

ESTIMATION OF PARAMETERS IN RURAL DIGITAL SHOPPING

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Abstract

It is the activity or action of buying products or services over the Internet. It means going online, landing on a seller's website, selecting something, and arranging for its delivery. Urban transition in recent times has brought certain dynamic changes in the buying behavior of rural customers with respect to the technological and infrastructural development as a result the number of traditional rural consumers have been gradually attracted towards online shopping since the logistic operations are partially extended to rural places yet there are many intricacies among the factors in rural environment. Aiming the assessment of factors influencing rural buying behavior the study underwent with a method mix of descriptive design, quantitative approach, primary data collection, convenience sampling technique, and interpretation with factor analysis and multiple regressions. Factors such as competitive advantage, recommended life style, information security, internet and banking card facility show high significance and user friendly navigation well organized appearance show insignificant in the study

Key words: online shopping, rural consumers, rural areas

1. INTRODUCTION

Online shopping being trendy has crept to semi-urban places and grabbed the attention of rural people also. As a part of urban transition, many rural consumers are gradually habituated to shop online since the awareness on Amazon and Flipcart, accustomed status of Covid compelled behaviour against the usage of Android mobile and internet.

The waves being made in the field of online shopping has dead ends with respect to the rate of customer shift from traditional buying is exponentially increased. In recent times, along with its turnover, the geographical expansion is considerably increased and caught the fancy of all business sectors since most of their prospective markets are the areas yet to cover. The Universal coverage pattern of any company through distribution strategy is to cover all the possible areas

that the nature of their products and services fit. Most of the companies now focus on the rural and tribal areas where the people are mostly accustomed localized and ethnic products.

Online shopping being crucial to reach the rural customer with respect to a lot of challenges, as now started its endeavors during Covid which has given considerably moderate result where the corporate have a chance to predict prospectively. With an intention of the same most of the companies now started its operations to semi-rural areas with a service mix of communication logistics and administration. In this connection there is also an inhibited prediction that the rural people may not inject this modern online shopping system into their exceptional environment associated with conceive stores and shandies. Moreover 70-80% rural people buy the things on credits by the various reasons of economic instability which is in fact encouraged by all rural retail stores. On the other hand there are some determinants related to mobile phones, internet connectivity, information accessing, order processing, transport facility, delivery systems influence on the increase of online shopping in rural places.

Besides, the rural psychology much influenced by comparing the products available between physical shopping and online shopping. The usefulness of certain categorical product which are not available in the local markets would be selected and shopped by the rural consumers of economic capable category.

Life style in general recommends their nature of buying. Rural life style is much adhered to cultural traits which is changing gradually out of the urbanized effect. Moreover most of the rural young being addicted to social media habits which will intricate them browsing into by innumerable varieties of product alternatives through online shopping. The easiness to access the internet has been the critical point in the recent years since the infra technology has not been established to the sufficient level of rural usage. Now a days things are bettered by the improved strength of internet through the data operations by many companies.

The main challenge observed and faced by online shoppers is to establish an exceptional logistic system to supply the products to the rural people who are the way away to the urban areas. Cost of time, logistic operations has become the task to the companies where the delivery services are questionable. There are a few unique features of online shopping have been observed by rural consumers such as extensive selection profile, hedonic attitude, accurate information, easy navigation and replacement policy. It is good sign that the people are also taking the reviews, financial risks, security and privacy into the consideration while purchasing through online. The curiosity and ambiguity about transactional operations is more with rural consumers than urban

people. As per as the financial resources sustained by rural consumers to the mobile and maintain data is one another factor which determine and decide the future utility. During corona many changes in the mobile technology have come into force in the way of schemes utilization, online education, social media exploration and information access in which has been increased significantly, where most of the rural people have connected their banking transactions to the android system.

There has been so many studies related to online shopping behavior in urban places but for the rural very few studies were carried out and the researchers of this study processed the analyses through the data collected from the rural places of Srikakulam, Vizianagaram and Visakhapatnam which is called as North coastal districts. This study has undergone to identify the potential factors influencing positively as well as negatively rural online shopping behavior.

