A STUDY ON WOMEN CONSUMER BEHAVIOUR TOWARDS ONLINE PURCHASE OF PERISHABLES AT BENGALURU SOUTH

Dr R Parvathi
Principal and Academic Director, VET First Grade College, Bengaluru.

Mrs. B Rammya
Assistant Professor, VET First Grade College, Bengaluru.

Abstract
Consumer Behaviour is about analyzing the behaviour of individuals regarding the buying habit of products. Due to advent of technology, there has been a disruption in the consumer buying behaviour which has paved way for online or virtual platform, and due to pandemic, this has given more opportunities for online platforms. This article proposes to discuss about consumer behaviour especially women while buying perishable products and analyzing the same with respect to quantity, quality, price, comparison and helpfulness or helplessness. The data is proposed to be collected from both home makers and working women pertaining to South Bengaluru. The proposed objective of the study is to analyse the behaviour of women consumers towards perishable products, to understand the behaviour of purchasing perishables online before lockdown and after lockdown and to understand the problems faced by women consumers towards perishable products, and to suggest measures to overcome the problems faced. The researchers collected data from 112 women and the data is analysed through statistical tools like chi-square, paired T test and factor analysis to arrive at the result on what is the buying behaviour of women consumers towards perishable products at South Bengaluru. This study can give indication and guidance to online apps and platforms for their future course of action.
Keywords: Consumer behaviour, perishable products,Women, Attitude, Problems, Lockdown.

Introduction

Todays' world is the era of digital era. Consumers are king and are very rational in their behaviour. Consumer behaviour refers to the behaviour exhibited by the consumers. Consumers can be described on number of ways like age, gender, occupation, or income. Consumer behaviour is the study of process involved in purchase a product or availing the service (Solomon et al 2012). Consumer behaviour is particularly important for the producers as well as it determined the output they need to produce. It is the set of beliefs that a consumer holds that influences his or her decision to buy the products.

Review of literature

Ntobaki, P et al (2022) in their study on Durban Stores found that category management influences the purchasing behaviour of customers and identified problems like planning, shelving, promotions, pricing, and shelf life.

Bulsara, H. P., & Trivedi, K. G. (2016) in their study found that consumers behaviour varies with change in place, brand familiarity and they found that there is significant relationship between consumer lifestyle and online shopping behaviour of fruits and vegetables, and also found that consumers while shopping online pay attention to the freshness, taste, hygiene, and education plays a significant role in influencing consumer buying behaviour.

Hanus, G. (2016) In the study "consumer behaviour during online shopping" found that the consumers experience the advantages like large range of stores and choices online, convenience and time saving, while the most serious challenge was with respect to risk of incorrectly valuing, and apprehension in selecting perishable products like vegetables, eggs, and meat products.

Chung, J., & Li, D. (2013) in their study found that food retailers can boost customer satisfaction by extending an earlier but lower discount and increasing it as perishable food items approach their expiry date, rather than a higher discount when the expiry date is forthcoming. They established the relation between discount and shelf life

The study by Gupta K B (2009)on "consumer behaviour for food products" found that the consumers rated cleanliness, free from pesticides, freshness, good for health and clean place of sale as important parameters for purchase decision for food products in general and freshness, cleanliness and good for health for perishable products.

Statement of the problem:

Women is major decision maker while doing purchasing or shopping in the family, but she always avoids shopping in online platform. In this research article the researcher is trying to highlight the women consumers' knowledge and satisfaction level while doing online purchase of perishable products. Every day women needs various products and the behaviour in purchasing perishable products especially perishable products like vegetables, fruits, milk and milk products and meat products.

Scope of the study:

1. The research is based on the women's reaction towards perishable products at Bengaluru South
2. The research data on the women's consumer buying perishable products at Bengaluru South only.
3. Sample size is limited only to 112.
4. The respondents were women at Bengaluru South - studying, home maker and working.

Objective of the study:

a. To analyse the behaviour of women consumers towards online purchase of perishable products.

b. To understand the behaviour of consumers towards various perishable products before lockdown and after lockdown.

c. To understand the problems faced by the women consumer and also to make appropriate suggestion.

Formulation of hypothyses:

Hypothesis 1: There is no significant association between age, occupation, marital status, and purchase of perishables online (chi-square test).

Hypothesis 2: There is no difference in online purchasing of perishables before lockdown and after lockdown (paired sample T Test).

