Tech Saksham

Case Study Report

Business Analysis of Online Delivery Apps Using Power BI

“Sri Paramakalyani College”

NM ID	NAME
254362BC5059DDB990841C3870DB475E	S. ARULJOTHI

M. UMA MAHESWARI

M. UMA MAHESWARI

ABSTRACT

Purpose: This study aimed at understanding the experiences of customers who have used online food delivery services in Chandigarh, India.

Theoretical framework: With food delivery services having been established in numerous cities around the world for a significant duration, the intensifying competition among these services has resulted in heightened expectations from customers. Consequently, it becomes imperative to grasp the disparity between the aspects in which customers perceive online food delivery services are excelling and the areas where they are lacking.

Design/methodology/approach: To achieve this, the researcher used a closed-ended structured questionnaire with 26 attributes to collect primary data from respondents who had used the service at least five times. The study employed a descriptive crosssectional survey design, and utilized non-probability purposive sampling. The sample size for the study was 390 respondents. To analyze the data, the researchers used Importance Performance Analysis (IPA), which involves measuring the mean ratings of the respondents on the 26 attributes.

Findings: The study found that the ability to use the service anywhere anytime, order delivery time, and reasonable delivery and tax prices are among the attributes that the OFDS should prioritize to enhance the customer experience and satisfaction with online food delivery services.

Research, Practical & Social implications: By focusing on these attributes, online food delivery services can improve their service quality and meet the needs and expectations of their customers.

Originality/value: Overall, this study provides valuable insights into the experiences of customers who have used online food delivery apps in Chandigarh. The findings can be useful for stakeholders in the food delivery industry to improve their services and meet the needs of their customers.

INDEX

CHAPTER 1

INTRODUCTION

According to Downs et al. (2020) the term "food environment" refers to the relationship between consumers and the food system, which includes factors such as the accessibility, cost, convenience, advertising, quality, and sustainability of food and drinks found in natural, farmed, and urban areas. These factors are shaped by the cultural, social, and political context, as well as the surrounding ecosystems. According to this definition, the food environment is not static and can change over time. Granheim et al., (2022) stated that recent advancements in digital technology, such as the Internet and smart phones, have made our food environment more global and have expanded the options for takeout food with the use of ghost kitchens and online food delivery services (OFDS) platforms like UberEATS and iFood.

As per Prasetyo et al. (2021), food is a daily requirement, and people have different methods of obtaining the food they desire. One prevalent way to obtain food is through delivery, especially for busy individuals who lack time to prepare their meals (Aprilia, 2017). In response to the demand for food delivery services, the development of information technology has facilitated the availability of online food delivery services (Ilham, 2018). This allows customers to receive prompt and precise service, ensuring that the company can provide the best possible service to its customers (Irmawati et al. 2011).

The increasing popularity of online food delivery services may be attributed to the growing number of urban residents, as noted by Chai and Yat (2019). Customers have various reasons for using these services, but the need for quick and wholesome meals after a long day at work seems to be the most common one. The availability of multiple food delivery services that can be

© Edunet Foundation. All rights reserved

easily accessed has eliminated the need for consumers to plan their meals, cook, go to a restaurant, or order takeout to their workplace or home, according to Dsouza and Sharma (2020). The use of online food delivery services has significantly influenced consumer behavior, with these services becoming increasingly common and expected, particularly among city dwellers, as observed by Chen and Hsieh (2017).

Online food delivery services (OFDS) platforms employ various marketing techniques to improve user satisfaction and increase the likelihood of repeat purchases. When users have a positive experience with the app, they are more likely to use it in the future when they want a satisfying meal (Chen et al., 2020). Prior research has demonstrated that factors such as cost savings, convenience, a wide selection of options, availability of information, lack of social interaction, and personalized products or services are all important determinants of utilitarian value in online shopping (Chen et al.,2020 and Yeo et al., 2017). As a result, strategies that offer discounts (often in the form of coupons), messaging on cost savings, and bundled deals can provide consumers with both cost and time savings. Additionally, allowing consumers to handpick multiple food items for a combo can give them the impression that it was customized specifically for them. Furthermore, messaging that emphasizes tastiness and pleasure can improve the sensory, imaginative, and emotional aspects of the buying experience (Chen et al., 2020). Ensuring customers are provided with superior food and services that align with their expectations leads to customer contentment (Koc et al., 2017 as cited in Abdullah et al., 2023).

