“Antecedents of behavioral intention to use online food delivery services: An empirical investigation”

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ANTECEDENTS OF BEHAVIORAL INTENTION TO USE ONLINE FOOD DELIVERY SERVICES: AN EMPIRICAL INVESTIGATION

Abstract

The online food delivery market in India perseveres to grow at a sustained pace. The business has unique dynamics and challenges with the spike in orders during weekends, meeting delivery schedules during peak demand, offering deep discounts to address wavering customer loyalty, reducing cash burns, and managing food quality inconsistency. In contrast, the fast-paced life and the rise of millennials in the workforce is likely to assure a promising future for the food aggregators. The above backdrop has led the researchers to pursue this study. An empirical study was carried out to explore the consumption occasion and the antecedents of online food ordering in the select cities in Karnataka, India. The data was collected from 385 respondents through telephonic and mail survey using a structured questionnaire. The responses were analyzed using exploratory factor analysis and multiple regression. The result of the study indicated a positive association between the constructs 'buying motives', 'aggregator attractiveness', and customer satisfaction. The variation in customers` satisfaction is largely attributable to the convenience of order placing, food quality, availability of food and restaurant reviews, offers and discounts, faster home delivery, and the wide choice of restaurants listed on the aggregator's website. Additionally, the aggregator attractiveness showed a higher impact on customer satisfaction as compared to buying motives.

Keywords online food ordering, customer satisfaction, buying motives, aggregator attractiveness, food aggregator, India

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INTRODUCTION

Online food ordering and discovery platforms have transformed the way Indian customers eat. Outsourcing in the food and restaurant business gained wide acceptance among business owners primarily due to prospects of earning additional revenue, broader customer reach, and growing the customer base. In contrast, the convenience of shopping became the primary motive for customer's inclination towards online purchases. Customers could save more time by purchasing online and divert the available time to other endeavors.

As reported by IMARC (2019), the online food delivery market touched USD 2.9 billion in 2019 and cited factors such as the rapid internet penetration, growth of smartphones, rise in disposable income, speedy process of urbanization, rise in disposable income, and increase in the number of working women responsible for the growth. The industry is expected to reach USD 8 billion by 2022, growing at a compound annual growth rate of 25-30%, dominated by Zomato and Swiggy (IANS, 2020). Variety in foods, peer advocacy, and advertisements drive steady growth in online food delivery. The report further stated that the ordering frequency is projected to grow by 18-20%, al-

though the average order values could go down by 5-10%. The food industry is already saturated, and retailers offer product customization, real-time customer support, and speedy delivery to outshine the competitors.

Presently the food delivery business in India is witnessing a great deal of innovation in catering to customer comfort, satisfaction, and retention in the long run. This, in turn, occasioned high competition within the industry. Youngsters are the primary consumers of online marketing (Ullal et al., 2020) and online food delivery in India. The average number of food orders per day of Zomato stood at 1.25 million, while Swiggy between 1.4 and 1.6 million and UberEats between 0.4 and 0.6 million per day in India in November 2019, which during peak season touches 1.82 million orders per day for the tops three players (Shrivastava & Pahwa, 2019).

However, the online food aggregators face variations in orders due to discounts (Hawaldar et al., 2019), increased weekend orders, exclusive tie-ups, and experience seasonal variations in food ordering resulting in losses through aggressive spending. Additionally, the National Restaurant Association of India (NRAI) run a 'Logout campaign' in India in August 2019 to unlist the leading Indian restaurant aggregators for deep discounting and predatory pricing (Shekar, 2019). The perception of convenience among the customers besides differs based on the context.

1. LITERATURE REVIEW

Preceding research has predominantly studied consumer attitudes toward online services in general and limited researchers have focused on consumer experiences with online food delivery services (Yeo, Goh, & Rezaei, 2017). Also, studies by Yeo et al. (2017), Chai and Yat (2019), Prabowo and Nugroho (2019) were confined to a specific age group of smaller sample size. Prabowo and Nugroho (2019) suggested further investigation of online food delivery services by involving aggregators from a different region.

