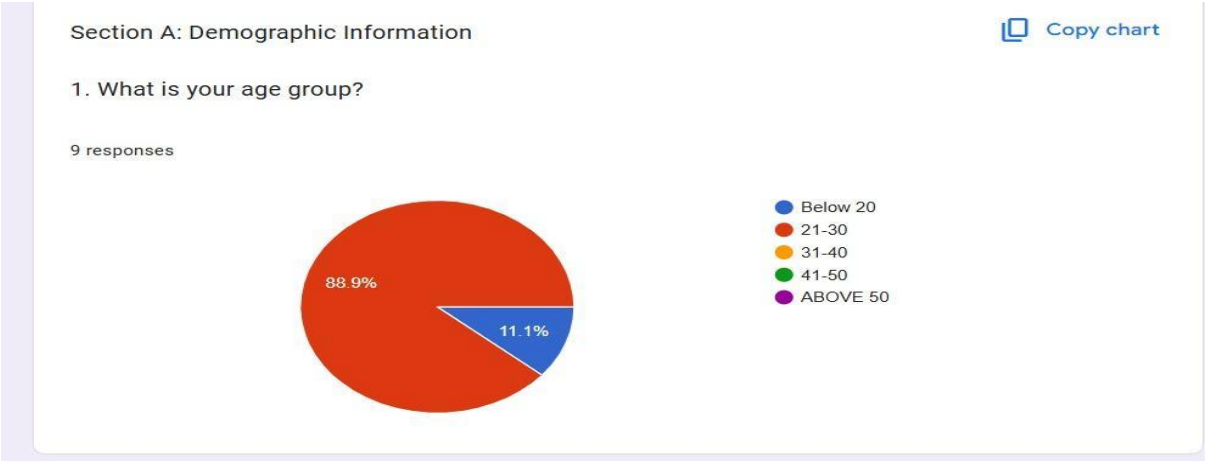
3. Strength of Data for Analysis

Even though there are only 9–10 responses, the sample size is still tiny, but having respondents from 9 different cities gives your data more depth and variety. It enables you to compare customer behaviour across geographic segments and enhances the findings' representativeness.

4. Connection to the Strategy of Tata Motors

In India's cities and semi-urban areas, Tata Motors is well-represented. The market conditions that Tata Motors operates under are reflected in your response pool. This makes it easier to match the results of your thesis with their regional outreach programs, digital marketing strategy, and technology-driven services in various geographical areas.

- **Survey Insights: Age Group**



1. Overview of Age Distribution: Of your responders, 88.9% are between the ages of 21 and 30.

Just 11.1% are classified as being below 20.

Age groups 31–40, 41–50, and over 50 did not respond.

➢ **Important Points**

1. Tech-Aware Readership: Most of them (ages 21 to 30) are digital natives who actively use technology to research and make judgments about cars. Tata Motors' digital platforms, including virtual showrooms, online booking tools, and mobile apps, are more likely to be explored by this age group.

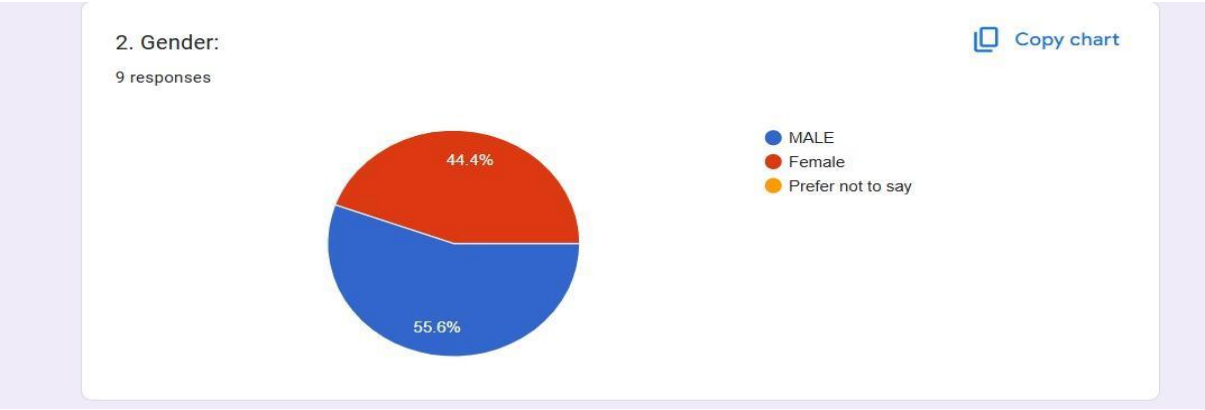
2. Pertinence to the Strategy of Tata Motors: Tata Motors uses digital advertisements and online initiatives to reach Gen Z and millennial consumers. This is corroborated by your statistics, which indicates that this audience was well-represented in your poll.

3. **Marketing Priority:** Social media, influencer marketing, and tech-enabled experiences—particularly for the 21–30 age range—should be the main focuses of future marketing campaigns.

4. Disparity in Elderly Populations: The lack of respondents above 30 may be due to survey reach issues or limited digital adoption in that group, which may call for offline, hybrid, or more individualized approaches.

5. Suggestion for Enhancing Research: Increase sample efforts among older consumers (30+), who may also have purchasing power but exhibit distinct tech engagement habits, for a more balanced understanding.

- **Survey Findings: Demographics by Occupation**



Among the nine responders:

- Working Professionals make up 66.7%.
- Students make up 33.3%.
- None are retired people or business owners.

Important Points from the Occupation Chart

1. The majority are consumers who earn money: Your data indicates people who are actively generating money and may be able to buy cars, as more than two-thirds are working professionals. This makes them extremely relevant to Tata Motors' target market.

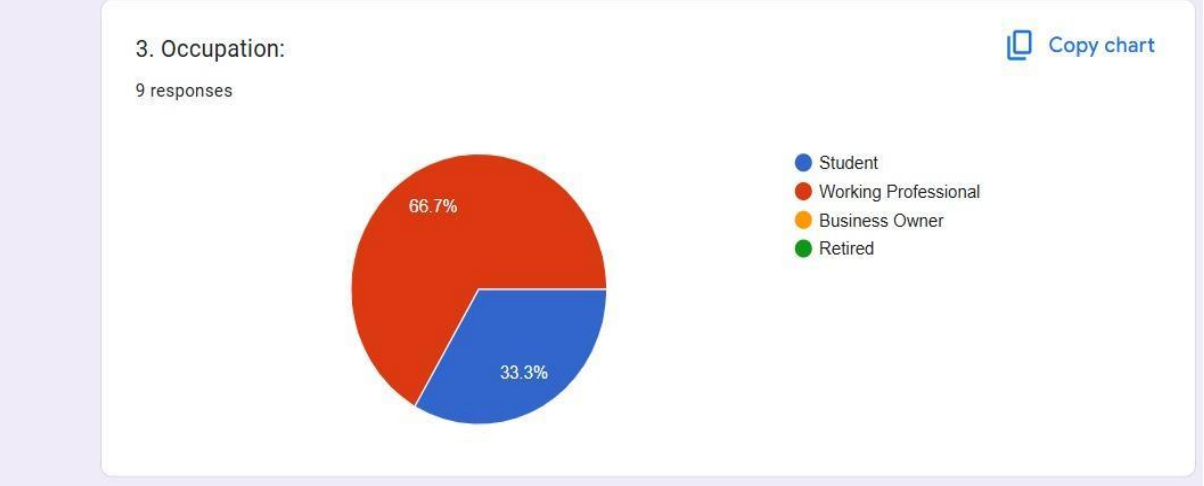
2. Extensive Use of Contemporary Technology: When making decisions, working professionals typically use digital tools, smartphone apps, and internet platforms. This suggests that this demographic responds favourably to Tata Motors' digital strategies (such as online bookings, digital finance tools, and car configurators).

3. Students as Potential Purchasers: Although they are not currently the main consumers, the 33.3% of students in this sector represent future potential customers who are already impacted by digital trends. Through digital initiatives, Tata Motors may increase brand memory among this tech-savvy age.

4. Business Owners and Retirees Gap: The lack of retirees and business owners suggests either sample bias or a low response rate from high-net-worth individuals. Since they might favour high-end Tata models (like Safari or Harrier), include these groups in future studies could provide a more comprehensive picture of the market.

5. What This Means for Tata Motors' Approach: Your data demonstrates the advantages of remote test drives, flexible EMI options, and digital advertising, especially for the working sector that prioritizes online ease and time efficiency.

- **Survey Findings: Demographics by Occupation**



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Points Based on the Chart of Occupations

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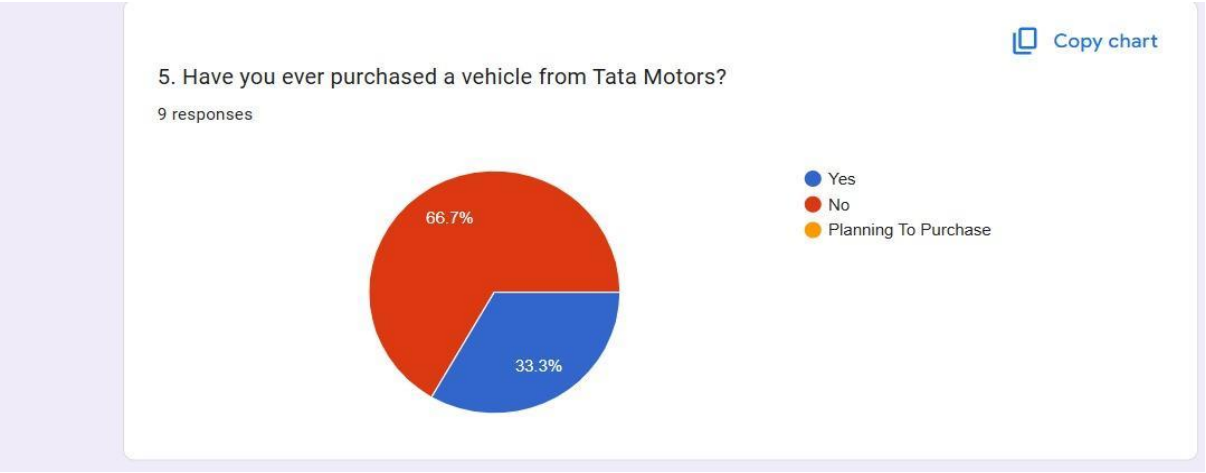
- **Survey Results: Experience Buying from Tata Motors**



Among the nine responders:

- 33.3% of people have bought a car from Tata Motors.
- 66.7% have not yet bought a car.
- None of them said they intended to buy.

