

ARTICLE

Determinants of Customer Satisfaction with Respect to Food Ordering Apps: A Strategic View

Pawandeep Kaur¹pennyrandhawa326@gmail.com |  0000-0002-2633-5349

ABSTRACT

Through this study, we tried to analyze customer behavior towards food delivery apps as well as make a comparison of behavior by users from two tiers which is made to suggest strategies for food delivery startups. To accomplish this objective, first the literature is reviewed to develop a constructive model, and then primary data is collected from food app users in the Indian cities of Chandigarh and Bhubaneswar to verify the assumptions on factors affecting their behavior. The results show that financial and health safety, along with flexible delivery and ease of use are significant determinants of customer satisfaction in digital food service and the behavior of customers in two different tiers is shown to be similar, except in the significance of variety options and few aspects of discounts and flexible delivery. This study is significant for food delivery stakeholders such as investors, founders of startups, and vendors to strategize their service as per preferences of the end customer found in this study.

KEYWORDS

Food delivery app, Constructive model, Determinants, Food delivery stakeholders.

¹Lovely Professional University,
Phagwara, Punjab, India.

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DETERMINANTES DA SATISFAÇÃO DO CLIENTE COM RELAÇÃO AOS APLICATIVOS DE PEDIDOS DE ALIMENTOS: UMA VISÃO ESTRATÉGICA

RESUMO

Por meio deste estudo, procurou-se analisar o comportamento do cliente em relação aos aplicativos de entrega de comida, bem como comparar o comportamento dos usuários de dois níveis para sugerir estratégias para startups de entrega de comida. Para atingir esse objetivo, primeiro a literatura é revisada para desenvolver um modelo construtivo e, em seguida, os dados primários são coletados de usuários de aplicativos de comida nas cidades indianas de Chandigarh e Bhubaneswar para verificar as suposições sobre os fatores que afetam seu comportamento. O resultado mostrou que a segurança financeira e de saúde, juntamente com a entrega flexível e a facilidade de uso, são determinantes significativos da satisfação do cliente no serviço de alimentação digital e o comportamento dos clientes em dois níveis diferentes mostrou semelhança, exceto a importância das opções de variedade e poucos aspectos de descontos e entrega flexível. Este estudo é significativo para os *stakeholders* na entrega de alimentos, como investidores, fundadores de startups, e fornecedores para criar estratégias para seus serviços de acordo com as preferências do cliente final encontradas neste estudo.

PALAVRAS CHAVES

Aplicativo de entrega de comida, modelo construtivo, determinantes, *stakeholders* da entrega de comida.

1. INTRODUCTION

Internet penetration across India has accelerated the use of online facilities as well as opened new growth opportunities for online sellers to which online food service is not an exception. This sector has been area of interest and discussion for researchers and industrialists in recent times, as it has attained huge growth in a very short span of time. This interest is regarding what is driving users to use online food delivery apps. Different studies have revealed varied results with regards to different models of delivering food, which basically operate in two models: one as food aggregator and one as a cloud kitchen. As a food aggregator, service providers only work as market place where customers can compare the available options and place an order; making service providers earn money in the form of commission (Ramesh et al., 2022) while in a cloud kitchen a commercial business for delivering food is set up without dine-in service (Choudhary, 2019).

1.1. GLOBAL MARKET OVERVIEW

The food delivery market size has reached US\$106 billion in 2021, as per market analysis of Research and Market, and further forecast estimates that this market would be worth US \$223 billion by 2027, showing a compound growth rate of 11.44%. Looking at the top markets in the world for this sector, US, China, UK, India, UAE, and Australia control more than 80% of the market but, looking internally, one or two major players are taking the largest chunk of the sector in every market. China, the largest market in the world for online food ordering, has a

market value of US \$27.3 billion with more than 90% of the market is controlled by Meituan along with Eleme. The same is the case in US with Uber Eats holding more than 50% of the market, while in India, Zomato reaches nearly 45% of the market share (Curry, 2022). The reports further revealed that more than 80% of users of this service are white-collar workers and students, the same as the ratio for online payment. The main contributors for the penetration of this service are convenience, penetration of smart-phone and internet, double-income families, and offers from service providers.

1.2. INDIAN MARKET ANALYSIS

The food tech sector in India is worth US \$ 2.9 billion in 2020 as per Expert Market Research's consulting report, and is expected to grow by 28.94% between 2021 and 2026, making it one of very few industries which are experiencing growth in double digits. The increasing demand prospects in the market, owing to young and working customers, along with changing lifestyle and entrance of women in workforce has attracted many investors to support penetrating goals of top players in the industry ("India Online Food Delivery", 2022). Out of the whole food sector's worth of \$65 billion, online food service sector is just 6-7 percent and, on comparing this industry globally, Indian firms are just making a small chunk of the annual GMV of \$3 billion while US firms account for \$35 billion. Another important fact reveals that only 9% of internet users in India use food ordering service while the share in US and China is 36% and 50% respectively. However, amid the rising use of food service delivery during the pandemic, the top players in the sector are expanding their operations, with Zomato freshly gaining investments of \$250 million, while rival Swiggy picked up \$450 millions from Softbank, making itself a \$5 billion giant.