India has experienced a significant increase in technological progress, which has put it on track to become a digitally advanced country. More than 40% of the population has access to the internet, making India one of the world's largest and fastest-growing bases of digital consumers. As of September 2018, the country had 560 million subscribers, and Indians downloaded more apps than

© Edunet Foundation. All rights reserved

any other country except China, totaling 12.3 billion in 2018. According to the McKinsey Global Institute report in March 2019, the average Indian social media user spends 17 hours each week on social media platforms (McKinsey Global Institute, 2019).

As stated by Panse, et al. (2019), the food delivery industry in India has become highly competitive. In a report by FICCI, it was reported that the revenue generated by online food delivery, which includes restaurant to consumers and platform to consumer transactions, was approximately $5867 million in 2017.

With the rise of food delivery services and the range of services offered, customer expectations have also increased. Online food delivery services are now convenient enough to allow customers to search for restaurants with their desired cuisines and view the entire menu on the app, with the ability to select their desired dishes with just a button click. The aim of this research paper is to analyze the views of customers regarding popular online food delivery services in Chandigarh, India.

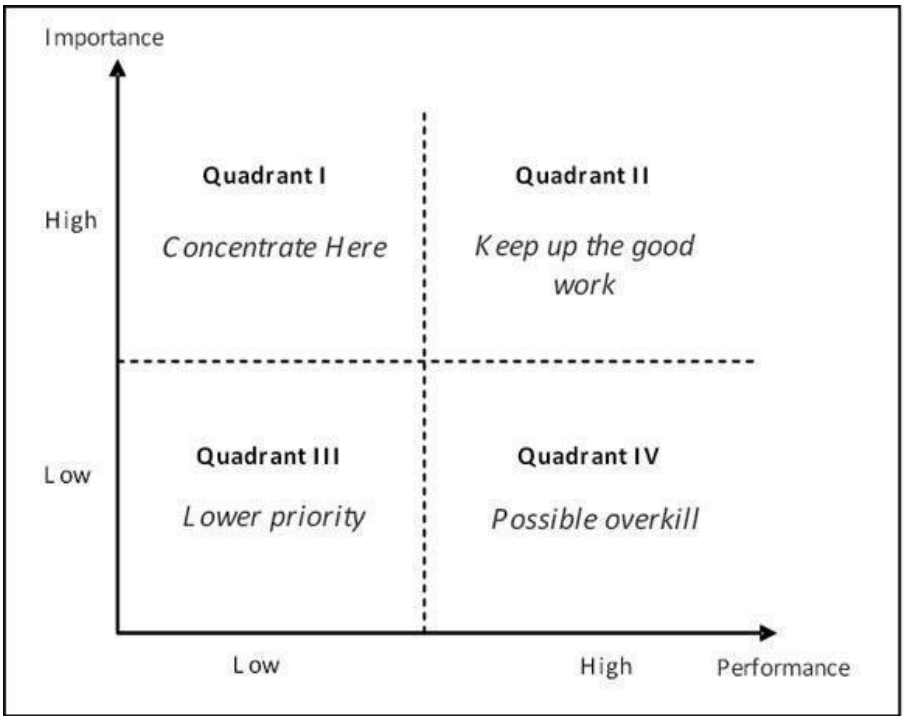
© Edunet Foundation. All rights reserved

CHAPTER 2

IMPORTANCE PERFORMANACE ANALYSIS

The technique of importance-performance analysis is a useful tool for identifying areas of improvement for a company, guiding strategic planning, and determining the competitive position of the company in the market (Hawes and Rao, 1985; Martilla & James, 1977; Myers, 2001). Martilla and James (1977) were the first to introduce this analysis, which has helped to identify the attributes that a company should prioritize to enhance customer satisfaction (Matzler et al., 2004a). The matrix created through this analysis is typically divided into four quadrants based on the mean scores of importance and performance.

