A STUDY ON THE FACTORS THAT LEAD TO INCREASED SPENDING IN FOOD DELIVERY APPS

Submitted in the partial fulfillment of the requirements

for the award of the degree in

MASTER OF BUSINESS ADMINISTRATION

By
VISHWAPRASAD R
(Reg no:235092101048)

under the guidance of

MS E. CLARANCE

FACULTY OF MANAGEMENT STUDIES

Dr. M.G.R.
Educational and Research Institute (Deemed to be a university)

Maduravoyal, Chennai-600 095

(An ISO 9001-2008 certified Institution)
University with Special Autonomy Status

April 2025

DECLARATION

VISHWAPRASAD R hereby declare that the Project Report entitled **A Study on the Factors That Lead to Increased Spending in Food Delivery Apps** is done by me under the **guidance** of **MS E. CLARANCE** is submitted in partial fulfillment of the requirements for the award of the degree in **MASTER OF BUSINESS ADMINISTRATION.**

DATE:

PLACE: **SIGNATURE OF THE CANDIDATE**

Dr. M.G.R.

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FACULTY OF MANAGEMENT STUDIES

BONAFIDE CERTIFICATE

This is to certify that this Project Report is the Bonafide work of Mr. **VISHWAPRASAD R** who carried out the project entitled **A Study on the Factors That Lead to Increased Spending in Food Delivery Apps** under our supervision from **MS E. CLARANCE**

Internal Guide **Head of the Department**

Submitted for Viva Voce Examination held on_____

ACKNOWLEDGEMENT

To acknowledge here, all those who have been a helping hand in completing this project, shall be an endeavor in itself

I extremely thankful to our Chancellor **Thiru A.C. SHANMUGAM, B.A., B.L.,** our President **Er. A.C.S. ARUN KUMAR, B.E**. I express my sincere thanks to our Secretary **Thiru A. RAVIKUMAR** and our Vice Chancellor **DR.S. GEETHALAKSHMI,** I would like to take the opportunity to express my profound gratitude to **Dr. G BRINDHA**, Professor & head, and my project guide, Faculty of Management Studies, for her kind permission to undergo project work successfully.

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VISHWAPRASAD R

Name of the student

PUMO TECHNOVATION INDIA PRIVATE LIMITED

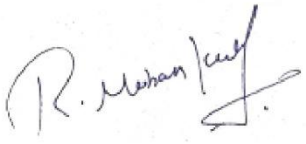
PUMO TECHNOVATION INDIA PVT LTD

24/03/2025

INTERNSHIP CERTIFICATE

This is to certify that **Mr. VISHWAPRASAD R (235092101048)** from **Dr. M.G.R. Educational And Research Institute** has attended an Internship in "**BUSINESS ANALYST**" in our organization from 24-02-2025 to 24-03-2025. We found Mr. Vishwaprasad R effective in discharging the responsibilities assigned to him. During his tenure with us for the above period,we found him efficient, and his character and conduct were good.

For Pumo Technovation India Pvt Ltd



R. MOHANKUMAR

Managing Director

ABSTRACT

This project, titled "A Study on the Factors That Lead to Increased Spending in Food Delivery Apps at Pumo Technovation," explores the dynamic landscape of online food delivery and the key drivers influencing consumer expenditure. With the rapid digital transformation and changing consumer lifestyles, food delivery apps have become an essential service, providing convenience, variety, and personalization to millions of users globally. As competition intensifies, understanding the factors that drive user spending becomes critical for businesses aiming to optimize their offerings and sustain growth in this rapidly evolving market.

The primary objective of this study is to identify and analyze the various factors—such as convenience, promotional offers, user interface, delivery speed, digital payments, and AI-based personalization—that contribute to increased spending behavior among users of food delivery applications. This research also seeks to uncover the psychological and economic triggers that encourage frequent ordering and higher average order values, thereby providing strategic insights for companies like Pumo Technovation to enhance customer retention and app engagement.

To achieve these objectives, the study adopts a descriptive research design and utilizes a quantitative methodology. A structured questionnaire was distributed to a sample of 52 active food delivery app users, capturing their preferences, motivations, and spending patterns. Data was collected through both online and offline surveys and analyzed using statistical tools like percentage analysis and visual aids (bar and pie charts). The findings indicate that discounts, app usability, and faster delivery times are the top contributors to higher spending, followed by personalized suggestions and digital payment rewards. Additionally, the analysis reveals that factors like trust in payment systems, ease of app navigation, and the effectiveness of loyalty programs significantly impact user spending behavior.

Moreover, the study provides valuable insights into the broader digital ecosystem, emphasizing the role of data analytics, personalized marketing, and user experience design in influencing consumer choices. Despite limitations such as a small sample size and geographical constraints, this research offers actionable suggestions for improving retention and increasing average order value, making it a valuable resource for industry stakeholders. It concludes that a technology-driven, customer-centric approach is essential for sustaining growth and competitiveness in the evolving online food delivery sector, highlighting the importance of innovation and customer insights in shaping future business strategies.

CHAPTER 1
INTRODUCTION

The technological innovation of digital technology has had a very deep and meaningful influence on consumer behavior, especially in the food service sector. Food delivery apps have transformed the manner in which individuals consume restaurant food, offering convenience, variety, and quick access. Zomato, Swiggy, Uber Eats, and DoorDash are some of the most popular apps that have become common usage, integrating food delivery into contemporary consumption patterns. As consumers increasingly turn online for food ordering, there has been a staggering rise in expenditure on food delivery apps. A key question has thus been posed: What are the reasons for the increasing expenditure on food delivery apps?

The increasing reliance on food delivery apps is attributed to several factors like busy lifestyles, urbanization, and technology. Owing to busy work life and changed social interactions, the majority of the consumers—especially working professionals and students—like ordering food online rather than preparing food at home. Additionally, the rise in the number of nuclear family structures and single-household families has led to a higher demand for easy food, hence increasing the popularity of food delivery apps.

The most obvious reason for the increase in spending on food ordering apps is their ease of use. The customers can browse through many restaurants, sort them according to their choice, and order in just a few seconds. The ease of quick accessibility of food and home delivery and other options makes the apps extremely appealing. Added to that are the order booking option, real-time tracking, and contactless payment, which enhance the level of customer satisfaction and encourage people to use them regularly.

Promotional strategies and discounts play a crucial role in consumer spending. Most food ordering portals offer attractive promotions such as "Buy One Get One Free" (BOGO), cashback, and time-limited discounts, which induce consumers to act immediately. Such strategies take advantage of consumer psychology, inducing impulse purchases and superior order values. Subscription services such as Swiggy One and Zomato Gold, providing exclusive discounts and free delivery, also encourage consumers to order more frequently and in larger sizes.

Technological advancements, including those in the fields of artificial intelligence (AI) and machine learning, have impacted consumer behavior on food delivery apps immensely. AI-driven recommendation engines evaluate user behavior, order history, and navigation patterns to recommend food items to individuals. This personalization results in higher user interaction and motivates people to order new food products, leading to higher spend. Additionally, features like reward points, badges, and challenge-of-the-day make ordering engaging and enjoyable, thus promoting long-term customer loyalty.

Social and cultural dynamics are also responsible for the growth in food delivery app expenditure. The growing strength of social media sites, food blogs, and social media influencers has inspired the trend towards online food consumption. People prefer to try out specific foods or restaurants when they see their favorite stars or social media influencers promoting them. In addition, user-generated information, such as ratings, reviews, and food pictures, plays a critical role in deciding customers' purchasing behaviors. The "social proof" theory forces customers to try out new restaurants, thus increasing their total expenditure on food delivery apps. The advent of online payment channels has made transactions more convenient, thus driving more consumer expenditure. Having different payment channels such as UPI, e-wallets, credit cards, and Buy Now Pay Later (BNPL) schemes enables consumers to complete their transactions without fear of having to pay initial cash outflows. Additionally, cashback rewards and exclusive discounts given for certain payment channels encourage individuals to use online payment channels, thus driving order frequency and value.

Another significant driver of consumer spending behavior is the emotional value of indulgence and convenience. People associate food delivery services with comfort, leisure, and socializing. Consumers order food not just for convenience, but also as a treat for themselves or to celebrate special occasions. The ease of access to gourmet food, variety of cuisines, and fine dining experience made available through these apps makes them even more desirable, and consumers will spend more than they initially intended.

The COVID-19 pandemic contributed significantly to the growth of food delivery platforms because dine-in lockdowns triggered an online food ordering boom. Consumers continued with online food delivery long after lockdowns were eased due to safety, hygiene, and convenience

factors. The pandemic behavioral shift introduced lasting behavioral changes, further solidifying the food delivery ecosystem and greater average spend per user. This study aims to explore and examine the key drivers of expenditure on food delivery apps. Based on the study of consumer behavior, marketing, and technology, this study aims to identify the drivers that motivate users to spend more. The findings of this study will benefit food delivery platforms, restaurant partners, and digital marketers to know user psychology, optimize pricing strategies, and enhance customer interaction. Finally, this study will contribute to the overall field of consumer behavior and digital marketing, allowing businesses to develop more efficient strategies to drive revenue growth in the competitive online food delivery space.

Moreover, environmental and sustainability concerns are beginning to shape consumer behavior on food delivery platforms. A growing segment of eco-conscious consumers is showing a preference for restaurants and delivery options that prioritize sustainability—such as using biodegradable packaging, offering vegetarian or vegan options, or optimizing delivery routes to reduce carbon emissions. In response, many food delivery apps are integrating eco-labels, green filters, and carbon footprint indicators into their interfaces to cater to this demand. As a result, users are not only influenced by convenience and cost but also by the ethical and environmental implications of their purchases. This emerging awareness further diversifies the factors that contribute to increased spending, as consumers may be willing to pay a premium for environmentally responsible choices, thus reinforcing their engagement with these platforms and amplifying overall expenditure trends.

This study aims to explore and examine the key drivers of expenditure on food delivery apps. Based on the study of consumer behavior, marketing, and technology, this study aims to identify the drivers that motivate users to spend more. The findings of this study will benefit food delivery platforms, restaurant partners, and digital marketers to know user psychology, optimize pricing strategies, and enhance customer interaction. Finally, this study will contribute to the overall field of consumer behavior and digital marketing, allowing businesses to develop more efficient strategies to drive revenue growth in the competitive online food delivery space.

INDUSTRY PROFILE

The food delivery industry has undergone a transformative evolution in recent years, driven by technological advancements, shifting consumer preferences, and the growing culture of convenience. The industry's rapid growth can be attributed to the increased penetration of smartphones, the rise of digital payment systems, and the emergence of food aggregators such as Zomato, Swiggy, Uber Eats, and DoorDash. These platforms have revolutionized the way people access food, allowing them to order from a variety of restaurants and have meals delivered to their doorstep in record time.

Growth and Market Size

The global food delivery market has expanded significantly, with revenues expected to surpass hundreds of billions of dollars in the coming years. According to industry reports, the market size has seen a compound annual growth rate (CAGR) of over 10% due to increased consumer demand. The shift in consumer behavior, particularly among urban populations, has played a crucial role in driving the industry's growth. Factors such as dual-income households, long working hours, and changing eating habits have made food delivery services a necessity rather than a luxury.

In countries like India, China, and the United States, the industry has seen an influx of investments from venture capitalists and technology giants. The rise of cloud kitchens, also known as ghost kitchens, has further strengthened the industry's expansion by allowing businesses to operate with lower overhead costs. Cloud kitchens function without a dine-in facility and focus solely on online food delivery, reducing expenses related to real estate and staffing while increasing profit margins.

Key Trends Shaping the Industry

1. **Rise of Cloud Kitchens** – These delivery-only establishments have gained popularity due to their cost-effectiveness and ability to cater exclusively to online orders. They

allow brands to expand their reach without investing heavily in physical restaurant spaces.

2. **Artificial Intelligence (AI) and Machine Learning** – Food delivery platforms are leveraging AI-driven algorithms to enhance customer experience by offering personalized recommendations, predictive ordering, and dynamic pricing models.
3. **Subscription-Based Services** – Platforms like Zomato Gold, Swiggy One, and Uber Eats Pass offer benefits such as free deliveries, exclusive discounts, and priority services to encourage customer retention and higher spending.
4. **Digital Payment Integration** – The seamless integration of mobile wallets, credit cards, and UPI-based transactions has made food ordering faster and more convenient for users.
5. **Sustainability Initiatives** – With growing concerns about environmental impact, many food delivery companies are adopting eco-friendly packaging, carbon-neutral delivery methods, and sustainable sourcing of ingredients.
6. **Hyperlocal Delivery and Quick Commerce** – Companies are focusing on faster delivery models with an emphasis on hyperlocal restaurant partnerships to ensure minimal waiting time for consumers.

Challenges and Opportunities

While the food delivery industry continues to grow, it faces several challenges. The high cost of logistics, fluctuating fuel prices, and increased competition among platforms have impacted profitability. Customer retention is another critical issue, as users tend to switch between different apps based on offers and discounts. Additionally, the industry must address concerns related to the fair compensation of delivery personnel, data privacy, and service quality consistency.

On the other hand, the industry presents numerous opportunities for innovation and expansion. The increasing demand for healthier food options, the rise of AI-driven automation, and the potential for drone-based food delivery are some of the future trends that could redefine the sector. Companies that invest in data analytics, customer engagement strategies, and sustainability initiatives are likely to achieve long-term success.

COMPANY PROFILE

Pumo Tech Novation

Pumo Tech Novation is a cutting-edge technology solutions provider committed to driving innovation and digital transformation across industries. Since our inception in 2018, we have been at the forefront of delivering smart, scalable, and sustainable digital products and services that empower businesses to adapt to the evolving market landscape.

Company Profile: Pumo Tech Novation
Founded: 2018
Headquarters: Coimbatore
Industry: Technology & Innovation
Business Type: Private
Website: https://pumotechnovation.com/
Email: hr@pumotechnovation.com

Mission

- To create innovative technology solutions that enhance everyday experiences and fuel business growth through intelligent digital transformation.

Vision

- To become a global leader in tech innovation by delivering value-driven, customer-focused, and futuristic technology solutions.

Objectives of Pumo Tech Novation

1. **Deliver High-Quality Technology Solutions**
   Ensure all products and services meet international standards in performance, usability, and security.

2. **Drive Innovation Across All Projects**
   Promote a culture of continuous innovation to offer cutting-edge solutions tailored to emerging market needs.
3. **Enhance Customer Satisfaction and Retention**
   Build long-term relationships by exceeding customer expectations and providing excellent post-sales support.
4. **Expand Market Presence Globally**
   Increase brand visibility and market share by entering new geographical regions and industry sectors.
5. **Develop Scalable and Future-Proof Products**
   Create adaptable technology platforms that can grow with client needs and market trends.
6. **Invest in Talent and Team Growth**
   Attract, develop, and retain top talent through ongoing training, mentorship, and a supportive work environment.
7. **Improve Operational Efficiency**
   Streamline internal processes and adopt agile practices to deliver faster, more cost-effective solutions.

8. **Leverage Emerging Technologies**
   Incorporate AI, machine learning, blockchain, and cloud computing to enhance the functionality and competitiveness of offerings.
9. **Maintain High Ethical Standards**
   Conduct business with transparency, integrity, and respect for all stakeholders, including clients, partners, and employees.
10. **Contribute to Social and Environmental Responsibility**
    Engage in initiatives that support sustainability, digital education, and community development.

Core Values

- Innovation: Pioneering new ideas and approaches.
- Integrity: Maintaining transparency and ethics in all operations.
- Excellence: Striving for quality and efficiency.
- Customer Centricity: Putting client needs at the heart of everything.
- Collaboration: Building strong partnerships and teamwork.

Services Offered

- Custom Software Development
- Mobile App Development
- Web Application Solutions
- AI & Machine Learning Integration
- Cloud Services & Infrastructure
- Data Analytics & Business Intelligence
- UI/UX Design
- E-Commerce Solutions

Roles and Responsibilities at Pumo Tech Novation

1. Chief Executive Officer (CEO)

- Define the company's vision, mission, and strategic goals
- Oversee overall operations and performance
- Build partnerships and investor relationships
- Ensure compliance and financial health

2. Chief Technology Officer (CTO)

- Lead product and technology strategy
- Evaluate and implement emerging technologies
- Manage the development and IT teams
- Ensure system scalability, security, and innovation

3. Project Manager

- Plan, execute, and oversee software development projects
- Manage timelines, budgets, and resources
- Act as a liaison between clients and technical teams
- Ensure project deliverables meet quality standards

4. Software Developers / Engineers

- Write clean, maintainable, and efficient code
- Collaborate with team members for product development
- Conduct software testing and debugging
- Implement APIs, databases, and cloud services

5. UI/UX Designers

- Design intuitive and attractive interfaces
- Conduct user research and usability testing
- Ensure seamless user experience across platforms
- Collaborate with developers for design implementation

6. Quality Assurance (QA) Analysts

- Test software to ensure it meets functional and performance requirements
- Identify bugs and report issues to the development team
- Automate testing processes where applicable
- Ensure the final product is reliable and secure

7. Business Analysts

- Gather and analyze client requirements
- Translate business needs into technical specifications
- Provide insights for product improvement
- Assist in planning product features and roadmaps

8. Marketing and Sales Team

- Promote company products and services
- Identify and approach potential clients
- Develop branding and digital campaigns
- Close sales and manage client relationships

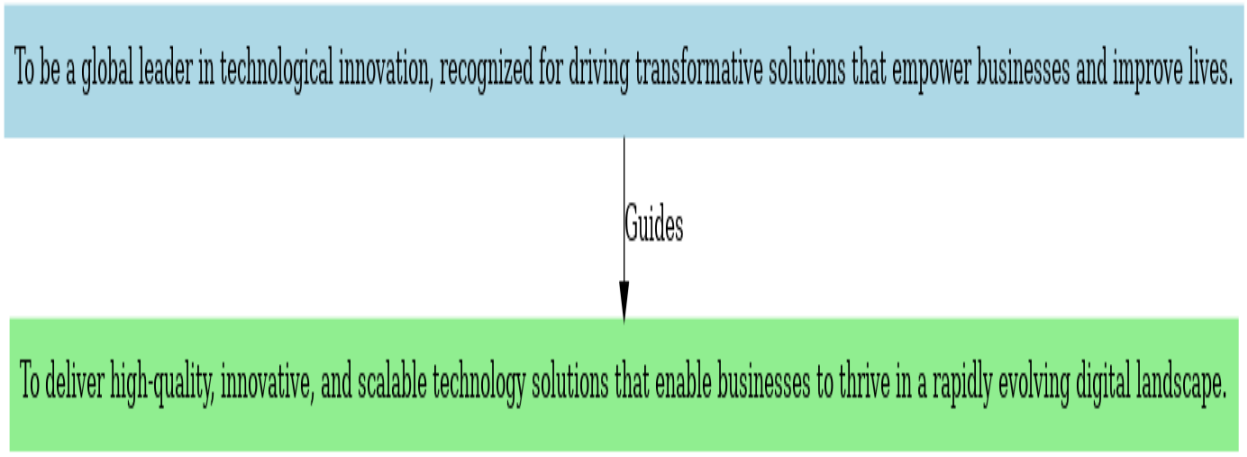
9. Human Resources (HR)

- Recruit and onboard new talent
- Manage employee relations and engagement
- Oversee training, development, and compliance
- Maintain a positive work culture

10. Customer Support Team

- Address customer queries and issues
- Provide technical assistance post-delivery
- Collect feedback to inform product improvements
- Ensure high levels of client satisfaction

Pumo Tech Novation is a trusted name in technology, driving innovation, excellence, and client success.



