Stochastic Modelling and Computational Sciences

AN INVESTIGATION TO IDENTIFY CONSUMER BUYING BEHAVIOUR IN CONTEXT OF ONLINE FOOD AGGREGATOR COMPANIES' FOOD PRODUCTS

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ABSTRACT
Post Covid 19 Pandemic, there is a rise in the online shopping behaviour of consumers in India. Due to more dependability on internet and smartphones, lockdown imposed by the Government authorities, work from home culture, severe illness due to covid virus which created demand for convenience in food consumptions accelerated the growth of online food delivery applications (Chowdhury, 2023). In metro cities especially, where the impact of covid 19 was at its peak, online food delivery aggregator companies exploited the opportunities of the situational factor really well. However, amid post-pandemic times, ordering food online now has entered into the lifestyle of individuals. The present study attempts to identify the factors affecting consumer behaviour for food aggregator companies and how it has changed the consumption patterns of individuals for food products. The study identifies that the ease of ordering, ease of payment and availability of food products and excessive promotion of food delivery applications have increased the expenditure and consumption of food items. This way, marketers are not only satisfying the needs of consumers, but they are also creating the needs and desire for fancy food that too at the comfort of staying at home.

Keywords: Online Applications, Consumer Behaviour, Covid-19, Consumption of Food, Online Food Delivery, Marketing Mix Strategies.

INTRODUCTION
Consumer buying behaviour begins when the consumer identifies the problem and can know his/her needs (Ali et al., 2010). Food purchase behaviour of consumers has been changing due to several factors like increased disposable incomes with people, changing family and work culture, change in gender role, change in the lifestyle (Kotteeswari M, 2021). More significantly, with the availability of cheaper smartphones and internet services, most individuals, mainly those living in urban settings have transitioned from the ways of shopping they used to do (Burlea-Schiopoiu et al., 2022). Need generation is one of the strategies of marketing by which they create new customers (Collison, 2020). Covid 19 has provided the fuel for changing the pattern of shopping and consumption by the consumers (Shetty, 2020). Numerous studies have identified that covid 19 has brought a new normal situation where buying habits of individuals have altogether changed (Sahoo et al., 2020).

Online food delivery aggregator companies have shown a sharp growth in the Indian Food products and delivery sector. Companies like Zomato, Swiggy, Uber Eats are quite common and used applications for food deliveries. Earlier people used to have more dine-outs as compared to getting food delivered to their homes. How people have started to order food online and eating at comfort of their homes is the core objective of this study. Various factors like marketing strategies- 4 P's I.e., Product, Price, Place and Promotion, situational factors- covid 19 pandemic, individual factors- demographic factors, higher incomes, more purchasing power, busy lifestyle, social factors like social pressure, small family structures are identified in this study find out which causes the individuals to order food online.

RESEARCH METHODOLOGY
The present study is exploratory in nature as it involves studying the factors which can impact online buying behaviour for food products during and after covid 19 pandemic. The structured questionnaire was prepared and pre-tested to gauge its feasibility and consistency. Online survey method was opted to get the responses from the

respondents. Convenience sampling technique was employed by the researcher. Continuous follow up was maintained by the researcher to reduce the chances of non-response error. In total 300 people were selected to fill out the questionnaire. 283 responses were received with complete results. The study was conducted in Delhi and its outskirt areas.

Smart PLS 3 version was used to check the model under study.

RESEARCH OBJECTIVES

1. To understand the consumer behaviour for online food delivery applications.

2. To find out the factors which play vital role in improving the business for online food delivery companies.

RESEARCH HYPOTHESES

H1: There is no significant impact of marketing strategies adopted by the online food delivery companies on the online buying behaviour of consumers for food items.

H2: There is no significant impact of Situational factors on the online buying behaviour of consumers for food items.

H3: There is no significant impact of Individual factors on the online buying behaviour of consumers for food items.

H4: There is no significant impact of social factors on the online buying behaviour of consumers for food items.

H5: There is no significant impact of online buying behaviour of consumers for food items on their satisfaction.

Analysis 1: Testing of Measurement Model

Measurement model to analyze the consumer buying behaviour for online food delivery aggregator companies was tested using Smart PLS 3 using reflective-formative model shown in figure 1. Marketing mix strategies related to 7 P's of Service marketing I.e. product, price, place, promotion, process, people, physical evidence were used to measure the consumers' perceptions towards marketing strategies. Impact of Situational factors, individual factors and social factors were also assessed to know the causal relationship between these factors and online buying behaviour of consumers for food items. At stage 1, the measurement model is assessed for its robustness and after establishment of satisfactory measurement model, structural model is then assessed at stage 2.