Considering the success of leading players, new entrants also bet on discount offers to win customers, but could not sustain this because they cannot withstand the big money backing of the market leaders, which they can use to cut prices. Service providers need to understand that Indian customers, with their average income increasing, are overlooking the price factor and prefer other values while deciding on FDA service. Considering this, the question arises of which set of values should be focused on in order to attract more customers or to create a niche. What previous studies have found is that convenience, technology anxiety, social influence, fast delivery, discount offers, and payment safety are some important factors, among others, influencing users (Dang et al., 2018; Eu & Sameeha, 2021; Panse et al., 2019).

1.3. CURRENT STUDY

This study has analyzed customer satisfaction towards food ordering apps using a constructive model where correlation of customer satisfaction is measured with five variables namely Convenience, discount offers, financial and health safety, vast options, and flexible and speedy delivery. These variables were identified after reviewing the existing literature which mostly revealed a positive relationship between all the constructs and dependent variables (Hong et al., 2016; Jacob et al., 2019; Jeon et al., 2017).

Apart from finding motivating factors for digital ordering, it is also imperative to understand whether customers living at different levels of tiers, as well as regions, have diverse preferences or similar ones. Similar preferences can be fulfilled with standardized services, but diversity demands change in strategies to pull them. There has not been much research done in this area although one study conducted to compare the behavior of FDAs users from two different cities of same Indian state found similarity in behavior (Rathi et al., 2021).

Further, the study continues with the data analysis part which has three parts: descriptive analysis, hypothesis testing, post validity and reliability testing of measurement, and structural model, with last two sample tests on finding difference in behavior of users from Chandigarh and Bhubaneshwar. The results proved and confirmed the findings of a positive relationship of customer satisfaction with all constructs except vast options. Then, the findings of existing studies are accessed to discuss how many existing findings are in support, or against the findings of this study, in the discussion chapter.

Based on findings and discussion, this study then added some strategies for the startups and small players in the field. Looking at the relevancy of the study, since big players are dominating the market due to backing of huge investment, small new entrants can investigate the preferences of small cities found through our research and target them by fulfilling those needs which makes this study relevant for small startups in food delivering sector.

Overall, study is significant for all founders and investors of the sector since it provides customer insights, which are important for customer centric sector like food delivery. Being a low margin sector, investors and founders must serve customers as per their needs. In the Indian FDA market, until now emphasis has been laid on discount offers only but this study found discount to be the least important motivating factors, urging the need of shifting focus on other important values.

Study is also important for channel members who deliver their product through the FDA marketplace to know what the end customer is demanding. All restaurants, cafes, or other firms linked with FDAs can increase their sales by understanding factors significant for the end customer such as that health safety is becoming priority of customers, so restaurants must add items in their online menu which are fulfilling this need.

All in all, this study is important for all channel members of online food delivery sector whether they are marketplace firms or restaurants or investors because making strategies as per continuous evolving needs of customers will help all these parties to meet their objectives and this study is examining those changing needs.

2. THEORETICAL BACKGROUND AND MODEL DEVELOPMENT

2.1. MOTIVATING FACTORS FOR USING ONLINE FOOD ORDERING APPS

Eu and Sameeha (2021) examined 290 young users' attitudes towards online food delivery apps, using snowball sampling selected from different public universities in Malaysia including more than a half percentage of respondents who were international students. The study analyzed the distribution of the socio-demographics of respondents on various aspects of food delivery services and focused on user perception of availability of healthy food options on these apps. The results found that healthy food options were the least influencing motive among users to use this service and rather were largely influenced by the price and convenience the service providers offer, along with sensory attraction, making up some important factors to use online food ordering service.

Dang et al. (2018) conducted a cross-sectional study on 1736 online food buyers in 176 different communes in Hanoi, a city in Vietnam, to access their online food buying behavior using face to face interviews on standard questionnaires and found that the most important factor motivating consumers to buy food products online was convenience and price whereas on safety concerns only one third of users were paying attention and, when it comes to food licensing information, the percentage was even lower (11%).

Das (2018) analyzed customer perception of food delivery apps using a survey of 153 respondents in the city of Pune and came up with the findings that doorstep delivery and better offers and rewards are main influencing factors for users to use this service, with Zomato the most preferable service provider. Das found that previous poor experience with the service provider is the main challenge for customers to continue using it.

2.2. EFFECTS ON FOOD VENDORS

See-Kwong et al. (2017) examined the food delivery sector from supplier point of view in two phases with first being a review of literature and then through qualitative interviews with business owners using open ended questions. They found three main driving forces to outsource food delivery services to third parties including high revenue prospects, wider reach to customers, and higher customer retention.