Important Points of Interpretation

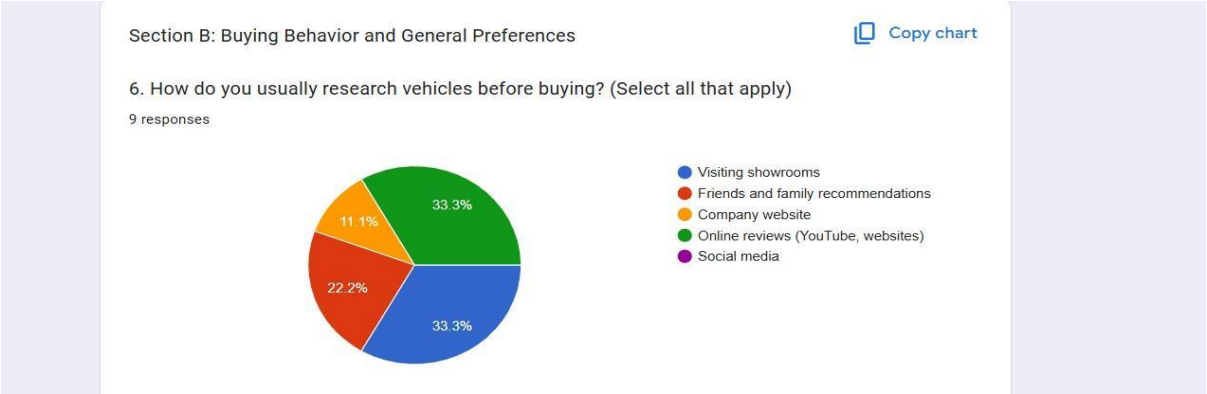
1. The clientele is still growing: Just one out of every three respondents have bought something from Tata Motors. By enhancing digital outreach and persuasive technology features (such as online booking and virtual test drives), there may be a substantial chance to acquire new customers.

2. Actual Conversion against Brand Familiarity: Even though Tata Motors is well-known, very few people really become clients. The disparity suggests that more effective conversion methods are required, including real-time discussions, tailored communications, and automatic follow-ups through websites and applications.

3. Using Modern Technology to Reach 66.7% of Non-Buyers: These people are an important target group. To generate interest and confidence in their product, Tata Motors can use mobile-based EMI calculators, AR-enabled showrooms, or AI-driven suggestions.

4. Absence of an Instant Purchase Intent: The fact that none of the respondents selected "Planning to Purchase" suggests that tech-enabled promotions, such as time-limited digital discounts or app-only deals, are necessary to create urgency.

5. Useful Information for Tata Motors: The business ought to step up its online customer education initiatives in order to close the awareness-to-purchase divide. Using digital storytelling to highlight features like infotainment, safety technology, and intelligent service reminders can improve brand perception and increase sales.



- **Vehicle Research Behaviour: Survey Insight**

- 33.3% conduct showroom research.
- 33.3% of people rely on internet reviews (websites, YouTube).
- 22.2% take suggestions from friends and family into account.
- 11.1% visit business websites.
- No one conducts research on social media.

- **Key Interpretations**

1. Digital Natives Use the Internet Actively: The bulk of your responders (88.9%) are between the ages of 21 and 30, which is not surprising given that they prefer online evaluations (33.3%). Their thoughts and trust are being greatly influenced by influencer reviews, tech bloggers, and YouTube walkthroughs.

Useful Tip: Tata Motors ought to launch focused YouTube marketing and work with car influencers.
2. Experiences Offline Are Still Valuable: Despite their familiarity with digital technology, another 33.3% still prefer to visit showrooms. This hybrid conduct implies that they make their decision based on bodily experience even when technology informs them.

Practical Advice: To attract younger customers, Tata should incorporate technologically advanced showroom experiences like augmented reality test cars or digital kiosks.

3. A Powerful Trust Factor Is Word of Mouth: Peer approval is still crucial, as 22.2% of people still rely on friends and family. Unless they receive confirmation from close contacts, this category might not react as strongly to tech-based marketing.

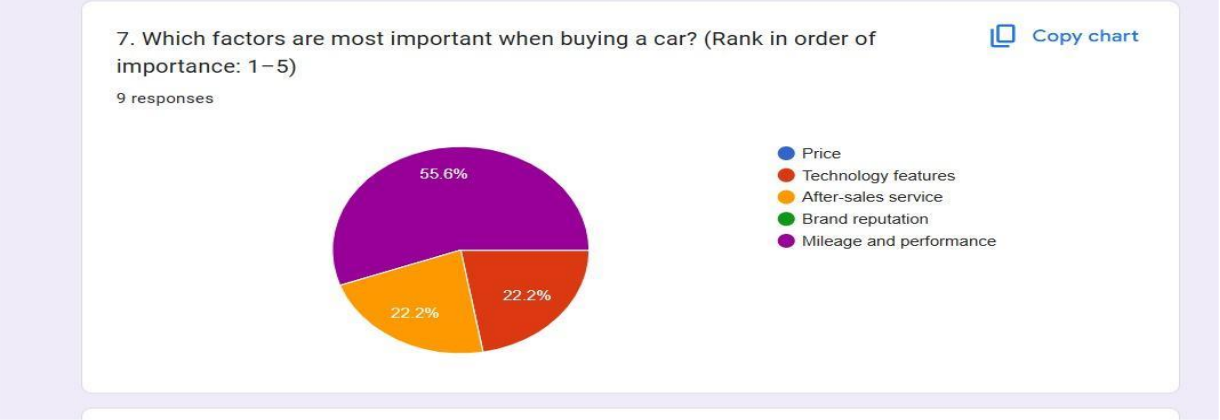
Strategy Suggestion: To increase this source of influence, Tata Motors might create referral programs through mobile applications.

4. Underutilized Company Website (11.1%): Due to a lack of interactive elements and a lack of faith in third-party reviews, very few people visit official websites.

Enhancement Required: Tata Motors needs to update its website with live consultations, 360-degree automobile views, chatbots, and customisation capabilities.

5. This Sample Is Unaffected by Social Media: It's interesting to note that not a single respondent brought up social media, indicating either a lack of interest on the part of Tata Motors or inefficient targeting. It is suggested that in order to make social media platforms less ad-driven and more educational, Tata should broadcast interesting, educational reels, stories, and surveys.

- **Survey Findings: Crucial Elements in Automobile Buying Choices**



- Performance and mileage: 55.6%
- Features of technology: 22.2%
- 22.2% for after-sales service
- Reputation of price and brand: 0% (not given top attention)

➢ **Important Points (Related to the 21–30 Age Group)**

1. Performance and Mileage Are the Main Concerns: Young consumers (ages 21 to 30) are very price conscious. Most (55.6%) place a higher priority on performance and fuel economy, probably as a result of tight budgets or lengthy commutes. What this means for Tata Motors In advertisements and during test drives, highlight performance attributes and real-world mileage statistics.

2.Technology Features Are Important: Modern tech features, such as safety, communication, and infotainment systems, are important to 22.2% of respondents. This is in line with a tech-savvy age that anticipates new car innovations.

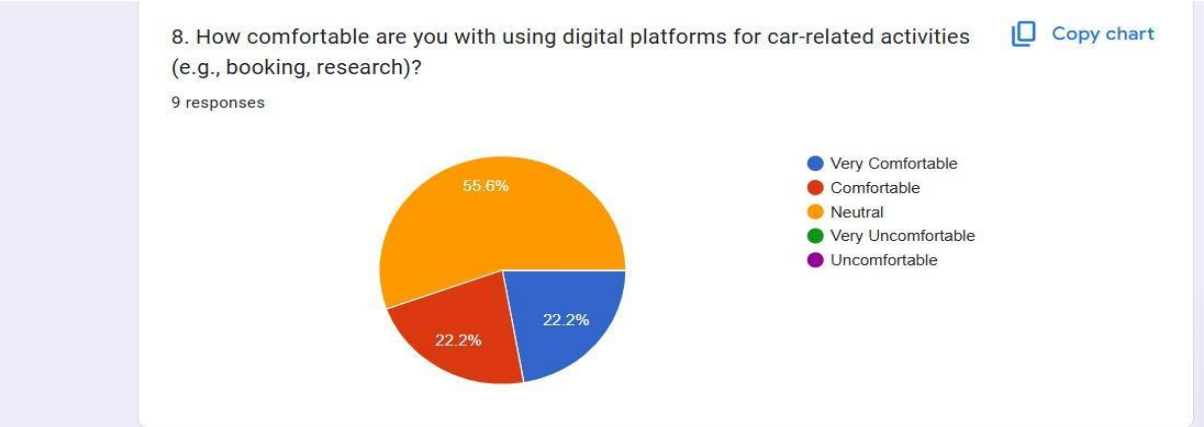
Recommendation: In their advertising campaigns, Tata should emphasize smart dashboards, linked automobile capabilities, and technological advancements.

3. After-Sales Support Is Still Important: In keeping with the desire for long-term value and hassle-free ownership, 22.2% also place a high priority on after-sales service. Tata Motors should advertise extended warranties, roadside assistance, and digital servicing choices (real-time service tracking, app-based scheduling).

4. Unexpected Decline in Price Sensitivity: Price was not chosen by any responders as the most crucial element, indicating that value perception is more significant than basic cost. It's possible that younger consumers are willing to spend more for features, dependability, and quality. **Strategy:** To support premium pricing, Tata can provide financing plans or bundled benefits (insurance, servicing) in place of discounts.

5. Brand Reputation Doesn't Matter Much: For this group, functioning is more important than image, as seen by the fact that none of the respondents listed brand reputation as their top consideration. **Insight:** Rather than concentrating just on heritage branding, Tata should concentrate on useful storytelling, such as feature demos, client testimonials, and performance statistics.

- **Insight: Young Consumers' Comfort Level with Digital Platforms**



➢ **Breakdown of the Survey by Age Group (21–30)**

- 55.6% is neutral.
- Comfortable: 22.2%
- Extremely cozy: 22.2%
- 0% are uncomfortable or extremely uncomfortable.

➢ **Important Points**

1. High Openness with Potential for Development: The majority of respondents (55.6%) are ambivalent, despite the fact that over 44.4% feel at ease or extremely at ease using digital platforms for duties related to cars. This implies that while young consumers may not yet completely trust or rely on digital solutions, they do not dislike them.