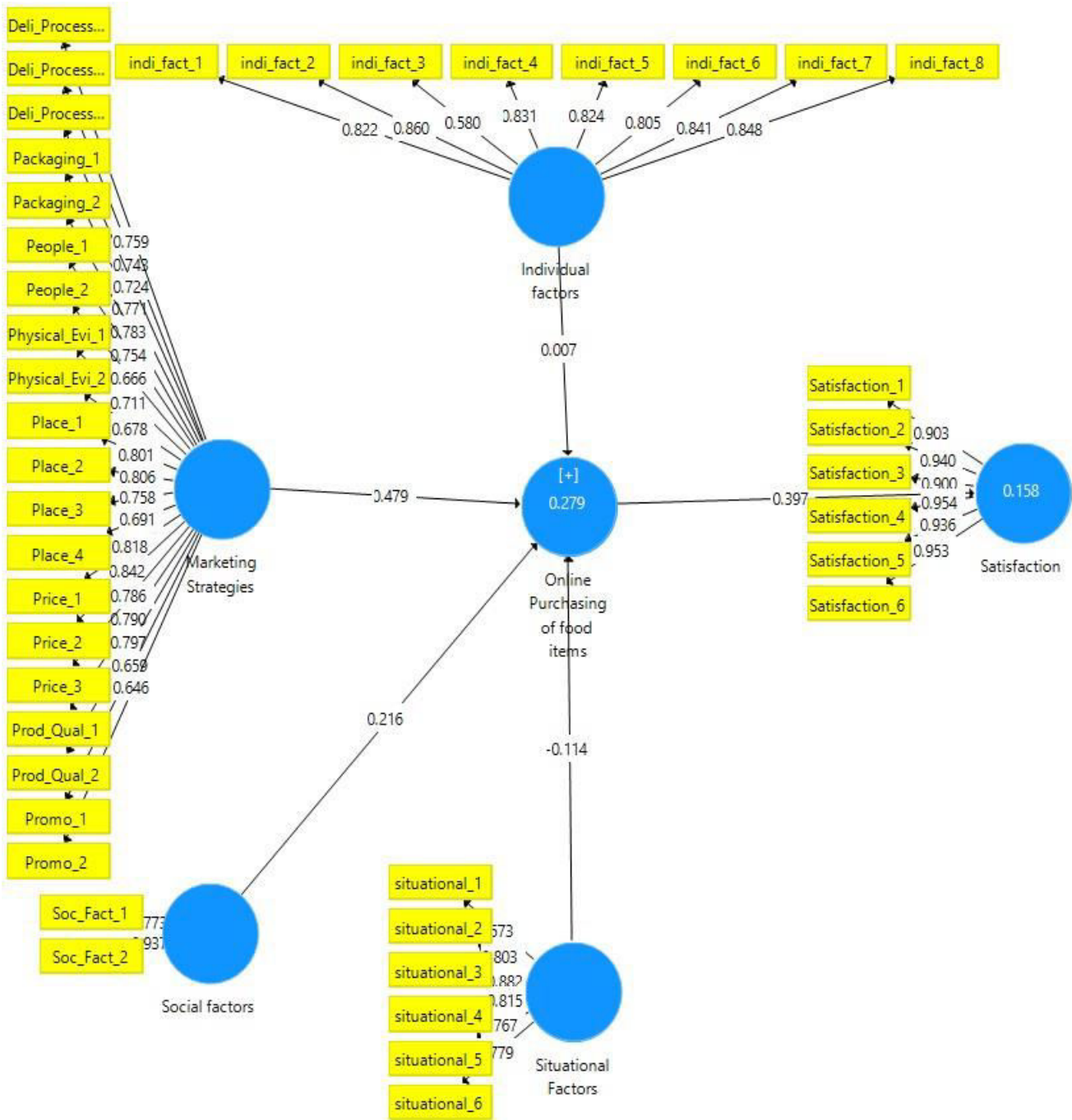# *Stochastic Modelling and Computational Sciences*

Figure1: Path Model and PLS-SEM Estimates calculated by the researchers

Measurement model assessment

The PLS path model shows the impact of marketing mix strategies, Situational factors, individual factors and social factors. The composite reliability value is more than 6 and is considered to be satisfactory for establishing the internal consistency reliability. As evident in table 1 AVE score for all latent variables is more than 50% which confirms the convergence validity of the model.