The rapid growth of the internet had favored e-commerce activities at large (Kauffman & Walden, 2001; Burt & Sparks, 2003; Bressolles et al., 2014; Nilashi et al., 2015; Rezaei et al., 2016; Ullal et al., 2020). As of January 2020, India has 688 million active internet users, with 70% being men and 30% women (Sanika Diwanji, 2020). More than 75% of internet users in India are daily users (Mandavia, 2019).

Food is usually considered 'culture-bound' and therefore conveys specific meanings and values (Hansen, 2008). Food is often considered a low-involvement product, and hence customers fail to recall the price and make appropriate choices without contemplating the previous purchases (Yeo et al., 2017). Monroe and Lee (1999) relate this to perceptual fluency. Jacoby and Dallas (1981) explained perceptual fluency as ease of identifying the stimulus based on prior exposure frequency. Shopping online is generally different from a traditional retail setting (Degeratu et al., 2000; Shankar et al., 2003; Evanschitzky et al., 2004). The underlying factors of customer satisfaction are expected to be different from an online environment to offline (Liu et al., 2008; Ullal & Hawaldar, 2018). Kedah et al. (2015) deliberated on determinants of food order services such as website design, quality, security, information quality, payment system, food and service quality, delivery, and customer service.

Online food ordering can offer assured benefits to customers such as ease and convenience of shopping, swift and comprehensive product searchability, price comparison, real-time monitoring, payment flexibility, loyalty benefits, instant delivery, and active customer support (Hansen, 2008; Gupta, 2019).

Moreover, the determinants of buying food products online are highly significant to retailers (Yeo et al., 2017). Alagoz and Hekimoglu (2012) studied the determinants of online food ordering in Turkey and found perceived usefulness, ease of use, attitude towards online food ordering, innovativeness in IT, trust in e-retailers, and external factors as the major determining aspects.

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Kedah et al. (2015) reflected on website design, which encompasses emotional appeal, aesthetics, and consistency and confirmed a positive association among website quality and trust, and between service quality and gratification. Wang and Emurian (2005) found a positive association between content design and reputation of retailer, website trust. Tarasewich (2003) opines that the relevance of design characteristics will promote increased usability. In contrast, the web attributes like novelty, interactivity, and competitive advantage boost customer satisfaction (Huang, 2003). Liao et al. (2006) indicated a positive impact of website aesthetics, perceived usefulness, content quality, adequate technology adoption on user trust and satisfaction. Jin and Park (2006) opined that merchandising, security, privacy, and order fulfillment reinforce customer trust and satisfaction. Flavian et al. (2006) observed that website loyalty increased with trust.

Information while order processing is an important antecedent of online trust (Yoon, 2002, p. 50). The product information was a dominant factor in deciding to purchase at the store, website loyalty, and actual purchasing behavior (Park & Kim, 2003). The amount of information on the website considerably impacts customer satisfaction (Ballantine, 2005). Lynch and Ariely (2000) examined the influence of search costs on customer satisfaction and retention and concluded that lowering the search cost of quality and price did not increase price sensitivity and thus generated benefits for the customers. Lee and Lin (2005) suggested that facilitating up to date and the right information is the key to promote customer satisfaction and buying intention.

Hoffman et al. (1999) have extensively mulled over trust as a key element in developing profitable customer relationships. Website trust also impacted the buying intention of customers (Kedah et al., 2015). Mukherjee and Nath (2007) asserted that website security and privacy aspects are important elements of trust, which in turn have a bearing on customer store relationships.

Jones and Vijayasarathy (1998) noted customer's apprehension about online payment channels' security and possible hacking of payment gateway. Swaminathan et al. (1999) demonstrated that electronic payments' advancements had lessened the customer's concerns of online transactions and privacy issues. However, Prabhash (2020) mentioned customers' concerns from Kerala (a southern state in India) about paying online for food delivery. Mukherjee and Nath (2007) maintained that payment security mechanism, credit card data breach, and website hacking attempts in the past cause worries for the customers shopping online.