Hypothesis 3: There are no latent underlying structures and that all variables load equally (Factor Analysis for Issues faced by the consumers while buying online)

Research methodology:

Research is based on descriptive research technique. Sampling design is entire world population, but the researchers have concentrated only on evaluating with only a part of it restricted to South Bengaluru women shopping perishable products online mode.

For the purpose of this research women consumer behaviour towards online purchase of perishable products residing in south Bengaluru.

Sampling size: 112 women consumers include student, home makers and working professional who are shopping perishable products online at South Bengaluru.

Sample area : South Bengaluru.

Research instrument and tools: In this research the researchers have used sampling method to do research where a sample of 112 women consumer shopping perishable products through online mode at south Bengaluru were selected pre lock down and post lock down, using questionnaire, and taking interview of women consumer to collect data and used statistical tools like Chi Square test, T Test and Factor Analysis along with the descriptive statistics for the demographic variables namely age, occupation and marital status. The analysis is done using SPSS 23 and results have been interpreted.

Limitations of study:

The Limitation of this study are

1. Geographical area is restricted to South Bengaluru
2. Sample size is limited to 112 women consumers doing perishable product shopping online and hence the results of the study cannot be generalized
3. Respondents personal experience is recorded and hence the view differ from person to person.

Analysis and discussion

The data collected is from the women consumer belong to students, working professionals and home makers during pre covid lock down, lock down and post lock down in south Bengaluru. The data was collected from women consumers through google forms. The analysis includes descriptive statistics, Chi Square, T Test and Factor analysis

Particulars	Categories	Women Respondent	
		Number	Percentage
Age	20-30 years	35	31
	30-40 years	29	26
	40-50 years	30	27
	50-60 years	15	13
	Above 60	03	02
Occupation	Homemaker	81	72
	Student	25	22
	Working Professional	06	06
Marital Status	Married	92	82
	Single	19	17
	Others	01	01
Purchase of Perishables online	Yes	46	40
	No	66	60

In the research article on "A study on women consumer behaviour towards online purchase of perishables in Bangalore South" data is collected from women belonging to the age group between 20 years to 60 and above in various occupations like homemaker, student and working professional with a marital status of married, single and others and also understanding the purchase pattern of perishable product by the consumer.

Hypothesis 1: There is no significant association between age, occupation, marital status, and purchase of perishables online (chi-square test).

A) H0: There is no significant association between age and purchase of perishables online (chi-square test).

H1: There is significant association between age and purchase of perishables online (chi-square test).

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.413[a]	4	.170
Likelihood Ratio	6.372	4	.173
Linear-by-Linear Association	.176	1	.675
N of Valid Cases	112		

The above table shows that the Chi-square statistics (p value) is 0.170, which is more than the selected level of significance at 5% (0.05), hence null hypothesis is accepted, and it can be concluded that there is no significant relationship between age of the respondent and the online buying behaviour of women.

B) H0: There is no significant association between occupation and purchase of perishables online (chi-square test).

H1: There is significant association between occupation and purchase of perishables online (chi-square test).

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.213[a]	2	.899
Likelihood Ratio	.210	2	.900
Linear-by-Linear Association	.000	1	1.000
N of Valid Cases	112		

The above table shows that the Chi-square statistics (p value) is 0.899, which is more than the selected level of significance at 5% (0.05), hence null hypothesis is accepted, and it can be concluded that there is no significant relationship between occupation and the online buying behaviour of women.

C) H0: There is no significant association between marital status and purchase of perishables online (chi-square test).

H1: There is significant association between occupation and purchase of perishables online (chi-square test).

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.426[a]	2	.109
Likelihood Ratio	4.984	2	.083
Linear-by-Linear Association	1.089	1	.297
N of Valid Cases	112		

The above table shows that the Chi-square statistics (p value) is 0.109, which is more than the selected level of significance at 5% (0.05), hence null hypothesis is accepted, and it can be concluded that there is no significant relationship between marital status and the online buying behaviour of women and hence it can be inferred that buying behaviour does not depend on marital status.

Hypothesis 2: There is no difference in online purchasing of perishables before lockdown and after lockdown (Paired sample T Test).

A) H0: There is no difference in purchase of fruits before lockdown and post lockdown
H1: There is difference in purchase of fruits before lockdown and post lockdown

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Fruits before Lockdown	1.6739	46	.47396	.06988
	Fruits after lockdown	1.5000	46	.50553	.07454

The above table shows the descriptive statistics (mean, number of data sets, standard deviation, and standard errors of means) for both before and after lockdown. Based on average, it can be interpreted that the score before lockdown is higher.