Jacob et al. (2019) concentrated on variables like simplicity and comfort, offers, quality, well-being concerns, cleanliness, and installment choices, prompting the expansion of an online food requesting framework with significant impact of these online applications on youth. The investigation discovered that the customary dining out is being impacted by the ascent in online food ordering applications. However, some have referred to worries of cleanliness as a component to incline toward unattractive food.

Dhayanidhi et al. (2021) studied consumer perception by knowing the effect of food delivery apps on time, and the kind of food ordered in the city of Chennai. A sample of 100 people were approached randomly to apply nonparametric test Chi square. The results revealed that the time of ordering a meal online vary by the kind of app users were using.

2.3. UTILIZATION OF ONLINE FOOD APPLICATION

Mehroliya et al. (2021) examined six constructs in the health belief model related to food ordering apps during the Covid-19 pandemic in Bangalore, a city in India, using binomial regression since people became more health conscious during such a time and it affected the business sectors like food delivery to a greater extent. The results revealed that customers used online food ordering services because they perceived less or no threat in the service and high benefits and they were involved in the product highly.

Borgohain* (2019) analyzed the consumer perception on OFDs in the town of Dibrugarh in India using primary data based on responses of 95 respondents belonging to the 16 to 30 age demographic. Time saved, ease of use, and convenience, were found to be important factors among users which influenced them to use the service. Further, some other results showed the behavior of users who were making payment through cash and ordering food only on special occasions.

Preetha and Iswarya (2019) concentrated on the utilization of online food application. They tracked down no critical relations between the greater part of the socioeconomic boundaries with customer purchasing, however the purchase was impacted by convenience, brief reactions, bundling, customized administrations, assortment, data, simplicity of use, presentation, and precision of given data.

Zhao and Bacao (2020) applied UTAUT, fit between technology and task, and ECM to analyze why people in China were still using food aggregator services during the pandemic and found that trust, a good fit between the technology performance and users' tasks, performance expectancy, and peer influence as motivating factors among Chinese users to continue using this service even during the pandemic.

Panse et al. (2019) tested the food delivery technology acceptance of 170 respondents in India using PLS analysis which measured the inner and outer model. Out of seven different variables considered for study, it was found that ease of use and information, control, and technology anxiety are important drivers for consumers to utilize food ordering apps. Further, it revealed that users of food delivery apps are interested in using these services due to the reason that obtaining versatile food at their doorstep saves them time and money.

2.4. CONCEPTUAL MODEL AND HYPOTHESIS

Figure 1 below explains the conceptual model where customer satisfaction is taken as a dependent variable which is predicted by five independent variables, namely convenience, discount offers, financial and health safety, flexible and speedy delivery, and vast variety of food options. The study has twofold findings for the sector- first, it covers the driving factors which determine consumer satisfaction towards food delivery apps and second, it analyzes the difference in behavior of users from cities of two tiers.

Following are the factors considered for studying behavior based on which hypotheses are proposed.

2.4.1. Convenience

Customers are likely to accept the new technology only if it offers more convenience as compared to previous one. Previous studies have shown convenience as one the most significant factors for using new technologies. Panse et al used convenience as one of the seven antecedents among others to predictor customer satisfaction for consumer intention to use FDAs and at the same time it was considered as a direct impacting factor for consumer intention, with results showing strong relationships within both relations (Panse et al., 2019). In another study by Eu and Sameeha, three different models: UTAUT, ECM, and TTF were used to understand why Chinese customers continued to use FDAs during the pandemic. Under the TTF model, convenience of contactless and fast delivery was considered one of the important tasks which this technology served, and customers continued to use it (Eu & Sameeha, 2021).

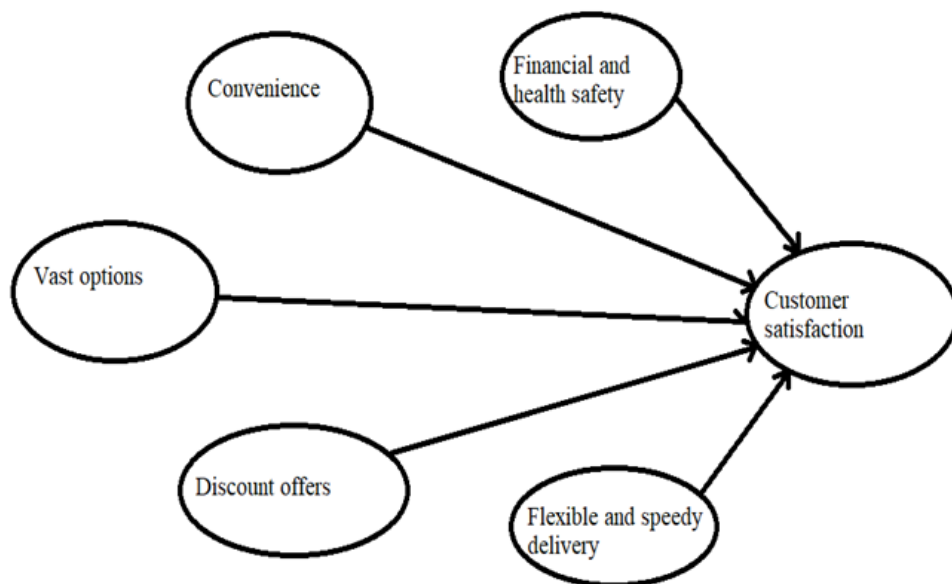


Figure 1. Conceptual Model
Source: Developed by the author

- **H1.** Convenience offered by food aggregator apps significantly affects the Consumer satisfaction towards this service.