OBJECTIVES OF THE STUDY

The primary objective of this study is to analyze the factors that influence increased spending on food delivery apps, particularly in the context of Pumo Technovation. The study seeks to understand consumer behavior, the role of technology, and the impact of marketing strategies in driving higher expenditure on these platforms. The findings will help food delivery companies optimize their business strategies and improve customer engagement. The specific objectives of the study are as follows:

1. To Identify Key Factors Influencing Consumer Spending on Food Delivery Apps:

Consumer spending patterns on food delivery apps are shaped by multiple factors such as convenience, promotional offers, user experience, and technology. This study aims to identify and categorize these factors to understand their impact on purchase decisions.

2. To Analyze the Impact of Promotional Offers and Loyalty Programs on Customer Spending Behavior:

Discounts, cashback offers, and loyalty programs are major drivers of customer engagement. This study seeks to evaluate how these incentives influence spending patterns and whether they contribute to long-term customer retention or merely encourage short-term transactions.

3. To Assess the Role of User Interface Design and App Experience in Driving Higher Spending:

A well-designed, user-friendly interface enhances customer experience and encourages frequent orders. This study will examine how factors like ease of navigation, app speed, personalization, and seamless payment integration contribute to increased spending.

4. To Evaluate the Effectiveness of AI-Driven Personalized Recommendations in Increasing Order Value:

Food delivery platforms use artificial intelligence (AI) to provide personalized suggestions based on past orders and preferences. This study will assess whether AI-driven recommendations lead to higher order values and more frequent transactions.

5. To Study the Influence of Lifestyle Factors Such as Convenience and Time Constraints on Spending Behavior:

Busy urban lifestyles, remote work trends, and time constraints play a significant role in the increased usage of food delivery apps. This study aims to analyze how lifestyle changes contribute to higher spending on these platforms.

6. To Examine the Correlation Between Digital Payment Options and Customer Spending Patterns:

The availability of multiple digital payment options, including mobile wallets, credit cards, and UPI, has made transactions easier and faster. This study will explore whether the ease of payment methods influences consumer spending behavior.

7. To Determine How Subscription-Based Models Affect Customer Spending Habits:

Food delivery apps offer subscription plans that provide benefits such as free delivery and exclusive discounts. This study will analyze whether customers who subscribe to these plans tend to spend more than non-subscribers.

8. To Explore Customer Preferences Regarding Food Categories and Pricing Strategies:

Different consumer segments prefer different food categories, such as fast food, gourmet meals, healthy options, or budget-friendly choices. This study aims to identify how pricing strategies and food preferences impact spending behavior.

9. To Provide Actionable Recommendations for Food Delivery Platforms to Enhance Customer Engagement:

Based on the findings, this study will propose strategies that food delivery companies can implement to increase customer spending, improve retention, and create long-term value.

10. To Help Pumo Technovation Refine Its Technology Solutions for the Food Delivery Industry:

As a technology solutions provider, Pumo Technovation plays a crucial role in enhancing the digital experience of food delivery platforms. This study will offer insights into how the company can develop better AI-driven analytics, optimize app functionalities, and create data-driven strategies to
help food delivery businesses increase revenue.

NEED OF THE STUDY

The rapid growth of food delivery applications has transformed the way people order and consume food. With increasing urbanization, changing work lifestyles, and advancements in mobile technology, food delivery platforms have become an integral part of daily life. However, the success of these platforms is largely dependent on their ability to retain customers and encourage higher spending. Understanding the key factors that drive consumer spending on these apps is crucial for businesses looking to optimize their strategies and enhance profitability. This study aims to bridge the knowledge gap by identifying and analyzing the elements that contribute to increased expenditure on food delivery platforms, with a specific focus on Pumo Technovation's role in supporting the industry through technological solutions.

1. **Growing Popularity of Food Delivery Apps**
   The increasing use of food delivery applications due to urbanization, busy lifestyles, and mobile technology has made these platforms a key part of daily life, necessitating a deeper understanding of user behavior and spending trends.

2. **Importance of Customer Retention and Spending**
   The success of food delivery platforms depends on their ability to retain customers and encourage higher spending, making it essential to identify the factors that influence consumer expenditure.

3. **Psychological and Economic Drivers**
   Consumer behavior is influenced by various factors such as promotional offers, pricing strategies, and the perceived value of convenience, all of which need to be explored to design effective marketing strategies.

4. **Short-term vs. Long-term Impact of Offers**
   While discounts and loyalty programs attract users, the study aims to distinguish between short-term sales spikes and sustainable customer retention benefits.

5. **Role of Technology in User Engagement**

   Advanced technologies like AI and big data analytics have enabled personalized recommendations and push notifications, but their actual impact on increased spending needs closer analysis.

6. **Impact of Digital Payments**

   The availability of diverse payment options such as mobile wallets, credit cards, and subscription models can influence consumer spending habits, and their effect on loyalty and convenience is worth examining.

7. **Changing Lifestyles and Work Habits**

   Work-from-home culture and fast-paced urban living have increased reliance on food delivery apps; understanding how these lifestyle changes affect spending is vital.

8. **Pumo Technovation's Strategic Role**

   As a technology solutions provider, Pumo Technovation can use the study's findings to refine its digital tools and offer better support to food delivery businesses.

9. **Need for Customer Retention Strategies**

   The study aims to explore how businesses can combat low brand loyalty by using data-driven strategies to boost repeat purchases and customer lifetime value.

10. **Adapting to Market Competition and Consumer Trends**

    In a competitive market, understanding evolving consumer preferences will help both food delivery platforms and technology providers stay relevant and profitable.

SCOPE OF THE STUDY

The study on the factors that lead to increased spending in food delivery apps, with a focus on Pumo Technovation, is highly relevant in today's digital-driven food service industry. It provides valuable insights into consumer behavior, business strategies, and technological advancements that impact spending patterns. The study's scope covers various dimensions, including market trends, pricing strategies, technological innovations, and customer engagement models. The findings will be useful for food delivery businesses, technology providers, and marketers aiming to optimize their platforms and enhance user spending. The key areas covered in this study are as follows:

1. Understanding Consumer Behavior and Spending Patterns:

The study analyzes how consumers interact with food delivery apps and the factors influencing their spending decisions. It examines preferences related to order frequency, average spending per transaction, meal selection, and brand loyalty.

2. Evaluating the Impact of Discounts and Promotions on Spending:

One of the most common tactics used by food delivery apps is offering discounts, cashback, and promotional deals. This study explores the extent to which these offers influence consumer decisions and whether they lead to sustained spending or short-term engagement.

3. Analyzing the Role of AI-Driven Personalization in Driving Sales:

Food delivery apps use artificial intelligence to provide personalized recommendations and targeted advertisements. The study assesses how these AI-driven features impact customer spending and whether they enhance user engagement and satisfaction.

4. Assessing the Effectiveness of Subscription Models on Spending Habits:

Many food delivery apps offer subscription-based services, such as free delivery and exclusive discounts, to retain customers. This study evaluates whether such models lead to higher spending and improved customer retention rates.

5. Examining the Influence of Digital Payment Options on Consumer Spending:

With the rise of digital wallets, credit cards, and UPI-based transactions, payment convenience has become a crucial factor in online ordering. The study explores whether seamless payment integration impacts order value and spending frequency.

6. Investigating Lifestyle and External Factors Affecting Spending Behavior:

The study considers lifestyle changes such as remote work, fast-paced urban living, and social influences that contribute to the increased use of food delivery apps. It examines how external factors drive higher spending on these platforms.

7. Identifying Key Features that Enhance User Experience and Encourage Spending:

User experience, including app design, ease of navigation, speed, and customer support, plays a vital role in user retention and spending. The study identifies the most critical app features that impact customer satisfaction and order frequency.

8. Exploring Customer Retention Strategies for Food Delivery Platforms:

Retaining customers in the highly competitive food delivery market is a challenge. This study explores various retention strategies, including loyalty programs, gamification, and personalized incentives, to determine their effectiveness in driving repeat spending.

9. Providing Recommendations for Optimizing Business Strategies:

The research offers actionable recommendations for food delivery platforms and technology providers like Pumo Technovation to enhance business models, improve customer engagement,

and maximize revenue generation.

10. Enhancing Pumo Technovation's Role in Supporting Food Delivery Platforms:

As a technology solutions provider, Pumo Technovation can use the study's insights to refine its AI-driven analytics, optimize digital payment integration, and develop innovative solutions that help food delivery businesses increase customer spending.

LIMITATIONS OF THE STUDY

While this study aims to provide valuable insights into the factors that lead to increased spending on food delivery apps, it is subject to certain limitations. These constraints may affect the generalizability and accuracy of the findings. Acknowledging these limitations will help future researchers and businesses refine their approaches to understanding consumer behavior and optimizing digital food delivery platforms. The key limitations of this study are as follows:

1. Limited Sample Size:

The study is conducted with a specific sample size, which may not fully represent the diverse consumer base of food delivery apps. Differences in demographics, geographic regions, and cultural preferences may affect spending behavior, making it difficult to generalize the results.

2. Geographical Constraints:

The study focuses primarily on a specific region or demographic, which may not capture variations in consumer behavior across different cities, states, or countries. Spending patterns in metropolitan areas may differ significantly from those in smaller towns or rural areas.

3. Dependence on Self-Reported Data:

Many insights in the study are derived from surveys and questionnaires, which rely on respondents' self-reported data. There is a possibility of response bias, where participants may not accurately report their spending habits, motivations, or preferences.

4. Rapidly Changing Market Trends:

The food delivery industry is highly dynamic, with frequent changes in consumer preferences, technological advancements, and competitive strategies. The findings of this study may become outdated over time as new trends emerge and disrupt the market.

5. Influence of External Factors Beyond the Scope of the Study:

Certain external factors, such as inflation, economic downturns, government regulations, and public health crises (e.g., COVID-19), may significantly impact consumer spending on food delivery apps but are not extensively covered in this study.

6. Difficulty in Measuring Psychological and Behavioral Factors:

Consumer spending behavior is influenced by psychological factors such as impulse buying, brand perception, and personal financial situations. These elements are complex to measure quantitatively and may not be fully captured in the study.

7. Limited Scope in Evaluating Technological Advancements:

While the study examines the role of AI-driven recommendations and digital payments, it may not cover all emerging technologies such as drone-based deliveries, blockchain integration, or virtual reality dining experiences, which could also influence spending behavior in the future.

8. Impact of Competitor Strategies:

The study focuses on a particular platform (Pumo Technovation) and does not extensively compare competitor strategies. The presence of multiple food delivery services with varying business models and promotional strategies could influence customer spending in ways not accounted for in this research.

9. Short-Term vs. Long-Term Spending Patterns:

The study primarily analyzes current spending trends but does not extensively explore long-term customer behavior. Short-term spikes in spending due to promotions or seasonal trends may not accurately reflect sustained consumer habits.

10. Ethical and Privacy Considerations in Data Collection:

The study relies on customer data, which raises concerns about privacy and ethical considerations. Due to data protection laws and privacy concerns, access to detailed consumer purchase histories and app usage data may be restricted, limiting the depth of the analysis.

CHAPTER 2
REVIEW OF LITERATURE

The development of food ordering apps has significantly altered spending habits on consumption and introduced online food ordering as a part of modern life. Various scholars have analyzed determinants influencing spending on the apps, including convenience, promotional offers, impulse buy, and reward. Psychological aspects such as discounts, artificial intelligence-based recommendations, and social endorsement also play vital roles in triggering higher order values.

Technological advancements such as gamification, fintech, and frictionless digital payments have further amplified user engagement and consumption patterns. Social influences such as influencer marketing and peer reviews also shape consumer behavior. The COVID-19 pandemic has accelerated the adoption of food delivery, leading to long-term behavioral changes.

This literature review analyzes research on these factors, highlighting key drivers of rising expenditure on food delivery applications. It also highlights areas of research gaps and makes recommendations for future studies as well as practice in the sector.

Bramley et al. (2023) explore the impact of an online service-learning framework on students' understanding of community food security and their professional skill development. The study highlights how eService-learning enhances self-efficacy, critical thinking, and civic responsibility (Bramley et al., 2023). Findings indicate that students gained a deeper understanding of food insecurity, systemic issues, and the role of community organizations. The research emphasizes the importance of student-selected community partnerships in improving engagement and real-world learning (Bramley et al., 2023). Overall, the study suggests that online service-learning can be an effective, scalable model for experiential education.

Branscum (2024) explores best practices in online service-learning, emphasizing its role in making education more accessible and inclusive. The study highlights how extreme service-learning (fully online service-learning) enhances problem-solving, leadership, and collaboration skills (Branscum, 2024). While online learning offers flexibility, challenges such as limited interaction, motivation issues, and technical barriers must be addressed (Branscum, 2024). The

study suggests that high instructor involvement, varied course materials, and strategic collaborations improve engagement and effectiveness. Overall, online service-learning can bridge educational gaps and promote civic responsibility in a digital learning environment.

McNelly, Ent, & McMullen (2023) examine the impact of just-in-time online learning modules on pre-service teachers' beliefs about media literacy education. The study finds that self-paced online modules can be effective in integrating additional learning into already full curricula (McNelly et al., 2023). However, negative perceptions about online learning persist, particularly in the post-pandemic era, affecting engagement (McNelly et al., 2023). The research suggests that overcoming these perceptions through improved design, engagement strategies, and institutional support is essential. Overall, online modules can enhance digital literacy education but require careful implementation to be widely accepted.

Bangera & Bhatia (2023) review the growth of the foodtech industry and its impact on restaurant businesses in India. The study highlights that online food delivery services, led by Swiggy and Zomato, have transformed consumer behavior by offering convenience, variety, and digital transactions (Bangera & Bhatia, 2023). While these apps help restaurants expand their reach, concerns such as high commission fees, increased competition, and declining in-house dining pose challenges. The study suggests that restaurants should strategically collaborate with food delivery platforms to optimize profits and sustain long-term growth. Overall, the research underscores both opportunities and threats posed by food delivery apps to the restaurant industry.

Jeong, Moon, & Hwang (2021) analyze daily food delivery and consumption trends in the post-COVID-19 era using big data analytics. Their study found that news media coverage on COVID-19 significantly influenced food delivery sales, with a 60% surge in orders the day after related news articles were published (Jeong et al., 2021). Additionally, mobile media usage and social media trends played a major role in increasing food delivery sales. The study suggests that viral marketing, emotional analysis of consumer behavior, and SNS data mining could be key strategies for boosting online food ordering businesses. Overall, big data analysis can help food delivery platforms optimize sales and navigate economic uncertainties in the post-pandemic era.

Mustapa, Anuar, & Piah (2020) analyze the growing trend of food delivery businesses, highlighting factors that drive consumer adoption of online food ordering services. The study identifies convenience, time-saving benefits, and smartphone accessibility as major reasons for

shifting from traditional to digital food purchases (Mustapa et al., 2020). The COVID-19 pandemic further accelerated this trend, leading to a boom in online sales and job opportunities for delivery riders. However, the research also points out challenges such as delivery worker welfare, fare rates, and safety concerns. Overall, the study emphasizes that food delivery businesses must continuously innovate and address operational challenges to sustain future growth.

Inthong et al. (2022) explore factors influencing consumer behavioral intentions toward online food ordering in Thailand. Using the Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), and Task–Technology Fit (TTF), the study identifies attitude, subjective norms, and perceived ease of use as key determinants of food ordering behavior (Inthong et al., 2022). The findings suggest that platform suitability and ease of use significantly impact consumer trust and adoption rates. The study concludes that food delivery platforms must enhance user experience and trust to drive long-term consumer engagement and business sustainability.

Jia, Zhang, & Qiao (2022) examine consumer-related factors influencing food waste behavior in online food ordering among young adults in China. The study finds that frequent online food orders, lack of farming experience, and standardized portion sizes contribute to increased food waste (Jia et al., 2022). Factors like attitude, subjective norms, perceived behavioral control, and price consciousness significantly influence waste-reduction intentions. The research highlights over-consumption due to promotions, large portion sizes, and minimum order requirements as key drivers of food waste. The study suggests policy interventions, improved portion control, and awareness campaigns to promote sustainable food consumption.

Song, Jeon, & Jeon (2017) examine how mobile food delivery app usage factors influence customer satisfaction and reuse intention. The study finds that informativeness, payment and safety, usefulness, and convenience significantly impact customer satisfaction (Song et al., 2017). Among these, informativeness and payment safety are the most critical factors driving customers to reuse food delivery apps. The research suggests that regular updates on menu items, accurate information, and secure payment systems enhance customer trust and retention. Overall,

improving service quality in food delivery apps leads to higher customer satisfaction and long-term usage.

Cha & Seo (2020) examine the impact of food delivery applications on customer loyalty in restaurants. The study finds that usefulness, mobility, and reliability significantly influence customer satisfaction, with mobility and reliability also affecting customer loyalty (Cha & Seo, 2020). Interestingly, informativeness had no significant impact on satisfaction or loyalty, suggesting that excess information may overwhelm users. The study recommends that food delivery apps should focus on enhancing mobility, reliability, and user-friendly interfaces to improve customer retention. Overall, strategic differentiation and service quality improvements are essential for long-term success in the competitive food delivery market.

Cha & Seo (2020) investigate the impact of food delivery applications on customer satisfaction and loyalty in restaurants. The study finds that usefulness, mobility, and reliability significantly influence customer satisfaction, with mobility and reliability also affecting loyalty (Cha & Seo, 2020). However, informativeness did not have a significant impact on satisfaction or loyalty, indicating that excessive information may overwhelm users. The study suggests that food delivery platforms should prioritize user-friendly interfaces, reliability, and mobility over excessive informational content. Overall, enhancing service quality and strategic differentiation is essential for customer retention in the competitive food delivery industry .

Muangmee et al. (2021) investigate the factors influencing behavioral intention to use food delivery apps (FDAs) during the COVID-19 pandemic in Thailand. Using a structural equation model (SEM), the study finds that performance expectancy, effort expectancy, social influence, timeliness, task-technology fit, perceived trust, and perceived safety significantly affect users' willingness to adopt FDAs (Muangmee et al., 2021). Among these, timeliness and task-technology fit had the most substantial impact on user behavior. The study suggests that enhancing trust, improving technology usability, and ensuring safe, timely deliveries can drive sustained adoption of FDAs. Overall, the research highlights the long-term shift in consumer behavior toward digital food services due to the pandemic.