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Table 1: Results Summary for Reflective outer model

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Individual factors	0.921	0.933	0.936	0.649
Marketing Strategies	0.959	0.964	0.963	0.564
Online Purchasing of food items	0.775	0.770	0.844	0.521
Satisfaction	0.969	0.972	0.975	0.868
Situational Factors	0.866	0.901	0.899	0.602
Social factors	0.668	0.834	0.848	0.737

Discriminant Validity

For each construct it is observed to confirm Fornell-Larcker Criterion (Table 2). According to Fornell- Larcker (1981), an AVE more than 0.50 or higher indicates the convergent validity. The Correlation value of each construct is found to be less than the square root of AVE for obtaining the validity of the measurement model (Afthanorhan & Ahmed, 2013).

Table 2: Latent Variable Correlations for PLS Model.

	Individual factors	Marketing Strategies	Online Purchasing of food items	Satisfacti...	Situational Factors	Social factors
Individual factors	0.806					
Marketing Strategies	0.644	0.751				
Online Purchasing of food items	0.324	0.504	0.722			
Satisfaction	0.261	0.563	0.397	0.931		
Situational Factors	0.702	0.489	0.276	0.147	0.776	
Social factors	0.414	0.354	0.308	0.102	0.701	0.859

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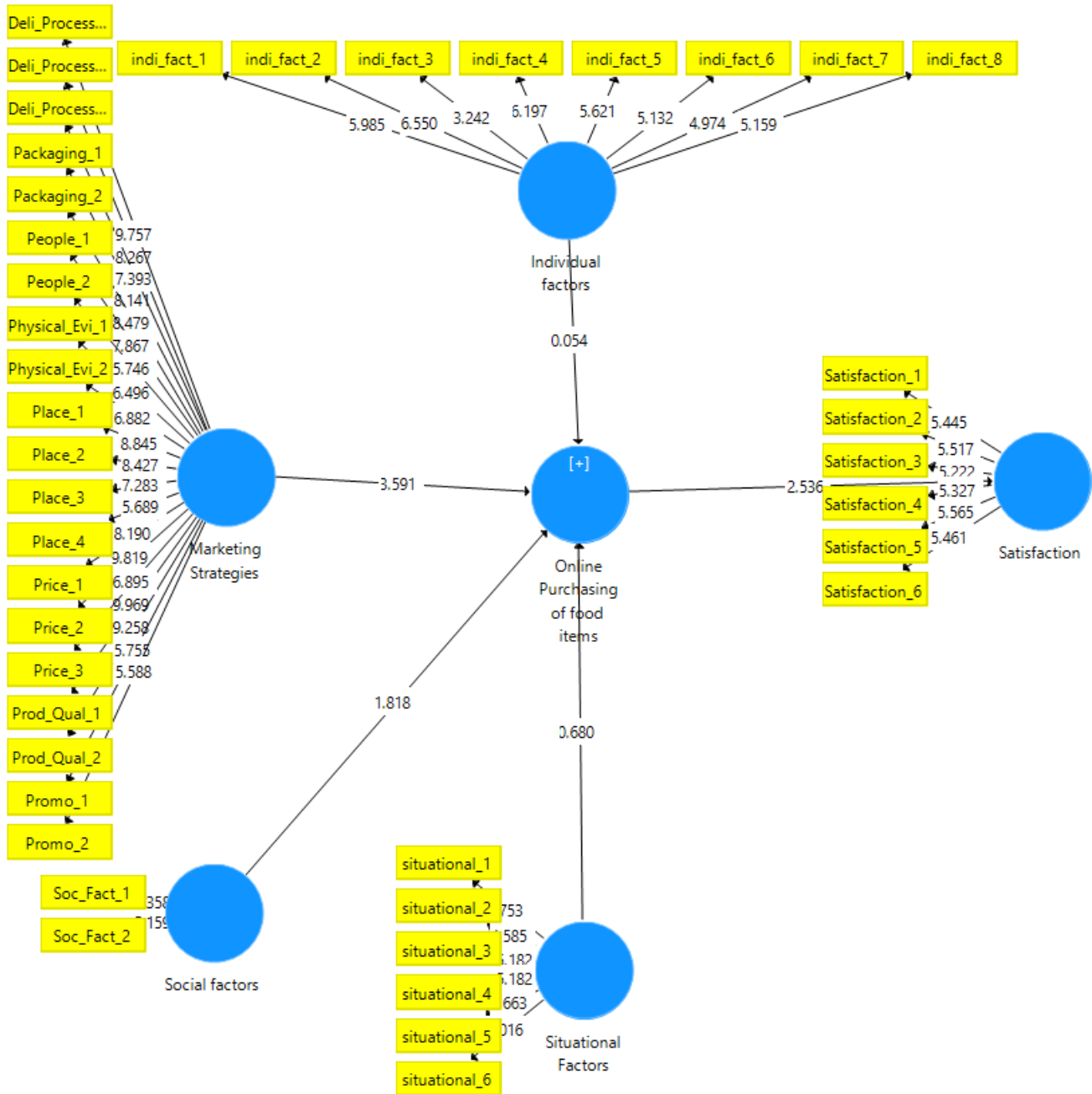
Analysis 2: Structural Model Assessment

Figure 2: Path Model and **Bootstrapping Estimates**

The structural model is depicted in figure 2. it shows the causal relationship hypothesized in the paper. It enables the testing of hypothesized relationships.

i.   Bootstrapping and Path Coefficients: In the structural model, as shown in table 3, causal path marketing strategies effect the online purchase of food items and online purchase of food items effects the satisfaction are found to be statistically significant.