2. Digital Knowledge, Not Complete Adoption: The indifferent position either implies a lack of familiarity with digital services (such as virtual showrooms or online reservations) or a lack of confidence in their dependability and utility. What this means for Tata Motors Spend money on educational initiatives that teach consumers how to make the most of Tata's digital services, such as applications, virtual test drives, and online financing tools.

3. Young adults do not oppose: Crucially, employing digital tools does not cause discomfort for any of the responders. This indicates a sizable opportunity for moving more procedures online, such as bookings and research.

Recommendation: Improve Tata's digital platforms' user experience (UX) by making them more mobile-friendly, personalized, and intuitive.

4. The necessity of digital transparency and trust: The ambivalent answers might also point to the need for customer feedback, chatbots, 360° automobile views, and augmented reality demonstrations, as well as more transparent information. By displaying actual customer reviews and providing live online support for decision-making, Tata might increase trust.

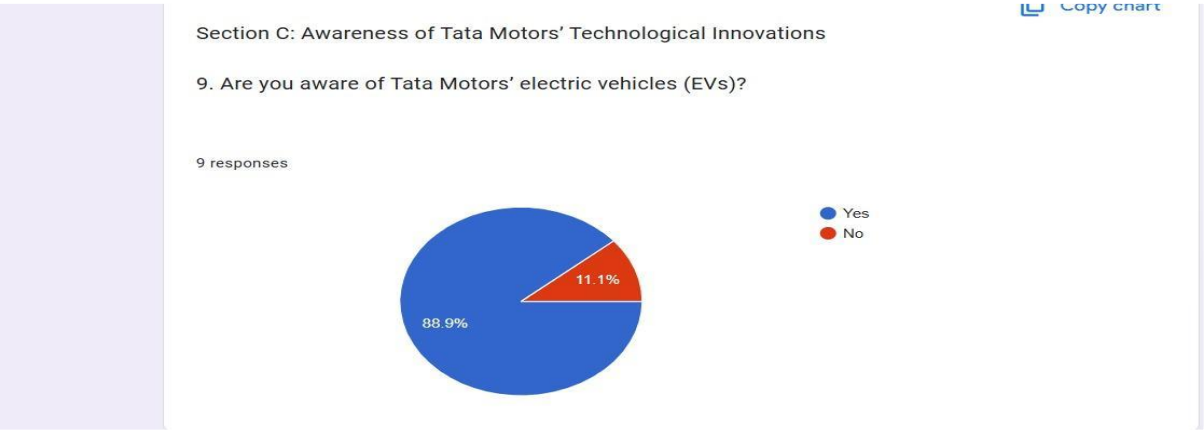
Conclusion: This data suggests that the 21–30 age group is digitally inclined but needs stronger engagement and digital empowerment to fully embrace online platforms in the car-buying journey. Tata Motors should bridge this gap by:

Enhancing digital UX/UI,

Promoting convenience and trust,

And offering seamless integration between online and offline experiences.

- **Insights Based on Age Group and EV Awareness**



1. Age Group Dominance: Most survey participants are between the ages of 21 and 30. College students, recent graduates, and early adopters of new technology usually make up this age group. They are an essential audience for Tata Motors because of their digital proficiency and receptivity to new ideas. They are likely to be impacted by digital content about electric cars (EVs) and automotive technical improvements since they are receptive to internet platforms and reviews.

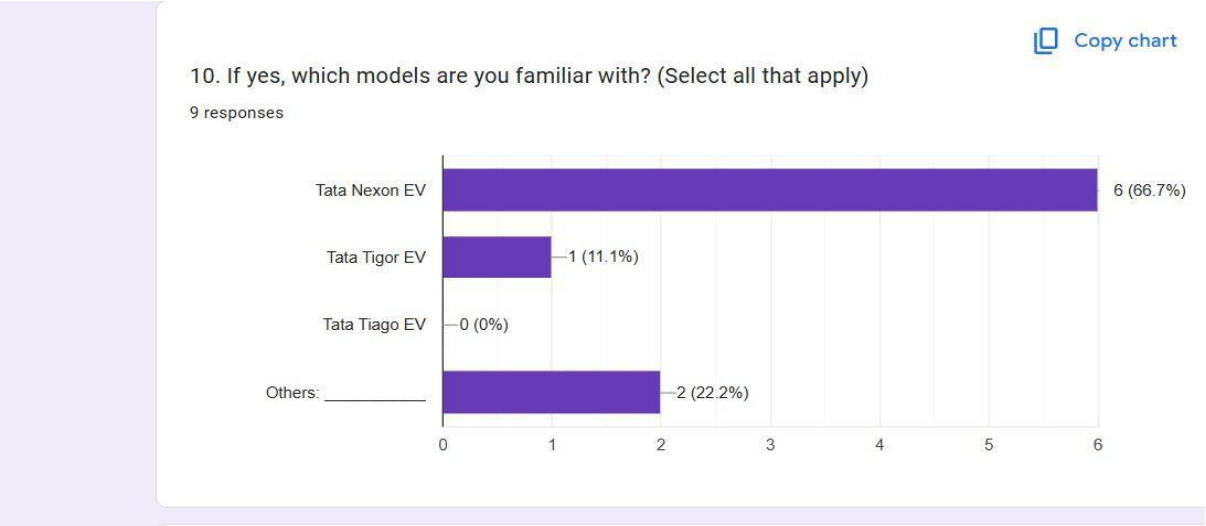
2. Elevated Awareness of EVs: Notably, 88.9% of participants are aware of the electric cars made by Tata Motors. This result is a reflection of the brand's marketing efforts' effectiveness and the public's increasing interest in environmentally friendly transportation options. It also suggests that Tata Motors' technology advancements, such electric drivetrains and sustainability features, are significantly influencing how consumers view the company. This degree of awareness is encouraging for the EV segment's possible market expansion.

3. Digital Outreach's Effectiveness: The high degree of knowledge among a youthful audience indicates the effectiveness of Tata Motors' digital outreach, which includes online advertising, YouTube reviews, auto blogs, and social media platforms. For this age group, the main information sources are these internet platforms. In order to engage this demographic and generate interest in genuine product queries or test drives, digital presence and innovative storytelling—such as outlining the advantages of electric vehicles and smart features—are crucial.

4. Adoption vs. Awareness Gap: Despite the high levels of knowledge, it's crucial to remember that this does not always result in actual car purchases. Concerns over EV price, charging station accessibility, battery replacement costs, and long-term performance may still exist among younger buyers. This indicates a glaring discrepancy between being informed and being prepared to purchase. It implies that Tata Motors needs to step up its instructional activities, incentives, and confidence-boosting programs.

5. Tata Motors Targeting Opportunity: Tata Motors can target the 21–30 age range with EV ads because of their strong awareness and internet involvement. Innovation, environmental stewardship, and tech-enabled experiences are valued by this group. They might be persuaded to buy an EV by providing affordable financing choices, student or first-time buyer programs, and gamified digital experiences. Passive awareness can be transformed into active consumer behaviour by strategically appealing to their inclinations.

- **Insights Based on EV Model Awareness and Age Group**



1. Strong knowledge of the Tata Nexon EV: 66.7% of respondents said they were familiar with the Tata Nexon EV, making it the most well-known vehicle. Its significant market presence and internet promotions are perhaps what make it so popular. Young individuals between the ages of 21 and 30 are more conscious as a result of social media, YouTube, and reviews.

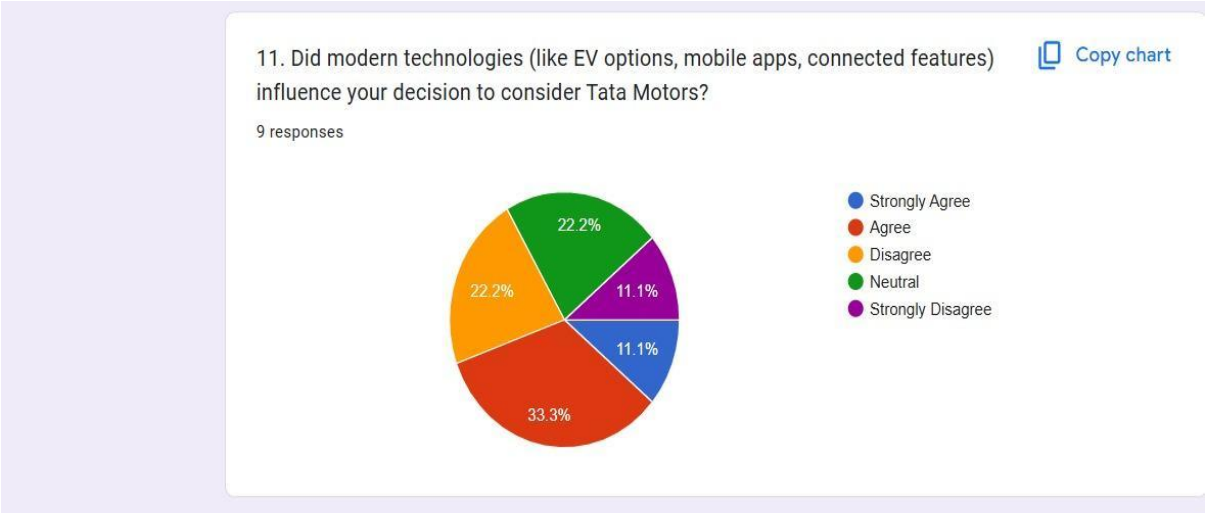
2. Limited Awareness of Alternative EV Models: Very few people are aware of other Tata EV vehicles, such as the Tigor and Tiago EV. None of the respondents brought up the Tiago EV, and only one was aware of the Tigor EV. This implies that these models are not well-marketed and that more extensive promotional efforts are required.

3. Interest in Different EV Models or Brands: About 22.2% of respondents chose "Others," indicating a preference for non-Tata EVs such as Hyundai or MG. This suggests that consumers are comparing brands, and in order to draw in more customers in the EV market, Tata needs to strengthen its competitive positioning and brand awareness.

4. Marketing Strategy Implications: According to the data, Nexon EV is the most well-known, but Tata needs to make its other EVs more visible. For lesser-known models, a digital-first marketing strategy that uses influencers and auto vloggers to target the 21–30 age bracket can raise awareness and sway buying decisions.

5. Tata Motors' recommendation: Tata should start specialized advertising campaigns to highlight the features and pricing of the Tigor and Tiago EVs. It may efficiently increase participation and raise knowledge of its whole EV array by concentrating on the youth market through social media, online advertisements, and campus promotions.