2.4.2. Discount offers

Discount offers work as additional motivations for customers to try new products or services. Mallieswari et al. took differential pricing as a main influencing factor in consumer decisions to buy online food services and results supported the fact that consumers are aware about different prices charged by food delivery apps, influencing them to use the service (Mallieswari et al., 2019). Attractive discount offers and rewards along with convenience of doorstep delivery are main motivating factors for food delivery app users (Das, 2018).

- **H2.** Discount offers available on food delivery services have significant importance for its customer satisfaction.

2.4.3. Financial and health safety

In the recent times, especially after lockdown, customers are more conscious of their health, also, due to many cyber threats they also want financial safety. Many recent studies have considered health as an important variable in their models. Mehrolia et al. applied a health benefit model to access consumer responses on food ordering services during Covid-19 where changes in consumer behavior was measured due to health benefits and threats that customer see in using service, and it was found that consumer use food tech service when they see less threat and more health and financial benefits (Mehrolia et al., 2021). Another study by Tran analyzed a model of continuity in usage of FDAs during Covid pandemic where perceived safety was chosen as predictor to consumer intention to use FDAs as well as to continue using them (Tran, 2021).

- **H3.** Financial and health safety significantly affect the customer satisfaction with respect to food aggregator service.

2.4.4. Vast food options

Food ordering apps provide one benefit to customers with the ability to choose their favorite food from a wide list of cuisines and restaurants as well as to make an order out of a flexible meal. Saad showed menu and restaurant availability as an important decision-making factors for FDA company selection and results confirmed the significance as well (Saad, 2020). In another study by Chai & Yet, privacy and security were influencing factors for affecting behavioral intention towards digital food service and results found it among main four significant factors (Chai & Yet, 2019). Good restaurant choice, improved service, discounts, and convenience are found to be the top driving factors to utilize food ordering apps in the city of Pune, India (Das, 2018).

- **H4.** Vast variety in food options is positively correlated with customer satisfaction towards online food aggregators.

In the 5G era, customers want their orders to be delivered at a fast pace plus services should be available 24/7. The leading food aggregators bet on these factors to win more customers. Delivery time is considered one of the important factors in choosing a food delivery service provider in a study by Saad which also proved its significance (Saad, 2020). This factor is also considered significant in adoption of FDAs technology under TTF model in a study by Zhao & Bacao where customer analyzed task fulfillment by any technology, and convenience of ordering daily required supplies anytime and anywhere, making this an important advantage of using this technology (Zhao & Bacao, 2020).

- **H5.** Flexible and speedy delivery is positively correlated with customer satisfaction towards utilization of food ordering apps.

Apart from the above five factors, the second part of the study analyzed the difference in consumer behavior from two cities, namely Chandigarh and Bhubaneswar. Mostly service providers variably serve their customers with different demographics which could be risky if customer expects similar service. A study by Rathi et al analyzed the difference between consumer perceptions in two cities of one state on factors like speed of ordering and receiving, service quality, security; discount offers, brand loyalty among others and found that the overall behavior was similar (Rathi et al., 2021). So, food delivery app users from two tiers are analyzed to test this assumption.

- **H6.** Online food app users from Chandigarh and Bhubaneswar have uniform preference for factors while selecting the service provider.

3. RESEARCH METHODOLOGY

The present study applies quantitative method to analyze the association between dependent variables and predictors. A conceptual model with five dependent variables, namely Convenience, Discount offers, Vast options, Financial and health safety, and Flexible and speedy delivery services was designed based on a literature review. In order to measure variables, a standard questionnaire was designed including two sections of questions; one descriptive and the other construct based, designed using a five-point Likert scale, denoting 1 as strongly disagree, and 5 as strongly agree. A total of 230 filled questionnaires were received back, out of which only 167 respondents were such who have ever used online food delivery service so remaining were excluded from the study. The data was analyzed using SPSS V.28, AMOS V.26 and Microsoft excel.

3.1. SAMPLING

The objective of comparing the consumer behavior of two population belonging to different tiers of cities was achieved by approaching food delivery app users from Chandigarh (tier-I) and Bhubaneswar (tier-II). Young users, between 14 to 42 years old, were targeted who are tech savvy and have higher inclination towards modern utility apps. The sample is approached through online sharing of Google forms using convenience sampling and snowball sampling techniques.