Stephens, Miller, & Militello (2020) examine the negative health impacts of food delivery apps on American consumers. The study highlights that increased food delivery usage is associated with unhealthy eating habits, as users frequently order high-calorie, fast-food meals (Stephens et

al., 2020). Findings indicate that young adults (19–29 years old) are the primary users, contributing to the rising obesity and overweight rates in the U.S.. Additionally, digital ordering convenience may worsen dietary choices, leading to long-term public health concerns. The study suggests that ethical design improvements and health-conscious interventions are necessary for food delivery platforms to promote better nutrition.

Prajapati, Goswami, & Agrawal (2020) examine the role of social media as a promotional tool for food ordering companies and its impact on consumer behavior. The study finds that gender influences online food ordering behavior through social media promotions, while factors like age, education, and income have no significant impact (Prajapati et al., 2020). Social media platforms like Instagram, Facebook, and Twitter play a major role in driving food app adoption. The research suggests that companies should focus on visually appealing, interactive, and targeted marketing strategies to attract more users. Overall, social media marketing is a crucial driver for online food delivery platforms, enhancing brand awareness and customer engagement.

CHAPTER 3
RESEARCH METHODOLOGY

This study employs a descriptive and exploratory research design to examine the factors influencing increased consumer spending on food delivery apps, with a focus on the technological interventions introduced by Pumo Technovation. The descriptive element enables the analysis of consumer behaviors and spending patterns, while the exploratory aspect supports the investigation of how modern technologies—such as AI, big data analytics, and digital payment systems—affect these behaviors.

A mixed-methods approach was adopted, integrating both quantitative and qualitative techniques. Quantitative data was collected through a structured online questionnaire targeting active users of food delivery platforms like Swiggy, Zomato, and Uber Eats. Qualitative insights were gathered through interviews with technical experts and employees at Pumo Technovation to understand the backend role of technology in shaping user engagement. This combination helped ensure a more holistic view of the problem.

A total of 52 respondents were selected using purposive sampling, ensuring that participants had relevant experience with food delivery apps. The questionnaire included multiple-choice, Likert-scale, and open-ended questions covering aspects such as promotional impact, user experience, pricing, payment preferences, and technological features. The interview component provided insights into the technological strategies used by Pumo Technovation to influence customer spending behavior.

Data analysis was conducted using descriptive statistics (percentages and averages) and correlation analysis to identify relationships between key factors. Microsoft Excel was used for quantitative data, while thematic analysis helped extract insights from qualitative responses. Ethical standards were maintained by informing participants, obtaining consent, and ensuring confidentiality. This methodology provides a solid foundation for understanding consumer spending drivers and guiding Pumo Technovation’s tech strategies.

Research Design

The research design is the overall strategy chosen to integrate the different components of the study in a coherent and logical way, ensuring that the research problem is effectively addressed. This study uses a descriptive research design, which is suitable for understanding and analyzing consumer behavior regarding spending patterns on food delivery applications. The aim is to identify the major factors that contribute to increased spending and to examine how these factors influence user decision-making.

Descriptive research allows the collection of both qualitative and quantitative data to describe characteristics of the population or phenomenon being studied. In this study, the focus is on identifying the impact of convenience, promotional offers, user interface, digital payment methods, and lifestyle changes on the frequency and amount of spending. The research design involves structured data collection through questionnaires, followed by systematic data analysis to interpret the findings.

The population for the study consists of app users who actively order food online. The sample data is collected from 52 respondents, selected using a convenience sampling method due to time constraints and accessibility. The design ensures that the findings are valid, reliable, and applicable to a larger audience, while being practical for the timeframe and resources available for this study.

To enhance the reliability and depth of the study, both primary and secondary data sources are utilized. Primary data is gathered directly from respondents through structured questionnaires that include both closed-ended and Likert scale-based questions to capture detailed insights into user preferences and behaviors. Secondary data, such as previous research papers, industry reports, and online databases, supports the contextual understanding of trends in digital food delivery consumption. The combination of these data sources allows for a comprehensive analysis of the factors influencing consumer expenditure. Furthermore, the use of statistical tools for data analysis—such as frequency distribution, percentage analysis, and cross-tabulation—ensures that the results are both interpretable and actionable, thereby strengthening the overall research design.

Research Hypothesis & Methodology

A hypothesis is a testable statement regarding the relationship between variables. This study proposes the following hypotheses:

- H_0 (Null Hypothesis): There is no significant relationship between the factors such as discounts, app design, and delivery time and the increase in consumer spending on food delivery apps.
- H_1 (Alternative Hypothesis): There is a significant relationship between the factors such as discounts, app design, and delivery time and the increase in consumer spending on food delivery apps.

The research methodology outlines the overall process of collecting, analyzing, and interpreting data. This study adopts a quantitative approach, using a structured questionnaire to collect responses from food delivery app users. The questionnaire includes both closed-ended and Likert scale-based questions to quantify user opinions and behaviors.

Primary data is collected through online and offline surveys, while secondary data is sourced from journals, reports, and previous studies. The methodology also includes statistical tools such as percentage analysis, pie charts, and bar diagrams to interpret data accurately. This structured methodology ensures that the study objectives are met and the hypotheses are tested effectively.

To ensure the accuracy and credibility of the findings, the study also incorporates reliability and validity checks. Reliability is assessed through a pilot test conducted on a small sample before the main survey to identify any ambiguities or inconsistencies in the questionnaire. Cronbach's alpha is used to measure the internal consistency of the Likert scale items, ensuring that the questions effectively capture the intended constructs. Validity, on the other hand, is maintained by carefully designing the questionnaire based on existing literature and expert feedback to ensure it truly measures the factors influencing consumer spending. These checks help enhance the overall quality of the data collected, thereby reinforcing the soundness of the conclusions drawn from the study.

Data Analysis

The data collected from the 52 respondents was organized, coded, and analyzed using statistical tools. The objective of the analysis was to determine how various factors—such as app usability, promotional offers, delivery time, and digital payment options—affect the frequency and value of customer orders on food delivery platforms.

Most users indicated that discounts and special offers are a major influence on their decision to order, followed closely by convenience and user-friendly app interfaces. Delivery time also emerged as a significant factor, with users preferring apps that offer fast and reliable service. The data was presented using graphical tools (bar charts, pie charts) to make the interpretation easier and more visually understandable.

Statistical tools such as percentage analysis were used to measure the frequency and intensity of responses. Cross-tabulation was used in some cases to explore relationships between variables (e.g., age and frequency of ordering). The analysis helped in understanding consumer trends and forming insights that contribute to strategic recommendations.

TYPES OF DATA ANALYSIS

1. **Descriptive Analysis**: Summarizes and describes the main features of a dataset, providing simple summaries about the sample and measures.
2. **Inferential Analysis**: Makes predictions or inferences about a population based on a sample of data.
3. **Diagnostic Analysis**: Examines data to understand causes of events and behaviors.
4. **Predictive Analysis**: Uses statistical models and forecasts techniques to understand the future and answer: "What could happen?"
5. **Prescriptive Analysis**: Suggests actions and outcomes using optimization and simulation algorithms.
6. **Exploratory Data Analysis (EDA)**: Employs visual methods to discover patterns, spot anomalies, and test hypotheses.

TOOLS AND TECHNIQUES Tools use for data analysis involves Microsoft Excel, Python, SPSS, R, SAS, Tableau, Power BI etc are widely used for basic data

analysis and visualization and it offers advanced statistical analysis for social sciences.

Techniques Used In Data Analysis

Statistical Methods:

- Regression Analysis: Examines relationships between variables.
- ANOVA (Analysis of Variance): Compares means among groups.
- Chi-Square Tests: Assesses relationships between categorical variables.
- Correlation Analysis: Measures the strength and direction of relationships between variables.

Qualitative Methods:

- Thematic Analysis: Identifies patterns or themes within qualitative data.
- Content Analysis: Quantifies and analyzes the presence of certain words, themes, or concepts.

Grounded Theory: Develops theories based on data systematically gathered and analyzed.

Data Mining Techniques:

- Clustering: Groups similar data points together.
- Classification: Assigns items to predefined categories.
- Association Rule Learning: Discovers interesting relations between variables in large databases.

Tools and techniques used in this study

Tools: Excel, SPSS

Techniques: Pie-chart, Bar chart, Tables, Chi Square, T-test

- A **Pie Chart** displays data as proportional slices of a circle, illustrating how individual parts contribute to a whole. Ideal for showing percentage or proportional data, such as market share distribution.
- A **Bar Chart** represents data with rectangular bars, where the length of each bar corresponds to its value. Suitable for comparing quantities across different categories, such as sales figures across regions.
- An **Excel Table** organizes data into rows and columns, allowing for efficient data management and analysis. Useful for sorting, filtering, and applying formulas to structured data, such as inventories or transaction logs

SAMPLE SIZE

Sample

A sample is a smaller, manageable version of a larger group (the population).It should be representative of the population, meaning the sample should share similar characteristics. Samples are used when studying a population is impractical or impossible due to its size.

Sampling

Sampling involves selecting a subset of individuals or items from a population. The goal of sampling is to make inferences about the entire population based on the sample. Different sampling techniques exist, each with its own strengths and weaknesses.

Sample Size

The sample size for this study comprises 52 respondents, all of whom are active users of food delivery apps such as Swiggy, Zomato, Uber Eats, etc. The sample was selected using the convenience sampling method, which involves collecting data from individuals who are easily accessible and willing to participate. While this method may limit the generalizability of the study, it provides practical insights within the constraints of time and resources.

The 52 participants represent a diverse group in terms of age, gender, income level, and occupation. This diversity ensures that multiple perspectives are captured in the analysis, making the findings relevant to a broader segment of food delivery app users. Although the sample size is relatively small, it is sufficient to identify common patterns and behaviors relevant to the objectives of the study.

In future studies, a larger and more randomly selected sample size could help improve the reliability and external validity of the findings. Nonetheless, the current sample size allows for a clear understanding of user behavior and helps test the research hypothesis effectively.

In future studies, a larger and more randomly selected sample size could help improve the reliability and external validity of the findings. Nonetheless, the current sample size allows for a clear understanding of user behavior and helps test the research hypothesis effectively.

Probability Sampling

Probability sampling ensures that every member of the population has a known and non-zero chance of being selected for the study. This approach is ideal for quantitative research where the

aim is to make statistical inferences about the broader population. The main types of probability sampling include:

Simple Random Sampling

- In this method, each member of the population has an equal chance of being selected. It can be conducted using random number generators, drawing names from a hat, or other randomized methods.
- Advantages: Unbiased selection, generalizability of results, statistical validity, and ease of execution.
- Disadvantages: Requires a complete list of the population and can be time-consuming for large populations.

Cluster Sampling

- The population is divided into clusters, each representing the overall population. A random sample of these clusters is then chosen for study, instead of selecting individual members directly.
- Advantages: Cost-effective for large, geographically dispersed populations.
- Disadvantages: Higher risk of sampling error if the clusters are not truly representative.

Systematic Sampling

- Here, members are selected at regular intervals from an ordered list, such as every 10th person.
- Advantages: Simple to implement and reduces the need for a complete list of the population.
- Disadvantages: Can introduce bias if there is a hidden pattern in the population.

Stratified Sampling

- The population is divided into distinct subgroups (strata) based on shared characteristics, such as age, income, or education level. A random sample is then drawn from each stratum.
- Advantages: Ensures representation from each subgroup, improving the accuracy of results.
- Disadvantages: More complex and time-consuming than simple random sampling.

Non-Probability Sampling

Non-probability sampling does not provide every member of the population with a known chance of being included in the study. It is commonly used in qualitative or exploratory research where statistical generalization is less critical. The primary types include:

Convenience Sampling

- Participants are selected based on their availability or ease of access.
- Advantages: Cost-effective and quick to implement.
- Disadvantages: High risk of bias and limited generalizability.

Judgmental (Purposive) Sampling

- The researcher uses their expertise to select participants believed to be the most suitable for the study's objectives.
- Advantages: Focused, targeted data collection.
- Disadvantages: Highly subjective, potentially leading to bias.

Voluntary Response Sampling

- Participants self-select into the study, often in response to an open call for participation.
- Advantages: Easy to administer and cost-effective.
- Disadvantages: Strong potential for volunteer bias.

Snowball Sampling

- Initial participants recruit additional subjects, creating a growing "snowball" effect.
- Advantages: Useful for hard-to-reach or specialized populations.
- Disadvantages: Non-random, potentially unrepresentative sample.

Quota Sampling

- The population is divided into groups, and a set number of participants are selected from each group to meet specific quotas.
- Advantages: Allows for targeted subgroup analysis.
- Disadvantages: Prone to selection bias.

Sampling Technique Used in This Study

Sampling Technique Used: Simple Random Sampling

In this study, simple random sampling was employed as the primary sampling technique. This method ensures that every individual in the population has an equal chance of being selected, making it highly representative when executed correctly. For instance, if the population includes 1,000 retail stores or employees, a simple random sample might involve selecting 100 of them using a random number generator or a lottery draw.

Why Simple Random Sampling was Used:

Simple random sampling was used in this study to ensure that every participant had an equal chance of being selected, reducing bias and enhancing the representativeness of the sample. This approach supports the validity and generalizability of the findings by reflecting the broader population's characteristics.

Chi-Square Test

The Chi-square test is a statistical method used to check if there is a significant relationship between two categorical variables. It helps to see whether the differences between expected and actual results are due to chance or not.

Example: Checking if customer satisfaction level depends on the food delivery app used.

T-Test

A T-test is used to compare the means of two groups to see if they are significantly different from each other. It helps determine if any difference between the groups is real or just happened by chance.

Example: Comparing average spending of male and female users on food delivery apps.

DATA COLLECTION APPROACH

DATA COLLECTION

In Statistics, data collection is a process of gathering information from all the relevant sources to find a solution to the research problem. It helps to evaluate the outcome of the problem. The data collection methods allow a person to conclude an answer to the relevant question. Most of the organizations use data collection methods to make assumptions about future probabilities and trends. Once the data is collected, it is necessary to undergo the data organization process.

The main sources of the data collections methods are “Data”. Data can be classified into two types, namely primary data and secondary data. The primary importance of data collection in any research or business process is that it helps to determine many important things about the company, particularly the performance. So, the data collection process plays an important role in all the streams. Depending on the type of data, the data collection method is divided into two categories namely,

Data Collection Approach

Data collection for this study was carried out through primary and secondary sources.

- **Primary Data:** The main source of primary data was a structured questionnaire distributed both online (via Google Forms) and offline. The questionnaire included demographic questions, Likert scale questions (e.g., to rate satisfaction or frequency of usage), and multiple-choice questions designed to understand the users' food ordering behavior. The goal was to assess how various app features and marketing strategies influence spending.

  Quantitative Data Collection Methods

  It is based on mathematical calculations using various formats like close-ended questions, correlation and regression methods, mean, median or mode measures. This method is

cheaper than qualitative data collection methods and it can be applied in a short duration of time.

Qualitative Data Collection Methods

It does not involve any mathematical calculations. This method is closely associated with elements that are not quantifiable. This qualitative data collection method includes interviews, questionnaires, observations, case studies, etc. There are several methods to collect this type of data. They are

1. **Interviews**

Interviews are one-on-one conversations between a researcher and a participant. They are designed to explore the participant's thoughts, feelings, and experiences in depth. Interviews can be structured, semi- structured, or unstructured, depending on the level of flexibility in questioning. This method allows researchers to gain detailed insights into individual perspectives and is particularly useful when exploring complex issues or personal experiences.

2. **Focus Groups**

Focus groups involve a small group of participants (usually 6–10) who discuss a topic guided by a moderator. This method allows researchers to observe group dynamics, shared beliefs, and differing opinions in a social context. Focus groups are especially helpful for understanding community attitudes, product feedback, or collective experiences, and can uncover insights that may not emerge in individual interviews.

3. **Observations**

Observational methods involve watching participants in their natural environment without direct interaction. Researchers take detailed notes on behaviors, interactions, and events as they occur. This technique helps gather authentic, real-time data, especially in settings like retail stores, classrooms, or workplaces. It’s valuable for understanding actual behavior rather than relying on self-reported data.

4. **Case Studies**

A case study involves an in-depth investigation of a single case or a small number of related cases within a real-life context. This method provides a comprehensive understanding of a specific subject, such as a retail store's operations or a customer's journey. Case studies combine multiple data sources like interviews, documents, and observations, offering a holistic view of the situation.

5. **Open-Ended Surveys or Questionnaires**

Surveys with open-ended questions allowing respondents to express their thoughts freely. Collecting suggestions or feedback from employees or customers in their own words. Gathers a wide variety of input; useful for identifying patterns in opinions.

- **Secondary Data**: Secondary sources included academic journals, industry reports, market research documents, and articles from trusted platforms such as Statista, Deloitte, and Forbes. These sources provided background information on the food delivery industry, emerging trends, and the role of digital transformation in consumer behavior.

  The data collection approach ensured reliability through careful questionnaire design and validation with a pilot group before the full rollout. All responses were kept confidential, and ethical standards for data privacy were followed. By combining both primary and secondary data, the study achieved a holistic understanding of the spending patterns of food delivery app users.

Published data are available in various resources including

- Government publications
- Public records
- Historical and statistical documents
- Business documents
- Technical and trade journals

Unpublished data includes

- Diaries
- Letters
- Unpublished biographies, etc.

Data collection approach followed in this study

Primary Data Collection Method: Questionnaire Approach

In this study, the questionnaire method has been employed as the primary data collection technique to gather insights on the use and impact of business analytics in improving operational efficiency in the retail sector. This method is chosen for its ability to collect standardized, quantifiable data from a diverse group of respondents such as store managers, retail employees, inventory planners, and IT personnel involved in analytics processes.

Structure of the Questionnaire

Closed-ended questions: These are structured with predefined answer choices (e.g., Likert scale, multiple-choice, yes/no). They allow for easy comparison, statistical analysis, and interpretation of responses across a larger sample.

CHI SQUARE TEST

The Chi-Square test is a statistical procedure for determining the difference between observed and expected data. It can also be used to decide whether the data correlates with our categorical variables. Thus, it helps determine whether a difference between two categorical variables is due to chance or a relationship between them.

A Chi-Square or comparable nonparametric test is required to test a hypothesis regarding the distribution of a categorical variable. Categorical variables, which indicate categories such as animals or countries, can be nominal or ordinal. They cannot have a normal distribution because they have only a few values.

Chi-Square Test Formula

$$x_c^2 = \frac{\Sigma\,(O_i - E_i)^2}{E_i}$$

Where,

c = Degrees
of freedom
O =
Observed
Value

E = Expected Value

The degrees of freedom in a statistical calculation represent the number of variables that can vary. The degrees of freedom can be calculated to ensure that Chi-Square tests are statistically valid. These tests frequently compare observed data with data expected to be obtained if a particular hypothesis were true. The Observed values are those you gather yourselves.

The Expected values are the anticipated frequencies, based on the null hypothesis.

Conditions for Applying the Chi-Square Test

 Categorical Variables: Both variables under investigation should be categorical, meaning they represent distinct categories or groups (e.g., gender, product type).
 Frequency Data: The data should consist of actual counts or frequencies of occurrences within each category, not percentages or other derived metrics.
 Independence of Observations: Each observation should be independent of the others; the occurrence of one event should not influence another.
 Expected Frequency Threshold: Generally, the expected frequency in each cell of the contingency table should be at least 5 to ensure the reliability of the test results.
 Random Sampling: The data should be collected through a random sampling method to ensure that the sample is representative of the population.