Food quality impacts the buyer's perceived value and satisfaction, which in turn influence loyalty in the online food delivery environment (Chang et al., 2014; Suhartanto et al., 2018a; Suhartanto et al., 2018b). Service quality and delivery speed were also deemed important precursors of online food ordering (Krishna Kumari, 2019). Sjahroeddin (2018) concluded that customers while ordering food online preferred food quality over service quality as the primary factor. Recent studies by Yusra and Agus (2020) and Vinish et al. (2020) revealed a positive association between service quality, responsiveness during service failure, and customer loyalty.

According to Roy Dholakia and Zhao (2010), order fulfillment variables, particularly on-time delivery, dominate the effects on overall customer evaluations and satisfaction. Delayed delivery potentially negatively affects customer satisfaction irrespective of the poor weather and driving conditions (Kedah et al., 2015). K. Kim and K. B. Kim (2006) observed secure online transactions and delivery information as salient features that underlie the three dimensions of online retailing: secure purchasing, convenience, and trustable vendor.

Prior investigations have deliberated on an array of factors persuading online food ordering, namely, convenience (Ahmad, 2002; Jayawardhena et al., 2007; Colwell et al., 2008; Kimes, 2011; Saarijarvi et al., 2014), prior online shopping experience (Jarvelainen, 2003), responsiveness (Hu et al., 2009), customer service (Prasad & Aryasri, 2009; Udo et al., 2010), time-saving (Jeng, 2016), value and pleasure (Alavi et al., 2015), hedonic outlook (Babin et al., 1994; Tsang & Tse, 2005), website trust (Kedah et al., 2015), efficient and secure payment gateway (Liu et al., 2008) and food quality (Qin et al., 2010). Further, the customer's attitude and behavioral intention exhibited a positive as-

sociation concerning technology adoption (Chang et al., 2012; Ingham et al., 2015). Further, culture (Matsumoto, 2007) and credit decisions (Gentry, 1982) influence buyer behavior and satisfaction. Suhartanto et al. (2018) stressed limited literature on factors encouraging repeated purchases in online food delivery services. Kapoor (2014) argued that research on factors persuading online food delivery and customer loyalty in India is limited.

Researchers additionally reported conflicting findings concerning the effect of web appearance, design, and information quality on online shopping and satisfaction (Liu et al., 2008, p. 920). A review of the above literature implies that research on precursors of online food delivery is still evolving, explicitly in the Indian market. The literature is also inadequate on consumption occasions in electronic food ordering. Thus, this study aims to analyze the significance of antecedents in motivating the residents of diverse age groups representing a larger population to repeat purchases and examine recurring consumption occasions.

2. RESEARCH METHODOLOGY

Karnataka is the 'bright spot' in progressive India, with 67% of its population in the age group of 15 to 59 years (working age) and a GDP growth rate of 9.6% (Karnataka Udyog Mitra, 2020). The state is prominently acclaimed as 'Silicon Valley of India' with the fourth-highest FDI in the country (KPMG, 2018). The state recorded IT exports worth USD 77.80 billion in 2018–2019 (IBEF, 2020) and is designated as the 'Knowledge Capital of India' (IBEF, 2018). The NASSCOM-AT Kearney Report (2017) has recognized four major cities in Karnataka viz. Bengaluru (leader location), Mangaluru (challenger location), Hubballi-Dharwad and Mysuru (aspirant location) for their economic capabilities. A sample size of 385 customers through the convenience sampling method was considered for the research. The respondents were chosen based on their recent experience of availing the online food delivery services in the abovementioned cities.

The survey responses were obtained through telephonic and mail survey after taking the respondent's consent to share their experience. For the study, one has considered leading food aggregators in Karnataka such as Zomato, Swiggy, and Foodpanda. The stores selected for the study have a presence across the country and create value for everyone in the ecosystem. The service providers are engaged in intense competition to earn the additional market share and retain the dominance in the fast-growing food delivery market in India. Both these players possess extensive market knowledge and have well developed their relationships with local restaurants, benefiting them to offer substantial product benefits.

The scale items used in this study are borrowed from the literature review and adapted to suit the current study. The questionnaire has sub-sections viz. demographic profile, consumption and spending pattern, factors impacting online food ordering, and overall satisfaction.

3. AIMS

The study aims to:

1) examine the antecedents of online food delivery leading to customer satisfaction and revisit intentions;

2) explore the recurring consumption occasions for ordering food online.

