Impact Of Temporal Factors on Food Choices and Purchase Decisions on Online Food Delivery Platforms

Mr. Gaurav Tewari * & Dr. Charu Bisaria**& Dr. Vivek Sharma

*Research Scholar, Amity Business School, Amity University Uttar Pradesh, Lucknow Campus

**Asst. Professor, Amity Business School, Amity University Uttar Pradesh, Lucknow Campus

***Professor FMS Gopal Narayan Singh University Jamuhar

ABSTRACT

Temporal factors play a significant role in influencing food choices and purchase decisions on online food delivery platforms. This paper explores the impact of time, convenience, price value, safety, psychological and cognitive load, and exposure to TV advertising on calorie consumption behaviour and food choices. The study examines shifts in consumer behaviour between weekdays and weekends, determining significant disparities in the types and frequency of food orders on different days. Online food delivery platforms have transformed how consumers make purchasing decisions and select food. Additionally, it assesses how seasonal changes and special events, such as holidays and special occasions, influence food choices and ordering habits. The research employed a descriptive research design and utilized descriptive statistics to investigate how temporal factors influence consumer buying behaviour. The findings reveal differences in online food preferences over the course of a week, suggesting that online food preferences change gradually towards weekend preferences during the week but abruptly revert to weekday preferences over Sun-Mon. Seasonal changes also affect preferences, with lighter meals in warm months and comfort foods in colder ones. These findings highlight the significance of time in consumer food choices and offer valuable insights for improving marketing, inventory, and menu planning strategies on food delivery platforms. This research enhances understanding of the relationship between time and food consumption in the digital era.

INTRODUCTION

The impact of temporal factors on food choices and purchase decisions on online food delivery platforms is a topic of interest in various studies. A significant number of consumers are choosing to purchase their meals using online platforms rather than dining at restaurants. Factors such as safety, time, convenience, and price value significantly influence these decisions. The COVID-19 pandemic has also played a role in this shift, with social distancing measures encouraging more people to order food online and prefer takeaway services. However, some studies suggest that the quality of food can be compromised in delivery services, and existing monopoly of these ordering services enables them to charge high share from profit of food manufacturer. Despite these challenges, the convenience of having food delivered directly to their doorstep, combined with the ability to easily compare prices, browse menus, and read reviews, has made online food delivery a popular choice for many.

Research on food choice in the context of online food delivery platforms has shown that temporal factors like time constraints and work schedules can significantly impact household food choices.(Fast Food Foraging: …, Gustafson 2022) This could lead to increased consumption of fast food as a strategy to cope with time constraints.(Fast Food Foraging: …) Additionally, psychological and cognitive load, such as exposure to TV advertising and cognitive load, can influence calorie consumption behavior and food choices.(Kappattanavar 2023, Tousi 2017, Fast Food Foraging: …) Furthermore, the timing of the order and influence of trendsof healthy eating impacts the consideration of healthy eating options .(Gustafson 2022, Szalonka 2021, Huang 2022) It has also been found that age plays a significant role in the use of nutrition labels when making food choices, particularly for

certain food products such as breakfast cereals and fruit juices.(Ogundijo 2022, Ducrot 2022) Overall, these studies suggest that temporal factors can have a significant impact on food choices and purchase decisions, and that leveraging temporal factors, such as time of exposure to health messages or age-specific targeting of nutrition labels, could be important for promoting healthier food choices and consumption.(Ogundijo 2022, Gustafson 2022, Szalonka 2021)

The aim of this study is mobilising interplay between time and consumer behaviour in the context of online food delivery. In an era where convenience reigns supreme, understanding how temporal factors—such as time and day of the week, seasons, further on special occasions—also affect food choices and purchase decisions is paramount.

By examining these temporal patterns, our study aims to uncover insights that will not only optimize service offerings but also enhance customer satisfaction in the rapidly evolving landscape of online food delivery. Through meticulous analysis of consumer preferences across various temporal dimensions, we seek to provide valuable guidance for businesses to tailor their strategies, menu offerings, and promotional activities, ultimately creating a more personalized and rewarding experience for consumers.

In essence, this study serves as a beacon of illumination, illuminating the nuanced dynamics between time and food consumption in the digital age, creating a more elaborate and responsive approach to fulfil the needs of today's discerning consumers.