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Fruits Before Lockdown and Fruits After Lockdown	46	.510	.000

The above table shows the correlation coefficient between the variables and Correlation value indicates that there is moderate degree of correlation between the purchase behaviour before and after lockdown and sig value < 0.05 , correlation coefficient is significant.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Fruits Before Lockdown and After Lockdown	.17391	.48554	.07159	.02973	.31810	2.429	45	.019

The test results show a T statistic of 2.429 and the p value is 0.019 which is < (less than) 0.05. The null hypothesis is rejected, and it can be concluded that there is significant difference in buying of fruits before lockdown and after lockdown.

B) H0: There is no difference in purchase of vegetables and greens before lockdown and post lockdown.

H1: There is difference in purchase of vegetables and greens before lockdown and post lockdown

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Vegetables and Greens Before Lockdown	1.6739	46	.47396	.06988
	Vegetables and Greens After Lockdown	1.5217	46	.50505	.07447

The above table shows the descriptive statistics (mean, number of data sets, standard deviation, and standard errors of means) for both before and after lockdown. Based on average, it can be interpreted that the score before lockdown is higher.

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Vegetables and Greens Before and After Lockdown	46	.634	.000

The above table shows the correlation coefficient between the variables and Correlation value indicates that there is high degree of correlation between the purchase behaviour of vegetables and greens before and after lockdown and sig value 0.000 < 0.05 , correlation coefficient is significant.

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1 Vegetables and Greens Before and After Lockdown	.15217	.41991	.06191	.02747	.27687	2.458	45	.018

The test results show a T statistic of 2.458 and the p value is 0.018 which is < (less than) 0.05. The null hypothesis is rejected, and it can be concluded that there is significant difference in buying of vegetables and greens before lockdown and after lockdown.

C) H0: There is no difference in purchase of milk and milk products before lockdown and post lockdown.
H1: There is difference in purchase of milk and milk products before lockdown and post lockdown

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Milk and milk products Before lockdown	1.7391	46	.44396	.06546
	Milk and milk products After lockdown	1.6522	46	.48154	.07100

The above table shows the descriptive statistics (mean, number of data sets, standard deviation, and standard errors of means) for both before and after lockdown. Based on average, it can be interpreted that the score before lockdown is higher.

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Milk and milk products Before Lockdown & Milk and milk products after Lockdown	46	.813	.000

The above table shows the correlation coefficient between the variables and Correlation value indicates that there is remarkably high degree of correlation between the purchase behaviour of milk and milk products before and after lockdown and sig value 0.000 < 0.05 , correlation coefficient is significant.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Milk and milk products Before Lockdown & Milk and milk products after Lockdown	.08696	.28488	.04200	.00236	.17156	2.070	45	.044

The test results show a T statistic of 2.070 and the p value is 0.044 which is < (less than) 0.05. The null hypothesis is rejected, and it can be concluded that there is significant difference in buying of milk and milk products online before lockdown and after lockdown.

D) H0: There is no difference in purchase of meat and meat products before lockdown and post lockdown.
H1: There is difference in purchase of meat and meat products before lockdown and post lockdown

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Meat and meat products Before Lockdown	1.8696	46	.34050	.05020
	Meat and meat products After Lockdown	1.8261	46	.38322	.05650

The above table shows the descriptive statistics (mean, number of data sets, standard deviation, and standard errors of means) for both before and after lockdown. Based on average, it can be interpreted that the score before lockdown is slightly higher showing its insignificance.

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Meat and meat products Before Lockdown and After Lockdown	46	.844	.000

The above table shows the correlation coefficient between the variables and Correlation value indicates that there is remarkably high degree of correlation between the purchase behaviour of meat and meat products before and after lockdown and sig value 0.000 < 0.05 , correlation coefficient is significant.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Meat and meat products Before Lockdown and After Lockdown	.04348	.20618	.03040	-.01775	.10471	1.43	45	.160

The test results show a T statistic of 1.430 and the p value is 0.160 which is > (more than) 0.05. The null hypothesis is accepted, and it can be concluded that there is no significant difference in buying of meat and meat products online before lockdown and after lockdown. The buying behaviour has not changed with respect to meat and meat products

Hypothesis 3: There are no latent underlying structures and that all variables load equally (Factor Analysis for Issues faced by the consumers while buying online)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.770
Bartlett's Test of Sphericity	Approx. Chi-Square	205.094
	df	28
	Sig.	.000

KMO test: This test is done for checking suitability of factor analysis According to the earlier researchers, values closer to 1 are better, in this article, researcher has a value of 0.770 and hence, factor analysis is suitable for the data collected

Bartlett Test of Sphericity: Statistical test for the overall significance of the correlation within the above matrix where p is the number of values which gives Sig = .000 < .05 (5%), hence there is a significant correlation among the variables.