4. DATA ANALYSIS

The data analysis is divided in three parts where the first one covers demographic details of the respondents; the second one tests whether the measurement model is valid and reliable as well as analyzing the structural model and the third part compares the mean of population from two cities.

4.1. DESCRIPTIVE ANALYSIS

This part analyzes the demographic details of respondents and food app users and then it is analyzed to understand their behavior. The detailed information is given in table 1 below.

A. City-specific distribution

It was planned to take equal number of respondents from both cities in order to compare consumer behavior but when nonusers were removed, 53% of them were from tier I and nearly 46% from tier II city.

B. Gender distribution

Out of 230, when 168 food delivery app users were shortlisted then it is found that majority of the service users were male with 67% of total respondents.

C. Age distribution of FDAs users

As per the survey, a high proportion of FDA users belongs to the age group of 28 to 35. The reason could be that this age group is fresher to work and have high propensity to consume and spend, also, this age group is more prone to use new technology. The second highest FDAs user age group is 21 to 28 as per survey.

D. Preferred food delivery app

Table 1 depicts that a high proportion of respondents prefer to use top two service providers Swiggy and Zomato among nearly a dozen service providers with Swiggy preferred by 40% and Zomato by 38% of respondents.

Table 1

Descriptive of Participants

Criterion	Item	Frequency	Percent
City	Chandigarh	90	53.6%
	Bhubaneswar	77	45.8%
Gender	Male	113	67.3%
	Female	54	32.1%
Age	14-21	18	10.7%
	21-28	56	33.3%
	28-35	68	40.5%
	35-42	22	13.1%
	Over 42	3	1.8%
Food delivery app used	Swiggy	68	40.5%
	Zomato	64	38.1%
	Uber Eats	25	14.9%
	Food panda	9	5.4%
	Any other.....	1	.6%

Source: Developed by the author

For examining the measurement model on validity and reliability measures, composite factor analysis is used through AMOS. The table 2 below depicts the values of composite reliability (CR), factor loading of all variables, and average variance extracted (AVE). With Factor loading for all variables and composite reliability (CR) of all constructs larger than 0.7 internal correlation condition of convergent and complemented convergent validity is fulfilled. In addition, the AVE value for all factors is also above the limit of 0.50 and is lying between 0.531 and 0.872 satisfying the model on convergent validity.

Further, Fornell-Larcker Criterion is applied on the measurement model to examine the discriminant validity shown below in table 3. Discriminant validity is an indicator of each construct being unique from others in the model (Lee et al., 2007) and each construct is unique as per Fornel-Larcker if square roots of variance extracted of every construct is above the internal correlation between pair of constructs, and table 3 represents that this condition is met. Thus, the discriminant validity criterion is also fulfilled.

Table 2
Factor Loading of the Variables, CR, and AVE

Constructs	Variables	Loading	Construct reliability	AVE
Convenience	CNV1	0.97	0.971	0.872
	CNV2	1.01		
	CNV3	1		
	CNV4	1		
	CNV5	0.63		
Discount Offers	DO1	0.750	0.839	0.569
	DO2	0.690		
	DO3	0.680		
	DO4	0.880		
Financial and health safety	FHS1	1.015	0.95	0.864
	FHS2	0.878		
	FHS3	0.89		
Vast options	VO1	1	0.942	0.846
	VO2	0.93		
	VO3	0.82		
Flexible and speedy delivery	FSD1	0.89	0.706	0.546
	FSD2	0.92		
Customer satisfaction	CS1	1	0.7	0.531
	CS2	0.79		

Source: Developed by the author

Table 3
Inter-Construct Correlation

	CNV	DO	FHS	VO	FSD
CNV	0.933				
DO	0.514	1.044			
FHS	0.665	0.681	0.966		
VO	0.415	0.46	0.604	1.036	
FSD	0.251	0.359	0.639	0.759	0.716

Source: Developed by the author

Furthermore, the model fit indices are shown using measures: Chi-square/df, CFI, NFI, TLI and RMSEA. A model is a good fit and accepted if Chi-square/df is < 3 ; the Confirmatory fit index (CFI) is > 0.9 ; the Normalized fit index (NFI) is > 0.9 ; the Tucker and Lewis (1973) is > 0.9 (Bentler, 1990). Also, a good fit model is accepted if RMSEA is below 0.08 (Hair et al., 2009). The indices on goodness of fit of the model are presented below in the table 4 falls within the acceptable range: Chi-square/df (CMIN): 2.133, CFI: 0.958, NFI: 0.915, TLI: 0.948 and RMSEA: 0.06. Thus, the model is a good fit since all indices are within the acceptable range.