Ecommerce (or electronic commerce) is the buying and selling of goods or services on the Internet. It encompasses a wide variety of data, systems and tools for online buyers and sellers, including mobile shopping and online payment encryption. Most businesses with an online presence use an online store and/or platform to conduct ecommerce marketing and sales activities and to oversee logistics and fulfillment. According to eMarketer, in 2022, global retail ecommerce sales will surpass \$5 trillion for the first time, accounting for more than a fifth of overall retail sales. And by 2025, total spending will exceed \$7 trillion, despite slowing growth. To fully understand ecommerce, let's take a look at its history, growth and impact on the business world. We will also discuss some advantages and disadvantages to ecommerce as well as predictions for the future. For more expert insights on the go, check out our biweekly audio series, the Make it Big Podcast, where global thought leaders discuss all things ecommerce — from industry news and trends to growth strategies and success stories.

2. OBJECTIVES OF THE STUDY:

- ✓ Objective of the study is to identify the prospects and challenges of online shopping behavior of rural in North coastal Andhra Pradesh
- ✓ To identify the factors influencing the growth of online shopping rural places
- ✓ To assess the factors explaining the incremental growth of online shopping at rural places

3. LITERATURE REVIEW

The environment of the online shopping provides the customers to decrease their efforts of purchase decision through the advantages of extensive selection exposure, information screening, information reliability and product differentiation and comparison (Alba et al., 1997).

Syed et al. (2008) stated that the characteristics related to the design of website influences the customer perception on online shopping where the quality, alignment, options, user friendliness and transactions through websites are to be easier and comfortable and attractive enough to turn the customers towards purchase. Navigation and the content presentation in the website is an added advantage for the marketers where the consumers more focus on these elements (Ruchi, Ashish and Gupta, 2010). Shergill and Chen (2005) were also acknowledged the same that the website design and quality pave the way to increase the leads and purchases online and found the same as one of the significant factors for the customer satisfaction so as to involve better.

Websites should contain the complete information about the product and its features associated with its marketing mix elements. Entertainment criteria being included in any websites are not found pertinent in the online buying environment (Zeithaml, Parasuraman, and Malhotra, 2002).

Yam et al. (2011) contemplated that privacy and security constraints impacts consumers' inclination to purchase from online shoppers. Grace and Chia (2009) also stated that the beliefs and attitudes of consumers on convenience and security concerns show significant impact on their intention to purchase products and services through online.

Consumers around 20-40 aged generally express interest in online shopping and the group play a vital role which would be prospective for the online shoppers (Syed et al., 2008). In specific to the online customer behaviour and psychological fields, it is found that the correlation between age and ICT (Information and Communication Technology) is highly significant and strongly related. The adoption of online shopping for the young consumers is highly encouraging with the best use of technology and web based systems of online retailing (Feller, B. 2003).

Globally, the Indian youth comprises of lion's share of proportion with respect to the online purchases when compared to any other country (KPMG, 2014). The youth of college going accounts for 29 per cent active internet users (IAMAI, 2013).

There are certain factors that have been contributory in the change due to mass media exposure with a lot of attractive digital media applications and platforms which are well habituated by the youth so fast and continuing (IAMAI, 2013).

Chiu, C.M. et al. (2009) stated that the privacy pertaining to the degree of safety and security of the personal information being exploited by anyone through the lack of website protection. Consumer perception on the security levels of the website at the standpoint of information leakage and financial insecurity of online transactions(Roman, S. 2007).

Growing internet usage, graded security measures and shopping convenience are some of the major determinants to attract the consumers towards online shopping (Joshi &Upadhyay, 2014).

Gopalakrishna et.al (2021) identified some of the factors related to rural consumption such as trust levels, delivery flaws, payment problems, technology training and network problems are most common factors which leads to decrease the interest in online shopping.

