



# IJRASET

International Journal For Research in  
Applied Science and Engineering Technology



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# INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

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**Volume:** 11    **Issue:** V    **Month of publication:** May 2023

**DOI:** <https://doi.org/10.22214/ijraset.2023.53301>

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# A Study on Factors Influencing Consumer's Online Buying Behavior: A Study in Bihar, India

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**Abstract:** In today's era of globalization electronic business and marketing become a great revolution. Over the last decade maximum business organizations took up the technological changes. Due to increase in telecommunication and broadband connectivity, majority of the companies started their business online. Online shopping or online marketing is now used for better marketing performance to meet the demand of online shoppers. It is important for the companies to identify consumer behavior in area of online shopping, to attract and enhance online buyers by understanding their attitude, perception and behavior. This paper identifies the key factors that influence the online behavior of the customers in Bihar. A sample of 200 respondents was selected in Bihar and a self-administered questionnaire was used to collect primary data. The data was recorded by using Google data form with number of open, close ended questions, and the Likert Scale. An attempt was made to test the hypothesis and analyzed the data with the help of SPSS version 25.0 and AMOS software. The findings of the study showed that the Socio, Economic Conditions in Bihar, Attitudes & Perceptions of Customers, Trust on Banking/UPI payment Systems, Reliability and Popularity of E- Commerce Apps and On-line Products Marketing are influencing the online purchases of products in Bihar

**Keywords:** e-Customer Satisfaction, Effective Mobile Banking & UPI Services, Good Attitude towards online shopping, e-Service Quality, Online Shopping, Behavior, Online Customers

## I. INTRODUCTION

Service quality, customer satisfaction, and customer loyalty have been a topic of great interest to marketing researchers (Yas, Harith et al 2020). Electronic Commerce is the latest business channel, which helps in selling and buying goods and providing services through technology channel, called as the World Wide Web or Internet. In present scenario E-commerce is playing very important and basis role in online business practices. E-Shopping is a boon as it saves lot of time. Online shopping is a process whereby consumers directly buy goods, services etc. from a seller without an intermediary service over the Internet. Shoppers can visit web stores from the comfort of their house and shop as by sitting in front of the computer. Online stores are usually available 24 hours a day and many consumers have internet access both at work and at home. So it is very convenient for them to shop Online. One of the most enticing factors about online shopping, particularly during holiday season is, it alleviates the need to wait in long lines or search from a store for a particular item. Variety of goods is available in online (C.K.Sunitha, & Gnanadhas, Edwin 2014). The understanding the consumer's attitudes towards online shopping, new innovative strategies, making improvement in the factors that influence consumers to shop online and working on factors that affect consumers to shop online will help marketers to gain the competitive edge over others (Azad et al 2019). Similarly, the cross-border e-commerce destinations should promote consumer online shopping across the borders with proper strategies to get cross-border e-commerce sustainability (Xiao, L., Guo, F., Yu, F., & Liu, S 2019). Data from an online survey of 200 online consumers from the North- East part of Bihar, India has been used in the study. The analytical results showed that three dimensions of e-service quality, namely website design; security/privacy and fulfillment affect overall e-service quality. Meanwhile, customer service is not significantly related to overall e-service quality. Overall e-service quality is statistically significantly related to customer behavior. The study was conducted in urban areas of Bihar and all respondents were requested to answer questions related to the various factors influencing their online shopping through pre-structured Google forms. The previous research has not empirically verified the precise effect of online shopping context and perceived value on consumers' online purchase intention in Bihar. To address this gap, this study analyzes the demographics of online customers and also other variables influence e- Customer buying behavior in Bihar North- East Region. The main Objectives of the study are to identify various demographic factors of on-line customers selected for the study; to know the Attitudes & Perceptions & Trust of e-Customers on Banking/UPI payment Systems; to know the Reliability and Popularity of E-Commerce Apps and On-line Products Marketing; to find out the influencing factors that consumers concerns while shopping online; to identify the effect of those factors on online buying behavior of shoppers.

An attempt is made to test the hypothesis whether the set-I, II, III & IV variables have any association with The overall e-Service quality (eSQV) and Good Attitude towards online Shopping (GAOS) and also exert any influence on e-Customer Satisfaction in Online Shopping and revealed that certain demographic, attitude, perceptual and behavioral factors exert their influence on the online shopping behavior of the customers.