4. RESULTS AND DISCUSSION

4.1. Construct validity

Construct validity is achieved by determining the two key elements, i.e., convergent and discriminant validity (Hoffman, 2016). Convergent validity relates to the "degree to which multiple methods of measuring a variable provide the same results," and discriminant validity is the "degree to which measures of different latent variables are unique" (O'Leary-Kelly & Vokurka, 1998). The current study analyses the construct validity of the respondents' influence on online food ordering factors such as aggregator attractiveness (construct 1) and buying motives (construct 2).

Table 1 presents the convergent validity of the aggregator attractiveness comprising of nine items.

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Table 1. Correlation of variables under aggregator attractiveness

Variables under aggregator attractiveness	Statistical measure	Visually appealing and stimulating food images on the app platform	Availability of food customization	Convenience of order placing	Offers and discounts	Availability of food and restaurant reviews	Food quality	Delivery tracking	Multiple payment options	Payment security and privacy
Visually appealing and stimulating food images on the app platform	Pearson correlation	1	0.659**	0.542**	0.505**	0.455**	0.444**	0.414**	0.363**	0.498**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	385	385	385	385	385	385	385	385	385
Availability of food customization	Pearson correlation	0.659**	1	0.479**	0.446**	0.427**	0.390**	0.410**	0.358**	0.413**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	385	385	385	385	385	385	385	385	385
Convenience of order placing	Pearson correlation	0.542**	0.479**	1	0.539**	0.492**	0.407**	0.577**	0.423**	0.553**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
	N	385	385	385	385	385	385	385	385	385
Offers and discounts	Pearson correlation	0.505**	0.446**	0.539**	1	0.476**	0.475**	0.547**	0.478**	0.508**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	.000	0.000	00.000	0.000
	N	385	385	385	385	385	385	385	385	385
Availability of food and restaurant reviews	Pearson correlation	0.455**	0.427**	0.492**	0.476**	1	0.496**	0.494**	0.447**	00.445**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
	N	385	385	385	385	385	385	385	385	385
Food quality	Pearson correlation	0.444**	0.390**	0.407**	0.475**	0.496**	1	0.417**	0.453**	0.498**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
	N	385	385	385	385	385	385	385	385	385
Delivery tracking	Pearson correlation	0.414**	0.410**	0.577**	0.547**	0.494**	0.417**	1	0.378**	0.399**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
	N	385	385	385	385	385	385	385	385	385
Multiple payment options	Pearson correlation	0.363**	0.358**	0.423**	0.478**	0.447**	0.453**	0.378**	1	0.583**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
	N	385	385	385	385	385	385	385	385	385
Payment security and privacy	Pearson correlation	0.498**	0.413**	0.553**	0.508**	0.445**	0.498**	0.399**	0.583**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	385	385	385	385	385	385	385	385	385

Note: **. Correlation is significant at the 0.01 level (2-tailed).

Table 2. Discriminant analysis of aggregator attractiveness

Variables under aggregator attractiveness	Wilks' lambda	F	df1	df2	Sig.
Payment security and privacy	0.983	6.640	1	383	0.010
Visually appealing and stimulating food images on the app platform	0.963	14.559	1	383	0.000
Food quality	0.980	7.741	1	383	0.006
Convenience of order placing	0.969	12.353	1	383	0.000
Delivery tracking	0.990	3.936	1	383	0.048
Offers and discounts	0.960	16.040	1	383	0.000
Availability of food and restaurant reviews	0.969	12.346	1	383	0.000
Availability of food customization	0.966	13.304	1	383	0.000
Multiple payment options	0.983	6.526	1	383	0.011

From Table 1, a strong correlation is noticed between the variables of aggregator attractiveness, with p-value 0.000 < 0.005 at 1% significance level.

Table 2 shows that the independent variables of aggregator attractiveness are significant at 0.000 < 0.005. Therefore, the discriminant dimensions are highly significant and indicate a strong relationship.

Table 3 shows a strong correlation between buying motives variables, with p-value 0.000 < 0.005 at 1% significance level.