Table 3: Bootstrapping and Path Analysis

	Original Sampl...	Sample Mean...	Standard Deviation...	T Statistic...	P Values
Individual factors -> Online Purchasing of food items	0.007	0.003	0.133	0.054	**0.957**
Marketing Strategies -> Online Purchasing of food items	0.479	0.479	0.133	3.591	**0.000**
Online Purchasing of food items -> Satisfaction	0.397	0.393	0.157	2.536	**0.012**
Situational Factors -> Online Purchasing of food items	-0.114	-0.059	0.168	0.680	**0.497**
Social factors -> Online Purchasing of food items	0.216	0.198	0.119	1.818	**0.070**

ii.   R square, Coefficient of determination: Table 4 reveals 27% of variation in the Online Purhchase behaviour of Food items using online applications is explained by the marketing mix strategies, Situational factors, individual factors and social factors. And online purchase behaviour is able to determine 15.8% variation in satisfaction.

Table 4: R square, Coefficient of determination

	R Square	R Square Adjusted
Online Purchasing of food items	0.279	0.247
Satisfaction	0.158	0.149

iii. Predictive Relevance Testing: predictive relevance of the model is tested through blindfolding procedure. Table 5 shows cross redundancy values more than zero for both endogenous constructs.

Table 5: Cross Validity Redundancy Value of the Model

	SSO	SSE	Q^2 (=1-SSE/SSO)
Individual factors	118.195	118.195	
Marketing Strategies	287.407	287.407	
Online Purchasing of food items	59.433	40.180	0.324
Satisfaction	76.905	60.541	0.213
Situational Factors	86.229	86.229	
Social factors	22.101	22.101	

Discussion and Implications

The hypotheses tested in the study are tested using structural equation model techniques using Smart PLS software. The results of hypotheses are shown in table 6.

Hypotheses	Results
H1: There is no significant impact of marketing strategies adopted by the online food delivery companies on the online buying behaviour of consumers for food items.	Accepted

H2: There is no significant impact of Situational factors on the online buying behaviour of consumers for food items.	Rejected
H3: There is no significant impact of Individual factors on the online buying behaviour of consumers for food items.	Rejected
H4: There is no significant impact of social factors on the online buying behaviour of consumers for food items.	Rejected
H5: There is no significant impact of online buying behaviour of consumers for food items on their satisfaction.	Accepted

Table 6: Summary of Hypotheses

The results show that marketing mix startegies have played an important role in influencing the online buying behaviour of consumers for food items. There were items for all 7 P's of Service Marketing employed by the online food delivery applications companies like the products delivered are of wholesome quality, products are well packed, products are well labeled. Products keeps me healthy, products are safe to consumer, package information related to ingredients, vegan/non-vegan are trust-worthy, delivery persons are polite and responsive, the prices are reasonable and transparent, the food delivery application is recommended by family and friends, they have positive reviews on social media, the applications provide discount coupons and festive offers, waiting time to receive the food items is not extensive(GOPI MISTRY et al., 2020). In other words, it can be said that this is the result of marketing mix initiatives by the online food aggregator companies that are being preferred by the consumers (Burande, n.d.). However, amid fast change in the competition level in this sector, it is necessitated to look for new measures of marketing.

Another important aspect of this study is that after buying food online consumers have reported that they were satisfied. It means the most significant objective pf marketing is to provide satisfaction which these companies can generate.

The results depicted in the study also conclude that there is no significant impact of individual, social and situational factors on the purchase of food online. As the study has taken covid 19 times as situational factors, maybe the apprehension of people for outside foo could be the reason that they were hesitant to order food online in those times (P. Niharika Nanaiah, 2020). But the string result of this shows that the marketing strategies are quite enough to change the attitude of consumers for ordering food through online mode.

LIMITATIONS OF THE STUDY
The study could have provided more generalized results, if sample size had been larger. More constructs and items could be added to create a more exhaustive model. A demographic result would also represent a clear view of population towards online food delivery aggregator companies.

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