Research indicates that temporal factors significantly impact food choices and purchase decisions in online food delivery. One study suggests that delay discounting, a preference for smaller immediate rewards, influences food purchasing decisions. Another

study highlights the impact of timings of moulds and creates decision fatigue in online food choice experiments. The role of information in the formation of purchase intentions changes over time with repeated choices.

Spatial and temporal patterns also affect online food choices, with compositely located places having symmetrical preferences. Information obtained from online reviews also impacts purchase decisions on online food delivery platforms. Other factors influencing customer decisions include enjoyment, trust, and social influence. Consumers generally prefer ordering online due to competent pricing, overall convenience, individual temporal and spatial barriers, and varied choice. Exposure to quick order system in mobile environments also increases individuals' chances of visit

The initial selection behaviour of foods and beverages is directly influenced by economic and socio- environmental factors. Research indicates that there is an inverse relationship between price and purchasing rates for a large variety of foods and beverages. In other words, as prices increase, the likelihood of purchasing those items decreases

Temporal factors encompass time-related elements shaping human behaviour and decision-making. In online food delivery, these factors day and time of the week, seasons, with special occasions. Understanding these patterns aids businesses in optimizing services and marketing strategies.

Time of Day: Consumer behaviour shifts throughout the day, influencing food preferences and ordering habits. For instance, breakfast sees a preference for items like eggs and coffee, while late-night orders often lean towards fast food and desserts.

Day of the Week: Behaviour differs between weekdays and weekends, with weekday orders driven by maximum convenience and end of week orders being more indulgent and social-oriented.

Seasonal Variations: Seasons impact food choices due to weather and ingredient availability. Winter sees demand for comfort foods like soups, while summer calls for refreshing options like salads and ice cream.

Special Occasions: Holidays and events prompt specific food choices, such as traditional festive foods for holidays like Christmas and large snack orders for events like the Super Bowl.

Temporal Trends: Long-term shifts reflect changing consumer preferences and technological advancements, with increasing demand for healthy options and the influence of economic factors and technology adoption.

During the COVID-19 pandemic there were changes in food choices and consumption patterns the research paper explores differences in diet and food intake between weekdays and weekends among the Canadian population. The authors highlight the significance of comprehending the timing of dietary behaviours to shape nutrition-related health policies and recommendations, considering the fluctuation in daily dietary intake. Prior research has indicated variations in dietary intake between weekends and weekdays, with certain studies noting increased energy consumption on weekends. (Yang, 2013). The findings indicate that the time of day influences the variability of errors in reported food choices and the resulting market share estimates. Notably, respondents' answers are less consistent in the afternoon compared to other times of the day (Olsen et al., 2017.). When it comes to encouraging the purchase and consumption of plant-based products, particularly those marketed based on their content or ingredients (such as protein content), our findings underscore the importance of providing information about the nutritional properties of these products at both the point of purchase and during consumption(Banovic et al., 2022). The shift from the weekend to the weekday is distinctly marked by a notable change in the usage rate of most ingredients from Sunday to Monday. This suggests that online food preferences gradually shift towards modified preferences during the week, but coincides to weekday preferences over the transition from Sunday to Monday(Wagner et al., 2014). When consumers experience time delays, they tend to choose low-calorie meals more often. Making lunch-order decisions earlier in the day, rather than just before lunch, leads to a significant reduction in calorie intake. Additionally, extending the delay results in a consistent, albeit slight, decrease in the overall calories of the meals chosen (Vanepps et al., 2016). The findings suggest that temporal

distance significantly influences how customers assess the attributes of online reviews. Specifically, a negative review posted recently has a more pronounced effect on decision-making for the near future compared to the distant future(Kim et al.,2022.)Online food delivery service providers should consider regularly updating product information based on consumption trends, including restaurant listings, prices, and menu details. It's crucial for these providers to maintain accuracy and reliability in essential information such as business hours, delivery areas, and timing, as this enhances customers' effectiveness in placing food orders(Jun et al., 2022). Consumers show a preference for online shopping over traditional brick-and-mortar stores because of various factors. These include competitive pricing, convenience, removal of temporal and spatial barriers, a wider range of choices, personalized service, expert advice, access to detailed information, and speedy delivery(Ali et al., 2021). Food choices are intricate and can vary greatly, even within short periods, due to a wide range of psychological, social, and cultural factors, as well as biological and economic influences. The ever-growing variety and abundance of food products available add another layer of complexity to consumer decisions, shaping personal environments in significant ways. (Szalonka et al., 2021). The study found that feedback, whether it came from an influential figure or a family member, didn't significantly affect how well participants followed food guide recommendations. The desire to choose healthier food options was stronger than the pressure to conform to peers. However, social proof, such as reviews and ratings, had a notable impact on participants' decision-making processes.(Begho & Liu, 2023). While this encompasses individuals who consciously weighed health considerations when selecting from available food options, it overlooks those who did not actively contemplate the future health ramifications of their food choices. This may occur because they have previously assessed the health implications of food and now make habitual choices based on that assessment(Gustafson, 2022). Most participants expressed a keen interest in purchasing healthy foods through online food delivery (OFD) apps if provided with the option to do so. This insight can serve as valuable feedback for OFD service providers, prompting them to enhance their food offerings by incorporating more nutritious options. Additionally, pricing plays a crucial role, given its significance as one of the primary factors influencing food selection among the participants.(Eu & Sameeha, 2021)