Table 4 shows that the independent variables under buying motives are significant at 0.000 < 0.005. Thus, the discriminant dimensions are highly significant and indicate a strong relationship.

Table 5 presents the demographic summary of the respondents surveyed.

The sample consists of 385 respondents. The majority of respondents (35.6%) are of the age group 25-35 years, 29.1% are of the age group 35-40 years, 21.8% are above 45 years, and 13.5% below 25 years. 37.4% of the respondents have a family in-

Table 3. Correlation of variables under buying motives

Variables under buying motives	Statistical measure	Helps to focus on other work	Faster home delivery	Wide choice of restaurants	Wide choice of food	Freedom from cooking	Food boredom (routine food)
Helps to focus on other work	Pearson correlation	1	0.409**	0.497**	0.481**	0.340**	0.480**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000
	N	385	385	385	385	385	385
Faster home delivery	Pearson correlation	0.409**	1	0.278**	0.306**	0.324**	0.339**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000
	N	385	385	385	385	385	385
Wide choice of restaurants	Pearson correlation	0.497**	0.278**	1	0.498**	0.485**	0.386**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000
	N	385	385	385	385	385	385
Wide choice of food	Pearson correlation	0.481**	0.306**	0.498**	1	0.400**	0.424**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000
	N	385	385	385	385	385	385
Freedom from cooking	Pearson correlation	0.340**	0.324**	0.485**	0.400**	1	0.480**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000
	N	385	385	385	385	385	385
Food boredom (routine food)	Pearson correlation	0.480**	0.339**	0.386**	0.424**	0.480**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	
	N	385	385	385	385	385	385

Note: **. Correlation is significant at the 0.01 level (2-tailed).

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Table 4. Discriminant analysis of variables under buying motives

Variables under buying motives	Wilks' lambda	F	df1	df2	Sig.
Helps to focus on other work	0.982	6.840	1	383	0.009
Faster home delivery	0.997	1.301	1	383	0.025
Freedom from cooking	0.983	6.640	1	383	0.010
Food boredom (routine food)	1.000	0.020	1	383	0.008
Wide choice of restaurants	0.983	6.483	1	383	0.011
Wide choice of food	0.985	5.993	1	383	0.015

Table 5. Demographic profile

Demographics	Classification	Count	Percentage
Age (years)	Less than 25	52	13.5%
	25-35	137	35.6%
	35-40	112	29.1%
	45 and above	84	21.8%
	Total	385	100.0%
Family income	Less than 2 lakhs	92	23.9%
	2-5 lakhs	97	25.2%
	5-8 lakhs	144	37.4%
	8 lakhs and above	52	13.5%
	Total	385	100.0%
Occupation	Working couple	127	33.0%
	Unmarried working men/women	150	39.0%
	Student	108	28.1%
	Total	385	100.0%
Order occasion	Everyday	19	4.9%
	Once a week	116	30.1%
	Once a month	127	33.0%
	Occasionally	123	31.9%
	Total	385	100.0%
Consumption (online food ordering) occasion	Breakfast	18	4.7%
	Lunch	107	27.8%
	Dinner	218	56.6%
	Snacks	42	10.9%
	Total	385	100.0%
App preference	Foodpanda	12	3.1%
	Zomato	216	56.1%
	Swiggy	157	40.8%
	Total	385	100.0%
Order value	Less than 200	49	12.7%
	200-500	156	40.5%
	500-1,000	116	30.1%
	1,000 and above	64	16.6%
	Total	385	100.0%
Repurchase from the same restaurant listed in the app platform	Yes	200	51.9%
	No	185	48.1%
	Total	385	100.0%

come of 5-8 lakhs, 25.2% of the respondents have 2-5 lakhs of family income, 23.9% have a family income less than 2 lakhs, and 13.5% above 8 lakhs. The majority of the respondents (39%) are unmarried working men/women, 33% are working couples, and 28.1% are students. The majority of the respondents (33%) order food online once a month, 31.9% order food online occasionally, 30.1% order food online once a week, and very few (4.9%) order food online. Most of the respondents (56.6%) order food online for dinner, 27.8% order for lunch, 10.9% order for snacks, and only 4.7% order for breakfast. 56.1% of the respondents prefer Zomato for ordering food online, 40.8% pre-

fer Swiggy, only 3.1% prefer Foodpanda to order food online. Most of the respondents (40.5%) order food online for 200-500 rupees, 30.1% for 500-1,000 rupees, 16.6% for above 1,000 rupees, and 12.7% for less than 200 rupees. 51.9% of the respondents repurchase from the same restaurant listed in the app platform, and 48.1% of the respondents do not purchase from the same restaurant listed in the app platform.

