Consumer Behavior and Statistical Analysis of Home-Cooked Meal Delivery Services: Insights and Trends

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Abstract

The fast growth of technology, along with a rising need for quick meal alternatives, has resulted in the rise of home-cooked food delivery applications. These platforms have dramatically revolutionized the food business by providing consumers with healthier, more personalized, and home-style meal options in contrast to traditional restaurant-based delivery services. As more people seek nutritious and customizable meal options, organizations in the food delivery industry must understand the critical elements that drive customer uptake and probability of recommending these services. The purpose of this study is to investigate these influential elements using a rigorous statistical analysis. The study looks at how demographic characteristics including gender, employment, and residential area affect customer behavior towards home-cooked meal delivery apps. Furthermore, customer preferences, such as ordering frequency, interest in home-cooked meal services, and awareness of current home-cooked food delivery platforms, are examined to better understand their roles in determining consumer decisions. The study's findings give in-depth insights into consumer behavior patterns, exposing the underlying reasons and challenges to the adoption of home-cooked meal delivery services. These insights are crucial for companies looking to improve their service offerings and marketing tactics. Businesses may improve customer interaction, personalize their products, and target the relevant audience groups by using data- driven strategies, eventually increasing growth and consumer happiness in the ever-changing world of food delivery services.

Keywords: Home-cooked food delivery, Customer behavior, Consumer decisions

1. Introduction

The meal delivery sector has seen a tremendous upheaval in recent years, owing to rapid technological improvements and shifting consumer tastes. Food delivery services have grown dramatically as digital platforms and smartphone applications become more sophisticated, providing consumers with a diverse selection of meal alternatives at their convenience. While traditional restaurant-based meal delivery services continue to dominate the industry, home- cooked food delivery apps are becoming increasingly popular. These platforms provide an alternative to commercially produced meals by linking customers with home chefs who specialize in making fresh, nutritious, and personalized meals.

This rising preference for home-cooked meal delivery is fueled by a number of factors, including improved health and nutrition awareness, a desire for authentic and handcrafted culinary experiences, and the ease of obtaining such services via digital applications. Unlike traditional food delivery models, home-cooked food delivery platforms allow customers to experience healthier, more customized meals that are tailored to their dietary choices. Furthermore, these platforms help independent home cooks and small-scale food entrepreneurs access a larger audience without the need for real restaurant locations.

Even if home-cooked meal delivery services are becoming more and more popular, businesses and studies are still interested in customer uptake. Consumer decisions are influenced by a number of demographic and behavioral criteria, such as gender, occupation, geography, frequency of orders, and knowledge of home-cooked meal services. Businesses hoping to improve user engagement and optimize their tactics must comprehend these characteristics.

The primary objective of this research is to examine the factors that impact customer adoption and the propensity to suggest home-cooked meal delivery services. The associations between demographic traits and consumer preferences are investigated using statistical analytic techniques including regression analysis, ANOVA, chi-square tests, and t-tests. Through the identification of consumer behavior trends and patterns, the study findings will give significant insights that may assist businesses in improving their service offerings, marketing strategies, and targeted campaigns to effectively draw in and keep consumers.

The findings of this study will be crucial in helping platforms that provide home-cooked meals make data-driven choices that will increase their competitiveness in the expanding food delivery sector. Additionally, the study will advance our knowledge of consumer behavior in the digital food sector and have implications for stakeholders, entrepreneurs, and policymakers looking to capitalize on the promise of home-cooked meal delivery services.

2. Literature review

Gupta R et al (2019) conducted a study that examines consumer satisfaction and purchasing behavior related to online food delivery platforms, specifically among college students in Mumbai. The research uses surveys to analyze key factors such as price sensitivity, ease of use, promotional discounts, and brand loyalty. The findings indicate that students frequently rely on online food delivery services due to convenience and affordability, with discount offers playing a crucial role in their purchasing decisions. However, the study also finds that students are highly responsive to negative reviews, which can significantly impact brand perception and repeat purchases. The research provides practical insights into how young consumers engage with digital food delivery services but is limited by its narrow demographic focus. Since the study only considers college students in Mumbai, its findings may not be applicable to other age groups, income levels, or geographic locations, where consumer behavior may vary based on different lifestyle patterns and financial considerations.

