Assessing The Impact Of Online Grocery Shopping On Buying Behaviour Of Consumers In Haryana

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Abstract
Background: *The purpose of the study is to understand the factors influencing for online Grocery Shopping and also understands the demographic factors which influence the consumer to buy grocery online. The study has been conducted in Haryana.*
Materials and Methods: *Exploratory research method is used. Online Survey has been conducted for data collection. Structured questionnaire has been prepared for collection of data which include demographic profile of customers like gender, age, and monthly income, frequency of shopping and shopping sites used has studied. The sample consisted of total 115 respondents who does online grocery shopping in Haryana state. Convenience sampling method is used. The statistical tools Mann Whitney Test, Kruskal Wallis Test was used to study the relationship between factors and demographics. Factor analysis method has been used for data interpretations.*
Results: *Finding of the study shows that online grocery shopping factors like product choice, availability of products and delivery time options does influence by male and female shoppers. The Age of customers and availability of products online has significant difference for online grocery shopping in Haryana. Marketers can focus on majorly on three suggested surrogated factors like Product Descriptions, Delivery and Replacement of grocery online and Product choice & availability.*
Conclusions:
Keywords: *online grocery, online shopping, consumer behaviour, customer relationship.*

I. INTRODUCTION

Online shopping has been rapidly growing business on internet although selling of grocery online, which has not followed the same growth pattern as compared to other products selling online like apparels, consumer durables, gadgets, books etc. The rapid growth of e-commerce industry was due to mainly with consumer choice and convenience. Whereas the growth of online grocery was totally changing in food market because of customer relationship. It provides the products benefits and making a service more convenient to customers that felt luxurious every day.

Apart from product choice, quality, availability of products, prices, payment security, replacements of products etc. there are many other factors which motivate customers to go for online grocery shopping like to avoid visiting crowdy places, don't want to go market, Traffic and car parking problem, carrying of heavy bags till door steps, Standing for longer waiting lines at cash counters etc.

According to Chris Morley, U.S. President FMCG and Retail, Nielsen Jan 2018 **"**The grocery industry is currently in the age of digital experimentation, where the roadmap on how to navigate and achieve real and profitable growth continues to evolve". The research indicated that in five-seven years, 70% of consumers will be shopping grocery online. It was estimated $100 billion spend, which was equivalent to U.S. household spending $850 online for food and beverage annually, which will occur by 2022 or 2024.

As Per Tetra Pack Report on Online Grocery (2018), studied four key trends that are shaping online grocery such as Convenience, Sustainability, Technology & performance and personal & unique. Convenience was the main driver of online grocery in all markets, Consumers are looking for faster and easier, seamless, friction-free experience across online and offline mode. Technology helps for transforming supply chains and the consumer's relationship with shopping and products alike. Sustainability was important for consumers, companies and governments. Environmental issues are more important. Personal & unique marketers was looking for new

ways to attract consumers online and build lasting relationships. Personalised products and experiences helps to attract shoppers online and build loyal relationships. As per Allied Market Research Report 2015-2022 online grocery service is a niche market. The purchase of fresh and packaged food through online portals covers a wide spectrum of products such as bakery & dairy products, cereals, vegetables, fruits etc. anticipated to witness robust growth in coming years. Ways of buying groceries have evolved over a period of time, people opted for online grocery shopping as it is convenient and offers a wide variety of products delivered to the consumer's doorstep within a stipulated time. In addition, customers were able to keep a track of their spending as well.

II. LITERATURE REVIEW: -

Sharma (2015). Study explored the consumer perception towards online grocery stores. Factors like offers and discounts, availability of variety of products, free home delivery, user friendly websites and cash on delivery payment option etc. influences customers to buy from online shopping website. Easy to order, variety, discounts/ offers, saves time and avoid long queues would be beneficial to shop grocery online. Choudhury