Communalities

Problems	Initial	Extraction
Quantity Mismatch	1.000	.667
Not Fresh	1.000	.727
Taste issue	1.000	.832
High price	1.000	.320
Late Delivery	1.000	.497
Product mismatch	1.000	.771
Network problem	1.000	.822
Application/Website issues	1.000	.727

Extraction Method: Principal Component Analysis.

Communalities: This is the proportion of each problem (variables) variance that can be explained by the factor. In this factor analysis, communalities + specific variance = 1. Therefore, no communalities can be more than 1. This is due to the correlation among the variables (problems). Researcher explains communalities only as a specific variance which is beyond the control. In this article, Principal Component method for extracting communalities is applied and initial communalities are taken as unity.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.239	52.993	52.993	4.239	52.993	52.993	2.685	33.562	33.562

2	1.124	14.055	67.049	1.124	14.055	67.049	2.679	33.487	67.049
3	.983	12.282	79.330						
4	.764	9.555	88.886						
5	.315	3.941	92.826						
6	.261	3.268	96.095						
7	.171	2.134	98.228						
8	.142	1.772	100.000						

Extraction Method: Principal Component Analysis.

Total Variance Explained : Researcher used principal component method of factor analysis which is called as a component. The initial number of factors are 8 and the same 8 number of variables are used in the factor analysis. However, not all 8 factors will be retained. Researcher chooses the number of factors or Eigen value method. In the later stages, number of factors are equal to number of eigenvalue of correlation matrix more than 1. Initial Eigen values are the eigen values of the correlation matrix. It can be seen here that only 2 eigenvalues are more than 1 and also 2 factors explain 67.049% variance while 6 factors explain 79.330% variance.

Extraction sum of squared loadings: The number of rows in the panel of the table corresponding to the number of factors retained. The values in the above table are calculated in the same way as the value in the left panel. In some other method, these values may be smaller.

Rotation sum of square loading: the matrix of factor loading is rotated orthogonally using Varimax rotation. Total amount of variance accounted for is redistributed over the two extracted factor. This helps making the factors distinct. In this article total 67.09% variance is redistributed over the 2 factors.

Rotated Component Matrix[a]

	Component	
	1	2
Quantity Mismatch	.620	.531
Not Fresh	.182	.833
Taste issue	.347	.844
High price	.551	.127
Late Delivery	.053	.703
Product Mismatch	.592	.648
Network Issue	.882	.209
Application/Website issue	.843	.128

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

In order to interpret the results of the above table, researcher has to give cutoff point in deciding the drawback of services. As per the earlier researchers, there is no hard and fast rule to decide the cutoff points, but generally it is taken above 0.5. In this article, researcher is using 0.8 as cutoff point since 8 variables are analysed. The two variables corresponding to factor 1 having factor loading above 0.8 are Issues with respect to network and issues with respect to application/ website. The variables corresponding to factor 2 for which factor loadings are greater than 0.8 are issues relating to freshness and taste. It can be concluded that the two factors named are Technology factor – relating to network issue and application and website issue and Soothing factor for problems associated with taste and freshness issue

Conclusion

2022 is the year of technology which has no difference between age, gender, qualification, profession with respect to use of it. In this research article, researcher tried to present the women consumer behaviour using technology towards buying habits capturing pre, during and post covid times restricting to selected perishable products only. During the survey, researcher found that there is no significant association between age, occupation and marital status which is connecting to buying behaviour of women based on said situation. In further continuation, researcher tried to analyse the purchase pattern before and after Covid situation and found that there is a significant difference in buying pattern and behaviour of various perishable products like fruits, vegetables and greens, milk and milk products and meat and meat products. Researcher strongly found the purchase pattern of women using online was better than the post lockdown and hence it can be inferred that online platforms took a back step during post pandemic situation. Before conclusion, issues faced by the women consumer was analysed with factor analysis which concludes that the two most important factors – Technology factor (network issues and application/website issues) and Soothing factors(Freshness and taste) are the major issues and problems faced by women consumers while shopping online. Researcher has included only few factors keeping women consumer in mind. However, research could be extended without considering the gender and also current situation with respect to other perishable products. In spite of challenges, digital shopping is the need of the hour with any boundaries.

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