Figure 1: Importance performance framework



Source: Importance-performance Analysis framework adopted from Martilla (1977)

© Edunet Foundation. All rights reserved

Quadrant I

The respondents have identified certain attributes as highly important, but the overall performance levels in those areas are quite low. This clearly indicates that improvement efforts should be concentrated in these areas without delay.

Quadrant II

The respondents consider certain attributes to be highly important, and the business is performing well in those areas. This suggests that the company should continue its efforts to maintain the high quality of work in these areas.

Quadrant III

The attributes in this cell have low scores for both importance and performance. Although the performance levels in this area may be poor, managers should not be overly concerned because these attributes are not considered particularly significant. Only a small amount of resources should be allocated to improving these low-priority attributes.

Quadrant IV

This quadrant represents attributes that are rated as having low importance but high performance. While the respondents are satisfied with the company's performance in these areas, the managers should be cautious about continuing to allocate resources to these attributes, as they may already be over-emphasized.

This analysis can help identify specific improvement opportunities. For instance, major flaws in attributes (Quadrant I) should be prioritized and targeted for immediate improvement according to the recommendations of many researchers, including Martilla and James (1977). Significant strengths (Quadrant II), on the other hand, should be maintained, leveraged, and strongly promoted, as suggested by Lambert and Sharma (1990).

© Edunet Foundation. All rights reserved

The IPA framework has been utilized in hospitality and tourism research for many years, as demonstrated by the work of Qu and Sit (2007). Numerous researchers have established its significance as a quantitative research tool in this field.

In 1989, Lewis and Chambers published a paper on the Sheraton Hotel Corporation's successful utilization of the importance-performance tool for monitoring customer satisfaction. Meanwhile, Evans and Chon (1989) used IPA to develop tourism policy, and Almanza et al.

(1994) and Justitia et al. (2019) applied it to identify ways to enhance customer satisfaction.

CHAPTER 3

MATERIAL AND METHODOLOGY

Understanding the preferences of customers can help online food delivery apps to grow sustainably. To this end, the study aimed to survey customers who had used online food delivery apps in Chandigarh. Only respondents who had used the service at least five times were included in the study, as they would have a more comprehensive understanding based on their experience, and it helps to mitigate the impact of any negative experiences that might have occurred due to chance.

For this study, the two popular online food delivery services i.e. Zomato and Swiggy were selected in Chandigarh. These two companies were chosen because they have served a large number of customers, making it easier to find experienced respondents for the study. Additionally, the experiences of customers with these companies can serve as a valuable lesson for smaller or upcoming companies in this business.

© Edunet Foundation. All rights reserved

The study used a closed-ended structured questionnaire with items rated on a five-point Likert scale to collect primary data from participants. The questionnaire was shared with a sample population between April 10 and April 25, 2023.

The target population for the research had at least a foundation degree, and all respondents were men or women aged 18 and above. It is assumed that people who are educated and matured are better equipped to use the app and all its functionalities effectively. The study aimed to gather data not only on the customers' experience with the online food delivery service but also with the mobile app provided by the operators.

The study was characterized as descriptive because it provided a depiction of the customers' attitudes towards various attributes of online food delivery services. Kothari (2004) suggests that a survey design is appropriate for descriptive studies. The study employed a crosssectional survey design, which is particularly useful for determining the prevalence of a phenomenon, situation, challenge, attitude, or issue through surveying a representative sample of the population simultaneously. This was done in order to ensure a comprehensive understanding of the subject matter.

The study assumed an infinite population since the number of consumers was not known. Non-probability sampling was utilized to select the sample from the target population. This type of sampling involves intentionally collecting specific units from the population to form a sample that represents the entire population (Kothari, 2004). Purposive sampling was employed in this study, with individuals being selected based on whether they had used the online food delivery services at least five times. The sample size for this study was 390 respondents, with a 95% confidence level and 5% error margin. The sampling formula for an infinite population was used to calculate the sample size.

© Edunet Foundation. All rights reserved

$N_0 = Z^2pq = (1.96)^2\ (0.5)\ (0.5) = 384.16 = 384$

$$\frac{}{e^2} \qquad \frac{}{(0.05)^2}$$

A total of 26 attributes were selected based on their appearance in online food delivery services researches conducted in the past years. To ensure the questionnaire's quality, industry experts were consulted to provide feedback on the draft questionnaire. A pilot survey was conducted on 10 customers who had used the online food delivery services of any of the two companies in Chandigarh to assess the reliability of each item of the instrument. Since the target audience consisted of respondents with a foundation degree, the instrument was written in English.