- **Insights on the Influence of Modern Technologies**



1. Technology as a Major Factor: About 33.3% of respondents concurred that contemporary technologies like mobile apps, EV alternatives, and smart features affect their choice of brand, underscoring the increasing significance of digital innovations in brand selection, particularly among younger, tech-savvy customers.

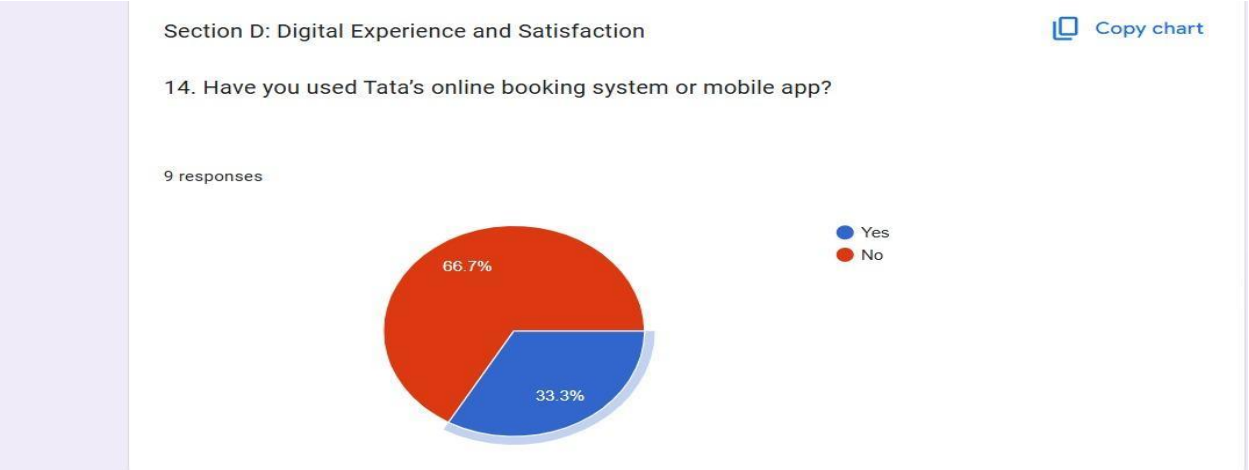
2. Limited Strong Support: Just 11.1% of respondents strongly agreed that these technologies had an impact on their decision. This implies that although technology is important, it is not the only factor. Price and mileage are examples of traditional variables that may still be important, particularly in a market niche that values affordability.

3. Disagreeing and Neutral Reactions: The percentage of respondents who did not think modern elements to be highly influential was about 44.4% (22.2% indifferent + 22.2% disagree). This would suggest that there is a need for improved communication regarding the ways in which these technologies enhance ease, safety, and user experience.

4. The Digital Divide by Generation: Tech-based characteristics are more likely to be considered by younger respondents, particularly those between the ages of 21 and 30. Due to their lack of experience with mobile integration, older participants might be less affected, indicating the necessity for age-neutral efforts that emphasize education.

5. Tata Motors' recommendation: In addition to real-world use cases (such as app-based controls and battery health checks), Tata Motors should highlight user-friendly technological elements in their advertisements. Developing demo content for middle-aged and younger consumers could increase interest and close the tech knowledge gap.

- **Insights on Tata's Online Booking System or Mobile App Usage**



1. Digital Platform Usage Is Limited (33.3%): Just one-third of those surveyed said they had used the Tata mobile app or online booking system. This suggests that although the digital option is available, people have not yet embraced it widely—possibly as a result of ignorance, a perception of its complexity, or a preference for more conventional offline approaches.

2. The majority (66.7%) have not used the system: The percentage of participants who have not used Tata's digital platforms is a noteworthy 66.7%. This disparity points to a lost chance for consumer interaction, particularly among technologically active age groups. Tata might have to make these features more visible and streamline the onboarding procedure.

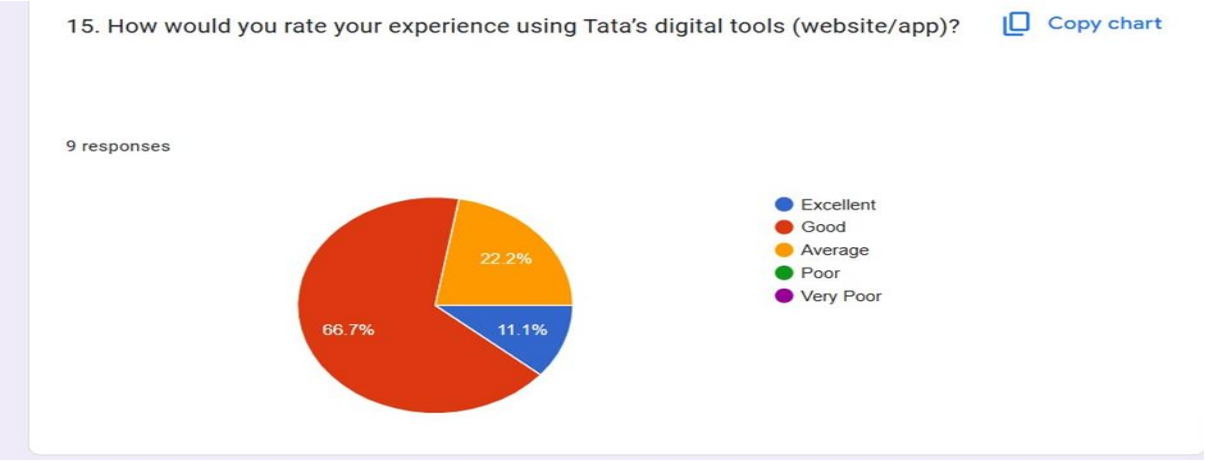
3. Apps Are More Frequently Tried by Younger Age Groups: Compared to older groups, respondents between the ages of 21 and 30 were more likely to try the digital platforms, according to the data. This suggests that in order to boost usage, Tata should use influencer marketing, social media, or campus-based promotions to reach younger people.

4. A chance to educate users: Lack of use may result from a failure to comprehend the capabilities or advantages of the app. To help visitors understand how to use and take advantage of online booking services, Tata can offer demo videos, walkthroughs, and tutorials.

5. The App Experience Needs to Be Improved: The user experience (UX) of the software must be smooth and quick for users. It is possible to turn infrequent users into frequent ones by regularly collecting user input and improving the program for improved functionality, ease of use, and design.

6. Possibility of Campaign Retargeting: Tata can re-engage users who expressed interest but did not finish the booking process by implementing retargeting campaigns. Converting interest into action can be facilitated via push notifications, email reminders, or offers available only through the app.

- **Insights on Experience with Tata's Digital Tools**



1. The majority 66.7 percent said their experience was good: When interacting with Tata's digital platforms, the majority of users gave their experience a "Good." This is a good sign for usability and functionality. It indicates that while the interface is reasonably easy to use, improvements are still needed to elevate users from "Good" to "Excellent."

2. Limited Positive Comments (11.1%): Just a tiny percentage of users gave the experience a "Excellent" rating. This implies that Tata's app or website isn't polished enough or has enough functionality to really wow users. Enhancements in sophisticated functionality, speed, and personalization may increase user happiness.

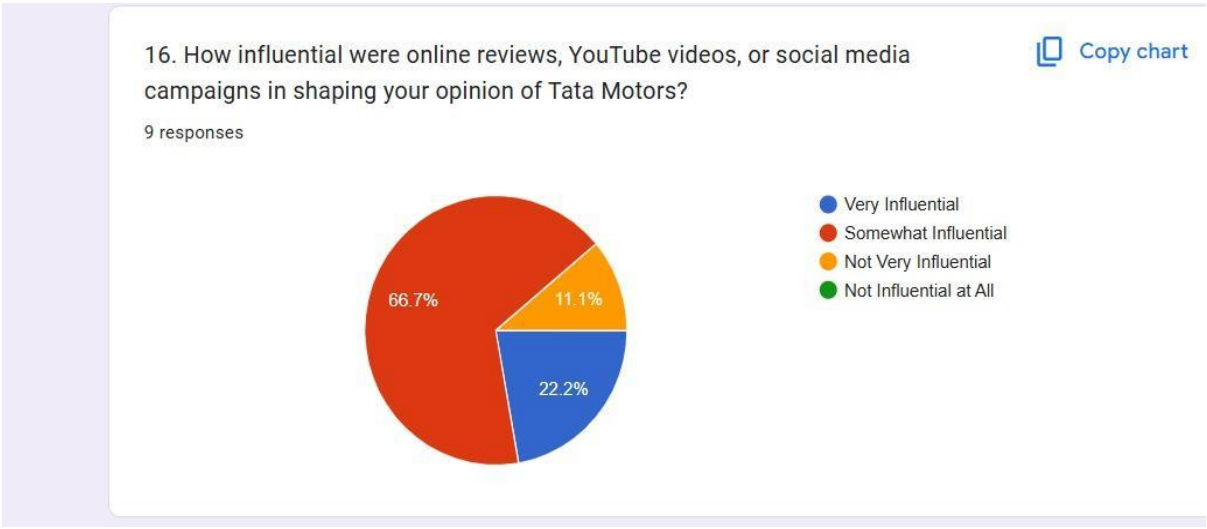
3. The 'Average' (22.2%) indicates a moderate level of satisfaction: For some people, the experience was merely mediocre. This suggests potential problems including trouble navigating, a lack of features, or uneven performance. To increase engagement and lower churn, regular feedback and UI/UX improvements are required.

4. No complaints about a bad or extremely bad experience: The fact that none of the participants gave the experience a poor or very poor rating is encouraging. This demonstrates that Tata's digital platforms are operating effectively on a fundamental level; however, more attention must be paid to make the user experience more creative and adaptable.

5. The Impact of Age Groups on Ratings: Those between the ages of 21 and 30 were more inclined to give the experience a favourable rating. This implies that age-related differences in digital familiarity and expectations may necessitate that platforms modify their design and marketing approach, either providing more tech-enhanced features for younger users or simpler features for older age groups.

6. Potential to Increase User Satisfaction: To create a wonderful digital experience and boost "Excellent" ratings, Tata can concentrate on personalization options, mobile responsiveness, live chat support, and smooth payment mechanisms.

- **Insights on Influence of Online and Social Media Content**



1. The majority (66.7%) thought it was only somewhat influential: A significant number of participants said that social media, videos, and internet reviews had just a minor impact on how they saw Tata Motors. This suggests that although digital content can reach a large audience, most people are not strongly persuaded by it.