4.3. STRUCTURAL MODEL

Table 5 presents the estimates, test values, and p values for the framed hypothesis of dependency of dependent variable customer satisfaction on independent variables. As p value for all independent variables, except Vast options availability on any food delivery app, is greater than the α value 0.05 so, we failed to reject the null hypothesis that convenience, discount offers, flexible delivery, and financial and health safety are highly correlated with customer satisfaction of food delivery app users. Thus, H1, H2, H3, H5 are supported and H4 is rejected. As this model has only one endogenous variable, customer satisfaction, whose R2 (squared multiple correlation) is calculated and presented in figure 2, evaluating the predictive accuracy of the model, which is 0.71, explaining the proportion of variance of endogenous variable defined by exogenous variables means hereby that the variable varies 71% due to changes in exogenous variables or predictors.

Table 4
Goodness of Fit Indexes

Indices	CMIN	Confirmatory fit indices	Normalized fit index	Tucker & Lewis index	Root mean square error approximation
Accepted Value	below 3	larger than 0.9	larger than 0.9	larger than 0.9	below 0.08
Structural Model	2.133	0.958	0.915	0.948	0.06

Source: Developed by the author

Table 5
Hypothesis Testing on Variables

Paths	Estimates	Std. Error	test value	P*	Decision
CNV > CS	.179	.314	.827	.408	Supported
DO > CS	.024	.216	.111	.912	Supported
FHS > CS	.709	.510	1.567	.117	Supported
VO > CS	.486	.164	2.530	.011	Rejected
FSD > CS	.255	.242	-.685	.493	Supported

Note. This table explains the hypothesis testing on the basis of dependency of dependent variable on independent variables.
* $p < 0.05$

Source: Path analysis output AMOS V.26

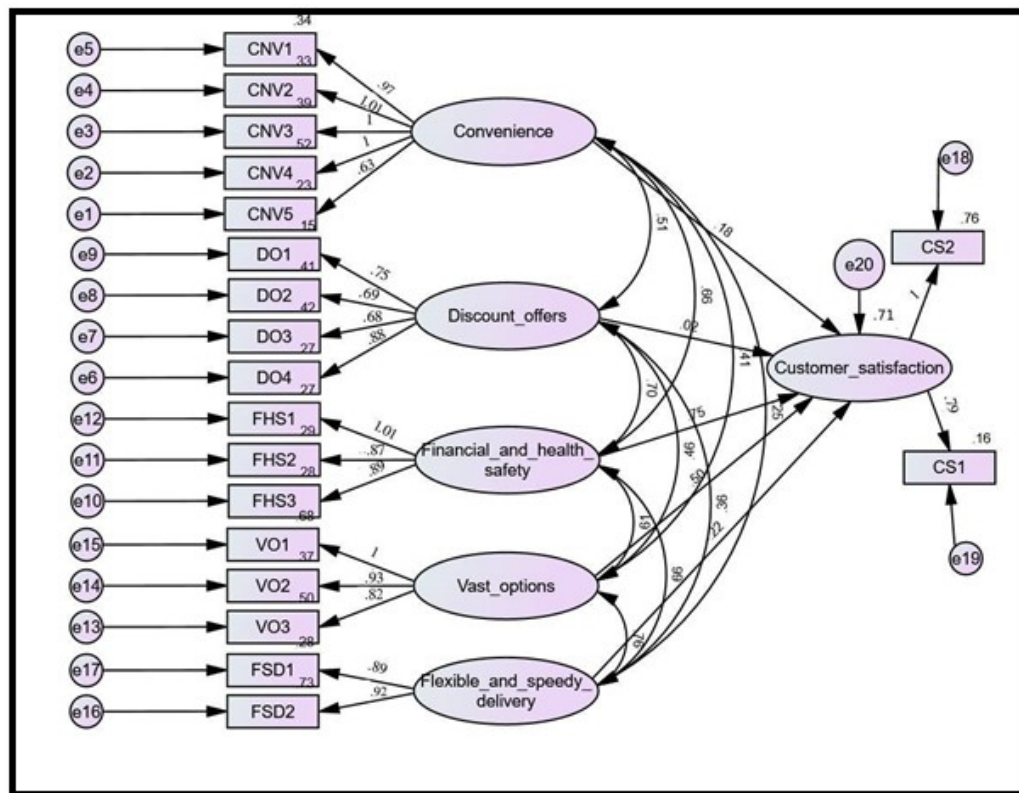


Figure 2. Structural Model Results

Note: CNV: Convenience; DO: Discount offers; FHS: Financial and health safety; VO: Vast options; FSD: Flexible and speedy delivery; CS: Customer satisfaction.

Source: Developed by the author

4.4. TWO SAMPLE ANALYSIS

The comparison of two populations from Chandigarh and Bhubaneswar on their behavior towards important factors is analyzed using two sample z test and results are mentioned in the table no 6 using two sample tests, hypothesis on equal variance is accepted since p value for Levene's test for all variables is higher than level of significance 0.025, except variable DO1, where it is 0.003, so we can apply parametric test on this data. Leaving variables DO1, VO1, VO3, FHS3, FSD1, p values are greater than the α value 0.025, so, the null hypothesis cannot be rejected for remaining variables that their means are same. It concludes that mainly vast options on a delivery app are not perceived similarly significant in customers in two cities.