This study sought to determine the influence of temporal factors on consumer buying behaviour on online food delivery platforms

The main goal of this study is to examine the influence of temporal factors on food choices and purchase decisions within the realm of online food delivery services. The specific objectives are as follows:

1. Analyze Time of Day Impact:
   - Investigate variations in food preferences and ordering trends throughout the day, including breakfast, lunch, dinner, and late-night periods.
   - Identify peak order times and popular food types during these periods.

2. Explore Day of the Week Differences:
   - Examine shifts in consumer behaviour between weekdays and weekends.
   - Determine if there are significant disparities in the types and frequency of food orders on different days.

3. Assess Seasonal and Special Occasion Effects:
   - Evaluate how seasonal changes (e.g., winter vs. summer) influence food choices and ordering habits.
   - Study the impact of holidays and special festive occasions on online food ordering behaviour.

Research methodology

Descriptive research design was used for this study

Data analysis

Results and findings

Descriptive statistics for temporal factors

The study aimed to investigate how temporal factors influence consumer buying behaviour. Data analysis involved the use of descriptive statistics, including frequency, percentage, mean, and standard deviation, to examine the collected data
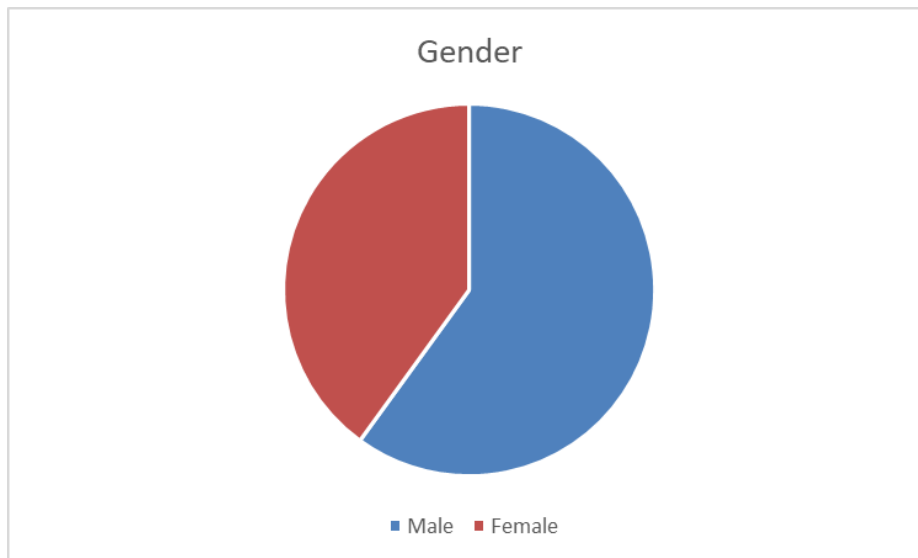
Age Group Distribution
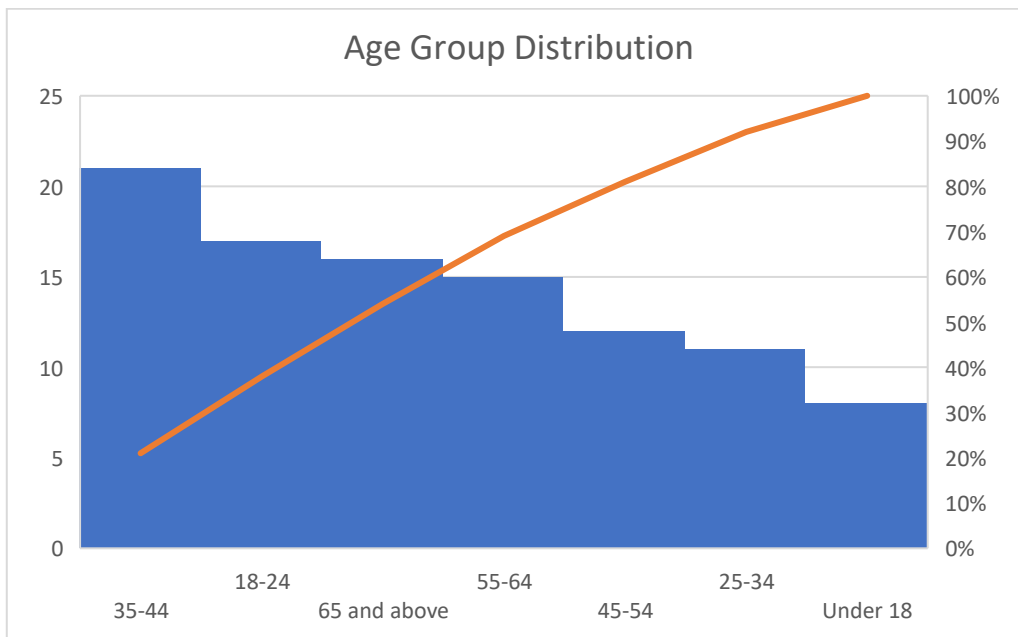
This bar chart shows how respondents are distributed across different age groups. The categories include "18-24", "25-34", "35-44", "45-54", "55-64", and "65 and above". This visualization helps us see which age groups are the most represented in the dataset, giving insight into who primarily uses online food delivery services.
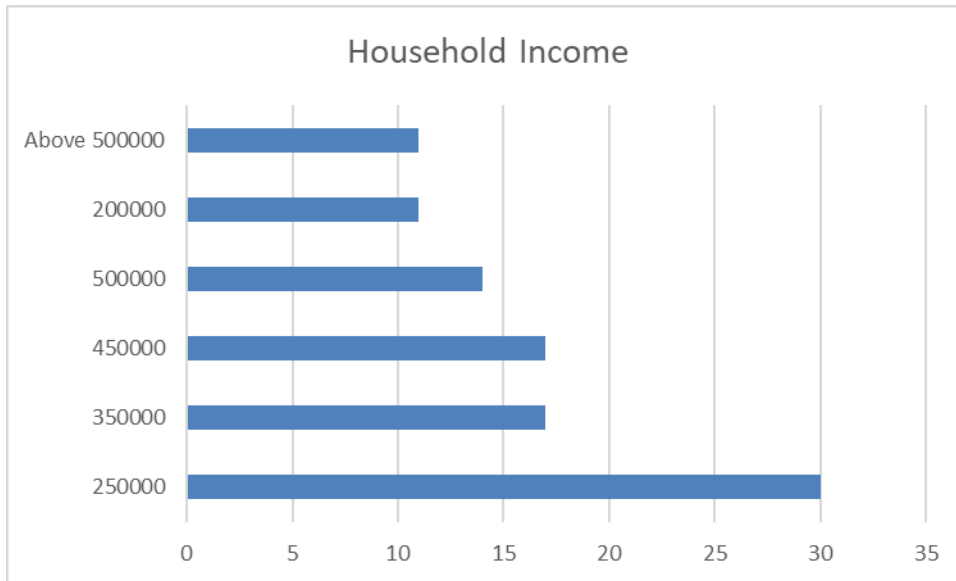
Gender Distribution

Gender

The pie chart depicts the gender breakdown among respondents, divided into "Male" and "Female". This chart helps us understand the gender dynamics of the user base, showing the proportion of male to female respondents.

Household Income Distribution

This bar chart presents the household income distribution of respondents. The income ranges from "Rs 200000" to "More than 50,0,000". This chart helps identify which economic segments most frequently use online food delivery services.