Participants were invited to fill out the questionnaire voluntarily, and a cover page was included to explain the study's purpose and significance in the hopes of motivating them to complete it accurately and honestly. The data collection ended once the sample population size of 390 was reached. The collected data was analyzed using the Statistical Package for Social Sciences 19.0.

The study used Importance Performance Analysis (IPA) to measure the mean ratings of the respondents on twenty six attributes. The attributes were divided into four quadrants using vertical and horizontal cross-hairs, where the mean was used as the dividing point to avoid losing valuable information, as suggested by Martilla and James (1977). The data was then plotted on a two-dimensional grid based on the perceived importance and performance level of each attribute, with attribute importance on the vertical axis from high (top) to low (bottom) and attribute performance on the horizontal axis from high (right) to low (left). This approach allowed for a visual representation of the relationship between attribute importance and performance level.

© Edunet Foundation. All rights reserved

CHAPTER 4

RESULTS AND IMPORTANCE

4.1 DISCUSSION

A self-administered questionnaire for this study to analyze factors that affect online food delivery services in Chandigarh, India was prepared. The questionnaire consisted of demographic information (gender, age, employment status, education, number of OFDS usage in the past); and 26 variables.

Demographic Profile of Respondents

According to the study, from the total respondents i.e. 390 majority of participants were male, making up 73% (n=285) of the sample size. All the respondents have used online food delivery service for more than five time in the past, indicating that they were able to provide data on the variable being studied. Additionally, all the participants had obtained a bachelor's degree and were employed. Furthermore, the majority of participants were between 25 and 35 years old, accounting for 67% of the sample size (n=261).

4.2 IMPORTANCE PERFORMANCE MATRIX DATA

All variables were measured by using a 5-point Likert scale. Customers' Importance and Performance rating mean values for the twenty-six variables used as input for the Importance performance matrix are presented in Table 1.

Table 1: Importance Performance (Mean Values)

S.No.	Variable	Mean Importance (Y)	Mean Performance (X)
	Convenience motivation		
1	Use it anywhere anytime	4.6	4.0
2	Reduction in travel effort to buy grocery	4.5	4.6

© Edunet Foundation. All rights reserved

3	Saves time in buying food & Beverages	4.6	4.5
Ease of Use			
4	Easily find various food items	4.7	4.6
5	Help section in case support is required	4.7	4.5
6	App navigation	4.6	4.7
7	App filters helps to find restaurant or dish	4.1	4.4
8	Keyword search reduces effort	4.5	4.6
9	Payment interface is easy to understand	4.5	4.7
App Design			
10	Attractive app design	4.2	4.1
Responsive			
11	Complete transaction quickly	4.6	4.4
12	Order delivery time	4.7	4.2
Payment Data Security			
13	App has protective payment steps (OTP)	4.6	4.6
Price			
14	Delivery price is reasonable	4.7	3.6
15	Tax price is reasonable	4.6	3.9
16	Overall price is affordable	4.5	4.0
Restaurant Credibility			
17	Restaurant rating in app helps to decide in making an order	4.2	4.1
18	Number of rating related to restaurant in making an order	4.2	4.1
Hygienic Packaging			