## II. THE CONCEPTUAL ISSUES

E-Commerce, also known as electronic commerce or Internet commerce, refers to the buying and selling of goods or services with the help of internet, and the transfer of money and data to execute these transactions. E-commerce is often used to refer to the sale of physical products online, but it can also describe any kind of commercial transaction that is facilitated through the internet. (Turban, 2000). Online shopping is a popular form of electronic commerce which helps the customers to purchase products from a wide range of suppliers with the help of web browser or mobile app over internet (Michael Aldrich, 1980). Consumer behavior is the study of the various step-by-step processes involved when individuals or groups search, select, purchase, use, or dispose of products, services, ideas, or experiences to satisfy needs and desires (Solomon, 2004). Consumer behavior refers to the actions and decision processes of people who purchase goods and services for personal consumption. It is a “the mental and emotional processes and the observable behavior of consumers during searching for, purchasing and post consumption of a product or service (Princi Gupta, Padma Misra 2017). The fondness towards online shopping is based on the fact that it helps the consumer to search, inquire, compare and purchase anything from any location that makes it more convenient to purchase products like books, magazine, furniture, households, electronics and may more.

## III. TYPES OF ONLINE SHOPPING

The major types of online shopping are B2B (IndiaMart.com) B2C (Amazon.com, Flipkart.com) 3. C2C (Ebay.in)- based on the market; P2P (i-lend.in), M – Commerce- Based on Technology. e-shop, e-store, Internet shop, web-store, virtual store and online store, Online shopping are the forms of e-commerce which permits consumers to directly purchase goods or services from a seller by using the Internet (Amit, Kumar et al 2014). The other categories are Conservative Shoppers, Rational Shoppers, Hedonistic Shoppers, Spontaneous Shoppers and Vanguard Shoppers.

## IV. ONLINE CUSTOMER SATISFACTION

Customer satisfaction is a model to facilitate results that are significant, consistent and effective to forecasting the financial ability of an organization. The e-service quality that has impact on customer satisfaction, customer trust, and customer behavior, It not only tests the impact of customer satisfaction on customer behavior such as repurchase intention, word of mouth, and site revisit, but also the impact of customer trust. The result is expected to extend the knowledge about different country culture vis-à-vis different relevance of e-service quality attributes. The biggest challenge for online shopping is to provide and maintain customer satisfaction. A key success factor to survive in a fierce competitive e-environment is a strategy that focuses on services. A company must deliver superior service experiences to its customers, so that they will repurchase and be loyal to the firm. In order to obtain high levels of customer satisfaction, high service quality is needed, which often leads to favorable behavioral intentions. A website with good system quality, information quality, and electronic service quality is a key to success in e-commerce (Paulo Rita et al 2019). Risks associated with online shopping should minimize, so that more and more people prefer online shopping. More consumers are indulging into internet shopping due to convenience, 24x7 shopping, doorstep delivery, a broad product selection and the ever-expanding range of unique and unusual gift ideas as well as increased consumer confidence in shopping on the internet is increasing (Azad et al (2019). Online retailers need to reduce the customer perceived risks by making shopping portals easier to navigate, providing secure payment options ensuring quick and quality of delivery to gain and maintain customer trust and loyalty. Efforts need to be taken to educate the online buyers on the steps that need to be undertaken while making an online purchase. The feedback of an online buyer should be captured to identify flaws in service delivery and work towards providing a high customer value (Dr. Pratima & Dr. V. Krishna Mohan 2022).

## V. LITERATURE REVIEW

Online Vs Offline Shopping: In traditional shopping, the surrounding environment is the key factor which influences the consumer's perception. The factors associated with environment affect whether the consumers are happy with their shopping experience or not (Sherman et al., 1997). Compare to that, online shopping has very limited amount of experiences and technological abilities require to functions.