Venugopal, K. (2013) stated that the banking transactions through online are accustomed by rural people very fastly and expected to increase exponentially in future due to the various benefits and security standards provided by the bankers. He also stated the difference between branch banking and online banking.

Milking the literature of previous empirical studies, the variables and items taken up for the study are usage of banking cards and internet, financial risk, resource to buy mobiles, preferences suitability, access and advantages, web merchant information, fun to shop online, well-organized appearance from online, effect of reviews, physical shopping, delivery system, replacement policy, suitable to rural life style, navigation deters, safety of personal information.

4. METHODOLOGY

The study areas of the research is the north coastal districts i.e. Srikakulam, Vizianagaram and Visakhapatnam which have high rural density and familiar for backwardness, low education and agricultural dependence. The research design is descriptive and exploratory since the variables have been described and explored with the strengths out of analyses

The research approach is qualitative and quantitative and the data is collected through primary with a self administered questionnaire where the reliability is .954 which shows high reliability of data and Skewness and Kurtosis are also normal as per the standards. The secondary data is collected from different journals,books, magazines and websites. The datainstruments have been distributed to the respondents (Rural Consumers). Thesample size determined itself is 86 since the data collection was carried as a pilot study to measure the reliability and normality of distribution. Further factors analysis is continued to know the scores of components and multiple regression analysis was also conducted to know the strength of each item as well as its explanation on the dependant variable.

5. ANALYSIS

5.1 Factor Analysis: Factor analysis is conducted for the study to extract the suitable factors from all the related variables collected from literature review. To use the same factors further for the regression analysis and instrument development

Table 5.1.1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.936
Bartlett's Test of Sphericity	Approx. Chi-Square	1.014E3
	df	120
	Sig.	.000

As shown in table 5.1.1, the value of The KMO Measure indicates the variance proportion in the variables triggered by underlying factors is 0.936 which is good enough to undergo factor analysis with the data. Significant level of 0.00 signs sound to get along with factor analysis which may be useful with the data.

Table 5.1.2: Communalities

	Initial	Extraction
1. There are lot of better advantages with online shopping than physical shopping	1.000	.674
2. Online shopping is highly suitable to my life style	1.000	.624
3. I find internet is easily accessible and advantageous	1.000	.614
4. My personal purchase preferences suits to buy through online	1.000	.560
5. Delivery system is good with respect to time and safety	1.000	.598
6. I prefer selecting products through well-organized appearance from online	1.000	.626
7. It is fun to shop online	1.000	.514
8. Web merchant provides complete information and comforts for online shopping	1.000	.587
9. Navigation through online store is easy safe and user-friendly	1.000	.671
10. I believe my personal information is safe while answering	1.000	.662
11. I believe there is no financial risk while online shopping	1.000	.537
12. Replacement policy in online shopping is good	1.000	.615
13. Reviews from all online platforms effects my purchase behavior through online	1.000	.651
14. We have less enough resource to buy and use android mobiles	1.000	.324
15. We are facilitated with banking cards and linked with internet	1.000	.629
16. My online shopping is improved significantly	1.000	.655

Extraction Method: Principal Component Analysis.

As can be seen in table 5.1.2, the communalities specified as the variance estimates in all variables accounted for by the components. It can be understood that the communalities are moderately high and thereby shows extracted components representing variables to the considerable extent. Communalities of “Reviews in social media are highly helpful”, and “Information about security through social media is reliable”, are comparatively low in principal components extraction with 0.455 and 0.477 respectively.

Table 5.1.3: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.541	59.632	59.632	9.541	59.632	59.632
2	.908	5.674	65.305			
3	.849	5.306	70.611			
4	.707	4.420	75.031			
5	.593	3.704	78.735			
6	.590	3.684	82.419			
7	.477	2.979	85.398			
8	.440	2.747	88.145			
9	.385	2.404	90.549			
10	.316	1.975	92.523			
11	.263	1.646	94.169			
12	.239	1.492	95.662			
13	.199	1.242	96.904			
14	.175	1.091	97.995			
15	.165	1.029	99.024			
16	.156	.976	100.000			

Extraction Method: Principal Component Analysis.