© Edunet Foundation. All rights reserved

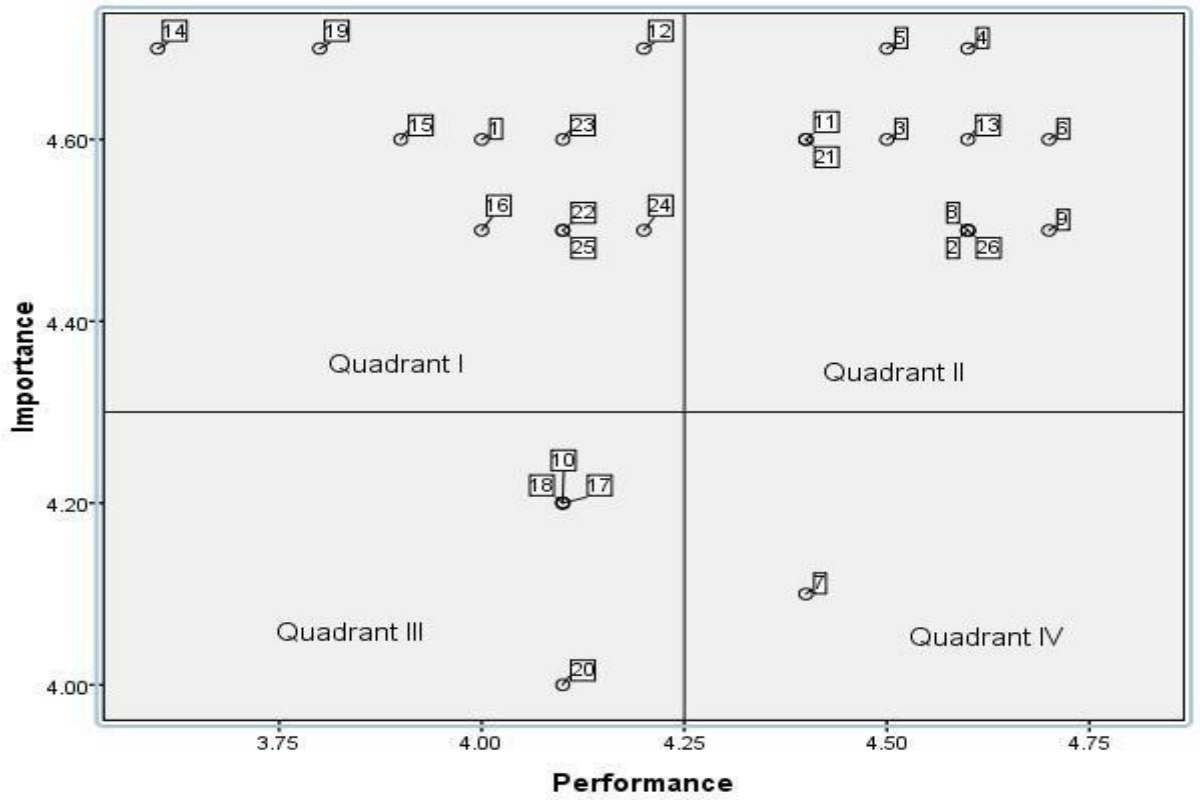
19	Packaging material that influences food cleanliness	4.7	3.8
Time Saving			
20	Up to date information related to restaurant	4.0	4.1
21	Up to date information related to food	4.6	4.4
22	Up to date information related to discount	4.5	4.1
23	There are enough restaurants on the app	4.6	4.1
Promotion			
24	Enough discounts provided on the app	4.5	4.2
25	Terms and conditions of promotion	4.5	4.1
App Comparison			
26	App is better than delivery service owned by the restaurant	4.5	4.6
Grand Mean		4.5	4.26

Source: Prepared by the author (2023)

The mean scores for performance rating (x = 4.26) and importance (y = 4.50) were used to determine the placement of the axes on the grid in the Importance Performance matrix, which is depicted in Figure 2.

© Edunet Foundation. All rights reserved

Figure 2: Importance Performance matrix



Source: Prepared by the author (2023)

Quadrant I (Concentrate here)

The OFDS should prioritize and pay immediate attention to certain attributes. These include the ability to use the service anywhere anytime (1), Order delivery time (12), Delivery price is reasonable (14), Tax price is reasonable (15), Overall price is affordable (16), Packaging material that influences food cleanliness (19), Up to date information related to discount (22), There are enough restaurants on the app (23), Enough discounts provided on the app (24) and Terms and conditions of promotion (25). Focusing on improving these attributes could enhance the customer experience and satisfaction with the OFDS.