4.2. Impact of various factors on ordering food online

The impact of various elements on ordering food online among the surveyees is analyzed through 15 variables using a five-point response scale.

Table 6. Reliability indicators

Cronbach's Alpha	Cronbach's Alpha based on standardized items	No. of items
0.913	0.914	15

The computed Cronbach's Alpha of 0.914 suggests a high internal consistency level for 15 items described and hence deemed as highly reliable.

4.3. Factor analysis of ordering food online

Table 7. KMO and Bartlett's test

Kaiser-Meyer-Olkin measure of sampling adequacy		0.924
Bartlett's test of sphericity	Approx. Chi-squared	2575.609
	Df	105
	Sig.	0.000

Kaiser-Meyer-Olkin (KMO) = 0.924 > 0.50 indicates that the sample size is sufficient to perform factor analysis.

The Bartlett's test p-value is 0.000 < 0.05, there is a correlation between variables, and factor analysis can be carried out.

From Table 8, construct 1 accounts for 45.56% of the variance, while construct 2 accounts for 8.11% of the variance.

Based on the factor loading, the variables are classified into two groups (constructs). Table 10 presents the same.

Table 8. Summary of total variance

Construct	Eigenvalues			Extraction sums			Rotation sums		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	6.835	45.566	45.566	6.835	45.566	45.566	4.317	28.778	28.778
2	1.217	8.115	53.680	1.217	8.115	53.680	3.735	24.903	53.680
Extraction method: principal component analysis									

Table 9. Rotated component matrix

Variables	Construct	
	1	2
Visually appealing and stimulating food images on the app platform	0.841	.080
Availability of food customization	0.788	0.084
Offers and discounts	0.686	0.313
Convenience of order placing	0.679	0.358
Payment security and privacy	0.641	0.357
Availability of food and restaurant reviews	0.547	0.476
Delivery tracking	0.535	0.454
Food quality	0.506	0.493
Multiple payment options	0.474	0.467
Food boredom (routine food)	0.129	0.750
Freedom from cooking	0.209	0.688
Helps to focus on other work	0.294	0.664
Faster home delivery	0.107	0.633
Wide choice of restaurants	0.406	0.568
Wide choice of food	0.508	0.523
Extraction method: principal component analysis Rotation method: varimax with Kaiser normalization		
a. Rotation converged in 3 iterations		

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Table 10. Construct wise factor loadings

Factor	Items included	Name of the factor	Percentage contribution
Factor 1	Visually appealing and stimulating food images on the app platform	Aggregator attractiveness	35.35%
	Availability of food customization		
	Offers and discounts		
	Convenience of order placing		
	Payment security and privacy		
	Availability of food and restaurant reviews		
	Delivery tracking		
	Food quality		
	Multiple payment options		
Factor 2	Food boredom (routine food)	Buying motives	10.62%
	Freedom from cooking		
	Helps to focus on other work		
	Faster home delivery		
	Wide choice of restaurants		
	Wide choice of food		

4.4. Impact of aggregator attractiveness on the satisfaction level of the respondents buying food online

Table 11 presents the results of multiple regression analysis of nine factors concerning service quality factors as independent variables and satisfaction level of the respondents buying food online as the dependent variable.

H1: Aggregator attractiveness contributes positively to the respondent's satisfaction level while buying food online.

Table 11 provides the standardized beta coefficients and p-value for the factors causing customer satisfaction. Among the nine factors, three factors were statistically significant, with a p-value less than 0.05. They are (1) "Food quality" ($\beta = 0.123$, $p = 0.039$), (2) "Convenience of order placing" ($\beta = 0.297$, $p = 0.000$), (3) "Availability of food and restaurant reviews" ($\beta = 2.241$, $p = 0.026$), and (4) "Offers and discounts" ($\beta = 2.087$, $p = 0.038$). Other factors have a minimal influence on customer satisfaction and are statistically not significant.