Table 6

Two Sample Z Test for Calculating Difference in Mean of Two Populations

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		Levene's Test				
		F	Sig*	t	df	**Sig. (two-tail p)
CNV1	Equal variances assumed	.404	.526	1.157	165	.249
CNV2	Equal variances assumed	.064	.801	1.852	165	.066
CNV3	Equal variances assumed	.021	.886	1.821	165	.070
CNV4	Equal variances assumed	3.137	.078	1.397	165	.164
CNV5	Equal variances assumed	.145	.704	1.753	165	.082
DO1	Equal variances assumed	9.061	.003	2.716	165	.007
DO2	Equal variances assumed	.617	.433	.536	165	.593
DO3	Equal variances assumed	3.980	.048	1.177	165	.241
DO4	Equal variances assumed	1.565	.213	1.147	165	.253
VO1	Equal variances assumed	.038	.846	3.443	165	<.001
VO2	Equal variances assumed	.032	.859	.949	165	.344
VO3	Equal variances assumed	.093	.760	3.075	165	.002
FHS1	Equal variances assumed	2.410	.122	2.065	165	.040
FHS2	Equal variances assumed	.077	.782	1.810	165	.072
FHS3	Equal variances assumed	.889	.347	3.888	165	<.001
FSD1	Equal variances assumed	.122	.727	2.464	165	.015
FSD2	Equal variances assumed	.183	.669	1.928	165	.056

Note. This table presents two sample z test of online food delivering service users from Chandigarh and Bhubaneswar.

* $p < 0.025$ for levene's test

** $p < 0.025$ for two sample z test

Source: Two sample z test output from SPSS

5. DISCUSSION

As per path analysis, four out of five variables are significant determinants of customer satisfaction towards food delivery apps. Financial and health safety comes out to be the most influencing factor among users with β value of 0.75. This result supports previous studies (Mehroliya et al., 2021) which revealed that customers with less perceived threats prefer to use a food ordering service. Another study (Hong et al., 2016) found that negative reviews of customers on food quality raise the concern among users of digital food ordering services. In addition, Food Safety and Standards Authority of India (FSSAI), an Indian food quality controlling authority, recently announced new policies where it has been made mandatory for food delivery apps to provide nutritional values of food items along with allergic information on their portals so that users can take decision on ordering food according to their calorie intake requirements (Sharma, 2022). Along with health security, there is still a fear in the mind of customers on sharing their financial information on online platform which causes many to avoid online payments and opting for cash on delivery (Vinaik et al., 2019). Another study found that hygiene maintained while delivering food and customer's safe food perception are directly correlated with users' intention to use and continue using food delivery apps (Tran, 2021).

However, these findings are not consistent with results of a study (Eu & Sameeha, 2021) which revealed health, and information on nutritional value of food items, are the least influencing factor for making food choice on online ordering services although the result over convenience being considered as most important factor is supported with this study. Also, an article in Insider, a top american news agency, revealed that the top digital food ordering services disappointed the author on finding healthy food options and the one found after scrolling through options were quite above the budget (Hosie & Shardlow, 2021). It shows that ordering unhealthy food is more in prevalence on food delivery apps although the preferences are changing among customers.

The other significant factors for food delivery services come out to be vast options ($\beta = 0.50$). This result supports previous studies, where one of the main challenges faced by users in using food ordering apps is unavailability of various food items which are mentioned on app or not mentioned (Borgohain*, 2019). A report by Mckinsey explained the squeezed profit margin of food delivery players due to increasing competition and unsustainable business model and as part of suggestion it was concluded that to widen margin these organizations need to expand the breadth of offerings (Ahuja et al., 2021).

Apart from the above two factors, flexible and speedy delivery ($\beta = 0.22$) and convenience ($\beta = 0.18$) were found to be other influencing factors in satisfaction to digital ordering app users. This result is consistent with Jacob et al which stated that convenience of food delivery apps in terms of easy ordering and tracking of order along with less human interaction is main influencing factor followed by fast delivery and more options available of restaurants to use this service (Jacob et al., 2019). Another study by Panse et al revealed that food ordering from phones will be more in demand in the future due to the convenience it offers and control over decisions this technology provides (Panse et al., 2019). Moreover, this finding is validated by various previous researchers (Borgohain*, 2019; Dang et al., 2018; Zhao & Bacao, 2020). Those findings indicated technology performance in terms of delivering fast, creating ease, and ensuring safety while serving the customer during tough times like Covid, which affected the customer intention to use this service. One more study found convenience along with payment safety were to be imperative factors towards user's satisfaction and their digital ordering apps using intention among other factors (Jeon et al., 2017).