(2017) studied the retail channels and online retail format. Focusing on current trends for online as well as offline grocery retailing which stayed with large format supermarkets to have online presence and optimized supply chain Management for to serve online grocery consumer. Prasad and Raghu (2018) studied attributes of online grocery shopping which has been motivational factors for buying groceries online. Convenience, security, trust, service support, flexible transaction, personalized attention, price promotions etc. Were seven factors has been studied which are influencing for consumers online grocery buying behaviour. The result shown positive attitude toward grocery shopping also studied important predictors of online grocery like perceived trust, security and quality service support, personalised attention, and price-promotions. N. Anitha (2017) examined the preference of women PG students towards online shopping Coimbatore city. Studied the shopping factors feel comfortable to buy 24*7, convenient and save time, price discount available, ease and fast, trusted shopping, mode of payment etc. will help to improve satisfaction level. Study identified the barriers the customer face during the online purchase. Reduce the problems and improve the level of satisfaction. Kaur and Shukla (2017) studied the consumer's attitude towards online grocery shopping examined the shopping factors, technical barriers and social influence for grocery shopping. Identified that consumers concerned for quality of products among other fear factors and technical barriers such as speed of the internet and unfamiliarity of grocery shopping websites was hindering the acceptance in India. Website design, content, platform and product pics required diversification for adequate search and easy ordering process. Sathiyaraj et al (2015) Studied customer perception towards online grocery shopping in Chennai area, it was revealed that demographic variables as gender, age group does not influence for satisfaction to customers. They preferred to shop grocery online because it was beneficial on basis of easy to order products, product variety, discounts n offers, saves time and avoid long queues. It was also found that major reason for shopping was purchasing of unique and special articles and availability of products at best prices and expected improvements in user friendly website in order to buy online grocery. Gopal and Jindoliya (2016) explored the online channels used by consumers during buying decision process. Focusing on why and how on-line consumers go for buying decision process. Customers purchasing decisions factors like price attractiveness, time saving, perceived risk, enjoyment and excitement, tangibility and high interactivity etc. has been studied and contributed in customers purchasing intentions. Pauzi et al (2017) Study explored online grocery purchase intention factors like social influencers, facilitating conditions, hedonic motivations, perceived risk and perceived trust etc. was important to online retailers to drive Malaysian consumers for purchasing grocery online. Jisha & Karan (2017) studied the perception of consumers towards shopping of online grocery has been changed due to product choice, variety and availability, price, quality of products, availability of offers and discounts, delivery time scheduling option etc. these attributes of online shopping influences the purchase decisions. It was studied that understanding of consumer perception towards online grocery will provide wider scope for e-marketers to acquire more consumers in future.

Objective of the study:-
1. To understand the demographics of people using online grocery sites in Haryana.
2. To study the factors responsible for online grocery shopping.

Hypothesis of the study: -
- H_{01}: There is no significant difference between the male and female in the factor influencing for online grocery shopping.
- H_{02}: There is no significant difference between age group of people and factors influencing for online grocery shopping.
- H_{03}: There is no significant factors responsible for online grocery shopping.

III. RESEARCH METHODOLOGY: -

Understanding the factors which influence customers for buying grocery online has been studied and investigated through primary and secondary data. The demographics of customer's age, gender, monthly income of respondents, frequency of shopping, amount of money spend on grocery shopping has been investigated with the help of primary data and Secondary Data.

Research design: - Exploratory research method is used to describe the characteristics of population of study which is used in research through observations and survey methods.

Sample design: Convenience sampling technique is used to study from the large population of online grocery shoppers. Primary data consisting the collection of original data from respondents doing online grocery shopping.

Primary Data: Primary data is collected through questionnaire method. The structural questionnaire was prepared by using five scale Likert method based on the objectives. Ten major factors influencing for grocery shopping were measured ranging from strongly agree (5) to strongly disagree (1).

Secondary Data:

The secondary data of the study is collected through various journals, reports, books, articles, magazines, research papers, websites etc.

Sampling: - A Sample size of data collected from Haryana was 115 respondents who does online grocery shopping. Microsoft excel is used for basic tool for evaluation of data and online google form is used to collect responses from online customers. SPSS version 20 (statistical package for social sciences) was used for the analysis of data. Reliability score (Cronbach's Alpha) of the 10 factors in questionnaire was 0.9 showed in Table No.1

Table No. 1

Reliability Statistics	
Cronbach's Alpha	N of Items
.927	**10**

Factors influencing for online grocery shopping: -

A questionnaire using a 5-point scales was constructed to understand the factors which makes use of online grocery shopping in Haryana. The questionnaire consisted the variable like product choice, price, quality, save time, offers available, availability of product, delivery time options are available, Replacement of product, Cash on delivery option are available.

Data Interpretation and Analysis: -

A two group (male and female) comparison has been studied with factors which are influencing for online grocery shopping. This was done by using Maan Whitney test since the data was not normally distributed. Frequency with percentage has been used for interpretation of demographics like gender, age, monthly income of respondent, frequency of online grocery shopping and websites of shopping.