The attribute "Use it anywhere anytime" and “There are enough restaurants on the app” is in this quadrant perhaps because the app may have fewer restaurants available during late night and early morning hours. Other than

© Edunet Foundation. All rights reserved

that for some specific foods for example traditional food there might not be enough restaurants on the app. The customers may not be very happy with the attribute "Order delivery time". This may happen due to rush hours, inclement weather or the delivery boy may take time to find the correct address of the customer. Regarding

“prices”, it was expected that customers may not rate delivery, tax, and overall prices positively. It should be kept in mind that these attributes are affected due to the factors such as time of delivery (Peak hours, etc.), weather (Rain, etc.), and distance to be travelled to deliver the package. “Packaging material” is another area that requires attention, as some restaurants do not follow good packaging practices. The attributes “Enough discounts provided on the app”, “Up to date information related to discount” and “terms and conditions of promotions”, such as discounts, may be affected by the order value and availability of bank cards with the customer or minimum order criteria, leading to some customers being unable to avail of the discounts.

Quadrant II (Keep up the good work)

The attributes that are the strengths of OFDS are Reduction in travel effort to buy grocery (2), Saves time in buying food & Beverages (3), Easily find various food items (4), Help section in case support is required (5), App navigation (6), Keyword search reduces effort (8), Payment interface is easy to understand (9), Complete transaction quickly (11), App has protective payment steps (OTP) (13), Up to date information related to food (21) App is better than delivery service owned by the restaurant (26).

Based on the analysis, it appears that the respondents are satisfied with OFDS because they “reduce the effort”, “saves their time” as well as gives “Up to date information related to food” when they don't feel like cooking. While it is common for people to get groceries delivered by a superstore/website, not

© Edunet Foundation. All rights reserved

everyone uses this service, particularly for vegetables, where they prefer to see the items before buying. Whereas the attribute “easily find various food items” is concerned the customers may be satisfied during the normal operation hours and for popular food items. The “help section” in the apps is rated highly, and refunds are provided in case of order problems. The “app navigation” is important for the customers and it works fine. The “keyword search” function also helps consumers find specific dishes or restaurants more easily. The “payment interface” is easy to understand, because now days a lot of people are already using electronic payment methods for different services. The “time taken for transactions” to complete is fast due to faster internet speeds especially. The use of “one-time passwords” also gives customers confidence that their money is safe. Though providing the one time password to complete the transaction is a functionality that is provided by the bank however people also associate it that if they are going to OFDS then their money is safe. This may be the response from the people who also make a lot of online transactions on foreign websites that don’t need any OTP to process the transaction. The customers rated the apps of OFDS “better than the apps of the restaurants themselves”. This may be due to the variety of restaurants and prices available, along with discounts offered on the same dish from different restaurants.

Quadrant III (Lower Priority)

In a business setting, it is not worth investing significant resources in attributes that customers do not consider important or do not believe the business is performing well in. Instead, businesses should prioritize the allocation of resources based on the needs and preferences of their customers to ensure efficient use of resources.

The attribute in the quadrant are Attractive app design (10), Restaurant rating in app helps to decide in making an order (17), Number of rating related to

© Edunet Foundation. All rights reserved

restaurant in making an order (18), Up to date information related to restaurant (20).

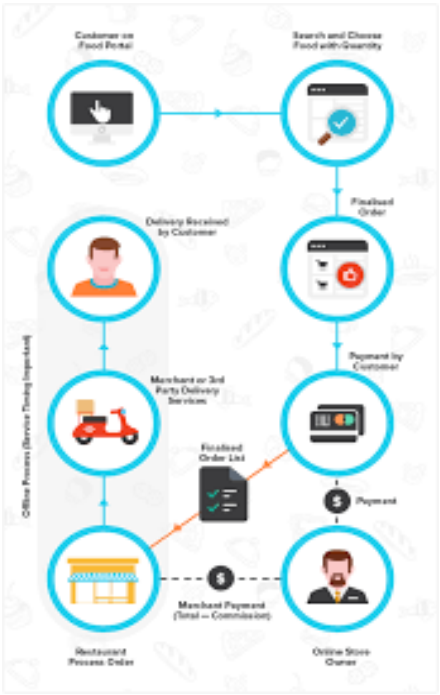
It is possible that the attributes “Restaurant rating in app helps to decide in making an order”, “Number of rating related to restaurant in making an order” and “Up-to-date information on restaurant quality” do not appear to have a major impact, as customers usually know which dishes they want and from which restaurants they want to order. Additionally it seems that a lot of customers also do not leave a rating for the restaurant. The respondents do not seem to place much importance on “attractive app design”, as it does not make a significant difference to them.