The factor considered least important among food delivery app users towards their satisfaction is discount offers ($\beta = 0.02$). This result is not supporting various previous studies where one stated this factor to be significant among digital food service users (Dang et al., 2018; Jacob et al., 2019) and other found that food delivery service is mostly used by youngsters who are aware about differential pricing of service providers and they make purchases on apps where they get good coupons and offers (Mallieswari et al., 2019).

In addition to finding the determining factor of customer satisfaction towards food aggregators, the comparison in behavior of customers from two cities Chandigarh and Bhubaneswar make this study different from existing ones where the emphasis has been laid on finding important influencing factors among food app users mostly from south part of the country. In this study, food ordering service users from two different regions and tiers are compared and it is relatively in steady with a study by Rathi et al which compared online shopping behavior from Bilaspur and Raipur, two cities of one Indian state, after approaching 375 respondents and found their behavior to be same (Rathi et al., 2021).

The study provides a basis for different food-tech stakeholders to make appropriate decisions on offering valuable services to the customers, but the results need further validation through large sample and adding more cities to the two clusters of tier I and tier II. Since the service is growing faster in tier II cities and customers are becoming concerned for healthy food, it needs a stronger basis to make changes in the strategies of food aggregators. Thus, future researchers are suggested to take this limitation in consideration and validate these results further.

6. PRACTICAL IMPLICATIONS AND STRATEGIC RECOMMENDATIONS FOR SERVICE PROVIDERS

The study has various practical implications. First, finding the important motivating factors for using food delivery apps is very significant as this sector is in the growth stage in India and the competition is continuously rising. Acquiring and retaining the customers in every sector requires updated knowledge about customer preferences. This study found that financial and health safety is the most important factor these days for customers to select an app delivering food. So, food-tech startups need to use advanced and secure payment portals and follow RBI guidelines to maintain users' financial security. Also, adding healthy food options on their menus can fulfill healthy needs and even target fitness conscious people by offering protein rich food items. Adding onsite videos about hygienic cooking environments can build trust in customer's mind that service providers and restaurants are using safe and hygiene process to prepare food so they can order more frequently without any hesitation or fear of causing infections.

Apart from health safety, Convenience and Flexible and speedy delivery, are other significant determinants of this service. Where developed brands of the sector are topping the graph of market share by offering huge discounts, small startups can keep themselves at par by practicing fast delivery in limited market. The option of making flexible order by adding items from different restaurants in one order can be practiced to serve customers in competitive way. Since tier I and tier II cities are growing economically and hosting millions of immigrants every year, providing additional information such as best dine in places in the city, places to visit, or where to spend playful weekends in the city, along with option of on app booking can provide additional convenience to attract this segment.

Further, the comparison in the behavior of customers from two cities of tier-I and tier-II found that the customer behavior is not same on the variety provided, discount offers, and flexible delivery, opening an opportunity for service providers, especially startups in the field to create a niche by fulfilling the demand of target audience strategically as per their demands and be competitive in that area. In this regard, it is suggested that small service providers focus on food quality and fast delivery in tier I and discount offers and flexible delivery in tier II to satisfy customers.

7. LIMITATIONS AND FUTURE SCOPE

This section comprises two main limitations of the study. First, behavior comparison analysis is given after taking a single city each from tier-I and tier-II. In order to generalize the results, more cities from two tiers can be taken and compared. Future research can be taken after considering this limitation. Second, the overall sample size is small to make results for all food delivery app users or represent two cities. Consequently, research with cross sectional models and large samples can be carried forward to generalize results which would be more meaningful for this sector to implement.

8. CONCLUSION

The study analyzed two questions related to food aggregators; one on what derives satisfactions for food ordering app users, and a second on whether these deriving factors vary between tier I and tier II consumers. The results revealed that financial and health safety is the most important factor in deriving satisfaction along with the convenience customers receive from getting their food at home without waiting in long queues, as well as flexible delivery and vast options on restaurants and meals. The other findings showed that food app users in two tiers have only significant difference in behavior for variety available and discount offers but for remaining variables there is no significant difference. The study confirmed results of existing studies on influencing factors and came in support of some findings (Hong et al., 2016; Jacob et al., 2019; Mehroliya et al., 2021; Tran, 2021) and against others (Dang et al., 2018; Eu & Sameeha, 2021; Jacob et al., 2019), and, it covered the gap of identifying differences in influencing factors between tier I and tier II app users.

These findings are considerable for food tech stakeholders including food app startups who are suggested to create a niche in important influencing factors of this service. Adding healthy meal, a secured payment portal, and flexible delivery, along with variably targeting users in small cities could be few betting strategies for service providers to create niches. Also, it is advised to deliver food of flexible amounts and at odd hours and differentiating value offering as per the regions being served.

Looking at the limitations of the study, an overall small sample and one city per tier limit the results to be considered universal. It is recommended that future researchers can take a wider cluster of small and metro cities to compare the behavior of users on food app usage.

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