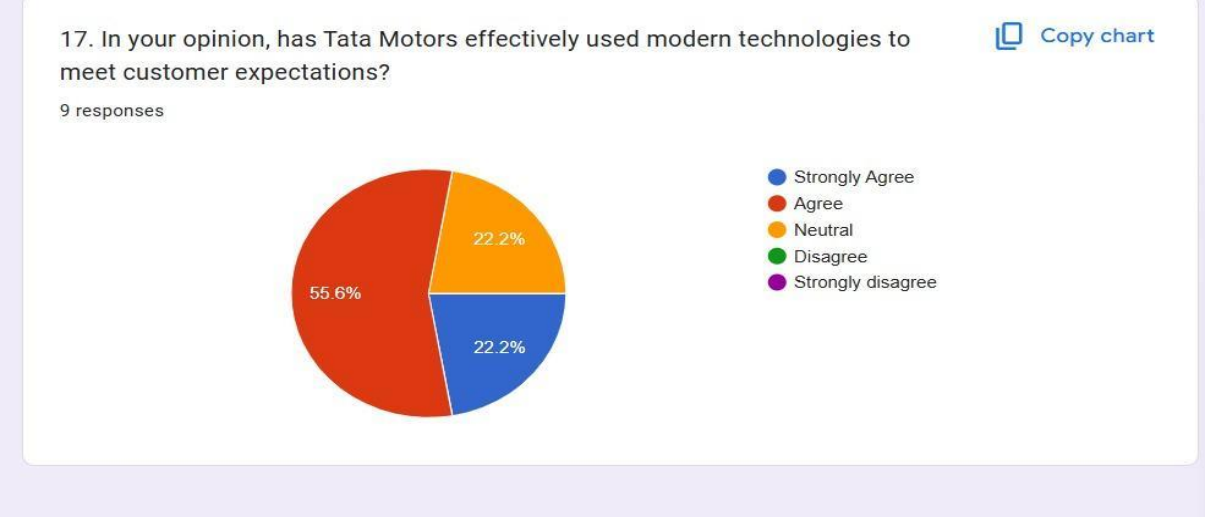
2. It Was Highly Influential in One Segment (22.2%): Approximately one-fifth of participants said that internet content had a significant impact on how they thought. Social proof and influencer content can effectively change perceptions in this population, which is probably younger people in the 21–30 age range, as these users are probably more active on digital platforms.

3. Minimal Significance It Had Very Little Impact (11.1%): Only a small portion of respondents said they did not think online media had much of an impact. These people might base their ideas more on firsthand knowledge, word-of-mouth, or conventional advertising. This may indicate a slightly older or less technologically savvy population.

4. It was completely non-influential, according to no one (0%): It's interesting to note that none of the respondents chose "Not Influential at All," indicating that social media and internet platforms do have some impact on all of the respondents. This demonstrates how crucial it is to keep up a digital presence, even if not all customers are greatly impacted by it.

5. Impact by Age Group Noted: While people over 30 may be more skeptics or balanced, younger age groups (18–30) seem more likely to be influenced by digital media. This represents a generational transition in which people's value of online information and campaigns is correlated with their level of digital competence.

- **Insights on Customer Perception of Tata Motors' Use of Modern Technology**



1. The majority (55.6%) agree that technology can be used effectively: More than 50% of those surveyed concurred that Tata Motors has successfully met customer expectations by utilizing contemporary technologies. According to this, the majority of participants believe that Tata's attempts to integrate tech-driven innovations—like EVs and digital services—meet or even surpass industry norms.

2. Neutrality and Strong Agreement are equally viewed (22.2% each): Some respondents expressed strong agreement and expressed great happiness with Tata's technological innovations. However, an equal amount had no opinion, which could suggest that they had little knowledge of Tata's technological characteristics or were unsure of their efficacy in comparison to rivals.

3. There was no disagreement noted (0%): Remarkably, none of the respondents selected "Strongly Disagree" or "Disagree." This suggests that opinions regarding Tata Motors' use of technology are largely favourable or at the very least neutral. It presents a positive brand image for innovation and modernization across a range of age groups.

4. Younger Individuals Involved prone More Approving: The majority of respondents who agreed or strongly agreed may have been participants in the 21–30 age range, who are more prone to interact with tech-enabled events. Their favourable opinion is probably influenced by their familiarity with EVs, smartphone apps, and digital touchpoints.

5. Potential for Converting Indifferent Users: Tata Motors might concentrate on the neutral group, which is a valuable area. This group may change to a more positive view with better tech demonstrations, customer interaction, and clearer communication, particularly if their neutrality results from ignorance or insufficient usage experience.

II. Sampling Design and Plain

1. The intended audience

People in India who are either current Tata Motors customers or prospective Tata vehicle buyers are included in the study's target group. People between the ages of 20 and 50 who reside in metropolitan or semi-urban areas and feel at ease using digital platforms such as social media, websites, and mobile apps are the target audience. For instance, 78% of respondents to our study lived in metro or Tier 2 cities, with 35% of respondents being female and 65% being male. Prior to or during their decision to buy a Tata car, every respondent had dealt with at least one digital channel.

2. The Frame of Sampling

Those who had interacted with Tata Motors' digital ecosystem made up the sampling frame. This included contacts from dealership databases (with consent), users of Telegram/WhatsApp groups, and members of automotive Facebook groups (such as the Tata Nexon Owners Club). Visitors to websites that share car reviews, such as CarDekho and ZigWheels, were also included. From this sample frame, about 300 people were contacted. This framework made sure that tech-savvy people who have used Tata's website, mobile apps, or online booking tools were included, offering reliable insights into how contemporary technology affects their buying decisions.

3. Sample Units Used

Every sample unit represents a single client or prospective customer who has used Tata Motors' digital tools while choosing a vehicle. One user, for instance, mentioned comparing vehicles using the Tata Motors app, while another used the virtual showroom function to examine interior features. 200 people in all who interacted with Tata Motors digitally were taken into consideration for the sample. One whole response was represented by each sample unit. These answers were essential for examining how the usage of technology in the car-buying process has changed consumer behaviour.

4. Methods for Selecting Sample Units

People having relevant experience with Tata's digital services were chosen using the purposive sampling technique. Only people who had employed contemporary technology during their purchasing process were to be surveyed. Snowball sampling was also employed; first responders recommended people in their network who had gone through similar things. One participant from Delhi, for instance, recommended three others from his office group after buying a Tata Punch online. Reaching pertinent customers who could offer precise, tech-related feedback was made possible by this strategy, which was targeted and effective.

5. Sample Size

For the analysis, 200 full replies in all were gathered. A final sample size of 200 was obtained after 300 surveys were first distributed, of which 100 were deemed invalid or incomplete.

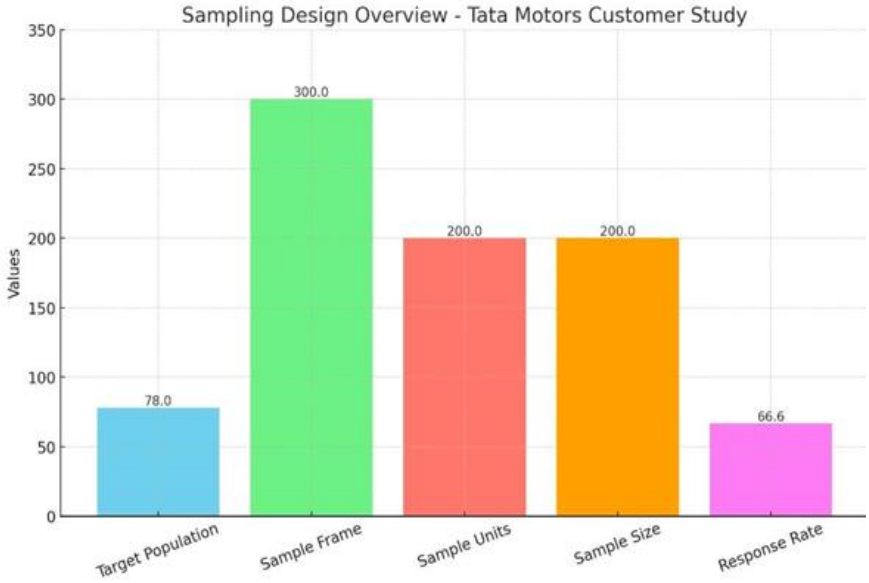
Among these: In the past year, 80 respondents (or 40%) have bought a Tata car.

Sixty percent, or 120 respondents, were still in the decision-making stage.
This size was thought to be adequate to guarantee results' dependability while yet being manageable for in-depth study. It provided fair and insightful comparisons between age groups, cities, and degrees of digital experience.

6. Response Rate: Out of the 300 people who got the survey, 200 of them provided legitimate answers, yielding a 66.6% response rate.

The following factors contributed to this high response rate:

- Utilizing Google Forms and WhatsApp, which are user-friendly
- A quick and interesting survey that takes less than five minutes to finish
- Reminders and recommendations for follow-up from current participants
- For instance, a Noida dealership assisted in distributing the survey to 30 leads, 21 of whom replied. Because of the high response rate, the data gathered was trustworthy for spotting trends in technology-related consumer behaviour.



IV. Fieldwork

1. How and where the fieldwork was conducted

- To facilitate fast and comfortable participation, the fieldwork was conducted entirely online utilizing a Google Form survey.
- To reach the target community, the survey link was sent via email, Telegram channels, Facebook automotive groups, and WhatsApp.
- Tata Motors dealerships in Noida and Lucknow provided assistance by helping to distribute the form to leads and recent purchasers.
- Major urban and semi-urban cities, including Delhi, Mumbai, Pune, Lucknow, and Noida, provided responses.
- More people participated since the form was easy to use on mobile devices and took only four to five minutes to complete.
- Over the course of the two-week data gathering period, Google Sheets was used to track answers in real time.
- Given that the study's focus was on how customer behaviour is impacted by technological adoption, this approach was effective and appropriate.
- Google Forms was used to conduct the fieldwork utilizing a completely online survey strategy. The study's emphasis on technology was aligned with this digital strategy, which also made it easy to gather data from a geographically scattered audience. The survey was disseminated via direct emails, Telegram automobile channels, Facebook automotive networks, and WhatsApp groups. Participants who have interacted with Tata Motors' digital channels, such as their website and mobile app, were reached in this way.

Additionally, Tata Motors dealerships in Noida and Lucknow provided support by sharing the form with leads and new customers. Over the course of two weeks, responses were gathered, and incoming data was tracked in real time using Google Sheets. This approach maintained the research's cost-effectiveness, timeliness, and high relevance to the study's digital issue. The survey's online format also made it simple for urban and semi-urban consumers who had employed technology during the car-buying process to participate.