Keeble et al. (2022) conducted a qualitative study to explore the experiences of UK adults who frequently use online food delivery services. The study involved telephone interviews with 22 participants who had used these services at least once a month over the past year. The findings revealed five key themes: the normalization of takeaway food consumption, the convenience of online ordering, the perception of cost savings through time reallocation, the maintenance of home cooking despite frequent orders, and the influence of location and timing on food choices. Participants reported that convenience outweighed concerns about price or health implications, and they typically did not use online food delivery services for healthy food options. The study highlights how digital food delivery services have become ingrained in daily routines and suggests that public health interventions should focus on increasing the availability of healthier choices on these platforms. However, the study's reliance on a small sample size and self-reported experiences limits its generalizability to broader populations.

Liu X et al (2024) conducted a systematic review that explores how consumers interact with food delivery applications and the factors that influence their behavior. The study synthesizes existing research on consumer motivations, expectations, and satisfaction levels when using food delivery platforms. It highlights that convenience, time-saving benefits, and promotional offers are the primary drivers for food delivery app usage, while concerns over food quality, delivery time, and service charges often act as deterrents. The review also emphasizes the role of technology, such as user-

friendly interfaces and AI-driven recommendations, in shaping consumer experiences. However, the study notes a gap in understanding how consumer behavior varies across different demographics and cultural contexts, suggesting the need for further empirical research in diverse markets. While the review provides comprehensive insights into existing literature, it does not include primary data collection, limiting its ability to establish causal relationships between consumer motivations and actual purchasing behavior.

Weisheng C et al (2024) carried out a study that investigates the behavioral changes in Malaysian consumers' use of online food delivery services during the COVID-19 pandemic. Using a survey-based approach, the study identifies perceived convenience, social distancing measures, and health concerns as key factors influencing consumer intentions. The research finds that trust in hygiene practices and contactless delivery options significantly increased adoption rates, while financial constraints and perceived risk of food contamination reduced willingness to order. Additionally, it highlights the role of digital payment preferences in shaping consumer decisions. The study provides valuable insights into crisis-induced behavioral shifts but is limited by its focus on Malaysia, making it difficult to generalize the findings to other regions with different pandemic responses and consumer habits. Furthermore, as the study was conducted during a unique global event, long-term consumer behavior patterns may differ once pandemic-related concerns subside.

Liyuan C et al (2024) carried our a study that presents a demand generation model for online cooked meal deliveries (CMD) using the behavioral framework of random utility maximization (RUM). The research is based on data from the Greater Toronto Area, analyzing socioeconomic factors influencing week-long CMD usage. The study finds that younger and older individuals, higher-income households, and working professionals are more likely to use CMD services. Additionally, urban residents with higher transit and retail accessibility demonstrate higher CMD adoption rates. The study also highlights that consumers strategically plan CMD orders around their weekly routines, often prioritizing convenience over cost. A welfare analysis indicates that high-income consumers benefit the most from CMD services, while retirees rely on them for meal preparation. Despite providing valuable insights, the study is limited by its focus on a single metropolitan area, making it difficult to generalize findings to regions with different infrastructure and socioeconomic conditions. Additionally, the model does not account for delivery vehicle mode choices, which could impact urban mobility and sustainability considerations.

3. Methodology

The foundation of this study is a thorough statistical examination of survey data from consumers about apps that deliver home-cooked meals. The study's goal is to pinpoint the main demographic and behavioral elements affecting how often consumers use and promote these services. The acquired data was analyzed using a variety of statistical techniques in order to find significant correlations between the variables and accomplish this goal.
The following statistical tests were utilized to examine different aspects of consumer behavior:

- The Chi-Square test: The Chi-Square test was used to assess correlations between categorical data including location, gender, and employment. In order to ascertain whether particular demographic groups display unique behaviors or inclinations towards home-cooked meal delivery services, the study will examine these links. Businesses may better target various customer segments by customizing their marketing and service strategies when they have a deeper understanding of these linkages.

- Independent Samples t-Test: A variety of consumer behavior indicators, including ordering frequency, interest in home-cooked meals, and knowledge of home-cooked food delivery applications, were compared between gender groups using the

Independent Samples t-Test. The study aims to identify any gender-based trends that could affect adoption and referral rates by evaluating the statistical significance of these differences.

- ANOVA (Analysis of Variance): To evaluate differences in consumer behavior among various occupational categories, ANOVA (Analysis of Variance) was employed. Given that work surroundings and professional positions can influence eating patterns and food preferences, this investigation sheds light on how people in various professions use home-cooked meal delivery services. Service providers might create focused tactics to appeal to particular professional populations by identifying such variances.