Education Level Distribution
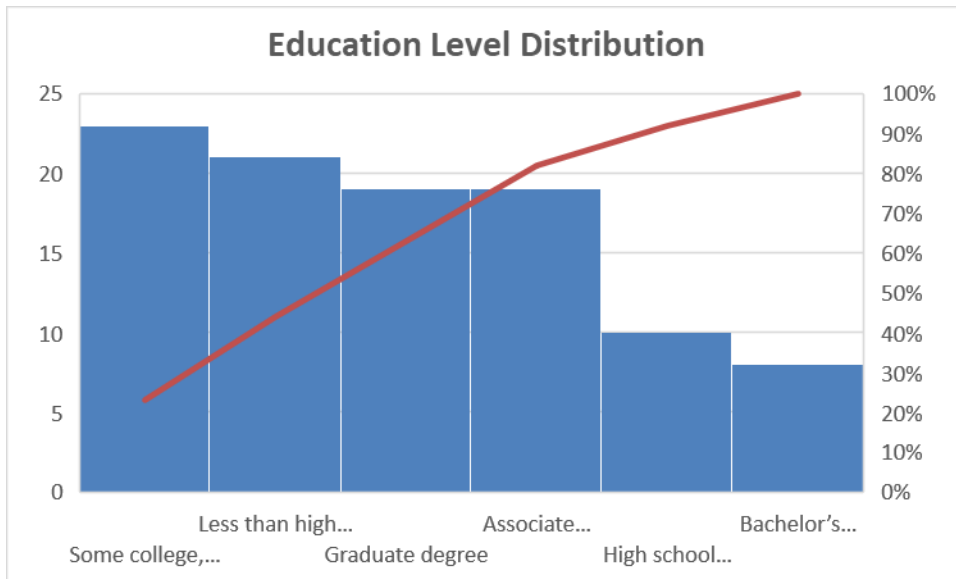
The bar chart displays the educational levels of respondents, categorized as "Less than high school", "High school graduate", "Some college, no degree", "Associate degree", "Bachelor's degree", "Graduate degree", and "Doctoral degree". This analysis provides insights into the educational background of the respondents.

Frequency of Online Food Orders

Frequency of Online Food Orders
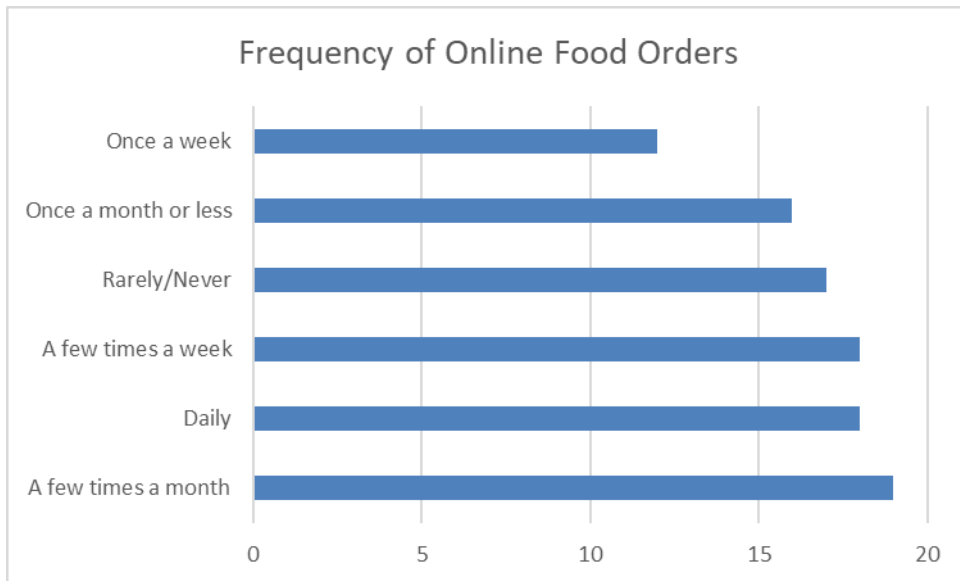
This bar chart illustrates how often respondents order food online. The frequencies are "Daily", "A few times a week", "Once a week", "A few times a month", and "Once a month or less". This helps us understand the regularity of online food ordering among respondents.