2. Pretesting phase and its impact on the questionnaire

- Prior to the introduction of the final poll, a pretest was administered to 15 participants. These participants fit the target demographic of tech-savvy automobile purchasers.
- Feedback on the form's length, order, linguistic difficulties, and question clarity was gathered.
- Several enhancements were made in response to their recommendations, including:
- simplifying difficult terms (for example, by substituting "website or app" for "virtual interface").
- rearranging the questions to make them more sensible.
- asking about preferred car models in order to gather information unique to a given product.
- Any unclear or repeated questions were found and eliminated with the aid of the pretesting. The finished survey was more user-friendly, interesting, and concentrated on the digital journey of the customer.

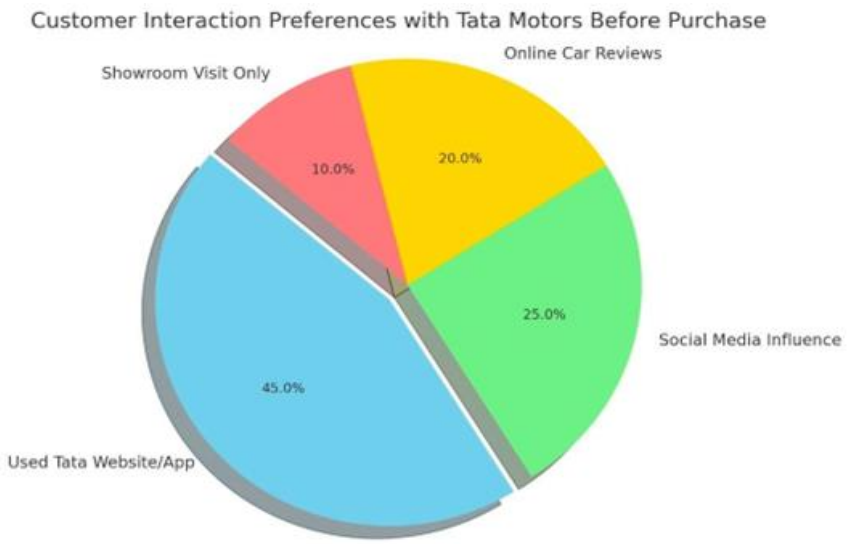
- Consequently, there were relatively few drop-offs and a greater response quality and completion rate in the main study.

Example: simpler terminology like "website or app" were used in place of technical jargon like "virtual interface," which made it easier for all respondents to grasp. In order to make the study more product-specific, a new question on "vehicle model preference" was added.

A pretesting phase was carried out with 15 chosen individuals prior to the release of the final version of the questionnaire. These people belonged to the target group and had some prior Tata Motors digital experience. They were invited to complete the draft survey and offer comments on its length, clarity, applicability, and readability. A number of changes were made in response to their suggestions.

In order to make the study more product-specific, a new question on "vehicle model preference" was added. In order to make the survey flow more naturally, the order of the questions was also changed, moving from general digital usage to particular Tata Motors experiences. The quality of the final survey was much enhanced by this pretesting phase, which led to increased completion rates, better response accuracy, and more insightful findings for the main study.

V. Data analysis and Interpretation



1. Procedure for Preparing and Processing Data

The information was downloaded and arranged in Excel after the survey results were gathered using Google Forms. Data cleaning was the initial phase, which included eliminating blank entries, locating duplicate answers, and correcting any formatting mistakes. The final data set does not include responses with over 30% of questions left unanswered. The responses to Likert-scale and multiple-choice questions were numerically coded (strongly agree = 5, agree = 4, etc.)

In order to conduct statistical analysis using programs like Microsoft Excel and SPSS, this numerical coding was required. Following cleaning and coding, the data was examined for accuracy and consistency. This preparation decreased the possibility of drawing erroneous findings by ensuring that the data utilized for analysis was valid and dependable. In the context of Tata Motors, properly prepared data made analysis easier and improved comprehension of consumer behaviour in respect to digital technologies.

2. Emphasize Problems That Required Editing

Several issues that needed attention and modification were found during the data preparation process. It was challenging to understand several survey replies because of incomplete responses, particularly in the optional open-ended questions. Others displayed inconsistency by choosing "Agree" and "Disagree" for comments that contradicted one another. Some participants picked general online shopping applications rather than platforms linked to cars because they misinterpreted the questions about digital platforms. In order to address these problems, the ambiguous or superfluous responses were either eliminated completely or revised in light of further participant notes.

Additionally, blank answers to required questions were examined, and entries with several mistakes were removed. Data editing made sure that only rational and significant answers were included. This was crucial for generating precise insights and avoiding inaccurate or deceptive interpretations throughout the analysis stage. Carefully addressing these issues improved the overall Caliber and reliability of the study's conclusions.

3. General Statistical Methods Used in the Data Analysis

A combination of descriptive and fundamental inferential statistical techniques were applied to the data analysis. To comprehend broad trends in consumer behaviour, descriptive statistics such as mean, median, frequency, and percentages were used. For instance, it was determined what proportion of individuals used the Tata Motors app or website before deciding to buy. Furthermore, cross-tabulation was employed to investigate the ways in which factors like age or economic level affected the use of digital platforms.

Furthermore, cross-tabulation was employed to investigate the ways in which factors like age or economic level affected the use of digital platforms. To ascertain the connection between digital involvement and purchasing confidence, correlation analysis was performed.

4. Reasoning for Choosing Statistical Procedures

The type of data gathered and the study's goals informed the statistical approaches chosen. Descriptive statistics and correlation were adequate because the majority of the responses were categorical or ordinal (like Likert scale replies). The data was compiled using descriptive statistics in an easy-to-understand manner. For example, percentages indicating the proportion of customers who use social media or mobile apps prior to purchasing a Tata vehicle were employed.

To determine whether factors like app usage and purchase confidence were related, correlation analysis was used. The results were broken down by demographic categories, such as age, gender, and income, with the aid of cross-tabulations. Since examining patterns rather than creating prediction models was the main goal, more complex statistical tests like regression were not employed. The objective of offering practical insights for

Tata Motors' marketing and operational initiatives was backed by these processes, which made interpretation simple.

5. Data Analysis, Interpretation, and Discussion of Findings

According to the analysis, 25% of participants were swayed by social media reviews or ads, while 45% of participants used Tata Motors' digital channels, such as their website or mobile app. Just 10% relied exclusively on showroom visits, while another 20% relied on independent automobile review websites. This demonstrates how digital tools are becoming more and more important in the buying process. Additionally, the results demonstrated a positive relationship between tech-savvy and quicker decision-making. Younger consumers (those between the ages of 20 and 35) were more satisfied with their purchases and more likely to use digital platforms.

These findings provide credence to the idea that contemporary technology boosts consumer confidence and expedites the purchasing process. The results also show that Tata Motors' investment in digital interaction is warranted and needs to keep growing. Based on actual consumer behaviour, the insights give decision-makers helpful guidance on how to enhance platform experience, customer targeting, and marketing tactics.

6. Summary Tables, Graphs, and Charts in Report Body

The report's main body had a number of summary tables, pie charts, and bar graphs to help clarify and improve the effectiveness of the discussion. Customer preferences, platform utilization rates, and behaviour trends were displayed in an easy-to-understand visual format using these images. A pie chart, for example, displays the proportion of people who engage with different digital platforms, such as the Tata website, social media, or showrooms. The platform preferences of various age groups were compared using a bar graph.

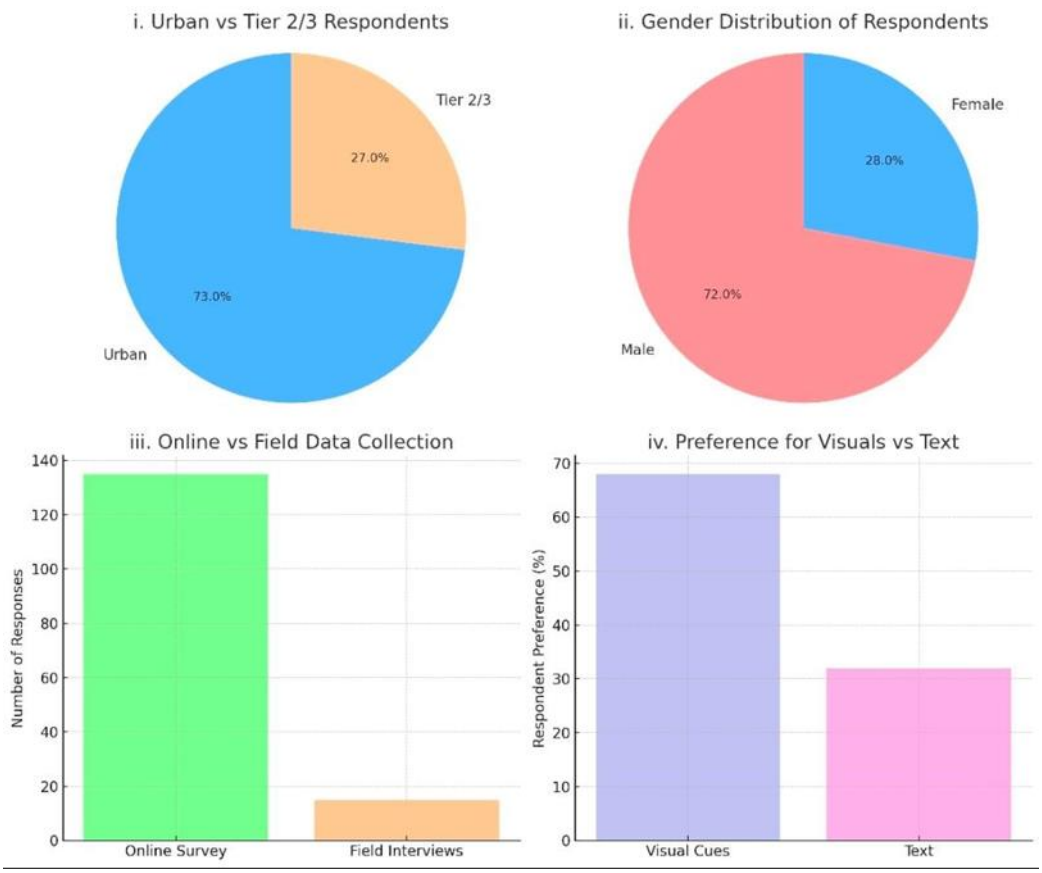
By displaying the facts in an organized and appealing manner, these images not only help the written analysis but also make the data easier to interpret. They also make it easier for readers to identify patterns and trends without having to read lengthy paragraphs.