Table 12 gives the adjusted R-squared value for the satisfaction level of respondents. The overall impact of these factors on the level of impulse buying was 18.5%. Therefore, hypothesis *H1* is accepted.

Table 11. Regression analysis of hypothesis *H1*

No.	Independent variables	Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2.687	0.185		14.492	0.000
1	Delivery tracking	0.046	0.037	0.076	1.229	0.220
2	Multiple payment options	0.055	0.040	0.083	1.372	0.171
3	Food quality	0.089	0.043	0.123	2.071	0.039*
4	Convenience of order placing	0.211	0.047	0.297	4.463	0.000**
5	Availability of food customization	–0.010	0.045	–0.014	–0.222	0.824
6	Visually appealing and stimulating food images on the app platform	–0.016	0.046	–0.024	–0.356	0.722
7	Availability of food and restaurant reviews	0.091	0.041	0.136	2.241	0.026*
8	Offers and discounts	0.088	0.042	0.133	2.087	0.038*
9	Payment security and privacy	–0.009	0.047	–0.013	–.0191	0.849
a. Dependent variable: How satisfied are you with ordering food online						

Note: Significant at * 0.05, ** 0.01 levels.

Table 12. Model summary

R	R-squared	Adjusted R-squared	p-value
0.451	0.204	0.185	0.000**

4.5. Impact of buying motives on the satisfaction level of the respondents buying food online

Table 13 presents the summary of multiple regression analyses of six factors concerning buying motives as independent variables and the satisfaction level of the respondents buying online food as the dependent variable.

H2: Buying motives positively lead to the satisfaction level of the respondents buying food online.

Table 14. Summary of the regression model

R	R-squared	Adjusted R-squared	p-value
0.410	0.168	0.155	0.000

Table 13 provides the standardized beta coefficients and p-value for the factors producing the level of satisfaction. Among the six factors, two factors were statistically significant, with a p-value less than 0.05. They are (1) "Faster home delivery" (β = 0.157, p = 0.003) and (2) "Wide choice of restaurants" (β = 0.153, p = 0.012). Other factors have a marginal influence on the respondents' satisfaction level and are statistically not significant.

Table 14 gives the adjusted R-squared value for the satisfaction level of respondents. The overall impact of these factors on the level of impulse buying was 15.5%. Therefore, hypothesis *H2* is accepted.

4.6. Chi-squared test to assess the association among age and online food ordering occasion

The two variables, age and online food consumption occasion, are analyzed further, and the following hypothesis is tested.

Table 13. Regression analysis of hypothesis *H2*

No.	Independent variables	Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2.683	0.180		14.938	0.000
1	Helps to focus on other work	0.035	0.039	0.055	0.898	0.370
2	Faster home delivery	0.103	0.035	0.157	2.969	0.003*
3	Freedom from cooking	0.046	0.039	0.068	1.167	0.244
4	Food boredom (routine food)	0.059	0.037	0.095	1.614	0.107
5	Wide choice of restaurants	0.099	0.039	0.153	2.521	0.012*
6	Wide choice of food	0.031	0.039	0.046	0.786	0.432

a. Dependent variable: How satisfied are you with ordering food online

Note: Significant at *0.05, ** 0.01 levels.

Table 15. Cross-tabulation among age and online food ordering occasion

Variable			Online food ordering occasion				Total
			Breakfast	Lunch	Dinner	Snacks	
Age (years)	Less than 25	Count	2	43	73	19	137
		% column	11.1%	40.2%	33.5%	45.2%	35.6%
	25-35	Count	3	15	26	8	52
		% column	16.7%	14.0%	11.9%	19.0%	13.5%
	35-45	Count	8	30	66	8	112
		% column	44.4%	28.0%	30.3%	19.0%	29.1%
	Above 45	Count	5	19	53	7	84
		% column	27.8%	17.8%	24.3%	16.7%	21.8%
Total % column		Count	18	107	218	42	385
		100.0%	100.0%	100.0%	100.0%	100.0%	

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H3: Online food ordering occasion is dependent on the respondents' age.