There is a clear understanding that the requested extracted initial eigenvalues greater than 1 has resulted into seven first components extending 66.809 percent of cumulative initial eigenvalues. Among the 23 listed variables, seven components shows the variability of 67% approximately. So the complexity of the dataset can be reduced through these seven components with almost 33% of lost information.

Table 5.1.4: Component Matrix^a

	Component
	1
1. There are lot of better advantages with online shopping than physical shopping	.821
2. Online shopping is highly suitable to my life style	.790
3. I find internet is easily accessible and advantageous	.784
4. My personal purchase preferences suits to buy through online	.749
5. Delivery system is good with respect to time and safety	.773
6. I prefer selecting products through well-organized appearance from online	.791
7. It is fun to shop online	.717
8. Web merchant provides complete information and comforts for online shopping	.766
9. Navigation through online store is easy safe and user-friendly	.819
10. I believe my personal information is safe while answering	.813
11. I believe there is no financial risk while online shopping	.733
12. Replacement policy in online shopping is good	.784
13. Reviews from all online platforms effects my purchase behavior through online	.807
14. We have less enough resource to buy and use android mobiles	.570
15. We are facilitated with banking cards and linked with internet	.793
16. My online shopping is improved significantly	.809

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

The component factor of single component shows high values of all factors which informs the suitability of factors for the further study of predicting each element's strength with multiple regression analysis.

5.2 Multiple Regression Analysis

Table 5.2.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.847 ^a	.717	.656	.62718

a. Predictors: (Constant), Banking Cards And Internet, No Financial Risk, Less Enough Resource To Buy Mobiles , Preferences Suitability, Access And Advantages , Web Merchant Information, Fun To Shop Online , Well-Organized Appearance From Online , Reviews Effects Purchase Behavior, Better Than Physical Shopping, Delivery System With Time And Safety , Replacement Policy, Suitable To My Life Style, Navigation Is Easy Safe And User-Friendly , Safety Of Personal Information

As shown in table 5.2.1, R Square value is 0.717; it means all the levels of items contributing 71.7 percent in the increase in online shopping of rural customers. The remaining 28.3 percent is being contributed by other unknown variables.

Table 5.2.2: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.767	15	4.651	11.824	.000 ^a
	Residual	27.535	70	.393		
	Total	97.302	85			

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b. Dependent Variable: My online shopping is improved significantly

Table 5.2.2 shows the relationship among the independent variables (items) and the dependent variable i.e. the increase in rural online shopping behaviour. The F value between dependent variable and predictors is 11.824, and the p value is 0.00. Which is highly significant at 0.05 as well as 0.01 levels. On the other hand, we can also conclude whether there is one level in items' increase, there will be the increase of 27.535.

Table 5.2.3: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.306	.316		.968	.336
There are lot of better advantages with online shopping than physical shopping	.245	.107	.247	2.302	.024
Online shopping is highly suitable to my life style	.298	.110	.317	2.716	.008
I find internet is easily accessible and advantageous	.121	.120	.114	1.010	.316
My personal purchase preferences suits to buy through online	.054	.120	.051	.447	.656
Delivery system is good with respect to time and safety	-.040	.109	-.041	-.365	.717
I prefer selecting products through well organized appearance from online	-.119	.102	-.123	-1.161	.249
It is fun to shop online	-.052	.083	-.060	-.625	.534
Web merchant provides complete information and comforts for online shopping	.141	.098	.146	1.445	.153
Navigation through online store is easy safe and user-friendly	-.177	.113	-.184	-1.563	.123
I believe my personal information is safe while answering	.276	.117	.287	2.347	.022
I believe there is no financial risk while online shopping	-.040	.085	-.046	-.472	.638
Replacement policy in online shopping is good	-.008	.104	-.009	-.081	.936
Reviews from all online platforms effects my purchase behavior through online	.073	.111	.071	.655	.515
We have less enough resource to buy and use android mobiles	-.039	.080	-.042	-.487	.628
We are facilitated with banking cards and linked with internet	.235	.111	.238	2.116	.038