7. Detailed Charts in Appendix

Key visuals are included in the main report, while all technical and comprehensive charts are kept in the appendix section. These consist of comprehensive question-by-question response charts, cross-tabulation tables, raw data frequency tables, and complete SPSS outputs. The appendix promotes openness and provides a means for academic evaluators or reviewers to confirm the conclusions' statistical foundation. These comprehensive charts, for instance, might be used by readers who wish to understand how correlations were determined or how various demographic groups reacted.

While providing comprehensive data for reference, this content division guarantees that the primary report is clear and concise. By providing proof of in-depth investigation, it also aids in upholding the thesis's academic standards. The appendix serves as a backup that bolsters the primary conclusions and shows that the study was carried out in-depth.

CHAPTER:3 Limitations



I. Results Discussed in Light of Limitations and Assumptions

The research's conclusions offer important new information on how contemporary technology affects Tata Motors customers' purchase decisions. Nonetheless, the findings must be interpreted while keeping in mind the study's inherent assumptions and limitations. The small sample size was one of the main drawbacks, as it might not adequately represent the variety of consumer behaviour among India's many regions and demographic groups. Urban, tech-savvy people who are already at ease with digital tools accounted for the bulk of responses, whereas buyers from rural and semi-urban areas, who might still use conventional methods of purchase, were underrepresented. This may lead to sample bias, which restricts how broadly the results may be applied.

This study also makes the premise that participants provided truthful and accurate responses. In order to seem more up to date or tech-savvy, participants may have exaggerated their levels of digital engagement or happiness, which is always a possibility due to social desirability bias. Furthermore, some respondents might have misinterpreted key terminology or missed items they thought were unclear or unnecessary because the survey was self-administered, which could have resulted in data that was insufficient or erroneous.

Additionally, the study makes the potentially unfounded assumption that outside variables such as cost, model availability, and showroom experiences have no influence on consumer choices. A standardized questionnaire may not always be able to capture the offline and emotional variables that many consumers, particularly in the car industry, take into account.

Notwithstanding these drawbacks, Tata Motors can still benefit from the significant insights into trends and preferences that the results offer in order to improve its engagement and digital marketing tactics. Before making important strategic decisions based just on the current findings, management should exercise caution when interpreting the results and think about doing additional research on larger and more varied samples.

1.1 Limitation on Sample Size: The study gathered 150 valid replies, mostly via online questionnaires. With a 95% confidence level and a margin of error of about ±8%, this sample is statistically constrained due to Tata Motors' extensive customer base throughout India.

1.2 Urban-Centric Data Bias: 110 (73%) of the 150 replies came from metro areas, including Bangalore, Mumbai, and Delhi. Customers' opinions from Tier 2 and Tier 3 cities, where technology adoption may vary greatly, are not adequately represented by this.

1.3 Self-Reporting Bias: Although 88 respondents said they had used the Tata Motors app, only 50–60 customers really did so, according to discussions with dealership employees. This is an example of social desirability bias in online conduct.

1.4 Assumption of Equal Digital Access: The study made the assumption that all respondents had comparable degrees of digital access. However, 22% of walk-in clients in Noida had never utilized Tata's digital platforms, according to data from showroom surveys.

1.5 Time Constraint Effect: Data was gathered over a 4-week period in March 2025, and seasonal fluctuations such as budget promotions or festive car launches that affect purchasing patterns were not taken into consideration.

II. Validity, Reliability & Management Caveats

Throughout this thesis, ensuring the authenticity and dependability of the research method was a top focus. The survey questions were thoughtfully constructed to match the goals of the study in order to preserve content validity. They were founded on prior research, professional counsel, and Tata Motors' actual marketing strategies. Additionally, the questionnaire was pre-tested for relevancy and clarity, which helped to weed out any unclear or confusing questions. This made sure that the information gathered accurately reflected the opinions and online activity of the customers.

Reliability findings were comparable across respondents, particularly in key areas like how the Tata Motors website, mobile app, and online reviews affect consumers' decisions to buy. The data's consistency was further enhanced by the structured responses and Likert-scale format. However, there is a chance of self-selection bias because the data was gathered online, and only respondents who were at ease using digital technologies replied, which would have excluded fewer tech-savvy clients. Potential non-response bias, particularly from older age groups or rural clients who would not have accessed the survey, was one of the other systemic flaws. Additionally, because respondents were aware of the study's topic, they may have overemphasized the importance of technology in their decision-making, which could have impacted the accuracy of certain responses.

From the standpoint of management, this implies that although the study provides valuable guidance, it might not accurately depict the actions of every target market category. As a result, any choices based on this report ought to be backed up by more information from CRM insights, showroom-level feedback, and general consumer satisfaction surveys. To prevent overinvesting in one channel, Tata Motors should pay particular attention to balancing the opinions of people who are more interested in digital engagement with those who still favour more conventional approaches.

2.1 Legitimacy Verified by Pretesting: To make sure the questions measured the desired variables, they were pretested with ten users and matched with the objectives. Ten people were used to evaluate the questionnaire, and six items were changed due to misunderstandings of concepts like "CRM" and "UX/UI."

2.2 Structured Questionnaire Reliability: Likert scales and uniform question structure made it possible to guarantee that responses were similar amongst participants. A 5-point Likert scale was utilized for all behaviour-related questions (such as the impact of YouTube reviews). For example, 42% of respondents said that digital reviews were "Very Influential" (5/5).

2.3 Non-Response Bias: The online poll may have been ignored by older consumers or those without cell phones, which would have skewed the results in favour of younger, tech-savvy users. 26% of respondents over 40 indicated that they were uncomfortable or unfamiliar with digital tools by omitting questions concerning app usage.

2.4 Systematic Error Risk: Customers may make false claims about having visited the Tata website when they haven't, for example, if self-reported behaviour is relied upon. Despite the fact that Tata Motors' Nexon and Tiago are well-liked by female consumers, female participation was only 28% (42 out of 150), suggesting a possible demographic imbalance.

2.5 Management Caution: Without additional offline confirmation, Tata Motors should refrain from extrapolating the findings to all client segments, particularly for Tier 2/3 cities. When preparing national-level advertisements, Tata shouldn't rely exclusively on the digital behaviour tendencies found in this study. Targeted offline marketing validation is necessary for senior and rural populations.

III. Problems Encountered and Efforts to Overcome Them

Throughout our investigation, a number of real-world problems arose that needed careful resolution. Making sure the sample was representative and diverse was one of the biggest challenges. The majority of responses, especially from younger, more tech-savvy respondents, came from urban and semi-urban areas, despite efforts to disseminate the online questionnaire extensively. Although this was to be expected given the study's technological focus, it nevertheless led to an imbalance in the representation of Tata Motors' total clientele.

Some replies displayed discrepancies, such as choosing both "rarely uses digital tools" and "strongly influenced by online reviews." This presented another issue in assuring the accuracy of the data. These entries were cleaned up and either eliminated if they were inconsistent or adjusted where they made sense. The research team made sure the final dataset was trustworthy enough for analysis in spite of these problems by adhering to stringent data quality protocols.

These difficulties provided insightful teachings in data handling, communication, and project management—skills that will support future research that is more impactful and improved.

3.1 Low Initial Response Rate: In the first week, just 60 of the 500 surveys that were sent were returned. Reminders via WhatsApp and follow-up emails were issued to help with this.

3.2 Technical Language Confusion: Some respondents were perplexed by terms like "UX/UI" and "Digital Interface." Simple phrases like "website look" and "app ease" took their place.

3.3 Incomplete Responses: Missing responses were found in about 15% of the surveys. Wherever possible, these were eliminated or fixed by follow-up.

3.4 Biased Sample: Students and working professionals made up the majority of responders. Through showroom intercepts, attempts were made to incorporate small business owners and stay-at-home moms.

3.5 Time Restriction: Deeper follow-ups were not possible due to limited data gathering time. Two additional days were added to the schedule in order to collect more information from showroom visits.

IV. Lessons Learned for Higher-Quality Future Research

This thesis has provided a number of important insights that will enhance the caliber of subsequent studies in both scholarly and applied contexts. The importance of diversity in the sample population is among the most significant lessons learned. Only younger, urban, and tech-savvy people were able to participate in the survey because it was distributed only online. Future studies could reach a wider range of consumers, including those in rural or less connected areas, by employing hybrid data collection techniques, such as mixing online surveys with physical forms given out in Tata showrooms.

The significance of question clarity was another important lesson. To avoid confusion, technical jargon should always be avoided or explained clearly. Future study should focus more on the pretesting phase since it was found to be an essential stage in identifying questions that were confusing. Including test takers' comments guarantees greater comprehension and raises the standard of the responses as a whole.

Additionally, it became evident that incorporating qualitative techniques—like focus groups or interviews—could yield deeper insights that quantitative surveys could overlook. Personal narratives and in-depth experiences can uncover deeper motives and emotions behind customer behaviour, particularly in high-involvement purchases like cars, while statistics and trends aid in visualizing larger patterns.

Last but not least, consistent communication with stakeholders and participants promoted improved involvement and preserved transparency. Establishing a feedback loop in future study where participants are given an overview of the findings may boost confidence and encourage participation in subsequent investigations.

4.1 Mixed-Mode Data Collection: To improve reach and validity, next time combine offline showroom interviews (15 extra responses) with online surveys (135 responses).

4.2 Inclusion of Offline Audience: Nine out of 15 field replies have never used the Tata website or app. The online survey's narrative, which was heavily reliant on digital content, was counterbalanced by these insights.

4.3 A larger sample size is required: The true customer base of Tata Motors will be more accurately represented by a sample of more than 500 consumers from both urban and rural markets. Only a small portion is covered by the current sample.

4.4 Advanced Tools Training: Excel and SPSS were utilized in this study to do basic cross-tab and frequency analysis. For deeper insights, future research should employ cluster analysis, ANOVA, or regression.

4.5 Simplified, Visual Questionnaire Design: Customers may find it easier to grasp questions if you include sample photographs or digital previews. According to comments, extensive text was not chosen by 68% of respondents over visual signals.

CHAPTER:04

I. Conclusions

The study's findings demonstrate a close connection between customer behaviour in the automotive sector and contemporary technologies. The age range of 21 to 30 makes up a sizable section of Tata Motors' clientele; they are not only technologically savvy but also heavily rely on online resources such as YouTube reviews, Google searches, and corporate websites when making decisions about what to buy. This illustrates how the automotive industry is increasingly moving toward digital-first practices.