T –test

A t-test is a statistical test used to determine if there's a significant difference between the means of two groups. It's a crucial tool in hypothesis testing, particularly when comparing sample means to a known population mean or comparing the means of two different samples. T-tests are used when data is normally distributed and the variances are unknown.

Assumptions in T-test

 Independence: The observations within each group must be independent of each other means that the value of one observation should not influence the value of another observation.

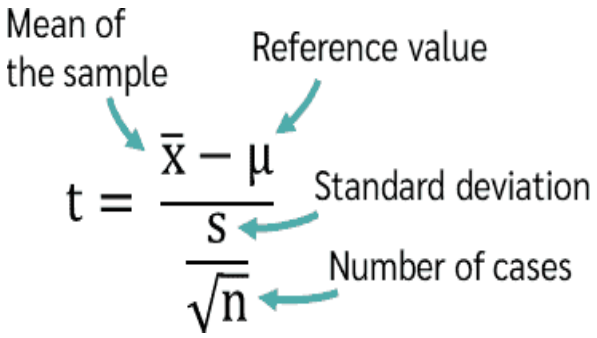
 Normality: The data within each group should be approximately normally distributed i.e, the data within each group being compared should resemble a normal bell-shaped distribution.

 Homogeneity of Variances: The variances of the two groups being compared should be equal. This assumption ensures that the groups have a similar spread of values.

 Absence of Outliers: There should be no outliers in the data as outliers can influence the results especially when sample sizes are small.

TYPES T-test

One sample T-test



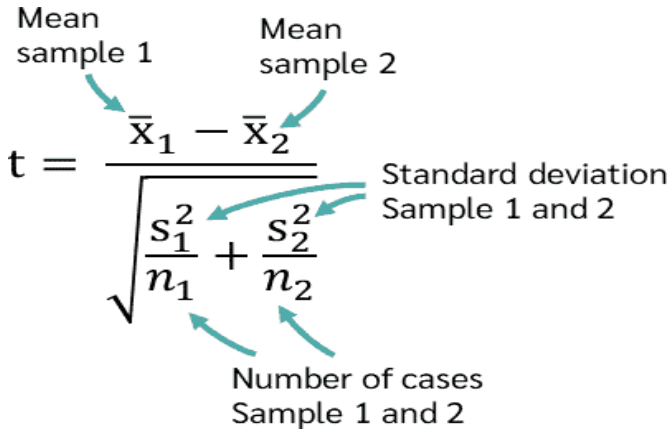
One sample T-test

One sample t-test is used for comparison of the sample mean of the data to a particularly given value. We can use this when the sample size is small. (under 30) data is collected randomly and it is approximately normally distributed. It can be calculated as:

Independent sample T-test

An Independent sample t-test commonly known as an unpaired sample t-test is used to find out if the differences found between two groups is actually significant or just a random occurrence.

It can be calculated using:

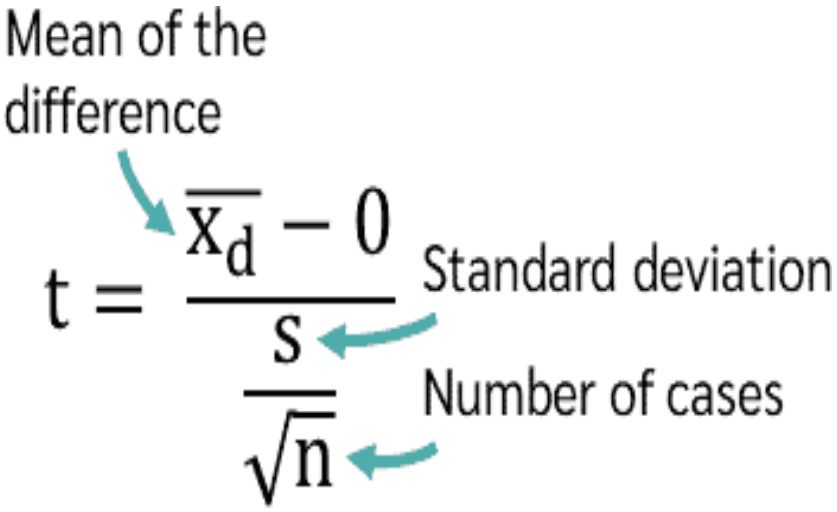


Paired Two-sample T-test

Paired sample t-test also known as dependent sample t-test is used to find out if the difference in the mean of two samples is 0. The test is done on dependent samples usually focusing on a particular group of people or things. In this each entity is measured twice resulting in a pair of observations.

We can use this when:

- Two similar samples are given.
- The dependent variable data is continuous.
- The observations are independent of one another.
- The dependent variable is approximately normally distributed.


Mean of the difference
$t = \frac{\overline{x_d} - 0}{\frac{s}{\sqrt{n}}}$
Standard deviation
Number of cases

CHI SQUARE

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
2. Gender: * 7. Which food delivery apps do you use most frequently? (Select all that apply)	52	100.00%	0	0.00%	52	100.00%

2. Gender:

7. Which food delivery apps do you use most frequently? (Select all that apply) Crosstabulation

		7. Which food delivery apps do you use most frequently? (Select all that apply)			Total
		Other	Swiggy	Zomato	
2. Gender:	Female	0	11	15	26
	Male	3	13	9	25
	Prefer not to say	0	1	0	1
Total		3	25	24	52

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.831[a]	4	0.212
Likelihood Ratio	7.308	4	0.12
N of Valid Cases	52		

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .06.

T TEST

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
4. Employment Status:	0[a,b]	.	.	.
TOTAL	9	11.56	13.201	4.4

a. t cannot be computed because the sum of case weights is less than or equal 1.b. t cannot be computed. There are no valid cases for this analysis because all case weights are not positive.

One-Sample Test

	Test Value = 0					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
TOTAL	2.626	8	0.03	11.556	1.41	21.7

CHAPTER 4
DATA ANALYSIS AND INTERPRETATION

Data Analysis refers to the process of systematically applying statistical and logical techniques to describe, summarize, and compare data. It involves organizing the collected data in a structured format, examining relationships and patterns, and using tools such as charts, tables, graphs, and statistical models to draw meaningful insights.

The goal of data analysis in research is to convert raw data into useful information that helps answer the research questions or test the hypotheses set at the beginning of the study.

Interpretation, on the other hand, is the process of making sense of the analyzed data. It involves explaining what the results mean in the context of the research objectives. This step helps in understanding the significance of the findings, identifying trends, and drawing conclusions that can guide decision-making.

Percentage Analysis

Percentage Analysis is a simple yet powerful statistical tool used to understand and compare data in terms of proportions or relative significance. It is widely used in business research to express how much a part contributes to the whole, making it easier to interpret large sets of data. In the context of this study, percentage analysis is used to analyze responses from questionnaires, such as the proportion of respondents who agree with the use of business analytics in improving operational efficiency.

Formula for Percentage Analysis

Percentage= (Value of the Item/ Total Value) × 100

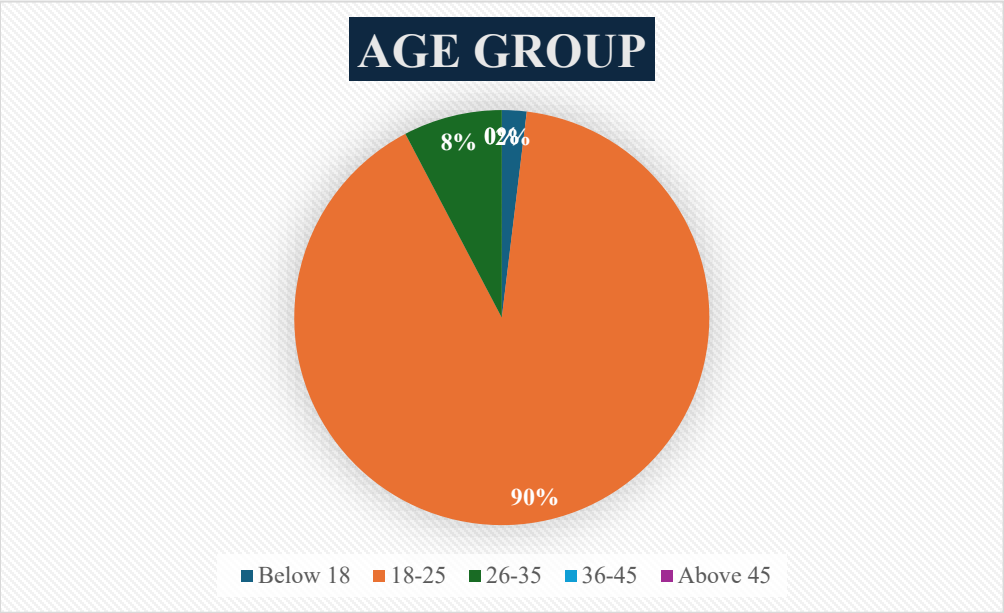
Where:

Value of the Item = the specific number or frequency being analyzed (e.g., number of respondents selecting a particular option).

Total Value = the total number or overall frequency of all items/responses.
100 = Multiplier to convert the ratio into a percentage.
use to these evolving lifestyle patterns.

1. The table shows the response based on age group:

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Below 18	1	1.92%
2	18-25	47	90.38%
3	26-35	4	7.69%
4	36-45	0	0.00%
5	Above 45	0	0.00%
	TOTAL	**52**	**100.00%**

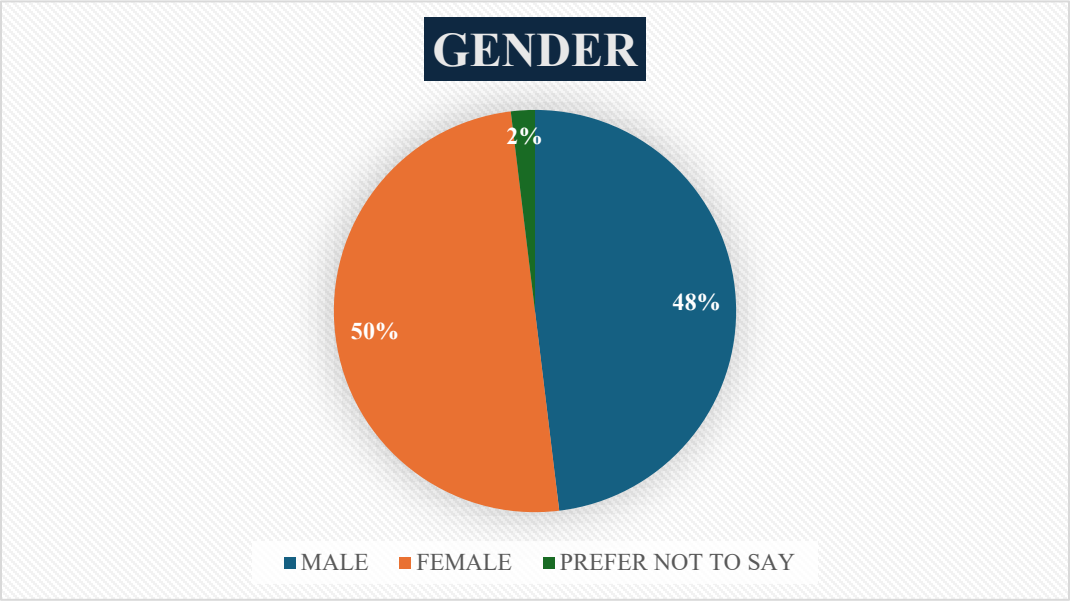


INTERPRETATION

The pie chart reveals that most respondents (over 85%) fall within the 18–25 age group. A small portion (around 7%) are in the 26–35 range, while the remaining age groups show minimal to no representation. This indicates that younger users are the primary demographic engaging with food delivery apps. It suggests that marketing strategies should be targeted toward this age group for maximum impact.

2. The table shows the response based on what is your gender:

S.NO	BASE	FREQUENCY	PERCENTAGE
1	MALE	25	48.08%
2	FEMALE	26	50%
3	PREFER NOT TO SAY	1	1.92%
	TOTAL	**52**	**100.00%**

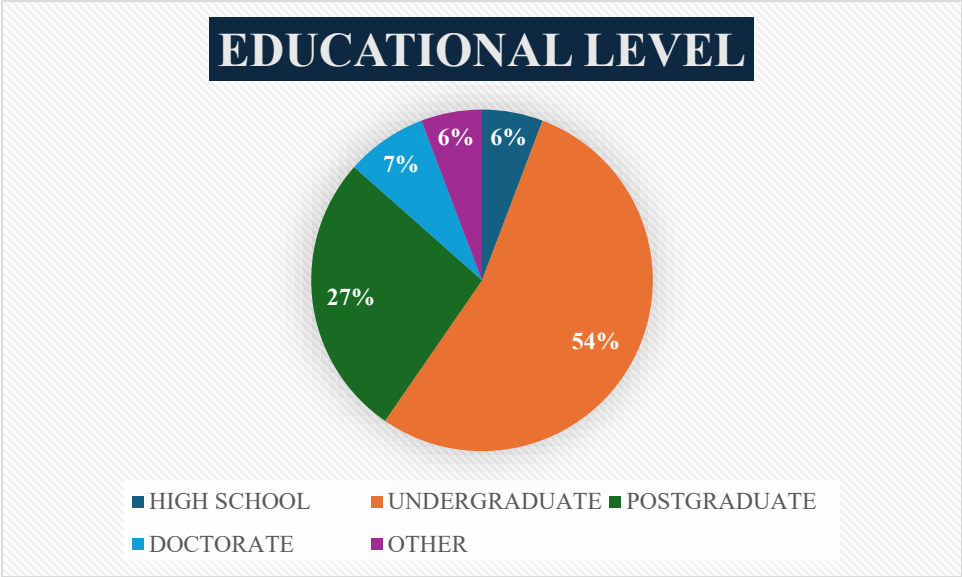


INTERPRETATION

The gender distribution shows a near-equal split, with 48% male and 50% female respondents. Only 2% preferred not to disclose their gender, reflecting openness in participation. This balance supports fair and unbiased gender-based insights. It indicates diverse perspectives are well represented in the data.

3. The table shows the response based on what is your education level:

S.NO	BASE	FREQUENCY	PERCENTAGE
1	HIGH SCHOOL	3	5.77%
2	UNDERGRADUATE	28	53.85%
3	POSTGRADUATE	14	26.92%
4	DOCTORATE	4	7.69%
5	OTHER	3	5.77%
	TOTAL	**52**	**100.00%**

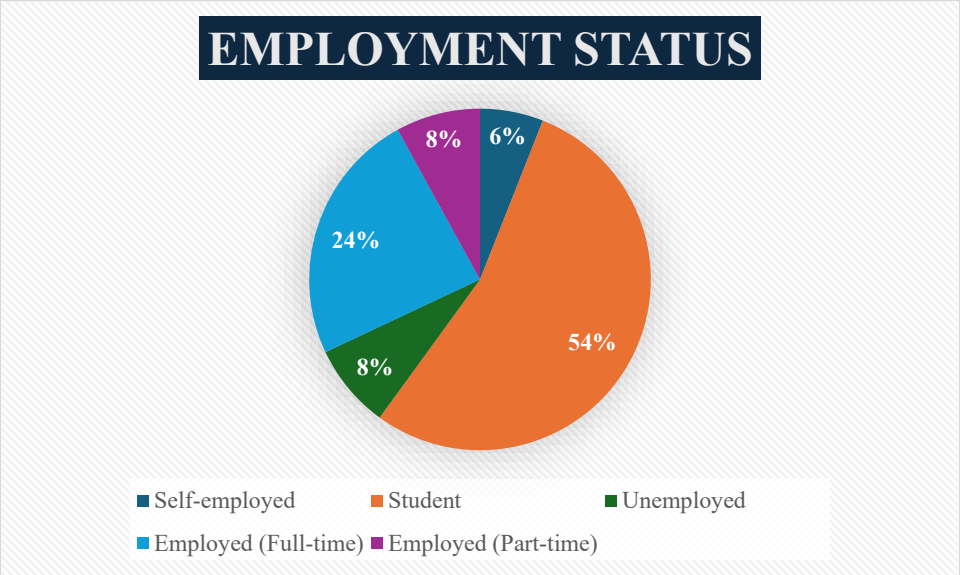


INTERPRETATION

The majority of respondents are undergraduates 58%, followed by postgraduates 27%, indicating a highly educated group. Only a small number have completed high school 6% or hold a doctorate 7%, while 6% fall under 'Other'. This suggests most users are in or have recently completed higher education. The data reflects a youthful, academically inclined demographic.

4. The table shows the a response based on what is your employment status.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Self-employed	3	5.77%
2	Student	28	53.85%
3	Unemployed	4	7.69%
4	Employed (Full-time)	13	25.00%
5	Employed (Part-time)	4	7.69%
	TOTAL	**52**	**100.00%**

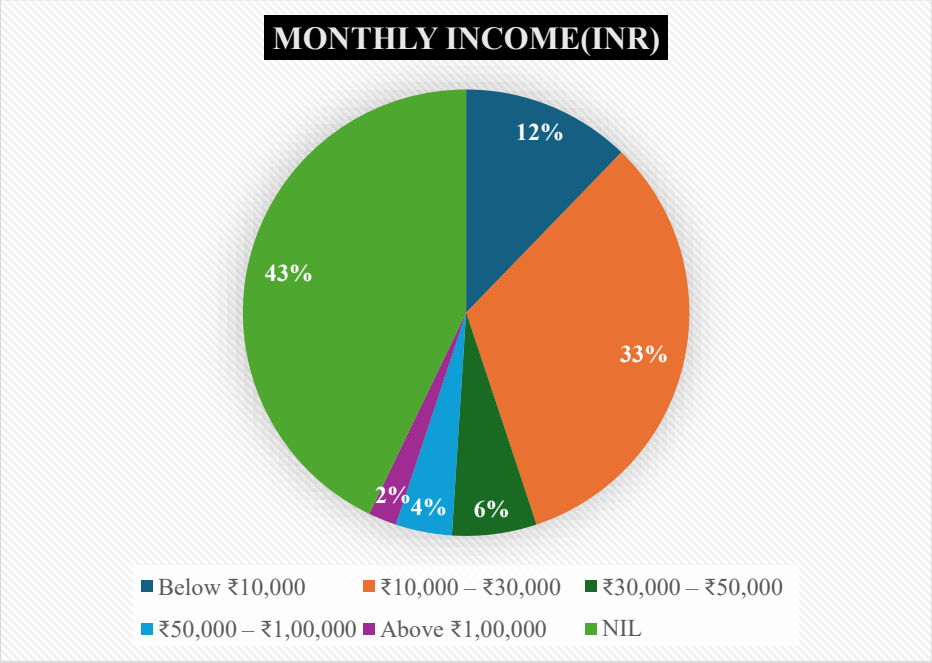


INTERPRETATION

The majority of respondents are students (27), indicating a strong academic demographic. Full-time employed individuals (12) form the second-largest group, suggesting a notable working population. Self-employed (3), unemployed (4), and part-time workers (4) represent smaller segments. Overall, the data reflects a youth-dominated sample with a mix of employment statuses.