All the physical and biological senses are not necessary in online shopping. Due to limited shopping experience factor availability on online, consumers are reluctant to shop online (Lunt, 2000; Dennis et al., 2007). According to Childers et al., (2001) and Demangeot & Broderick (2006) by adding various interactions in online shopping websites can bring consumers experience better. According to Lee & Turban (2001), websites which refers to other websites and constantly navigating are not trusted by the consumers and they avoid these kinds of websites. People who focus trust and always demanding in refunds, return policies, billing problems, exchange policies and faulty products are lesser buyers from online shopping (Monswé et al., 2004). Dellaert & Kahn (1999) observed that during online shopping, if any problem found, customers will wait for only eight seconds and if no response comes from the company, consumers gave up the purchase. In contrast to traditional shopping, most of the online retailers put lots of product, price and delivery information. A recent study undertaken by BCG's Center for Customer Insights to identify the behavior of Indian consumers towards online shopping reveals some important results. BCG has found the behavior of more than 50 different online selling product categories on 10000 consumers in 30 different state locations. They have track the online activity of a subset of consumers, these consumers are chosen for their diversity in terms of age, gender, occupation, urban rural locations, income, and social status. Majority of the Indian consumers use the internet largely for socializing, to update with various Bollywood news, current affairs and window shopping. Internet makes life easy, comfortable and innovative. Majority of the technical savvy entrepreneurs are doing online business and due to this business transactions become more convenient and fast. Internet and related technologies provides new ways to promote business and expand business. Trade and company websites becomes the centre of attraction for online marketers to show & sell their services and products. Internet becomes a platform where all competitors and consumers come together. It becomes a new way to promote, advertise and sell their products and services in market. (Barry Silverstein, 2002). Unlike a physical store, all the goods in online stores described through text, with photos, and with multimedia files. Many online stores will provide links for much extra information about their product. On the other hand, some online consumers are an adventurous explorer, fun seeker, shopping lover, and some are technology muddler, hate waiting for the product to ship. Online Shopping saves time during the purchasing of goods, because it eliminates the travelling time required to go to the traditional store. Consumer can purchase products 24X7, it also provides products at minimum possible price, and consumer gets offers and discounts on purchasing products online. The consumers have set their mind to do online shopping due to the discounts, gift, and quality factor in e-store. (Anders Hasslinger, (2007). Online platforms like Amazon, e-Bay have provided various financial and other fringe benefits to SMEs to sell their product online. Online market place provides the SMEs to focus on their core competencies, web presence, marketing & payment services, customer base and wide geographical area to enhance their business and revenue. The major activities associated with online shopping are: Shopping, Banking, Investing and Payment (Awad, 2000). With the passing of days, competition among various online platforms becomes very stiff. Most of the retailers provide same kind of products and services, due to that attract customers and retaining the same customer becomes a major headache for the online retailers. Many researchers have conducted investigations for identifying the driving factors which affect consumer's online shopping behavior, what drive consumer's to buy online?, What Makes Consumers Buy from Internet?, Barriers to Online Shopping in Switzerland, Buying is one of the most important variables in consumer behavior. Conditions of competition are changing rapidly today and companies that strategize and react to these changes promptly and quickly are the most successful. Online buying is a form of electronic commerce which allows consumers to directly buy goods and services from a seller over the Internet (P.Ranjitha and Dr.K.Krishnakumar 2020). Privacy and security should be given more importance when strategies regarding online shopping by owners of these online stores (Azad et al 2019). Big brands like Amazon,Flipkart,Alibaba have proved that ,if the marketing mix strategies namely Product, pricing, promotional, place mix is being implemented judiciously it will result in retaining existing customers, creating new ones and increasing the profits of thee business multifold and attainment of organizational objectives (Chaturvedi, Molly 2022). Online retailers need to reduce the customer perceived risks by making shopping portals easier to navigate, providing secure payment options ensuring quick and quality of delivery to gain and maintain customer trust and loyalty. Efforts need to be taken to educate the online buyers on the steps that need to be undertaken while making an online purchase. The feedback of an online buyer should be captured to identify flaws in service delivery and work towards proving a high customer value (Dr. Pratima & Dr. V. Krishna Mohan 2022).

## VI. METHODOLOGY

The study was conducted in urban areas of Bihar and all respondents were requested to answer questions related to the various factors influencing their online shopping through pre- structured Google forms. The total responses received are 236, but considered only 200 respondents who are good enough to consider for the present research. The data collected on respondent's demographic aspects via, various questions in the past part, part-II comprises questions on likert 5 point scale 1 to 5 from bad to very good.

More than 22 behavioral/qualitative questions are asked to collect the Overall e- service quality, Good attitude towards online shopping, Customer behavior and e- Customer satisfaction.

**The statement of problem:** Indians are traditionally conservative in their approach to shopping; their online shopping behavior is needed to be understood by the shoppers to penetrate the markets. The research questions are How do demographic factors impact consumer buying behavior on the internet?, How do M- Servqual factors impact consumer buying behavior over the internet? and What is the overall major factors influence towards online shopping?. **The main Research Objectives are** To identify various dimensions that consumers concerns while shopping online and To identify effect of dimensions on online buying behavior of shoppers.