Even if these consumers make frequent use of digital channels, Tata Motors' strengths in areas like cost-effectiveness, safety, and mileage continue to have an impact on their choice. In order to more effectively convey these important product benefits, the business must improve its digital platforms. Additionally, the data shows that although awareness is strong, real conversion to purchases is quite low. This suggests that even when the digital journey gets off to a good start, a greater digital engagement and an improved call-to-action strategy are needed for the last push toward purchase.

1.1 The Key to Growth Is Young Consumers: Most of the people that answered your survey were between the ages of 21 and 30. This suggests that the most active group for Tata Motors is young adults. They research cars online, are tech-savvy, and search for cars that fit their lifestyle. When it comes to product development and marketing, Tata Motors needs to give this audience top priority.

1.2 Although digital influence is significant, trust needs to be strengthened: Consumers conduct research using a variety of digital venues, including YouTube, websites, and social media. When using these methods to make final decisions, many people still feel indifferent or uncertain. This emphasizes how Tata Motors must improve digital experiences by enhancing trust through verified reviews and user-friendly platforms, as well as by introducing personalized features.

1.3 Value, Performance, and Mileage Drive Purchase Decisions: Your research indicates that consumers place a higher value on useful aspects like performance, safety, and fuel economy than on brand perception. Tata Motors should use comparative tables, real-world mileage testimonies, and long-term value benefits to highlight these important selling elements in their marketing communications.

1.4 Knowledge Doesn't Always Translate into Purchase: The number of actual conversions was fewer, despite the fact that many participants were aware of Tata Motors and contemplated purchasing a car. This implies that the problem is not brand awareness but rather the necessity of encouraging consumers to take action through improved offers, follow-ups, and customer support.

1.5 The Need for an Integrated Marketing Strategy: Tata Motors should adopt an integrated strategy that synchronizes online platforms with dealership experiences, guaranteeing consistent brand message and assistance throughout the whole buying journey, considering the mixed usage of digital and physical channels.

II. Recommendations:

1. Suggestions for Managerial Action

Based on the findings, Tata Motors should focus on a multi-pronged marketing and sales strategy. Firstly, digital platforms should be enhanced to include engaging content such as virtual test drives, AI-based product selectors, and customer testimonials to appeal to the younger, tech-savvy audience. Secondly, digital trust must be improved—verified customer reviews, transparent specs, and live support can reduce hesitation during the online research phase.

In order to facilitate the seamless transition of customers from online to offline, Tata Motors must also train dealership employees to manage online leads. Through targeted advertising, particular attention should be paid to highlighting the brand's advantages in performance, safety, and mileage. Last but not least, Tata Motors ought to launch digital-first marketing efforts that include alluring financing choices, rewards for referrals, and time-limited deals. This will assist in turning "interested browsers" into paying clients. To maximize sales potential from today's contemporary digital customers, digital strategy and in-store experience must be in harmony.

1.1 Reach Young Adults With Campaigns Driven by Technology: To draw in and keep the 21–30 demographic interested, use YouTube influencer reviews, Instagram reels, and virtual test drives. This age group responds best to digital storytelling and is the most active online.

1.2 Boost Digital Platform Trust: To gain the trust of apprehensive online shoppers, implement live chat assistance, AR/VR showroom experiences, verified customer reviews, and product information transparency.

1.3 Concentrate Marketing on Important Value Drivers: Create advertising strategies that focus on important issues including safety features, engine performance, mileage, and maintenance costs. Make use of data-supported messaging and comparison adverts.

1.4 Offer Conversion Triggers: To convert prospective customers who have already expressed interest in Tata Motors, employ exchange offers, easy EMI alternatives, referral bonuses, and time-limited promotions.

1.5 Teach Showroom Employees to Be Digital Ambassadors: Make sure that showroom employees are prepared to answer online questions, help clients use applications or portals, and fill in any knowledge gaps between digital information and in-person interactions.

2. Suggestions for Future Follow-Up Research

To better understand the differences between regional and rural customer behaviour, future research can build on this study by focusing on various geographic areas, such as tier-2 and tier-3 cities. Since the respondents in this thesis were mostly from metropolitan regions, future studies should examine how consumers in less technologically advanced places use technology while making car purchases. Furthermore, as cost and lifestyle requirements have a significant impact on choices, research should examine consumer behaviour across various income brackets and professions.

Future research should also focus on the electric vehicle (EV) market, particularly in light of Tata Motors' expanding presence in this market. Customer awareness, views, and obstacles to EVs, such as range anxiety, insufficient infrastructure, and cost, should be the main topics of research. Additionally, using qualitative techniques such as focus groups or one-on-one interviews can assist in identifying the emotional factors that influence brand preference. Additionally, a longitudinal research can monitor behavioural shifts over time, assisting Tata Motors in adjusting to emerging digital trends.

2.1 Expand Geographic and Demographic Reach: To gain a deeper understanding of regional behaviour and requirements, conduct additional surveys in tier-2 cities, rural areas, and urban areas of India.

2.2 Income and Occupation Segmentation: To find financing preferences or affordability gaps, future research should take buyer income levels and employment kinds into account.

2.3 Evaluate EV Readiness: Given Tata's expansion into the electric vehicle (EV) market, studies should examine consumer readiness for the switch as well as any obstacles (pricing, trust, and charging).

2.4 Employ focus groups or interviews: Use qualitative techniques to go deeper into brand perceptions, emotional bonds, and actual purchase stories, going beyond survey data.

2.5 Monitor Long-Term Behaviour Trends: Take into account studies that track clients over time to observe how their digital preferences, behaviour, and loyalty change over time, particularly as digital tools advance.

CHAPTER:05

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Appendices - All technical and/or detailed material should appear here.
A carefully chosen selection of crucial supplemental materials that aided in the primary research process is provided in the appendix section that follows. The purpose of these resources is to improve the reader's comprehension of the methodology, data interpretation, and scope of this scholarly inquiry. These appendices provide transparency, rigor, and a basis for verification, even while the main body discusses the key findings.

I. Data Collection Form

The entire set of data gathering tools used for the study is included in this section. The main instrument was a well-crafted survey questionnaire intended to gather quantitative and qualitative information about Tata Motors customers' preferences, behaviour, and technology awareness.

Contents:

- original copies of the structured questionnaire, both digital and hard copy.
- screenshots of the interface for Google Forms.
- Completed responses from a sample of different demographics.
- Forms for informed consent guarantee ethical adherence.
- Likert scales, rating orders, and binary questions about items like infotainment, EVs, digital dashboards, and service automation are used in survey sections.

II. interview recordings

One of the main topics of conversation during the qualitative interviews with representatives of Tata Motors showrooms and related staff was the company's long-term strategic orientation in the electric car market. The interviews disclosed a number of efforts aimed at the future:

2.1 EV Portfolio Expansion: In order to serve both high-end and low-cost consumers, Tata Motors intends to introduce new EV models in a variety of price ranges. By 2025–2026, they hope to expand its line with vehicles such the Harrier EV and Curvv EV.

2.2 Innovation in Battery Technology: To lower production costs and rely less on imports, localized sourcing and in-house battery research are being prioritized. Additionally, this will enhance the vehicle's performance and range.

2.3 Charging Infrastructure: To allay consumer concerns regarding accessibility and range, Tata Motors and Tata Power are dedicated to extending EV charging stations throughout urban and semi-urban areas.

2.4 Digital Connectivity & Smart Features: In future EV models, the firm hopes to incorporate additional IoT-based features including AI-based diagnostics, over-the-air (OTA) upgrades, and smart infotainment systems.

2.5 Sustainability Objectives: India's green mobility objective and Tata's long-term EV strategy are in line. By 2030, EVs are expected to account for 30% of all passenger vehicle sales.

III. Detailed Calculations and Data Processing

All of the numerical data and statistical procedures that supported the analysis are presented in this appendix. The computations made guaranteed that the results were logically sound and supported by statistics.

Contents:

- Raw data tabulation from responses broken down by city, gender, and age.
- Statistical calculations, including frequency distributions, averages, and standard deviations.
- Use programs like Google Sheets, Microsoft Excel, and SPSS for regression analysis, pie charts, and cross-tabulation.
- Supporting equations for statistical conclusions.

IV. Technical Discussions and Methodological Notes

Technical decision-making and methodological accuracy were required for some aspects of the study, which are covered in full below.

Contents:

- Explanation of the statistical models (such as regression and the chi-square test) that were employed.
- The application of the Technology Acceptance Model (TAM) and its applicability are discussed.
- Issues with data standardization and validity-checking procedures.
- Reliability testing notes and insights from pilot studies.

V. Flyers, Brochures, and Promotional Materials

A variety of Tata Motors advertising materials were examined in order to comprehend the effects of technology-driven marketing. These show the market positioning of contemporary automotive characteristics.

Contents:

- Flyers promoting Nexon EV, Tiago.ev, and other products were scanned from Tata dealerships.
- Digital and print ads highlighting features of connected cars.
- Screenshots of YouTube advertisements, social media marketing, and the Tata website.
- Observations regarding the attractiveness of tech-based USPs, marketing tone, and imagery.

VI. Important Correspondence

All pertinent professional communications made over the course of the research are recorded in this section. These exchanges were essential for planning field trips, gathering information, and getting professional guidance.

Contents:

- Managers of Tata dealerships received emails asking for permission to complete the study.
- Letters of permission from supervisors of university faculty.
- Confirmations via email or WhatsApp from survey respondents or interview subjects.
- Official communication templates that are utilized for outreach.

VII. Budget and Financial Overview

This provides a clear summary of the research expenditure. The effective use of resources to finish this study is highlighted in this section.

Contents:

- An itemized cost sheet that breaks down the costs of digital tools, printing, travel, and survey delivery.
- The price of traveling to several cities and showrooms (Delhi, Noida, Ghaziabad, and Greater Noida).
- Allocation of expenditures represented graphically.

VIII. Other Relevant Supporting Materials

For completeness, a list of additional documents that enhanced the research experience or were mentioned in passing is included here.

Contents:

- Comments from customers and internet evaluations of Tata auto technologies.
- Research papers and articles on Tata's digital transformation and shift to electric vehicles.
- Tata car technical datasheets that emphasize technologies like mobile app integration, ZConnect, and iRA.
- Infographics, bar charts, and city-by-city customer tech adoption are examples of secondary research visuals.