Table 2. Demographic Factors

Sr. No	Variables	Characteristics	N	Percentage %
1	**Gender**	Female	66	56.4
		Male	49	43.6
2	**Age**	18-25	16	13.7
		25-35	36	31.6
		35-45	48	41.9
		45 and above	15	12.8
3	**Monthly Income of Family in Rs.**	1 lakh to 5 lakh	79	59.8
		6 lakh to 10 lakh	32	28.2
		10 lakh and above	14	12.0
4	**Marital Status**	Single	48	41.9
		Married	67	58.1
5	**How often do you order online grocery**	Weekly	44	38.5
		Fortnightly	38	33.3
		Every few months	8	6.8
		Only for special occasion	11	9.4
		Monthly	14	12.0
6	**Online Shopping Websites**	Amazon Grocery	8	7.7
		Grofers	30	25.6
		naturebasket.com	28	23.9
		Bigbasket.com	40	34.2
		Zopnow	9	8.5
		Amazon Grocery	9	7.7

Source: SPSS Output

Hypothesis Testing: -

H_{01}: There is no significant difference between the male and female in the factor influencing for online grocery shopping.

Results: - H_{01} is accepted according to Table III. It means online grocery shopping factors does not influenced by male and female shoppers. The 'p' value for independent factors is greater than 0.05. Null hypothesis is accepted and Alternate hypothesis is rejected.

Using the Mann Whitney test to compare the difference between male and female score on factors influencing for online grocery shopping.

Table III: Maan Whitney Test

Test Statistics										
	Product Choice	Price	Quality of product	Save Time	Availability of Product	Delivery time options are available	Offers Available	Replacement of product	Online Payment security	Cash on delivery option is available
Mann-Whitney U	1145.000	1582.000	1534.000	1579.000	1177.500	1392.500	1650.500	1551.000	1312.000	1626.000
Wilcoxon W	2471.000	3793.000	3745.000	3790.000	2503.500	3603.500	3861.500	3762.000	2638.000	2952.000
Z	-3.260	-.666	-1.099	-.767	-2.939	-1.963	-.228	-.827	-2.178	-.388
Asymp. Sig. (2-tailed)	**.001**	**.505**	**.272**	**.443**	**.003**	**.050**	**.820**	**.408**	**.029**	**.698**
a. Grouping Variable: 2. Gender:										

Source: SPSS Output

There is no significant difference in the factors influencing male and female for online grocery shopping. The variables like quality of products, price, time saving, availability of offers, replacement of products, online payment, cash on delivery has not significant in male and female of online grocery shoppers. In

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Table No III, The p value of above factors are less than 0.05. There is significant difference in product choice, availability of products and delivery time options among male and female grocery shoppers in Haryana.

Table IV: Mean Rank for Mann Whitney Test

Ranks				
	Gender:	N	Mean Rank	Sum of Ranks
Product Choice	Female	66	67.15	4432.00
	Male	49	48.45	2471.00
	Total	115		
Price	Female	66	57.47	3793.00
	Male	49	60.98	3110.00
	Total	115		
Quality of product	Female	66	56.74	3745.00
	Male	49	61.92	3158.00
	Total	115		
Save Time	Female	66	57.42	3790.00
	Male	49	61.04	3113.00
	Total	115		
Availability of Product	Female	66	66.66	4399.50
	Male	49	49.09	2503.50
	Total	115		
Delivery time options are available	Female	67	54.60	3603.50
	Male	48	64.70	3299.50
	Total	115		
Offers Available	Female	67	58.51	3861.50
	Male	48	59.64	3041.50
	Total	115		
Replacement of product	Female	67	57.00	3762.00
	Male	48	61.59	3141.00
	Total	115		
Online Payment security	Female	67	64.62	4265.00
	Male	48	51.73	2638.00
	Total	115		
Cash on delivery option is available	Female	67	59.86	3951.00
	Male	48	57.88	2952.00
	Total	115		

IV) Kruskal-Wallis Test for factors which are influencing for online grocery shopping in Haryana.
Kruskal -Wallis test was used to compare ten variables scores of online grocery shopping with age of the respondents which has more than two categories.

Hypothesis Testing: -
H_{02}: There is no significant difference between age group of people and factors influencing for online grocery shopping.
Results: - H_{02} is accepted according to Table V. The 'p' value is greater than 0.05. Null hypothesis is accepted and Alternate hypothesis is rejected. It means all the factors are influencing with all age group of people who uses online grocery shopping sites.
Using the Kruskal Wallis test to compare the difference between Age group score on factors influencing for online grocery shopping in Haryana.