**A. Research Design**

The Hypothesis & testing of the study is specified below

- 1) *H01- Reliability, Responsiveness, Website Design & Information, Ease of Use, Quality, Privacy and Security, haven't any positive association with overall e-service quality*
- 2) *H02- Socio, Economic Conditions in Bihar, Secured and trustable, Good SMS Services, Good Compliant Handling, Effective Mobile Banking, Effective UPI Services haven't any positive association with overall e-service quality*
- 3) *H03- Trust on E- Commerce platform, Online shopping saves time , Convenient type of shopping, Affordable cost, Ratings haven't any positive association with Good Attitude towards online shopping*
- 4) *H04- Promotion and advertisement efficiency, Free or low cost delivery charges, Easier for finding products, Guarantee and warrantee of goods haven't any positive association with Good Attitude towards online shopping*
- 5) *H05 - There is no significant impact of overall e- service quality variables on e- customer satisfaction & Good Attitude towards online shopping in online shopping of the respondents selected for the study*

| Hypothesis | Hypothesis Statement   | Conclusion    |
|------------|--|---------------|
| H11        | <i>Reliability, Responsiveness, Website Design &amp; Information, Ease of Use, Quality, Privacy and Security, have a positive association with overall e-service quality</i>   | H11 supported |
| H12        | <i>Socio, Economic Conditions in Bihar, Secured and trustable, Good SMS Services, Good Compliant Handling, Effective Mobile Banking, and Effective UPI Services have a positive association with overall e-service quality</i> | H12 supported |
| H13        | <i>Trust on E- Commerce platform, Online shopping saves time , Convenient type of shopping, Affordable cost, Ratings have a positive association with Good Attitude towards online shopping</i>                                | H13 supported |
| H14        | <i>Promotion and advertisement efficiency, Free or low cost delivery charges, Easier for finding products, Guarantee and warrantee of goods have a positive association with Good Attitude towards online shopping</i>         | H14 supported |
| H15        | <i>There is significant impact of overall e- service quality variables and Good Attitude towards online shopping on e- customer satisfaction in online shopping of the respondents selected for the study</i>                  | H15 supported |

**VII. STUDY ANALYSIS:**

**A. Primary Analysis**

The Respondents as per the sample are 200, About 58.2% respondents belongs to age group 16 to 25, followed by the age group 26 to 40, about 27.8%) and age group above 40 are about 14%. About 54.2% per cent are female customers and the Rest of them are male customers (About 45.8per cent). The occupation of the respondents has been elicited. The results suggested that respondents having age group in 16 to 25 purchase more products online compare to other group.

Their contribution in online purchase is more than 50% compare to other age group. 38.1% respondents have their own business, followed by about 18.6% respondents engage in professional work, public or private job holders about 28.1% and rest of the sample respondents about 15.2 % are household and students. About 90 per cent of the respondents have opined that they have dependents. Rest of them representing (about 7.9 per cent) have no dependents and belongs to nuclear families. The details of the educational qualification of the respondents have also been elicited. About 44 per cent of the respondents have UG degree, followed by PG degree (about 36 per cent), Rest of them includes SSC, Inter, Non formal Education. About 46.5 per cent of the respondents have opined that they have Bank Accounts (Savings Bank or Current Bank or Both) with SBI, followed by Canara Bank (about 15.5 per cent), AXIS Bank (about 11.5 per cent) Indian Overseas bank (about 10 per cent), Indian Bank (about 5.5 per cent) and rest of them belongs to other public and private sector commercial banks. About 65 per cent of the respondents are SB Account holders only, followed by CA Holders (about 19.5 per cent) and Rest of them belongs to the category of the holders of both or multiple accounts. The Respondents knowledge on the online shopping has been elicited. About 68 per cent of the respondents have opined that they have very good/full knowledge on bank services, followed by good knowledge (about 20 per cent), average knowledge (about 15.5 per cent) and rest of them have very limited or no knowledge in online shopping and can have services with the help of others. About 54.2 per cent of the respondents have come under 1 to 5 years category of experience in performing online shopping, followed by 5 to 10 years (about 25.8 per cent) and Rest of them (about 20 per cent) belongs to up to 1 year experience in using online shopping. The satisfaction regarding online shopping services has been elicited from the respondents. About 55.9 per cent of the respondents have opined that they are fully satisfied with e- online shopping services provided by the online shopping platforms, followed by the response (about 20 per cent) not satisfied fully with the online shopping platforms due to several reasons and rest of them (about 24.1 per cent) have neutral opinion towards online shopping. The main problems that the respondents have had encountered are Technical Problems (about 30 per cent), followed by delays in delivery of orders (about 20 per cent), Defective Goods Delivery (about 15 per cent), Internet connectivity break down (about 12 per cent), Rural Area Limitation (about 10 per cent). Privacy and Security (about 8 per cent), Rest of them includes non-availability of delivery centers, on line frauds and Rigidness in Services etc.