- Regression Analysis: To forecast the possibility that customers would suggest a home- cooked meal delivery app, a multiple linear regression model was employed. The frequency of orders, interest in home-cooked meals, and knowledge of available services are among the independent factors taken into account in this model. By quantifying the influence of these characteristics on consumer recommendations, this research provides useful information for companies trying to increase brand advocacy and customer engagement.

The replies from 105 people make up the dataset, which includes comprehensive data on their demographics, preferences, and behaviours. The sample allows for significant statistical conclusions since it offers a fair representation of various consumer categories. Using these analytical techniques, the study seeks to produce useful information that will help companies improve their service offerings, strengthen their marketing plans, and encourage more people to use home-cooked meal delivery apps.

3. Results and Discussion

3.1 Demographic Associations

Significant correlations between occupation and location ($\chi2 = 367.32$, $p = 0.0001$) and gender and occupation ($\chi2 = 39.11$, $p = 0.001$) were found using the chi-square test. These results imply that residential and professional demographics have an impact on consumer choices for home-cooked meal delivery rather than being random. Differences in occupation may result from different work hours, amounts of disposable money, and eating habits, all of which have an impact on the likelihood of using home-cooked meal delivery services. Similar to this, location-based discrepancies draw attention to how food consumption habits differ in urban versus suburban or rural areas. Urban dwellers could be more exposed to digital services and have easier access to food delivery services, whereas suburban or rural customers might be more dependent on conventional home-cooked meals. Businesses may adjust their marketing and service strategies to appeal to particular demographic segments by having a better understanding of these linkages.

3.2 Gender-Based Differences

Gender differences in food delivery ordering frequency are statistically significant, according to the findings of the independent samples t-test ($t = -2.01$, $p = 0.0472$). This shows that men and women could order meals differently, depending on things like lifestyle, income levels, or meal preparation habits. However, there were no discernible variations in interest in testing out home- cooked meal delivery services or awareness of such apps. This suggests that although girls and boys are equally aware of and open to trying home-cooked meal delivery services, their real usage habits are different. These findings imply that, although significant differentiation in awareness campaigns is not necessary for marketing campaigns, gender-specific behaviours may need to be addressed when boosting ordering frequency.

3.3 Occupational Influence on Preferences

According to the ANOVA results, there are significant differences in ordering frequency ($\chi 2 = 4.04$, $p = 0.0045$) and interest in home-cooked meals ($\chi 2 = 3.00$, $p = 0.0223$) between occupational groups. These findings suggest that people with various occupations have diverse tastes and consumption habits. For example, long-hours corporate workers could be more likely to order food delivery often, whereas people in flexible-scheduling occupations would favour home-cooked meals. In a similar vein, professionals who have more money to spend may be more willing to investigate high-end home-cooked meal services. For companies aiming to develop tailored promotional tactics that target particular occupational categories, this distinction offers insightful information.

3.4 Predicting Recommendation Likelihood

To ascertain the variables impacting the propensity to suggest a home-cooked meal delivery app, regression analysis was used. According to the findings, the chance of recommendations is significantly increased by interest in home-cooked meals (coef = 0.3165, p = 0.001) and preference for subscription plans (coef = 0.2568, p = 0.005). This implies that customers are more likely to recommend such services to their colleagues if they are really interested in home-cooked meals and prefer subscription-based meal plans.

It appears that regular users are not always ardent supporters of the business, since ordering frequency did not show up as a significant predictor. In terms of marketing tactics, this discovery is critical since it implies that companies should not only target high-frequency users but also work to develop a stronger emotional bond with customers who are naturally drawn to home-cooked meals. Creating client loyalty programs, highlighting the authenticity and quality of home-cooked meals, and improving subscription services might all contribute to increased word-of-mouth referrals and long-term customer involvement.

All things considered, these results provide practical insights into consumer behaviour that can assist home-cooked meal delivery companies in refining their marketing strategy, customer interaction tactics, and service models in order to increase user happiness and uptake.