Table V: Kruskal Wallis Test

Test Statistics										
	Product Choice	Price	Quality of product	Save Time	Offers Available	Availability of Product	Delivery time options are available	Replacement of product	Cash on delivery option is available	Online Payment security
Chi-Square	4.863	5.411	1.947	.461	1.750	13.117	1.561	1.444	4.997	6.391
df	3	3	3	3	3	3	3	3	3	3
Asymp. Sig.	**.182**	**.144**	**.584**	**.927**	**.626**	**.004**	**.668**	**.695**	**.172**	**.094**
a. Kruskal Wallis Test										
b. Grouping Variable: 4. Age:										

Source: SPSS Output

There is significant difference between age group of people and availability of products factor for online grocery shopping in Haryana. The variables like product choice, price and quality of products, offers availability, replacement of products, delivery time, option for cash on delivery and online payment does not have significant difference in online grocery shopping. In Table No V Kruskal Wallis Test p value of all above factors are greater than 0.05 significant value.

Table VI: Mean Rank for Kruskal Wallis Test

Ranks			
	Age	N	Mean Rank
Product Choice	18-25	16	54.25
	25-35	36	54.14
	35-45	48	66.35

	45 and above	15	52.07
	Total	115	
Price	18-25	16	62.81
	25-35	36	66.03
	35-45	48	52.21
	45 and above	15	59.77
	Total	117	
Quality of product	18-25	16	55.22
	25-35	36	60.43
	35-45	48	57.00
	45 and above	15	66.03
	Total	115	
Save Time	18-25	16	58.50
	25-35	36	57.32
	35-45	48	59.37
	45 and above	15	62.47
	Total	115	
Offers Available	18-25	16	55.75
	25-35	36	61.58
	35-45	48	56.38
	45 and above	15	64.67
	Total	115	
Availability of Product	18-25	16	41.53
	25-35	36	52.84
	35-45	48	70.83
	45 and above	15	54.20
	Total	115	
Delivery time options are available	18-25	16	53.75
	25-35	36	62.39
	35-45	48	57.16
	45 and above	15	62.23
	Total	115	
Replacement of product	18-25	16	53.41
	25-35	36	61.36
	35-45	48	57.38
	45 and above	15	64.43
	Total	115	
Cash on delivery option is available	18-25	16	52.28
	25-35	36	62.20
	35-45	48	55.28
	45 and above	15	70.43
	Total	115	
Online Payment security	18-25	16	44.88
	25-35	36	55.47
	35-45	48	62.60
	45 and above	15	71.00
	Total	115	

Source: SPSS Output

Hypothesis Testing: -
H_{03}: There is no significant factor responsible for online grocery shopping.

Results: - KMO Sampling adequacy value shows .911 which is closer to value 1, which shows the better adequacy value. According to Table VII significant value of Bartlett's test result shows .000 which is less than 0.05 value. Null hypothesis is rejected and Alternate hypothesis is accepted. H_{13} is accepted it means all the factors are positively influencing the online grocery shopping in Haryana.

Table VII: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.911
Bartlett's Test of Sphericity	Approx. Chi-Square	846.843
	Df	45
	Sig.	**.000**

Table VIII: Factors Analysis

Rotated Component Matrix		
	Component	
	1	2
Product Choice		.838
Price	.799	
Quality of product	.794	
Save Time	.788	
Offers Available	.769	
Availability of Product		.879
Delivery time options are available	.842	
Replacement of product	.798	
Cash on delivery option is available	.770	
Online Payment security		.784
Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.		

- From the rotated component Analysis, three distinct factors emerge after conducting dimension reduction on the above 10 parameters.
- The factors for online grocery shopping being:-
1. Product Descriptions (4 parameters)
2. Delivery and Replacement of online grocery (3 parameters)
3. Product choice & availability (1 parameter) (independent factor)

The online grocery factors like product quality, price, offers and time saving surrogate suggested name for factors will be product description & convenience of shopping. Delivery time options, online payment security and cash on delivery surrogate suggested name will be delivery and replacement of online grocery.

IV. CONCLUSION

Now a day online grocery is the fastest growing segment within e-commerce. It has been increasingly gaining consumers interest and acceptance because of good quality products, speedy delivery and convenience. The innovative and young group of internet user's practices from grocery shopping sites like Amazon grocery, big basket, D-Mart Online, Grofers, Nature basket, Zopnow.com etc. which provides various offers and discount coupons on daily bazaars shopping. Getting a loyal customer base online for grocery market is attractive due to high customer lifecycle. E-commerce companies were moving their existing customers online along with acquiring new one from market.

The present study is done with the objectives of assessing the factors which are responsible for online grocery shopping. Study shows that product descriptions, delivery and replacement of products and product choice & availability online was the major factors for online shopping. E-markers can structure their marketing strategy based on these important parameters for crating unique and excellent shopping experience for their customers.

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