5. The table shows the response based on what is your monthly income (in INR or local currency equivalent)

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Below ₹10,000	6	11.54%
2	₹10,000 – ₹30,000	16	30.77%
3	₹30,000 – ₹50,000	4	7.69%
4	₹50,000 – ₹1,00,000	2	3.85%
5	Above ₹1,00,000	1	1.92%
6	NIL	23	44.23%

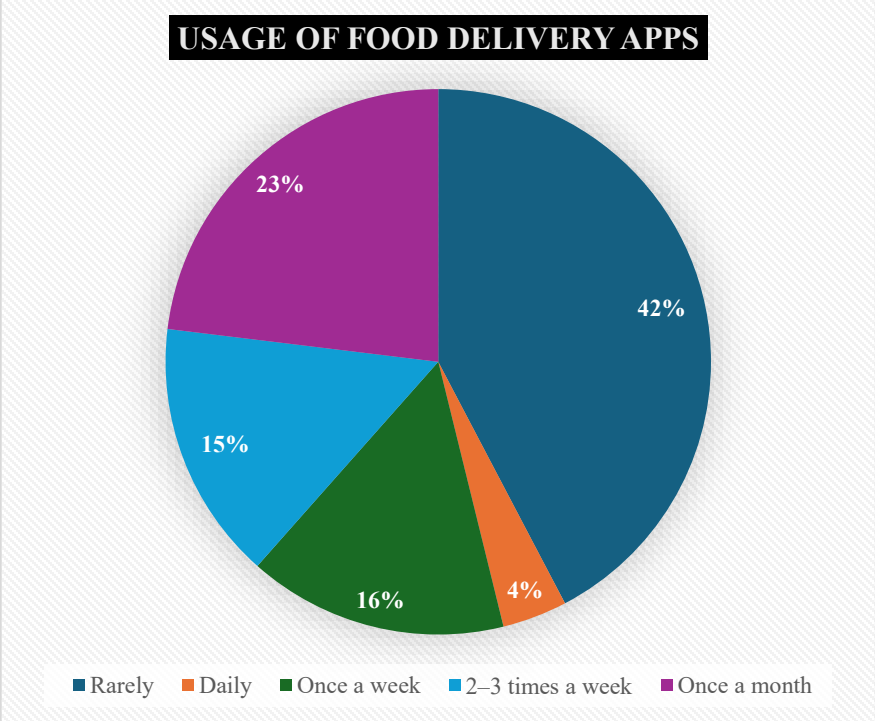


INTERPRETATION

A significant portion of respondents (21) reported having no income, likely reflecting the high number of students. The largest earning group falls within the ₹10,000–₹30,000 range (16), indicating modest income levels. Very few respondents earn above ₹30,000, with only 1 earning over ₹1,00,000. Overall, the data shows a low-income profile, consistent with a student-majority sample.

6. The table shows the response based on how often you use food delivery apps.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Rarely	22	42.31%
2	Daily	2	3.85%
3	Once a week	8	15.38%
4	2–3 times a week	8	15.38%
5	Once a month	12	23.08%
	TOTAL	**52**	**100.00%**

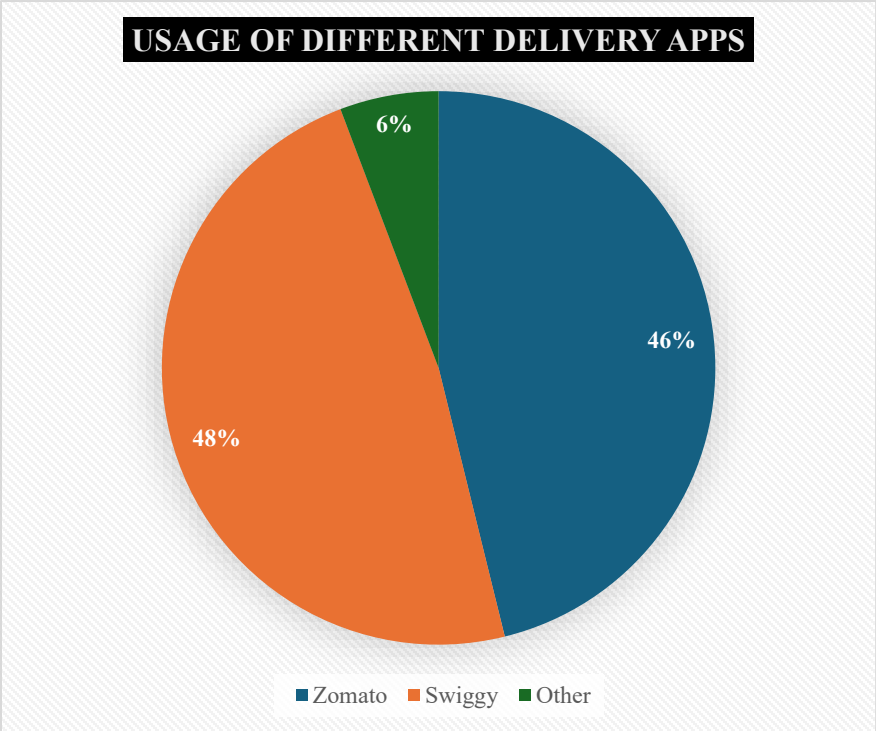


INTERPRETATION

The majority of respondents (22) use delivery apps rarely, suggesting limited dependence on such services. Moderate usage is seen with 12 using them once a month and 8 each using them weekly or 2–3 times a week. Only 2 respondents reported daily usage, indicating it is not a frequent habit. Overall, occasional usage dominates, possibly due to budget constraints or lifestyle preferences.

7. The table shows the response based on which food delivery apps you use most frequently.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Zomato	24	46.15%
2	Swiggy	25	48.08%
3	Other	3	5.77%
	TOTAL	**52**	**100.00%**

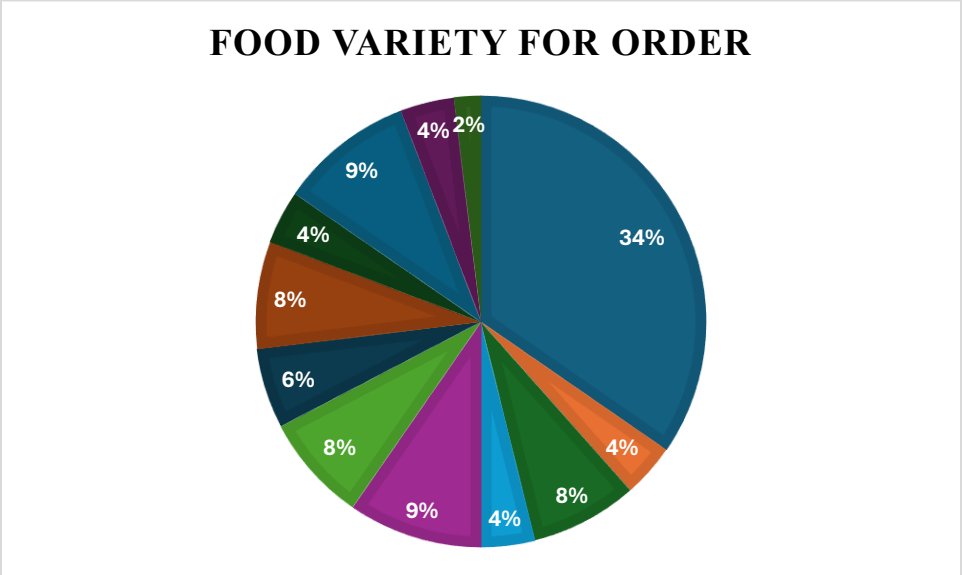


INTERPRETATION

Swiggy (25) and Zomato (24) are almost equally popular among users, indicating strong competition between the two. This shows that both platforms hold significant market share in the food delivery space. Only a small number (3) prefer other delivery services, suggesting limited use of alternatives. Overall, the market is dominated by Swiggy and Zomato.

8. The table shows the response based on what type of food you typically order.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Fast food	18	34.62%
2	Fast food, Indian cuisine, Chinese cuisine	2	3.85%
3	Fast food, Indian cuisine, Healthy food options	4	7.69%
4	Fast food, Indian cuisine, Chinese cuisine, Italian cuisine, Healthy food options	2	3.85%
5	Fast food, Indian cuisine	5	9.62%
6	Indian cuisine, Healthy food options	4	7.69%
7	Chinese cuisine	3	5.77%
8	Healthy food options	4	7.69%
9	Indian cuisine, Chinese cuisine, Italian cuisine	2	3.85%
10	Indian cuisine	5	9.62%
11	Indian cuisine, Healthy food options, Other	2	3.85%
12	Fast food, Other	1	1.92%
	TOTAL	**52**	**100.00%**

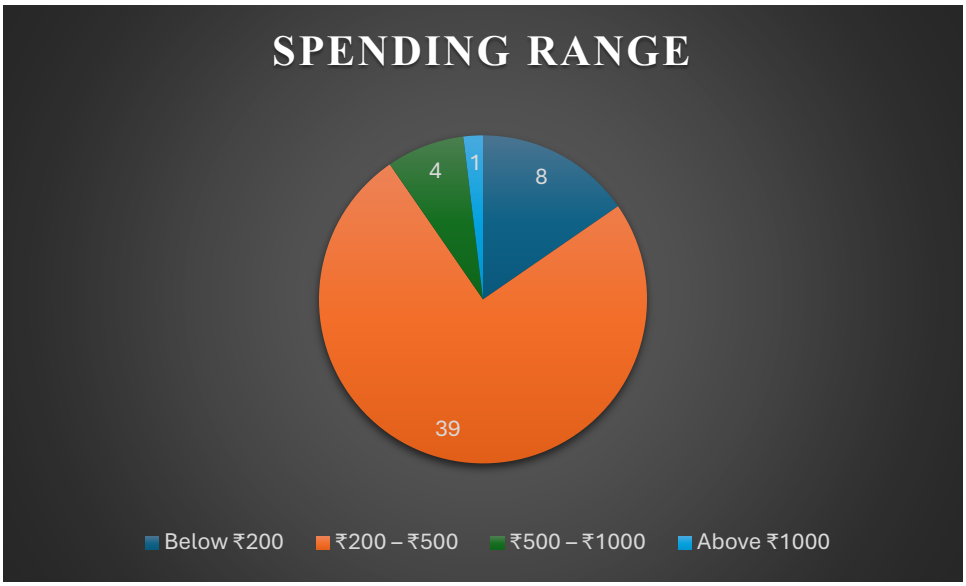


INTERPRETATION

Fast food is the most ordered category, appearing in the majority of combinations and alone in 18 responses. Indian cuisine also shows strong preference, often paired with other types like Chinese or healthy food. A smaller group opts for healthier or more diverse options, reflecting varied dietary interests. Overall, fast food and Indian cuisine dominate food delivery preferences, with some leaning toward variety and wellness.

9. The table shows the response based on your average spending per order on food delivery apps.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Below ₹200	8	15.38%
2	₹200 – ₹500	39	75.00%
3	₹500 – ₹1000	4	7.69%
4	Above ₹1000	1	1.92%
	TOTAL	**52**	**100.00%**

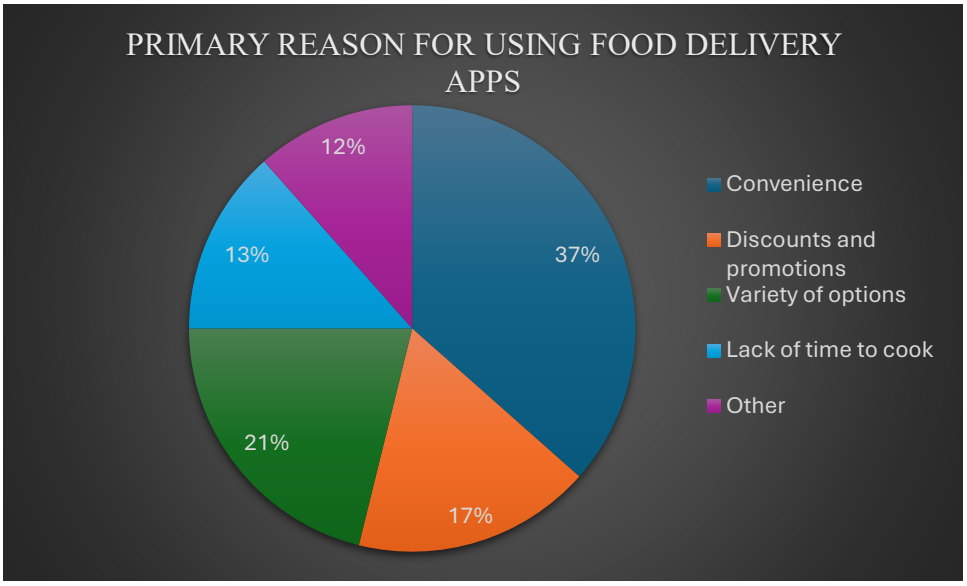


INTERPRETATION

Most respondents (39) spend between ₹200–₹500 on food delivery, indicating a moderate and affordable spending pattern. A smaller group (8) spends below ₹200, showing a preference for budget-friendly orders. Only a few spend ₹500 or more, with just 1 respondent exceeding ₹1000. Overall, the data reflects cost-conscious behavior among users.

10. The table shows the response based on the primary reason for using food delivery apps.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Convenience	19	36.54%
2	Discounts and promotions	9	17.31%
3	Variety of options	11	21.15%
4	Lack of time to cook	7	13.46%
5	Other	6	11.54%
	TOTAL	**52**	**100.00%**

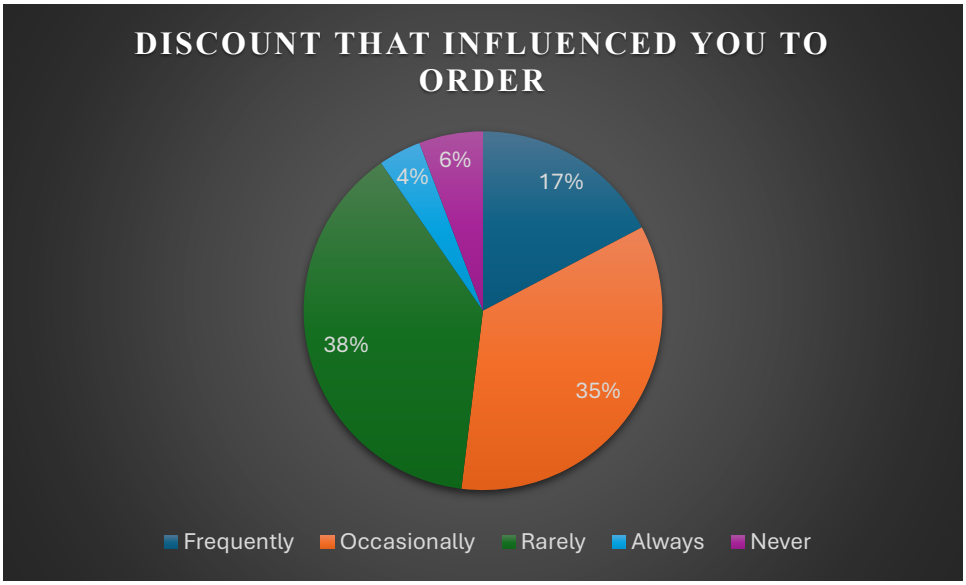


INTERPRETATION

Convenience is the leading reason for using food delivery apps (19), highlighting user preference for ease and comfort. Variety of options (11) and discounts (9) also play significant roles in attracting users. A smaller portion (7) use the apps due to lack of time to cook. Overall, practical benefits and diverse choices drive usage more than financial incentives alone.

11. The table shows the response based on how often discounts and promotional offers influence your decision to order food online.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Frequently	9	17.31%
2	Occasionally	18	34.62%
3	Rarely	20	38.46%
4	Always	2	3.85%
5	Never	3	5.77%
	TOTAL	**52**	**100.00%**

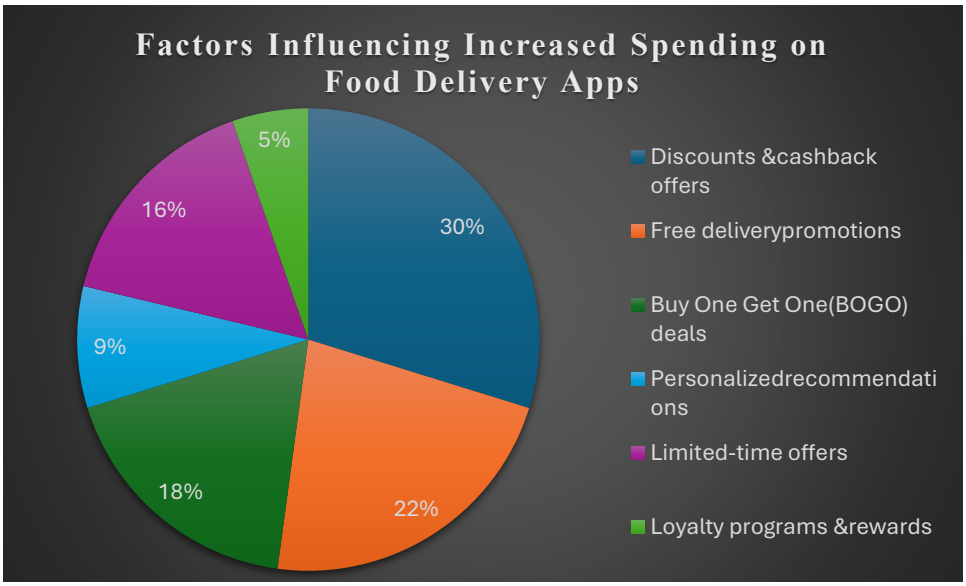


INTERPRETATION

Most respondents (20) rarely use discounts and promotional offers, suggesting they don't rely heavily on deals. A sizable group (18) uses them occasionally, indicating moderate influence. Only a few (9) use them frequently, while very few always (2) or never (3) use them. Overall, offers are a factor but not the primary driver for most users.