Table 15 shows respondents under the age group as the major consumers of online food delivery services for lunch (40.2%), dinner (33.5%), and snacks (45.2%) occasions. While the respondents in the age group of 35-45 are the major consumers (44.4%) for the breakfast occasion. The findings by Parashar and Ghadiyali (2017) and Patil and Martin (2017) indicate people in the age group of 18-40 as the major consumers of online food services, which is consistent with the results.

Table 16. Chi-squared tests

Particulars	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-squared	11.843a	9	0.222
No. of valid cases	385		
a. 2 cells (12.5%) have an expected count of less than 5. The minimum expected count is 2.43.			

From Table 16, it is observed that Chi-squared test value is 11.843, the p-value is 0.222 > 0.005. Consequently, hypothesis *H3* does not hold good, i.e., age is independent of online food ordering occasions.

4.7. Managerial implications

The study offers some important contributions to the impact of buying motives and aggregator attractiveness on customer satisfaction in online food delivery services in India. The findings of this study are consistent with the previous researches (Dang et al., 2018; Yusra & Agus, 2020) on online food delivery services.

With the rise of the internet and mobile technologies, customers can gain ubiquitous access to a wealth of information at their fingertips and enjoy a broader range of restaurant, food choices at highly affordable prices. In India, food aggregators have been offering lucrative offers, deep discounts to drive more traffic to their websites despite incurring high cash burns, and reasonable profit margins. They also need to sustain demand fluctuations and maintain regulatory compliance.

As food aggregators consistently try every trick in the book to boost the order frequency and average order value, our study highlights key customer satisfaction drivers while ordering food online. The fifteen factors obtained from the literature review were reduced to two dimensions, namely buying motives and aggregator attractiveness. Among the nine variables under the construct 'aggregator attractiveness', the convenience of order placing, food quality, food availability, restaurant reviews, offers, and discounts emerged to be leading factors influencing customer satisfaction. While out of the six variables under the construct 'buying motives', two variables viz. faster home delivery and the wide choice of restaurants stood out as the foremost factors influencing customer satisfaction. While our results indicate that both constructs positively influence customer satisfaction, the aggregator attractiveness of the food aggregator has a higher bearing on customer satisfaction than buying motives. Therefore, the food aggregators have to focus more on the quality of information shared on their websites, such as product and restaurant reviews, tieing up with leading restaurants to ensure quality food, and most importantly, continue to offer order convenience and competitive price. Additionally, it is equally essential for the food aggregators to consistently provide faster home delivery and add more restaurants to their web platform to achieve loyalty.

With most of the order value ranging between Rs 200-500 and stiff competition in the market, food aggregators will have to make strenuous efforts to raise the average order value and profit margin by concentrating on the working class. An occasion-specific promotion is the need of the hour to target the different customer segments to drive more sales effectively.

CONCLUSION

In addition to the practical implications of online food delivery services in India, the current study also contributes to the existing literature. This study suggests that aggregator attractiveness is a crucial element in the online food delivery service and can significantly influence revisit intentions of the buyer.

Consumers continue to prefer online food ordering due to the increased convenience offered by the app platforms.

Dinner and lunch were identified as the most recurring ordering occasions with youngsters below 25 years as the major customers followed by people in the age group of 25-35. However, the analysis revealed no association between age and online food ordering statistically.

Rising population in metros, the pain of commuting on congested roads, ease of ordering ready-to-eat food, order delivered at the doorstep are key influencers of online food ordering. Food aggregators should continue to create a positive food experience through constant innovations such as the cloud kitchen model, which is new to the Indian market. The business which offers a superior value proposition and brand engagements will take the lion's share of Indian online food delivery services.

On the other hand, food aggregators are encountering the revolt from the restaurant chains listed in the app platform for storing the customer data to develop own food products. Future research should explore the impact of such a strategy on traditional restaurants listed on the aggregator's website. Millennials are found to be the potential target group for food delivery services. Investigations centered on their buying motives and preferences could help the food aggregators to customize their app platforms and be future-ready.

AUTHOR CONTRIBUTIONS

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