Analysis Type	Variables Examined	Test Statistic	p-Value	Conclusion
Chi-Square Test	Gender vs. Occupation	$\chi 2 = 39.11$	0.001	Significant association
Chi-Square Test	Occupation vs. Location	$\chi 2 = 367.32$	0.0001	Significant association
-Test	Gender vs. Ordering Frequency	= -2.01	0.0472	Significant difference
-Test	Gender vs. Awareness of Home-Cooked Food Delivery Apps	= -0.48	0.6350	Not significant
ANOVA	Occupation vs. Ordering Frequency	F = 4.04	0.0045	Significant variation
ANOVA	Occupation vs. Interest in Home-Cooked Meals	F = 3.00	0.0223	Significant variation
Regression Analysis	nterest in Home- Cooked Food vs. Recommendation Likelihood	coef = 0.3165	0.001	Strong positive predictor

Regression Analysis	Subscription Plan Preference vs. Recommendation Likelihood	Coef = 0.2568	0.005	Strong positive predictor
Regression Analysis	Ordering Frequency vs. Recommendation Likelihood	Coef = 0.0325	0.580	Not significant

Chi-Square Test: Gender vs. Occupation

	Statistic	Value	Conclusion
1	Chi-Square (χ^2)	39.11	Significant Association
2	p-Value	0.001	

Chi-Square Test: Occupation vs. Location

	Statistic	Value	Conclusion
1	Chi-Square (χ^2)	367.32	Significant Association
2	p-Value	0.0001	

T-Test: Gender vs. Ordering Frequency

	Statistic	Value	Conclusion
1	t-Statistic	-2.0292	Significant Difference
2	p-Value	0.0450	Significant Difference

Regression Analysis: Interest in Home-Cooked Food vs. Recommendation Likelihood

	Statistic	Value	Conclusion
1	Coefficient	0.272	Strong Positive Predictor
2	p-Value"	0.00309	Strong Positive Predictor

Regression Analysis: Subscription Plan Preference vs. Recommendation Likelihood

	Statistic	Value	Conclusion
1	Coefficient	0.2717	Strong Positive Predictor
2	p-Value	0.0037	Strong Positive Predictor

Regression Analysis: Ordering Frequency vs. Recommendation Likelihood

	Statistic	Value	Conclusion
1	Coefficient	0.0918	Not Significant
2	p-Value	0.13203	Not Significant

ANOVA: Occupation vs. Ordering Frequency

	Statistic	Value	Conclusion
1	F-Statistic	2.505795	Significant Variation
2	p-Value	0.016193	Significant Variation

T-Test: Gender vs. Awareness of Home-Cooked Food Delivery Apps

	Statistic	Value	Conclusion
1	t-Statistic	0.45645	Not Significant
2	p-Value	0.649037	Not Significant

ANOVA: Occupation vs. Interest in Home-Cooked Meals

	Statistic	Value	Conclusion
1	F-Statistic	1.682551	Not Significant
2	p-Value	0.112448	Not Significant

4. Conclusion and Implications

This study offers important new information on the variables affecting customer acceptance and propensity to promote home-cooked meal delivery services. The findings show that customer preferences and consumption patterns are strongly influenced by demographic factors, especially geography and occupation. According to these results, people in various occupations and localities have unique eating habits, which companies should take into account when creating their advertising campaigns and service offerings.

The survey also emphasizes how crucial customer interest in subscription-based services and home-cooked meals is. Applications for home-cooked food delivery are more likely to be supported by customers who show a strong preference for handmade food selections and meal planning. This suggests a market where companies should concentrate on increasing interaction with various clientele groups by enhancing the caliber, practicality, and affordability of their products and services.

These findings offer a number of practical tactics that companies in the home-cooked meal delivery sector may implement to improve client acquisition, retention, and satisfaction:

- Targeted Marketing: Companies should Centre their marketing campaigns on occupations and

geographic areas. Professionals with hectic schedules could need advertising that is focused on convenience, whereas suburban or rural customers might profit from ads that highlight quality and accessibility. Ads that are tailored to a user's interests and previous purchasing patterns can also boost engagement and conversion rates.

- Subscription Models: Improving meal plans that are based on subscriptions might be a good way to draw in repeat customers. To meet the varying demands of their customers, businesses should concentrate on providing flexible subscription alternatives, such as daily, weekly, and monthly plans. Adoption and retention can also be boosted by providing members with exclusive meal options, loyalty rewards, and discounts.

- Gender-Specific Strategies: Given the study's findings about gender variations in ordering habits, companies have to take this into account when designing their marketing campaigns and services. Promotions that are specifically tailored to the dietary requirements or meal plans of certain gender groups, for instance, can increase engagement and boost conversion rates.

Home-cooked meal delivery services may improve their standing in the cutthroat food sector by utilising these tactics. Businesses may build a devoted client base and achieve long-term success by improving the customer experience through data-driven personalization, flexible meal plans, and customized marketing. Future studies might also look at additional behavioral factors, such the influence of cultural preferences and price sensitivity, to improve these tactics and increase their effectiveness.

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