12. The table shows the response based on the factors that influence your decision to spend more on food delivery apps.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Discounts &cashback offers	28	29.79%
2	Free delivery promotions	21	22.34%
3	Buy One Get One (BOGO) deals	17	18.09%
4	Personalized recommendations	8	8.51%
5	Limited time offers	15	15.96%
	Loyalty programs &rewards	5	5.32%
	TOTAL	**52**	**100.00%**

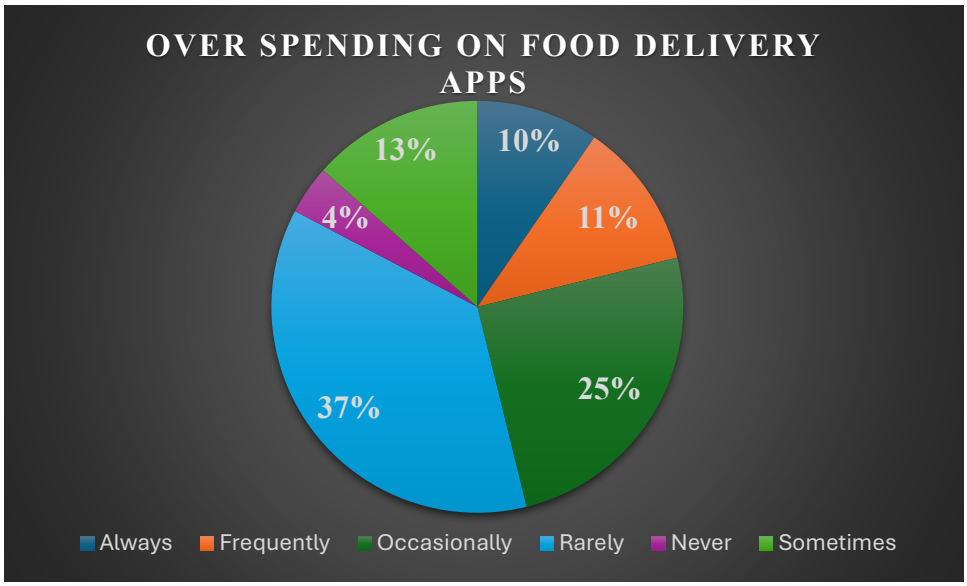


INTERPRETATION

Discounts and cashback offers (28) are the top factor influencing increased spending, showing strong user sensitivity to savings. Free delivery (21) and BOGO deals (17) also significantly drive spending behavior. Limited time offers (15) create urgency, while personalized recommendations (8) and loyalty programs (5) have a smaller impact. Overall, financial incentives are the primary motivators for increased spending on food delivery apps.

13. The table shows the response based on how often you spend more than planned while ordering food online.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Always	5	9.62%
2	Frequently	6	11.54%
3	Occasionally	13	25.00%
4	Rarely	19	36.54%
5	Never	2	3.85%
	Sometimes	7	13.46%
	TOTAL	52	**100.00%**

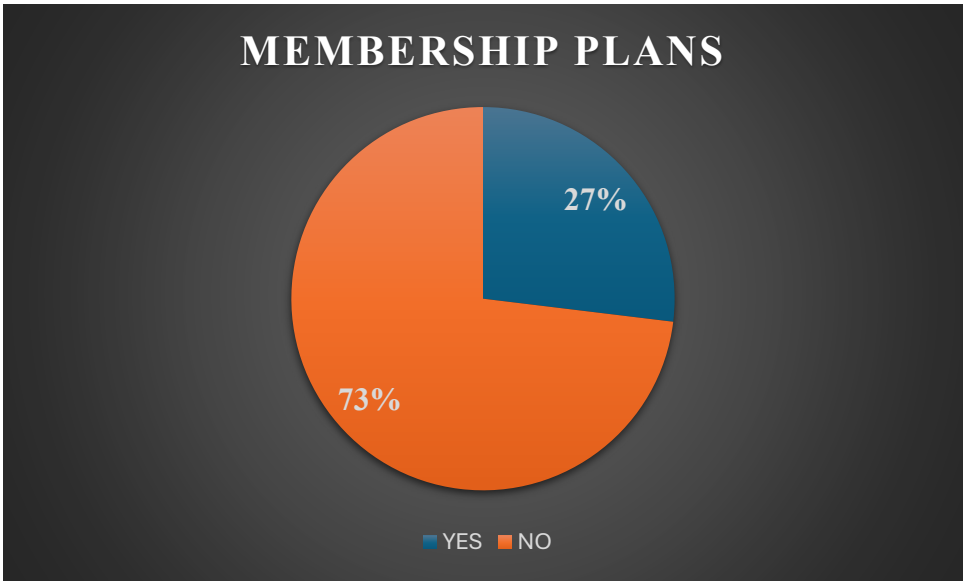


INTERPRETATION

Most respondents (19) rarely feel they overspend on food delivery, suggesting controlled spending habits. However, 13 occasionally and 7 sometimes experience overspending, indicating moderate concern. A smaller group (11) admits to frequent or always overspending. Overall, while overspending exists, it's not a major issue for the majority.

14. The table shows the response based on whether you subscribe to any membership plans (e.g., Swiggy One, Zomato Gold, etc.).

S.NO	BASE	FREQUENCY	PERCENTAGE
1	YES	14	26.92%
2	NO	38	73.08%
	TOTAL	**52**	**100.00%**

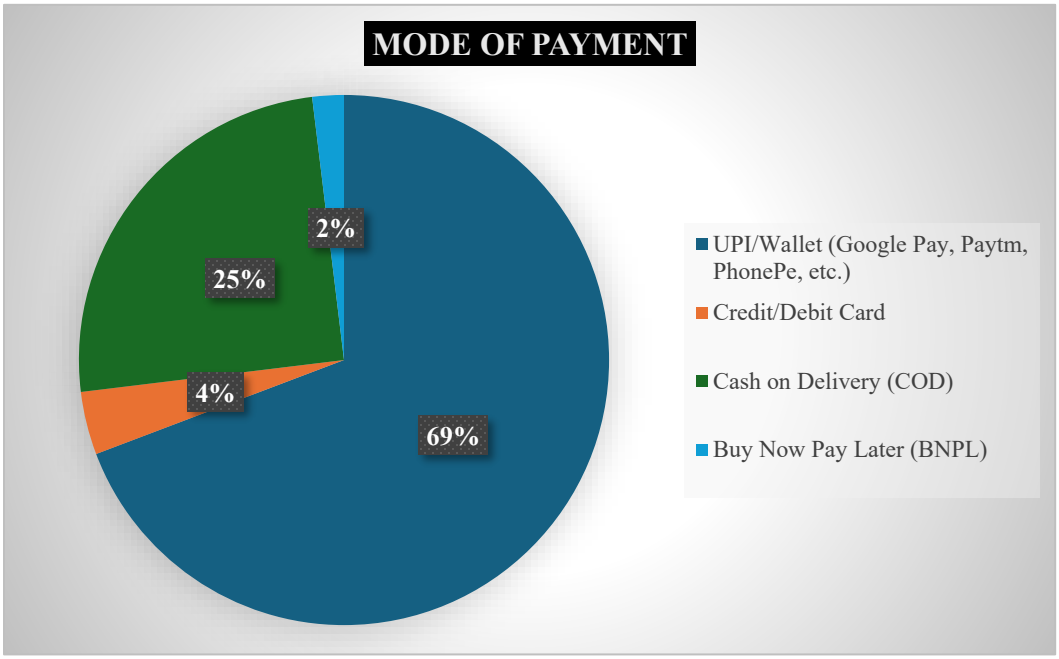


INTERPRETATION

The majority of respondents (38) do not have membership plans, suggesting a reluctance or lack of interest in subscribing. However, 14 respondents have opted for membership, indicating some value the benefits such plans offer. This shows that while there is some interest in membership plans, it's not widespread. Overall, users seem to prefer pay-per-order models over subscription-based services.

15. The table shows the response based on the mode of payment you use most frequently.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	UPI/Wallet (Google Pay, Paytm, PhonePe, etc.)	36	69.23%
2	Credit/Debit Card	2	3.85%
3	Cash on Delivery (COD)	13	25.00%
4	Buy Now Pay Later (BNPL)	1	1.92%
	TOTAL	**52**	**100.00%**

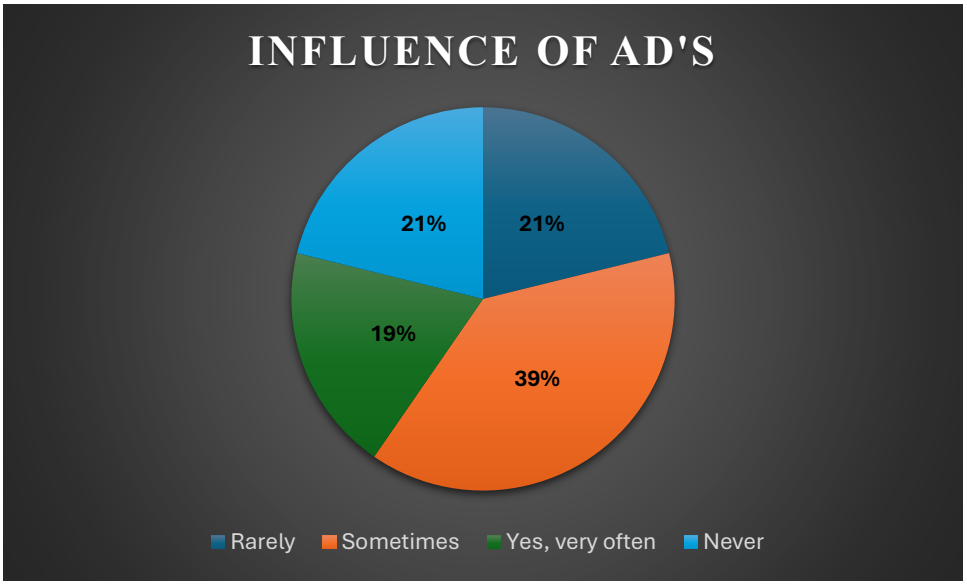


INTERPRETATION

The data shows that the most popular mode of payment is UPI/Wallet, with 36 instances, followed by Cash on Delivery (COD) at 13. Credit/Debit card payments are relatively low at just 2, and Buy Now Pay Later (BNPL) is the least used with only 1 instance. This indicates a strong preference for digital wallet payments and COD, while credit card and BNPL options see minimal use.

16. The table shows the response based on whether social media ads and influencer recommendations impact your decision to order food.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Rarely	11	21.15%
2	Sometimes	20	38.46%
3	Yes, very often	10	19.23%
4	Never	11	21.15%
	TOTAL	**52**	**100.00%**

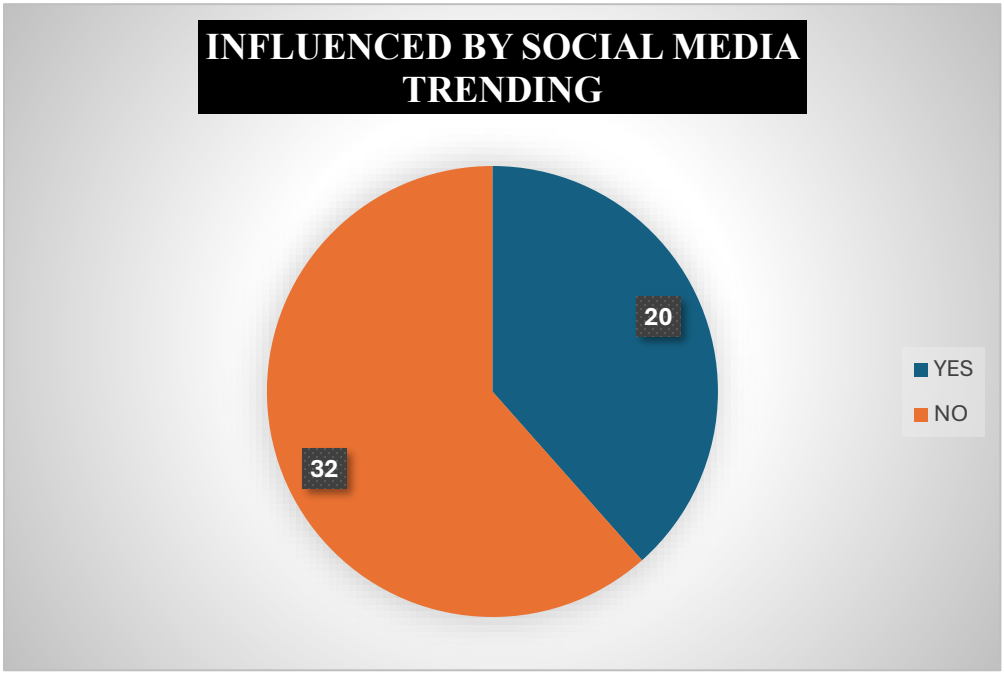


INTERPRETATION

The data reveals that 20 respondents are occasionally influenced by ads, while 10 are frequently swayed by them. An equal number of 11 respondents say they are rarely or never influenced by advertisements. This suggests that ads have a moderate impact, with a significant portion of individuals not being strongly affected by them.

17. The table shows the response based on whether you have ever ordered food just because of a trending social media post or advertisement.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	YES	20	38.46%
2	NO	32	61.54%
	TOTAL	**52**	**100.00%**

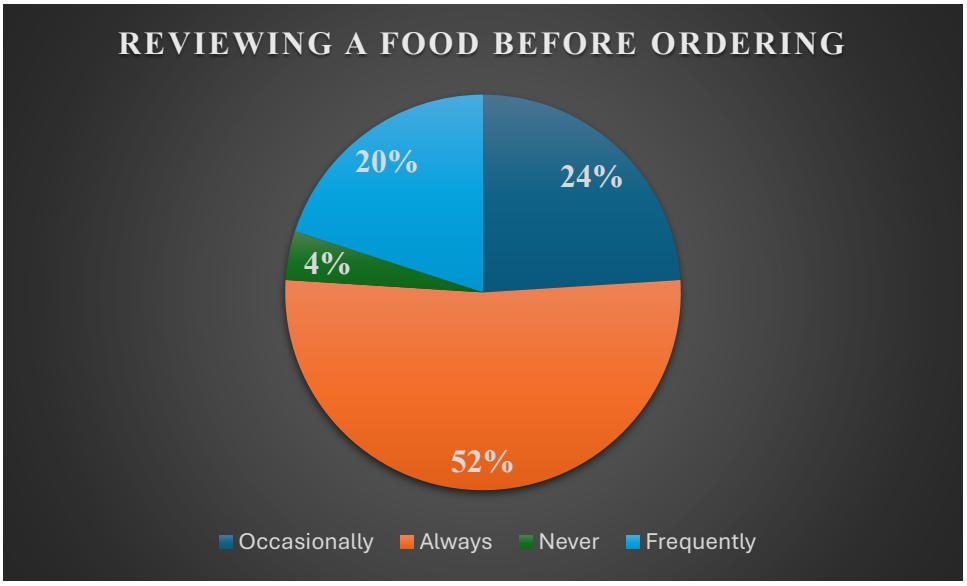


INTERPRETATION

The data shows that 32 respondents are not influenced by social media trends, while 20 are affected by them. This indicates a higher resistance to social media influence, with more people not following trending topics. The smaller number of individuals influenced suggests that trends have a limited impact on this group.

18. The table shows the response based on how often you check customer reviews and ratings before ordering food.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Occasionally	12	24.00%
2	Always	26	52.00%
3	Never	2	4.00%
4	Frequently	10	20.00%
	TOTAL	**52**	**100.00%**

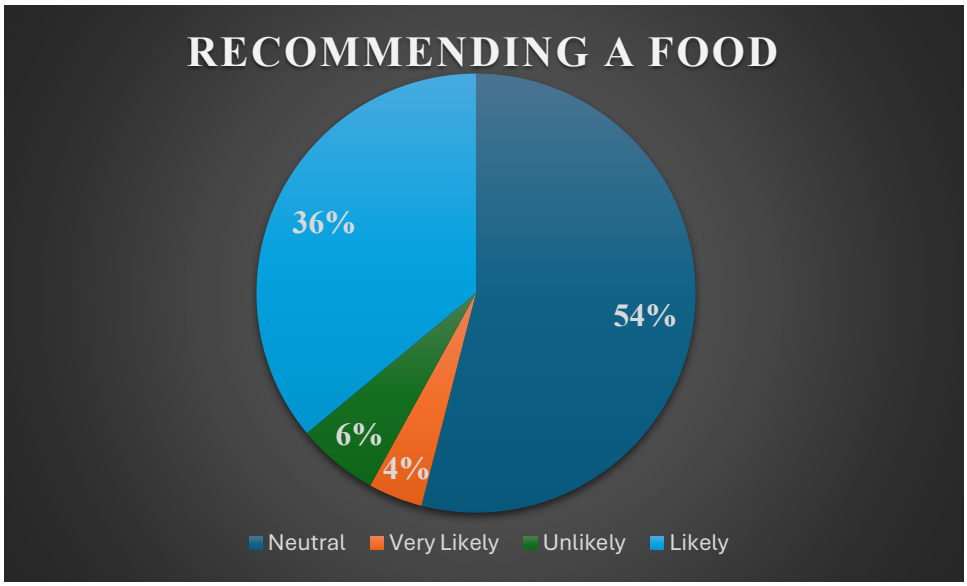


INTERPRETATION

The data reveals that 26 respondents always review food before ordering, indicating a strong tendency to rely on customer reviews. Additionally, 12 respondents review food occasionally, and 10 do so frequently. Only 2 respondents never check reviews, suggesting that most customers prioritize feedback before making a decision.

19. The table shows the response based on how likely you are to recommend a food delivery app to a friend based on your experience.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Neutral	27	54.00%
2	Very Likely	2	4.00%
3	Unlikely	3	6.00%
4	Likely	18	36.00%
	TOTAL	**52**	**100.00%**

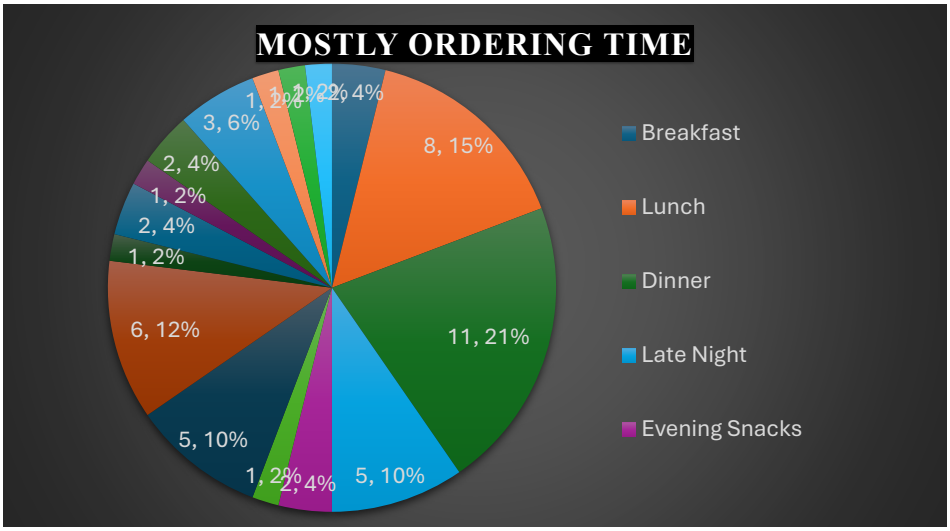


INTERPRETATION

The data indicates that most respondents, 27 in total, feel neutral about recommending food, showing a lack of strong preference either way. A smaller group, 18, are likely to recommend food, while only 2 are very likely. Conversely, 3 respondents are unlikely to recommend food, suggesting a mixed but generally moderate inclination towards food recommendations.