Primary Device for Ordering Food Online

Primary Device for Ordering
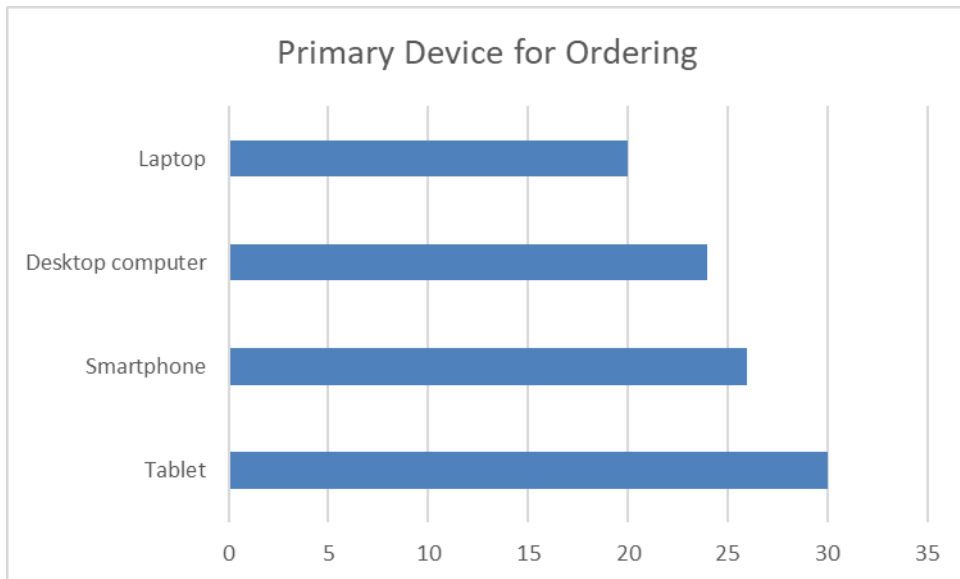
The bar chart shows which devices respondents primarily use to order food online, including "Smartphone", "Desktop computer", "Laptop", and "Tablet". This information is essential to understanding the technology preferences of users.

Most Frequently Used Online Food Delivery Platform

Most Frequently Used Online Food Delivery Platform
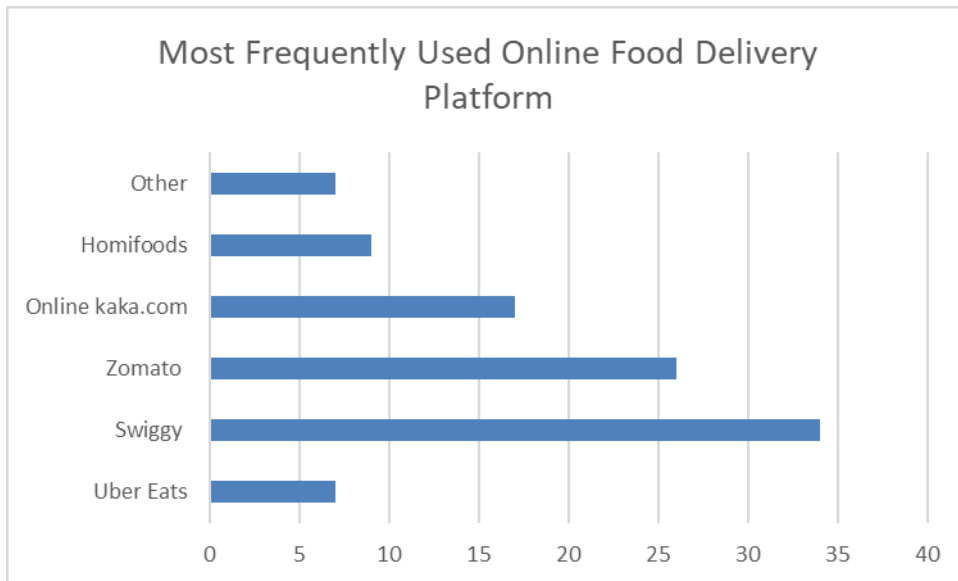
This bar chart highlights the online food delivery platforms that respondents use most frequently, such as "Uber Eats", "Swiggy ", "Zomato", "OnlineKaka", and "Homifoods". This chart identifies the most popular platforms among respondents.