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a. Dependent Variable: My online shopping is improved significantly

Increase In Rural Online Shopping Behaviour(IROSB) = 0.306+ (.245) AF1+ (.298) AF2+(.121)IF3+(.054)IF 4+ (-.040) IF 5 + (-.119) IF 6 + (-.052) IF 7 + (.141) IF 8 + (-.177) IF 9 + (.276) IF 10+ (-.040)IF 11+ (-.008) IF 12 + (.073) IF 13 + (-.039) IF 14+ (.235) IF 15

Rural Online Shopping Behaviour being influenced by factors listed above and its regression strengths for IF1 (advantages with online shopping than physical shopping) is 0.549. It can be construed if IF1 is increased by one unit, the rural online shopping behaviour will be enhanced by 0.549. In the same manner, an increase in dependent variable for IF2 (Suitable to life style) is 0.604, IF3 (Internet is easily accessible and advantageous) is 0.427, IF4 (Preferences Suitability) is 0.36, IF5 (Good Delivery system) is 0.266 , IF6 (Organized appearance from online) is 0.187, IF7 (Fun To Shop Online) is 0.254, IF8 (Web merchant information) is 0.447, IF9 (Navigation through online) is 0.129, IF10 (Personal information is safe) is 0.582, IF11 (No financial Risk) is 0.266, IF12 (Replacement Policy) 0.298, IF13(Reviews from all online platforms) 0.379, IF14 (Less enough resource to buy and use android mobiles) is 0.267, IF 15 (Banking cards and linked with internet) is 0.541.

It can be interpreted that the item “Online shopping is highly suitable to my life style” is explaining the most to the dependent variable “Increase in Rural Online Shopping Behaviour” with the coefficient of 0.604 followed by “I believe my personal information is safe while answering” with 0.582 and “There are lot of better advantages with online shopping than physical shopping” with 0.549 as well as “We are facilitated with banking cards and linked with internet” with 0.541. All the above four items shows significance with the p values of 0.008, 0.022, 0.024 and 0.038 respectively which are significant at 0.05 level..On the other hand, the least explained by “Navigation through online store is easy safe and user-friendly” with 0.129 followed by “I prefer selecting products through well-organized appearance from online” with 0.187.

Conclusions:

- The life styles of rural consumers more of aged between 20-30, are highly connected with the usage of internet through mobiles it is found that most of them feel that online shopping is suitable to their life style. The usage of smart phones is increased to the

greater extent at the same time the supply of online shoppers has triggered the purchases through online. Rural environment cultured with traditional buying practices have been gradually changing with a strong nurture of the promotions by online shoppers.

- Rural people in general do not have any controversial activities through online for which they do not worry about their personal information will be exploited. Nevertheless rural consumers have less inhibitions in sharing the personal information to online shoppers which reflects the safety and security.
- Being rural traditional buying behavior is strongly associated with physical shopping in the way of shandies, village markets, street vendors and convenient stores. Moreover most of the rural people have a habit of bargaining as well as utilizing credit facility which are not at all possible in physical shopping even though most of the rural consumers find online shopping is more advantageous than physical shopping emphasizing the benefits of increased choices, price discounts, product information, easy order processing, benefits through banking cards etc.,
- Navigation through online store is found to be critical since most of the rural consumers are novice enough and also the disturbances of internet flow make browsing more vulnerable some times. So navigation is found unsafe and user unfriendly which should be improved by marketers in terms of easy access as well as provide the uninterrupted internet flow.
- Rural people sometimes get flummoxed to select the best of innumerable products established with lot of benefits. So they may go back to rocks where a limited selection exposure is invested by consumers.

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