20. The table shows the response based on the time of day you mostly order food online.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Breakfast	2	3.85%
2	Lunch	8	15.38%
3	Dinner	11	21.15%
4	Late Night	5	9.62%
5	Evening Snacks	2	3.85%
6	Breakfast, Dinner	1	1.92%
7	Lunch, Dinner	5	9.62%
8	Evening Snacks, Dinner	6	11.54%
9	Lunch, Evening Snacks	1	1.92%
10	Lunch, Late Night	2	3.85%
11	Lunch, Dinner, Late Night	1	1.92%
12	Evening Snacks, Late Night	2	3.85%
13	Breakfast, Lunch, Dinner, Late Night	3	5.77%
14	Lunch, Evening Snacks, Dinner, Late Night	1	1.92%
15	Breakfast, Evening Snacks, Dinner, Late Night	1	1.92%
16	Breakfast, Lunch, Evening Snacks, Dinner, Late Night	1	1.92%
	TOTAL	**52**	**100.00%**

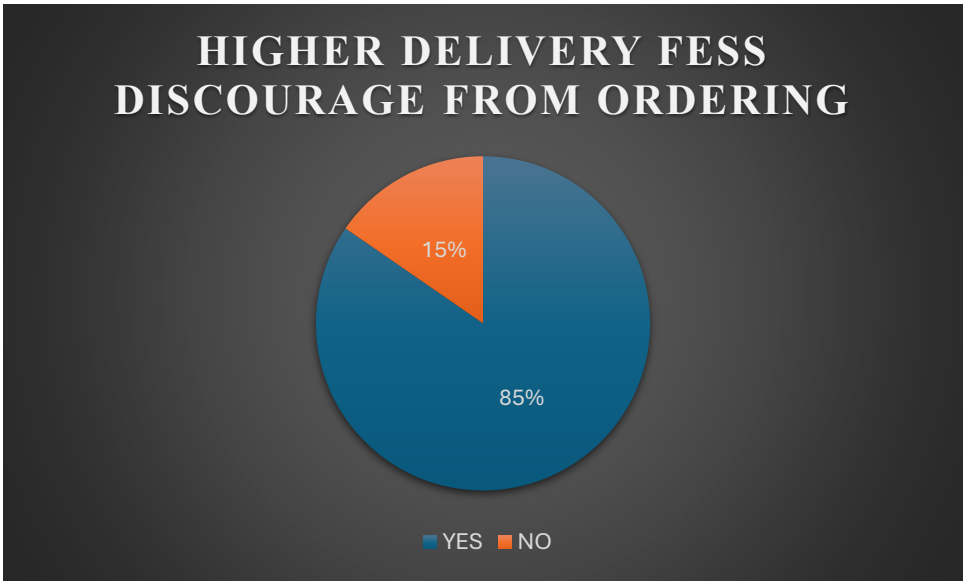


INTERPRETATION

The data shows that dinner is the most popular time for ordering food, with 11 respondents selecting it. Lunch follows closely with 8 respondents, while late night orders are also common, with 5 instances. Other times, such as breakfast and evening snacks, have fewer orders, suggesting that meals like lunch and dinner are the preferred times for food ordering. Additionally, some respondents order at multiple times, indicating flexibility in their food ordering habit

21. The table shows the response based on whether higher delivery fees discourage you from ordering.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	YES	44	84.62%
2	NO	8	15.38%
	TOTAL	**52**	**100.00%**

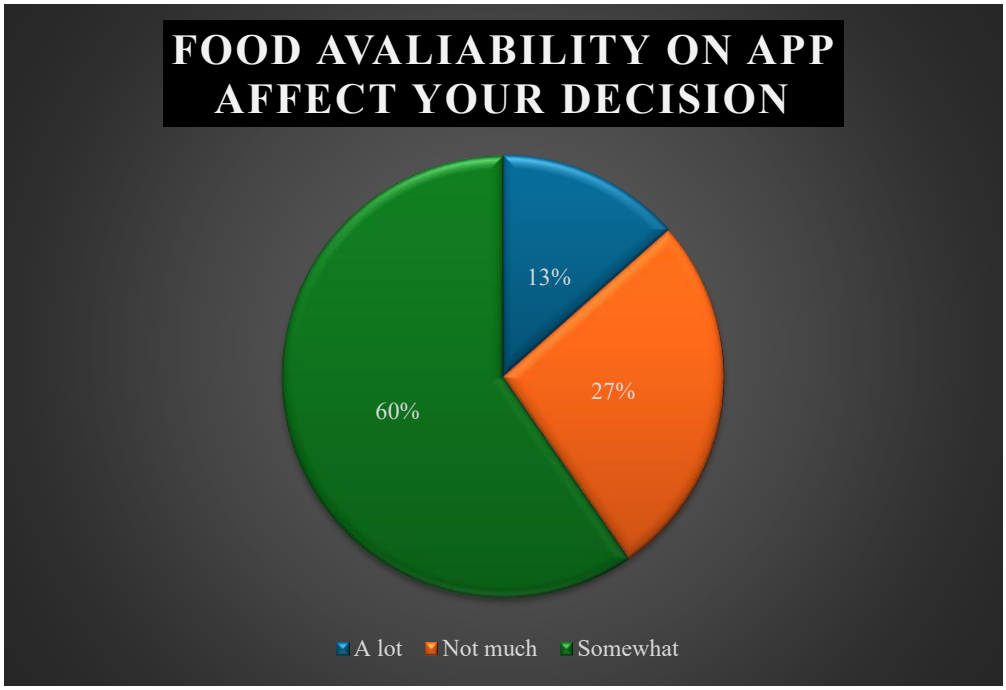


INTERPRETATION

The data shows that a significant majority (44 out of 52 respondents) feel that higher delivery fees discourage them from ordering food. Only a small number (8 respondents) are not affected by the increased fees. This suggests that delivery charges are a key factor influencing customer decisions. Businesses may need to reconsider pricing strategies to retain more users.

22. The table shows the response based on how much food availability on an app affects your decision to order.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	A lot	7	13.46%
2	Not much	14	26.92%
3	Somewhat	31	59.62%
	TOTAL	**52**	**100.00%**

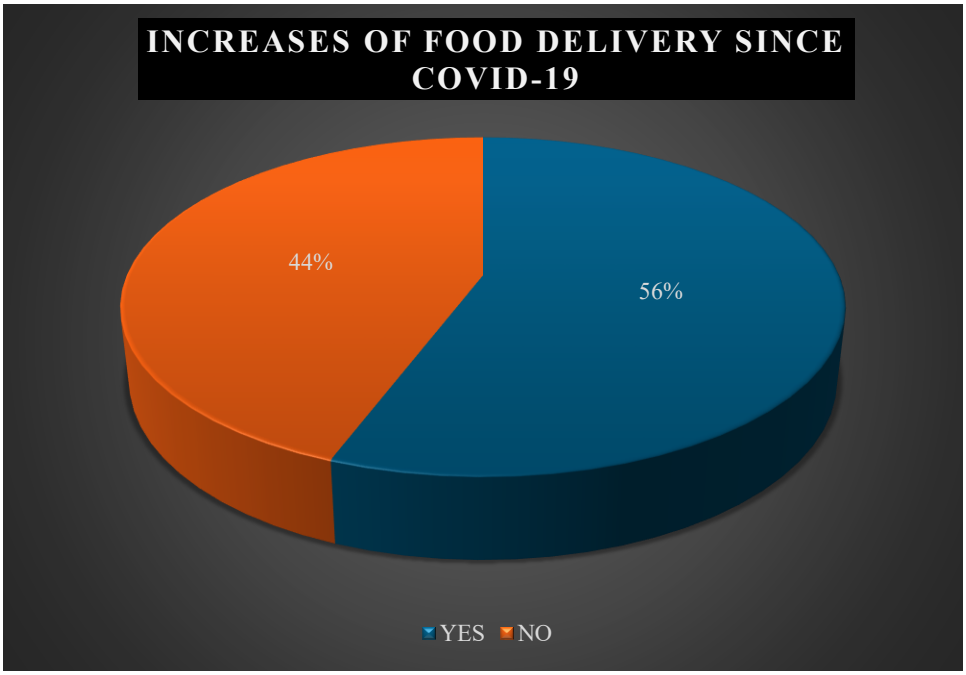


INTERPRETATION

The majority of respondents (31 out of 52) say that food availability on the app somewhat affects their decision to order. A smaller group (14 respondents) feel it doesn't influence them much, while only 7 say it affects them a lot. This indicates that while availability plays a role, it's not the sole deciding factor. Improving menu variety could still enhance customer engagement.

23. The table shows the response based on whether you have increased your food delivery app usage since COVID-19.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	YES	29	55.77%
2	NO	23	44.23%
	TOTAL	**52**	**100.00%**

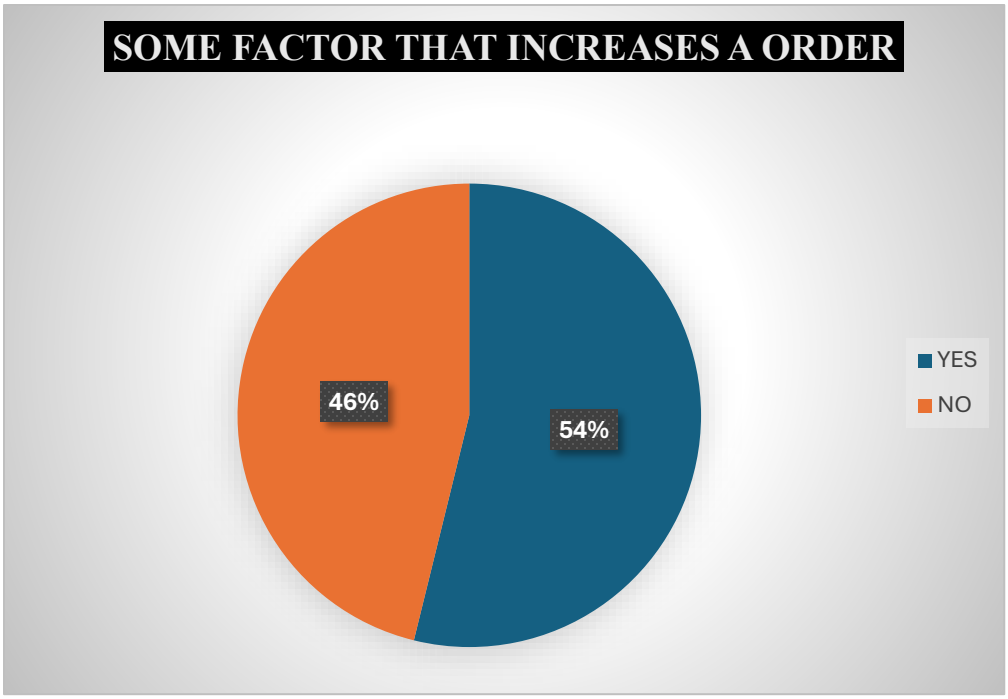


INTERPRETATION

The responses are nearly split, with 29 out of 52 saying food delivery has increased since COVID-19, while 23 disagree. This suggests that although many have adopted delivery more frequently post-pandemic, a substantial number have not. The shift in behavior may depend on individual preferences, safety concerns, or lifestyle changes. Businesses should consider both groups when planning future strategies.

24. The table shows the response based on whether you order more when dining out is not an option (e.g., bad weather, work from home).

S.NO	BASE	FREQUENCY	PERCENTAGE
1	YES	28	53.85%
2	NO	24	46.15%
	TOTAL	**52**	**100.00%**

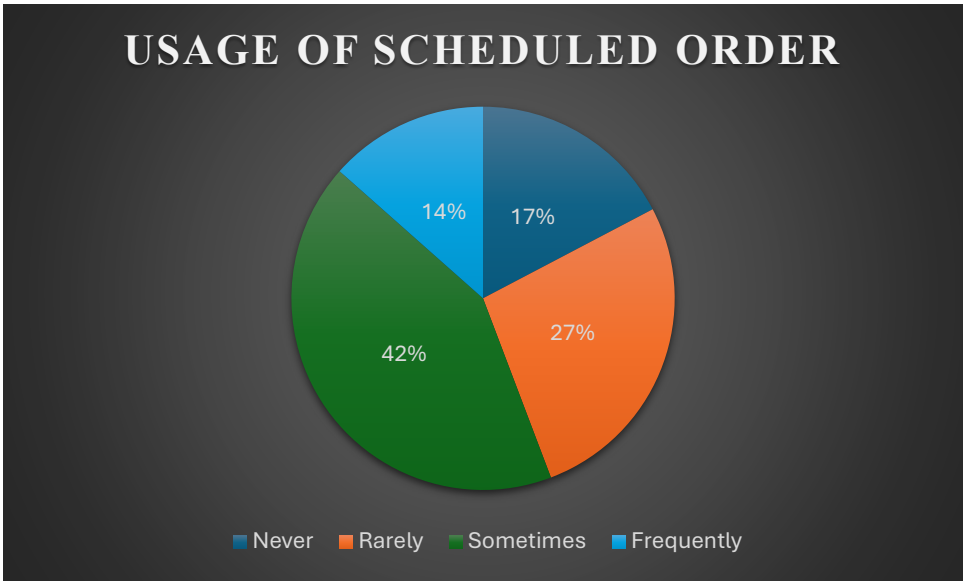


INTERPRETATION

Out of 52 respondents, 28 believe that certain factors do increase their likelihood of placing an order, while 24 do not feel influenced. This indicates a nearly even split in perception. It suggests that while promotions, discounts, or app features can sway some users, others may remain unaffected. Understanding what specific factors drive orders can help businesses target the right audience.

25. The table shows the response based on how often you use the scheduled order feature.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Never	9	17.31%
2	Rarely	14	26.92%
3	Sometimes	22	42.31%
4	Frequently	7	13.46%
	TOTAL	**52**	**100.00%**

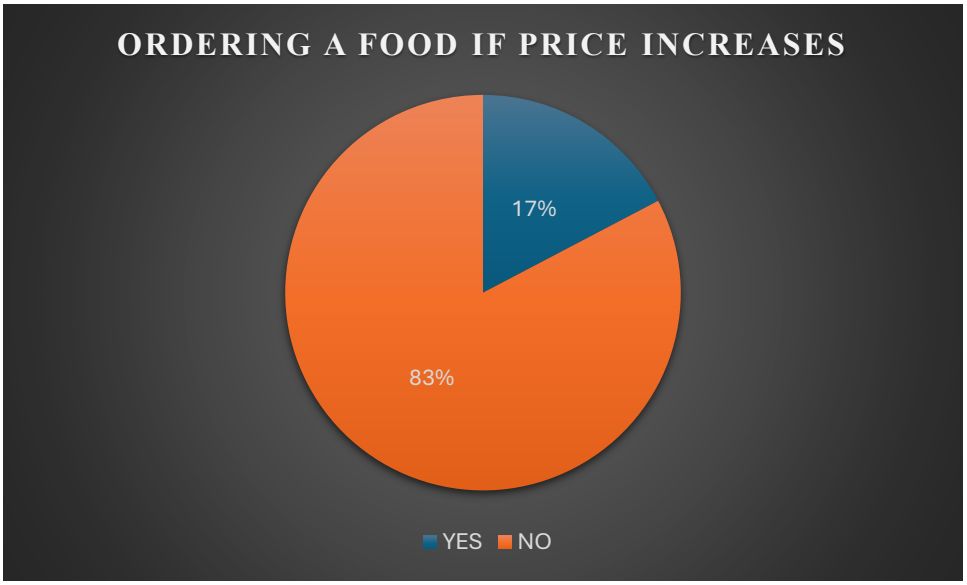


INTERPRETATION

The majority of respondents (22 out of 52) use the scheduled order feature sometimes, while 14 use it rarely and 9 never use it. Only 7 respondents reported using it frequently. This suggests that while scheduled ordering is known, it is not widely adopted. Increasing awareness or improving the feature could boost its usage.

26. The table shows the response based on whether you would continue ordering food online if prices increased.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	YES	9	17.31%
2	NO	43	82.69%
	TOTAL	**52**	**100.00%**

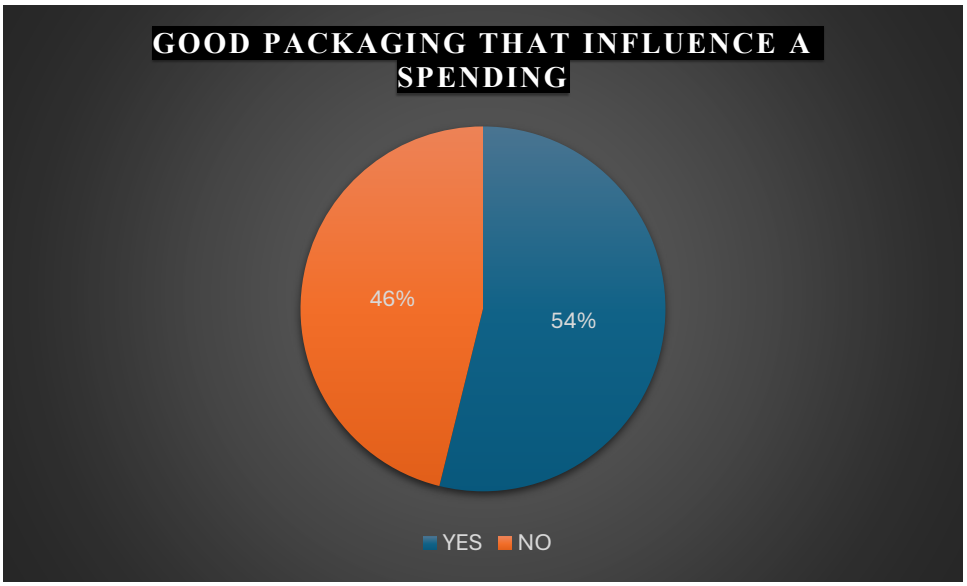


INTERPRETATION

A large majority (43 out of 52) say they would not order food if prices increased, while only 9 would continue to do so. This indicates that price sensitivity is high among customers. Even slight price hikes could significantly impact order volume. Businesses must balance profitability with affordability to retain customers.

27. The table shows the response based on whether better packaging and sustainability efforts influence your spending.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	YES	28	53.85%
2	NO	24	46.15%
	TOTAL	**52**	**100.00%**

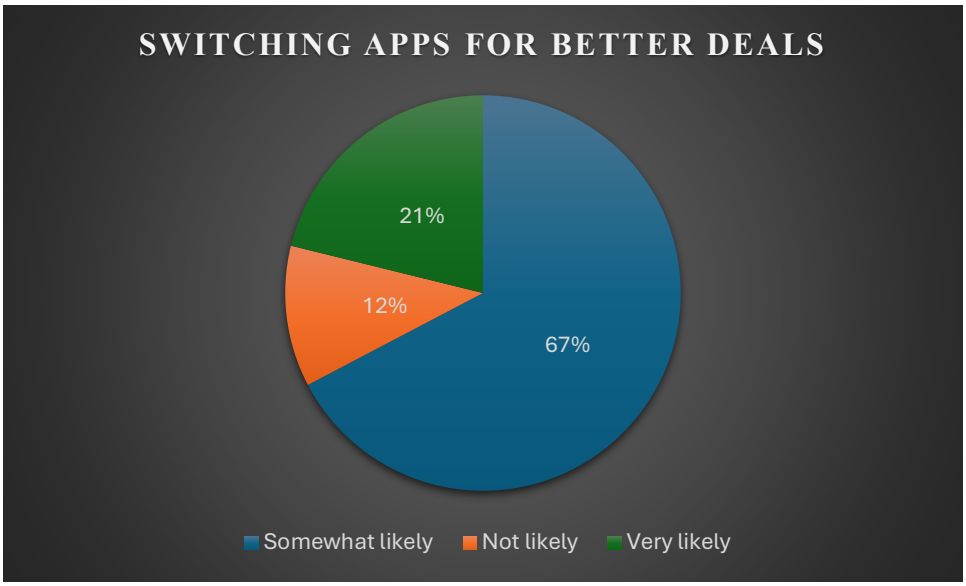


INTERPRETATION

Out of 52 respondents, 28 feel that good packaging influences their spending, while 24 do not see it as a major factor. This shows a slight majority values presentation and packaging quality. Attractive, secure packaging can enhance customer experience and justify higher prices. Businesses can use packaging as a subtle but effective marketing tool.