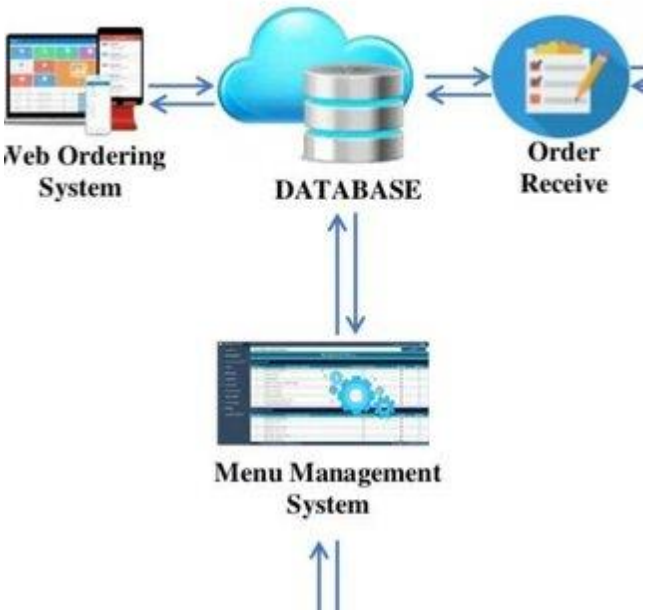
Quadrant IV (Possible Overkill)

The attributes identified in this quadrant may not hold significant importance since the analysis suggests that they are not considered very important from the customers' perspective, despite performing well. Therefore, these attributes may not require significant attention or resources as they are already meeting or exceeding customer expectations. The attributes in this quadrant is, “App filters helps to find restaurant or dish” (7). It seems that the respondents won’t be much affected without this feature however the feature is working well.

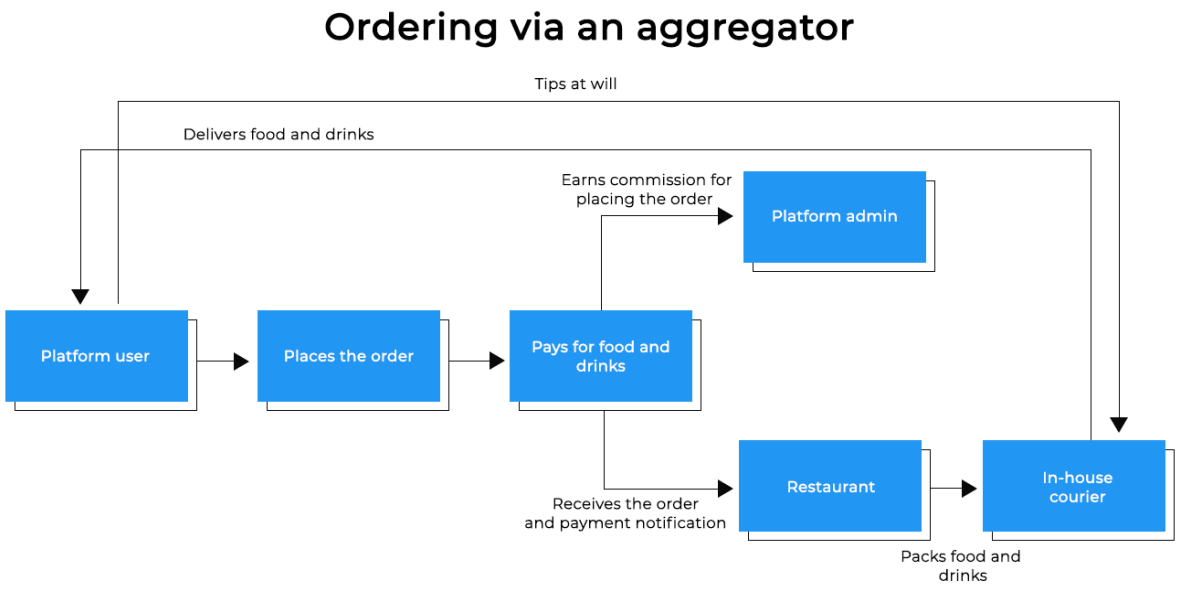
© Edunet Foundation. All rights reserved