Most Frequent Ordering Time

Most Frequent Order Times
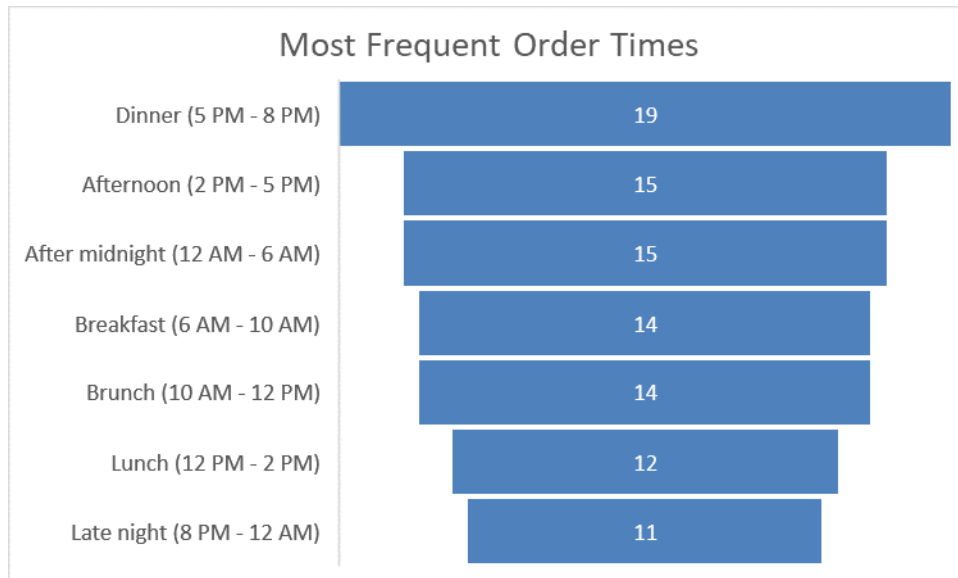
The bar chart reveals the times of day when respondents most frequently order food, categorized into "Breakfast (6 AM - 10 AM)", "Lunch (12 PM - 2 PM)", "Afternoon (2 PM - 5 PM)", "Dinner (5 PM - 8 PM)", and "Late Night (8 PM - 12 AM)". This analysis helps us understand peak ordering times and meal preferences.

Variation in Food Choices Based on Time of Day

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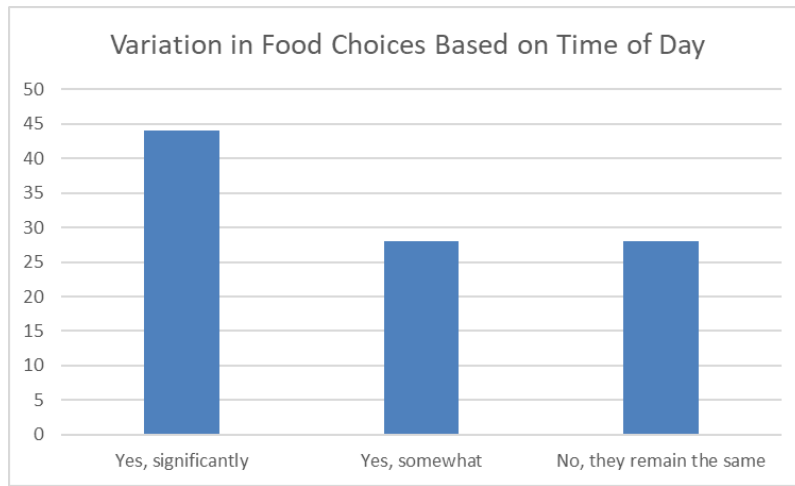
This bar chart shows whether respondents' food choices vary depending on the time of day, with responses being "Yes, significantly", "Yes, somewhat", and "No". This provides insight into how meal preferences change throughout the day.

Types of Food Preferred at Different Times of the Day
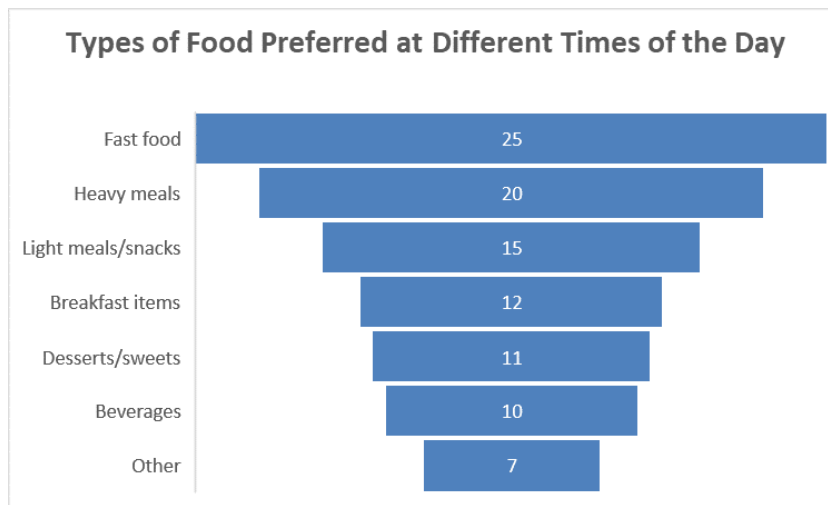
This bar chart displays the types of food respondents prefer at different times of the day, such as "Heavy meals", "Light meals/snacks", "Desserts/sweets", and others. This analysis helps identify the most popular types of food during different meal times.