UPI-Payments via, Phone pe, Paytm, Google pay, PhonePe, BHIM app, MobiKwik, Google Tez, Uber, Chillr, SBI Pay, iMobile, Axis Pay, BOB UPI are the best online means to perform online shopping by the customers. The main Online Payments via, E-banking are Grocery payments (about 31.5 per cent), followed by; Food payments through UPI and Special Food apps (about 30 per cent) via (Zomato (about 28.5 per cent), Swiggy (about 18.5 per cent), Shupple (about 13.5 per cent), Uber Eats (about 13.5 per cent), Food Panda (about 11.5 per cent), Scootsy (about 8.5 per cent) and rest of them includes Dunzo, Box8 apps); travelling & ticketing (about 20 per cent), Apparel on line payments (about 10 per cent) and Rest of them includes Movie ticket online booking, Home appliances and other E-bill payments via bank account connectivity. About 43.1 % respondents pay the online shopping expenses by cash on delivery method, followed by Credit card & Debit card about 38.2%, net banking about 1.3% and UPI e-wallets. About 52.4% respondents perform online shopping once in a month, followed by online shopping once in every six months about 37.2% and rest of them about 10.4% of the respondents perform on line shopping regularly once in a week in this part of the country.

The 12 variables in the left hand side represented by I set of variables (v1 to v6) (Reliability, Responsiveness, Website Design & Information, Ease of Use, Quality, Privacy and Security), followed by II set of variables (v7 to v12) (Bank Mobile App, Easy to Use, Good SMS Services, Good Compliant Handling, Effective Mobile Banking, and Effective UPI Services), followed by 8 variables on the left side namely, III set of Variables-V1 (Online shopping is secured and trustable, Online shopping saves time, Convenient type of shopping, Affordable cost, Ratings), IV set of Variables- V2 (Promotion and advertisement efficiency, Free or low cost delivery charges, Easier for finding products, Guarantee and warrantee of goods) are taken in to study and assess their association with e-SQV (overall e-service quality) and GAOS (Good Attitude towards online shopping) respectively with the help of Pearson correlation coefficient (r), T & P- values.

Later, Regression Analysis is used to find out the impact of the two independent factors (overall e-service quality and Good Attitude towards online shopping) on the dependent factor e- Customer satisfaction in online shopping (Figure 7.1). The Reliability Statistics shows that Cronbach's Alpha .473, Cronbach's Alpha Based on Standardized Items .712 and N of Items 22. It infers that the variables taken for the study are significant and reliable. Similarly, the Summary Item Statistics displays that the values of item mean and variance are significant and also, the ANOVA with Cochran's Test demonstrates that the Cochran's Q value is 2977.477 which is significant at .001 level.



Figure 7.1: Rao's Research Model on e- Customer Satisfaction

Table 7.1: The Association between I set of variables (v1 to v6)- Attitudes &Perceptions of Customers and e- SERVQUAL (esqv)

| Parameter                           | Reliability   | Responsiveness | Website Design | Information   | Ease of Use, Quality | Privacy and Security, |
|-------------------------------------|---------------|----------------|----------------|---------------|----------------------|-----------------------|
| Pearson correlation coefficient (r) | 0.4864        | 0.5155         | 0.3756         | 0.1488        | 0.3491               | 0.1789                |
| P-value                             | 4.384e-7      | 5.551e-15      | 4.226e-8       | 0.03553       | 4.053e-7             | 0.01123               |
| Covariance                          | 0.4505        | 0.3352         | 0.2775         | 0.09769       | 0.2502               | 0.3157                |
| Sample size (n)                     | 200           | 200            | 200            | 200           | 200                  | 200                   |
| Statistic                           | 5.4264        | 8.4659         | 5.7035         | 2.1167        | 5.2422               | 2.5594                |
|                                     | H11 Supported | H11 Supported  | H11 Supported  | H11 Supported | H11 Supported        | H11 Supported         |