Dashboard





© Edunet Foundation. All rights reserved



CONCLUSION

The study aimed to collect data on the customers' views regarding the online food delivery service (OFDS) as well as the mobile app provided by the operators in Chandigarh, India. It focused on Zomato and Swiggy, two popular online food delivery services in the city, and surveyed customers who had used these services at least five times. A closed-ended structured questionnaire was used to collect primary data from 390 respondents. The Importance Performance Analysis (IPA) was used to analyse the responses of the participants on 26 attributes. It was found that the companies need to improve on having a faster order delivery time, make their delivery charges more affordable, have minimum standards for packaging material that influences food cleanliness, provide not only more number of offers to the customers but should also try to reduce the minimum value of the orders so as to avail the discounts thereby benefitting most of the customers and should try to have more number of restaurants on their apps especially for odd hours. In addition the OFDS have been praised on a number of factors such as it not only reduced the efforts of the customers to buy grocery but also saves their time to cook the food. Customers' are also able to

© Edunet Foundation. All rights reserved

find various food items on OFDS apps and receive a prompt help from OFDS in case of any requirement. The participants liked the App navigation and were also happy with keyword searches that reduce their effort considerably in searching for food items of their choice. They also found that the payment interface is safe and easy to understand and they can complete the transaction quickly. They also got up to date information related to food on the app and were also able to compare the same dish from many restaurants. Though the participants were not very concerned with the attractiveness of the apps and restaurant ratings as well as up to date information related to restaurant perhaps because they already knew what they want to order and from where they wanted to order. Lastly they also did not bother much about the app filters that can help to find restaurant or dish may be because they were already able to find their dishes and restaurants through keyword search. However this functionality is doing well according to the participants. Though app filters can be used at times when the customers are a bit unsure about the dish or the restaurant. The study's findings can be useful for online food delivery apps to enhance customer experience and satisfaction and can serve as valuable lessons for smaller or upcoming companies in this business. However the study focused specifically on Zomato and Swiggy, two popular online food delivery services in Chandigarh, India. Therefore, the findings may not be representative of other cities or other online food delivery platforms. Further research in the exploration of the food delivery applications of individual restaurants in more depth would be intriguing, and expanding these studies to include a broader selection of cities would offer numerous benefits.

© Edunet Foundation. All rights reserved

FUTURE SCOPE

The landscape of food ordering has undergone a profound transformation, especially in the United States, where a substantial 40% of adults now opt for online food orders at least once. This shift traces back to the emergence of World-Wide Waiter in 1995, the pioneering online food ordering service that rapidly expanded across multiple cities. By the late 2000s, major pizza chains were conducting a notable portion—20-30%—of their business through online platforms. The surge continued with the rise of smartphone usage and the sharing economy, catapulting food delivery startups into the spotlight. Snapfinger, a hub for multi-restaurant ordering, witnessed a remarkable 17% surge in mobile food orders by 2010. Subsequently, the momentum led online ordering to surpass traditional phone orders by 2015. This evolution wasn't exclusive to the U.S.; China's online food ordering and delivery market skyrocketed from a mere 0.15 billion yuan to a staggering 44.25 billion yuan in 2015. While in the U.S., online delivery transactions accounted for roughly 3% of restaurant sales by September 2016, the growth of online restaurant ordering outpaced dine-in traffic by a striking 300% in 2018. Globally, the market for online-prepared food delivery stands at an estimated USD 94 billion, projected to grow steadily at around 9% annually, reaching an anticipated USD 134.5 billion by the close of 2023.

REFERENCE

Boon-itt, S., &Rompho, N. (2012). Measuring Service Quality Dimensions: An Empirical Analysis of Thai Hotel Industry. International Journal of Business Administration, 3(5), 52-63 https://doi.org/10.5430/ijba.v3n5p52

Chen, H., & Hsieh, Y. (2017). The driving success factors of the online food ordering systemempirical evidence from the UTAUT model.

Chen H-S, Liang C-H, Liao S-Y et al. (2020) Consumer attitudes and purchase intentions toward food delivery platform services. Sustainability 12, 10177.

https://doi.org/10.3390/su122310177

© Edunet Foundation. All rights reserved