Factors Influencing Decision to Order Food Online at Specific Times
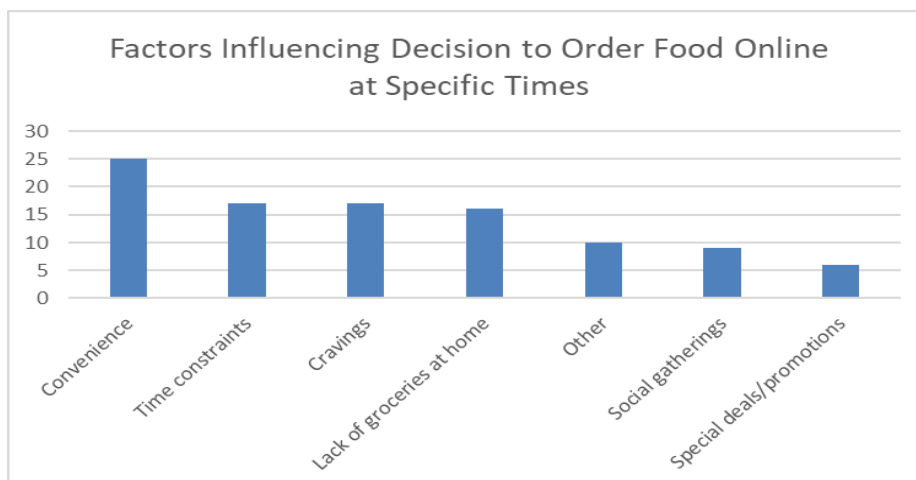
The bar chart represents the factors that influence respondents' decisions to order food online at specific times, including "Time constraints", "Cravings", "Lack of groceries at home", and others. This chart helps us understand the motivations behind online food ordering behavior.

Satisfaction with Variety of Food Options Available for Online Delivery

Satisfaction with Variety of Food Options Available for Online Delivery

This bar chart shows how satisfied respondents are with the variety of food options available for online delivery. Satisfaction levels include "Very satisfied", "Satisfied", "Neutral", "Dissatisfied", and "Very dissatisfied". This chart is crucial for assessing overall satisfaction with food delivery services.

DISCUSSION

The study highlights how time significantly influences consumer behaviour on online food delivery platforms. It reveals distinct shifts in food choices between weekdays and weekends, driven by differing priorities. During the workweek, consumers tend to prefer convenient and efficient meals that fit their busy routines. In contrast, weekends see a preference for indulgent and varied foods, reflecting a more relaxed dining experience.

Weekday vs. Weekend Dynamics

As the week progresses, food preferences gradually lean towards weekend indulgences. However, by Monday, there is a sudden return to routine-oriented weekday choices. This pattern indicates that consumers eagerly anticipate the leisure of weekends and adjust their eating habits accordingly. The abrupt switch back to weekday preferences signifies a return to structured routines with the start of the workweek.

Seasonal and Event-Driven Variations

Food choices are also significantly influenced by seasonal changes. During warmer months, there is a preference for lighter meals, likely due to the desire for refreshing options. In colder months, consumers crave comforting, warm foods. Holidays and special events also cause spikes in demand for certain types of food, linked to celebrations and traditions.

Impact of External Influences

The study underscores the impact of external factors, such as TV advertising and social proof (like reviews and ratings), on consumer decisions. These influences are especially potent in the digital age, emphasizing the role of marketing and peer recommendations. Interestingly, the source of feedback—whether from influential figures or family members—did not significantly alter adherence to food guide recommendations, suggesting that the feedback's content is more important than its source.

Practical Implications

Understanding these temporal patterns is vital for online food delivery platforms to refine their strategies. Marketing campaigns can be more effectively targeted to specific times of the week and year, aligning promotions with consumer behaviour trends. Inventory management can be optimized to ensure popular items are available during peak times, reducing waste and enhancing customer satisfaction. Menu planning can be more flexible, offering seasonal specials and adapting to changing consumer preferences.

Limitations and Future Research

While the study provides valuable insights, it has limitations. The reliance on descriptive statistics limits the ability to draw causal conclusions. Future research could employ more robust statistical methods to explore causal relationships between temporal factors and food choices. Additionally, investigating the impact of trends like health consciousness and sustainability could offer a deeper understanding of evolving consumer behaviour

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