28. The table shows the response based on how likely you are to switch food delivery apps for better deals.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Somewhat likely	35	67.31%
2	Not likely	6	11.54%
3	Very likely	11	21.15%
	TOTAL	**52**	**100.00%**

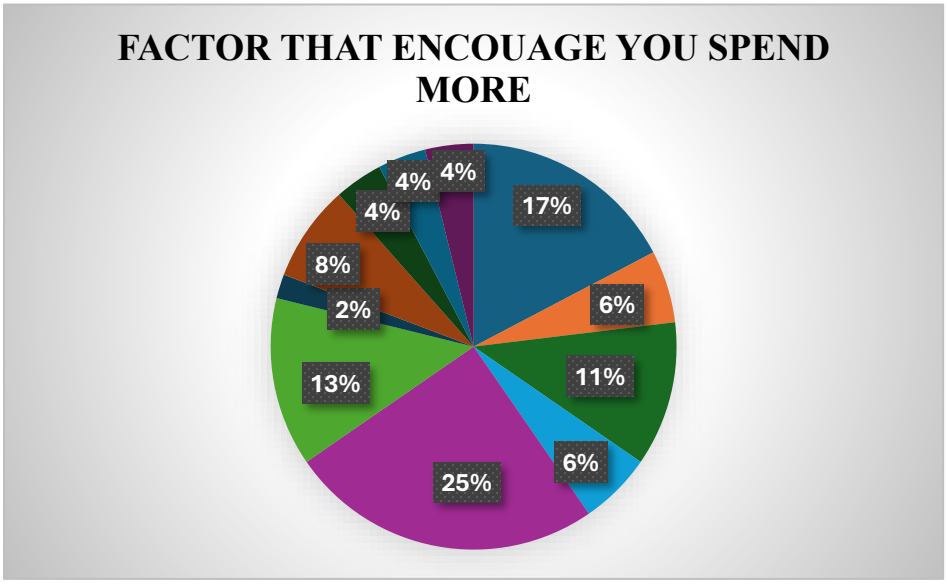


INTERPRETATION

The majority of respondents (35 out of 52) are somewhat likely to switch apps for better deals, indicating price sensitivity. Additionally, 11 are very likely to switch, showing a strong inclination toward finding better offers. Only 6 respondents are not likely to switch apps for deals. This highlights the importance of competitive promotions to retain customers.

29. The table shows the response based on the additional features that would encourage you to spend more.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Lower delivery charges	9	17.31%
2	Subscription plans	3	5.77%
3	More restaurant options	6	11.54%
4	Faster delivery, More restaurant options	3	5.77%
5	Faster delivery	13	25.00%
6	Faster delivery, Lower delivery charges	7	13.46%
7	Faster delivery, More restaurant options, Subscription plans	1	1.92%
8	Faster delivery, More restaurant options, Lower delivery charges	4	7.69%
9	More restaurant options, Subscription plans, Lower delivery charges	2	3.85%
10	More restaurant options, Lower delivery charges	2	3.85%
11	Faster delivery, More restaurant options, Subscription plans, Lower delivery charges	2	3.85%
	TOTAL	**52**	**100.00%**

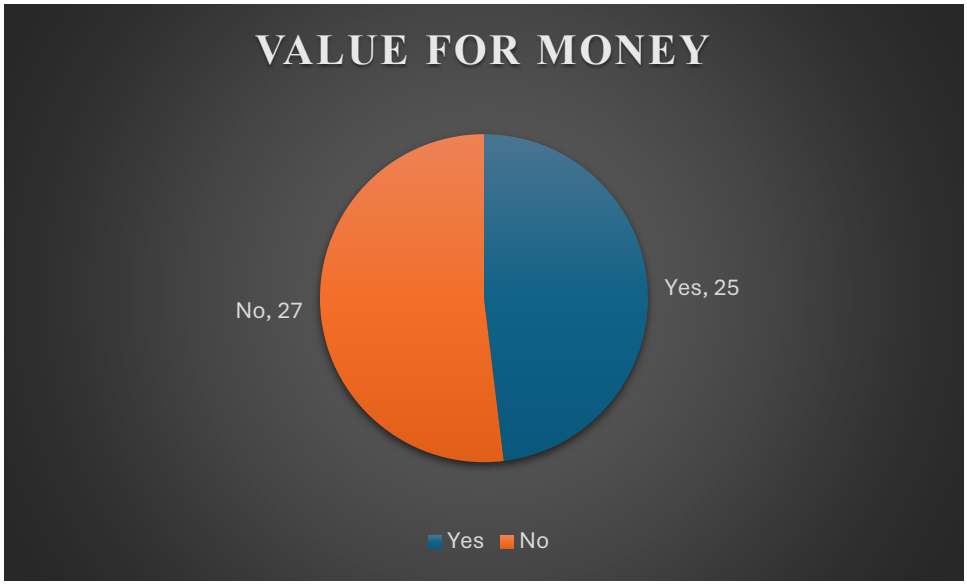


INTERPRETATION

The data suggests that faster delivery is the most significant factor driving increased spending, with 13 respondents highlighting it. Lower delivery charges also play an important role, especially when combined with faster delivery. Offering more restaurant options further influences spending, particularly when paired with faster delivery. Subscription plans have a smaller impact, with fewer respondents mentioning them in combination with other features.

30. The table shows the response based on whether you think food delivery apps provide value for money.

S.NO	BASE	FREQUENCY	PERCENTAGE
1	Yes	25	48.08%
2	No	27	51.92%
3	**TOTAL**	**52**	**100.00%**



INTERPRETATION

The data indicates an even split between users who feel the food delivery service provides value for money, with 25 respondents saying "Yes" and 27 saying "No." This suggests that while some customers perceive the service as worth the cost, a similar number feel it doesn't meet their expectations for value. It highlights a potential area for improvement in terms of pricing or service quality to increase customer satisfaction.

CHAPTER – 5
FINDINGS

1. Convenience is the Primary Driver of Increased Spending

Consumers prefer food delivery apps primarily for the convenience they offer. Busy lifestyles, work-from-home trends, and time constraints have led to an increase in spending, as customers opt for quick and hassle-free food ordering rather than cooking or dining out.

2. Discounts and Promotional Offers Significantly Influence Spending

Price-based incentives such as discounts, cashback, and buy-one-get-one (BOGO) deals play a crucial role in attracting and retaining customers. Many users increase their spending when they receive promotional offers, but they may also switch between platforms to avail the best deals.

3. AI-Driven Personalization Boosts Customer Engagement and Order Value

Food delivery apps that use artificial intelligence (AI) to provide personalized recommendations based on past orders, preferences, and browsing history see higher customer engagement. Personalized suggestions often lead to increased order sizes and higher spending per transaction.

4. Subscription Models Encourage Higher Spending and Retention

Subscription-based services such as Swiggy One, Zomato Gold, and Uber Eats Pass encourage frequent ordering by offering benefits like free deliveries and exclusive discounts. Subscribers tend to spend more than non-subscribers due to the perceived value of their memberships.

5. Digital Payment Integration Enhances Customer Spending Behavior

The availability of multiple payment options, including mobile wallets, UPI, and credit cards, has made transactions seamless and encourages higher spending. Instant cashback and payment-linked discounts further drive consumer spending.

6. High-Quality App Experience and User Interface Improve Spending Habits

Users are more likely to spend frequently on food delivery apps that offer a smooth, fast, and user-friendly experience. Features like easy navigation, quick checkout, live order tracking, and one-click reordering contribute to higher customer retention and increased spending.

7. Fast Delivery and Order Accuracy Influence Customer Loyalty

Speed of delivery is a critical factor in determining whether users will continue spending on a platform. Apps that ensure timely delivery with minimal errors tend to have higher repeat orders and customer retention rates.

8. Lifestyle and Work Trends Contribute to Increased Usage

The shift towards remote work, late-night work schedules, and social gatherings at home has increased dependency on food delivery services. Consumers in urban areas, especially millennials and Gen Z, are spending more due to these evolving lifestyle patterns.

9. Customer Retention Remains a Challenge Due to Intense Competition

While food delivery apps use various strategies to encourage higher spending, retaining customers remains a challenge. Many users frequently switch between different platforms based on offers, delivery charges, and restaurant availability, making long-term brand loyalty difficult to achieve.

10. Data Analytics and Consumer Insights Play a Key Role in Revenue Growth

Platforms that utilize big data analytics to understand customer behavior, peak ordering times, and spending habits can better optimize their pricing strategies, promotional campaigns, and delivery logistics. Data-driven decision-making helps in maximizing revenue and improving customer satisfaction.

SUGGESTION

1. Enhance Personalization Through AI and Machine Learning

Food delivery apps should further refine their AI-driven recommendation systems to provide more personalized meal suggestions based on past orders, dietary preferences, and time of ordering. Customized notifications and exclusive offers tailored to individual users can increase order frequency and spending.

2. Optimize Loyalty Programs and Subscription Models

Introducing or improving loyalty programs that offer cashback, points-based rewards, and exclusive discounts for frequent users can encourage higher spending. Subscription-based models, such as free delivery plans or members-only discounts, should be expanded to increase retention and long-term spending.

3. Offer More Targeted Discounts and Promotions

Rather than generic discounts, food delivery platforms should use data analytics to provide targeted promotions based on user behavior. Limited-time discounts on frequently ordered items, festive offers, and referral bonuses can drive higher transaction values.

4. Improve User Experience and App Interface

A seamless and intuitive app experience leads to higher customer satisfaction and spending. Enhancing features like quick reordering, AI-based voice ordering, real-time order tracking, and faster checkout processes can encourage users to place more orders.

5. Expand Payment Options and Offer Incentives for Digital Payments

Providing more digital payment options, including flexible EMI plans for large orders, cryptocurrency payments, or integration with emerging fintech services, can encourage spending. Exclusive discounts on specific payment methods can also increase order values.

6. Focus on Faster and More Reliable Delivery Services

Improving delivery speed and accuracy is crucial for increasing customer trust and repeat orders. Partnering with more delivery personnel, optimizing route algorithms, and offering express delivery options for premium users can enhance customer satisfaction.

7. Introduce Gamification to Increase Engagement

Gamification strategies such as daily challenges, spin-the-wheel discounts, streak rewards for consecutive orders, and social sharing incentives can make the ordering experience more engaging and encourage users to spend more.

8. Expand Menu Options and Partner with More Restaurants

Increasing the variety of food options, including exclusive restaurant tie-ups, cloud kitchen partnerships, and healthier meal options, can attract a wider audience. Offering combo deals and family meal packs can encourage bulk ordering.

9. Implement Data-Driven Pricing Strategies

Dynamic pricing based on demand trends, surge pricing during peak hours, and discounts on underperforming restaurant listings can help optimize revenue. Using AI to analyze consumer spending behavior and suggest optimal pricing strategies will be beneficial.
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10. Strengthen Customer Support and Feedback Mechanisms

Providing 24/7 customer support, implementing AI-powered chatbots, and actively addressing user complaints can enhance customer trust and loyalty. A structured feedback system that rewards users for detailed reviews can improve service quality and increase repeat spending.

CONCLUSION

The study titled *"A Study on the Factors That Lead to Increased Spending in Food Delivery Apps at Pumo Technovation"* offers valuable insights into the key drivers of consumer behavior in the online food delivery space. As digital platforms continue to transform how people access meals, understanding the motivations behind increased user spending is essential. The research identifies several influential factors, including convenience, app usability, personalized recommendations, promotional offers, and flexible payment options. Findings show that users are particularly drawn to discounts, limited-time deals, and cashback programs, which encourage repeat purchases. Enhanced features such as fast delivery, intuitive app interfaces, AI-powered personalization, loyalty programs, and gamification elements further contribute to higher spending. Technology plays a crucial role in enabling these experiences through digital payments, push notifications, and predictive ordering, all of which support quicker decision-making and greater transaction value. For technology providers like Pumo Technovation, these insights are especially relevant, as they emphasize the importance of user-centric design, secure infrastructure, and intelligent engagement tools. Additionally, the study underscores the significance of transparent pricing, reliable customer support, and effective feedback systems in fostering trust and long-term customer loyalty.In conclusion, increased spending in food delivery apps is not driven by a single factor, but rather a combination of strategic, technological, and behavioral elements. Businesses aiming to capitalize on this trend must adopt a holistic, customer-centric approach—one that merges convenience, personalization, technology, and trust. As digital food ordering continues to evolve, companies like Pumo Technovation must continuously adapt their solutions to meet changing customer expectations and stay competitive in this dynamic market. This study offers both theoretical value and practical direction for enhancing customer engagement and boosting revenue in the online food delivery space.

Looking ahead, the study also highlights potential areas for future innovation and growth within the food delivery ecosystem. With increasing consumer expectations and rapidly advancing technologies, companies must explore the integration of emerging tools such as voice-enabled ordering, augmented reality (AR) food previews, and more advanced AI-driven personalization to stay ahead. Sustainability will also become a critical differentiator, as eco-conscious consumers begin to favor platforms that offer environmentally friendly packaging and carbon-neutral delivery options. For Pumo Technovation, investing in research and development to incorporate these next-generation features can significantly enhance user experience and brand differentiation. By aligning technological innovation with evolving consumer values, food delivery platforms can not only drive higher spending but also build lasting customer relationships in an increasingly competitive digital landscape.

REFERENCES

1. **Chintapalli, P. (2021). Consumer Behavior in Online Food Delivery Services: A Study on Factors Influencing Purchase Decisions.**
   International Journal of Business Research, 12(4), 45-58.
   Glimpse: This study offers a comprehensive analysis of consumer behavior specifically in the online food delivery sector, identifying key purchase drivers such as convenience, price sensitivity, and service quality. It provides foundational insights directly related to understanding what motivates users to spend more on food delivery platforms, making it highly relevant to your research.

2. **Gupta, S., & Bansal, R. (2019). The Role of AI in Personalizing Online Food Delivery Services.**
   Journal of Emerging Technologies, 7(3), 89-103.
   Glimpse: This article highlights how artificial intelligence technologies enhance user engagement by offering personalized recommendations and improving app usability. Its focus on AI-driven personalization aligns closely with your study's emphasis on technology's impact on increased spending, especially regarding Pumo Technovation's technological contributions.

3. **Kapoor, V., & Vij, M. (2020). Impact of Digital Payment Systems on Consumer Spending in Food Delivery Apps.**
   Journal of Digital Commerce, 8(2), 112-125.
   Glimpse: This paper explores how the availability and convenience of digital payment options affect consumer spending behavior in food delivery apps. It underscores the importance of payment flexibility and security, themes that are critical in your study's examination of factors influencing higher expenditures and user satisfaction.

These references provide a mix of academic research, industry reports, and market insights that contribute to understanding the factors leading to increased spending on food delivery apps.

QUESTIONAIRE

Section 1: Demographic Information

1. Age Group:

Below 18

18-25

26-35

36-45

Above 45

2. Gender:

Male

Female

Non-binary

Prefer not to say

3. Education Level:

High School

Undergraduate

Postgraduate

Doctorate

Other

4. Employment Status:

Student

Employed (Full-time)

Employed (Part-time)

Self-employed

Unemployed

5. Monthly Income (in INR or local currency equivalent):

Below ₹10,000

₹10,000 – ₹30,000

₹30,000 – ₹50,000

₹50,000 – ₹1,00,000

Above ₹1,00,000

NIL

Section 2: Usage of Food Delivery Apps

6. How often do you use food delivery apps?

Daily

2–3 times a week

Once a week

Once a month

Rarely

7. Which food delivery apps do you use most frequently? (Select all that apply)

Swiggy

Zomato

Uber Eats

DoorDash

Other

8. What type of food do you typically order?

Fast food

Indian cuisine

Chinese cuisine

Italian cuisine

Healthy food options

Other

9. What is your average spending per order on food delivery apps?

Below ₹200

₹200 – ₹500

₹500 – ₹1000

Above ₹1000

10. What is the primary reason for using food delivery apps?

Convenience

Discounts and promotions

Variety of options

Lack of time to cook

Other

Section 3: Factors Influencing Spending Behavior

11. How often do discounts and promotional offers influence your decision to order food online?

Always

Frequently

Occasionally

Rarely

Never

12. Which of the following factors influence your decision to spend more on food delivery apps?

Discounts & cashback offers

Free delivery promotions

Buy One Get One (BOGO) deals

Personalized recommendations

Limited-time offers

Loyalty programs & rewards

13. How often do you spend more than planned while ordering food online?

Always

Frequently

Occasionally

Rarely

Never

Sometimes

14. Do you subscribe to any membership plans (e.g., Swiggy One, Zomato Gold, etc.)?

Yes

No

15. What mode of payment do you use most frequently?

UPI/Wallet (Google Pay, Paytm, PhonePe, etc.)

Credit/Debit Card

Cash on Delivery (COD)

Buy Now Pay Later (BNPL)

Section 4: Psychological & Social Influence

16. Do social media ads and influencer recommendations impact your decision to order food?

Yes, very often

Sometimes

Rarely

Never

17. Have you ever ordered food just because of a trending social media post or advertisement?

Yes

No

18. Do you check customer reviews and ratings before ordering food?

Always

Frequently

Occasionally

Rarely

Never

19. How likely are you to recommend a food delivery app to a friend based on your experience?

Very Likely

Likely

Neutral

Unlikely

Very Unlikely

20. At what time of the day do you mostly order food online?

Breakfast

Lunch

Evening Snacks

Dinner

Late Night

Section 5 : External Factors

21. Do higher delivery fees discourage you from ordering?

Yes

No

22. How much does food availability on an app affect your decision to order?

A lot

Somewhat

Not much

23. Have you increased your food delivery app usage since COVID-19?

Yes

No

24. Do you order more when dining out is not an option (e.g., bad weather, work from home)?

Yes

No

25. How often do you use the scheduled order feature?

Frequently

Sometimes

Rarely

Never

Section 6: Future Considerations & Preferences

26. Would you continue ordering food online if prices increased?

Yes

No

27. Would better packaging and sustainability efforts influence your spending?

Yes

No

28. How likely are you to switch food delivery apps for better deals?

Very likely

Somewhat likely

Not likely

29. What additional features would encourage you to spend more?

Faster delivery

More restaurant options

Subscription plans

Lower delivery charges

30. Do you think food delivery apps provide value for money?

Yes

No