Source: Study Analysis

The association between I set of variables (v1 to v6) and e- SERVQUAL (esqv) factors via, Reliability, Responsiveness, Website Design & Information, Ease of Use, Quality, Privacy and Security is calculated with the help of Pearson correlation coefficient (r), T & P- values. **Reliability:** Since the p-value <  $\alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 4.226e-7. It means that the chance of type I error (rejecting a correct  $H_0$ ) is small. The smaller the p-value the more it supports  $H_1$ . The test statistic T equals 5.4264 followed by **Responsiveness:** Since the p-value <  $\alpha$ ,  $H_0$  is rejected. The population's correlation is considered to be not equal to the expected correlation (0). The p-value equals 5.551e-15, ( $P(x \leq 8.4659) = 1$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 5.551e-15 (5.6e-13%); **Website Design:** Since the p-value <  $\alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 4.226e-8, ( $P(x \leq 5.7035) = 1$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 4.226e-8 (0.000042%). The test statistic T equals 5.7035, which is not in the 95% region of acceptance: [-1.972, 1.972]. The 95% confidence interval of correlation is: [0.2499, 0.4889]; **Information:** Since the p-value <  $\alpha$ ,  $H_0$  is rejected.



The p-value equals 0.03553, ( $P(x \leq 2.1167) = 0.9822$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 0.03553 (3.55%). The test statistic T equals 2.1167, which is not in the 95% region of acceptance: [-1.972, 1.972]. The 95% confidence interval of correlation is: [0.01022, 0.2817]. *Ease of Use, Quality*: Since the p-value  $< \alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 4.053e-7, ( $P(x \leq 5.2422) = 1$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 4.053e-7 (0.000041%). The test statistic T equals 5.2422, which is not in the 95% region of acceptance: [-1.972, 1.972]. The 95% confidence interval of correlation is: [0.2211, 0.4653] and *Privacy and Security*: Since the p-value  $< \alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 0.01123, ( $P(x \leq 2.5594) = 0.9944$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 0.01123 (1.12%). Smaller the p-value the more it supports  $H_1$ . The test statistic T equals 2.5594, which is not in the 95% region of acceptance: [-1.972, 1.972]. The 95% confidence interval of correlation is: [0.04123, 0.31]. It infers that *Reliability, Responsiveness, Website Design & Information, Ease of Use, Quality, Privacy and Security*, have a positive association with overall e-service quality Hence,  $H_{01}$  is rejected and  $H_{11}$  is accepted (Table 7.1).

Table 7.2: The Association between 2 set of variables (v7 to v12)-Trust on Banking/UPI payment systems and e- SERVQUAL (esqv)

| Parameter                           | Socio, Economic Conditions in Bihar | Secured and trustable | Good SMS Services | Bank Mobile App | Effective Mobile Banking | Effective UPI Services |
|-------------------------------------|-------------------------------------|-----------------------|-------------------|-----------------|--------------------------|------------------------|
| Pearson correlation coefficient (r) | 0.1276                              | 0.4793                | 0.6637            | 0.4088          | 0.2318                   | 0.1468                 |
| P-value                             | 0.07171                             | 6.95e-13              | 0                 | 1.544e-9        | 0.0009015                | 0.03703                |
| Covariance                          | 0.05724                             | 0.3799                | 0.8347            | 0.5163          | 0.3004                   | 0.6177                 |
| Sample size (n)                     | 202                                 | 202                   | 202               | 202             | 202                      | 202                    |
| Statistic                           | 1.8107                              | 7.685                 | 12.5472           | 6.3343          | 3.3701                   | 2.0995                 |
|                                     | $H_{02}$ cannot be rejected.        | H12 Supported         | H12 Supported     | H12 Supported   | H12 Supported            | H12 Supported          |

Source: Study Analysis

The association between II set of variables (v7 to v12) and e- SERVQUAL (esqv) factors via, Socio, Economic Conditions in Bihar, Secured and trustable, Good SMS Services, Good Compliant Handling, Effective Mobile Banking, and Effective UPI Services is calculated with the help of Pearson correlation coefficient (r), T & P- values. *Good Compliant Handling*: Since the p-value  $> \alpha$ ,  $H_0$  cannot be rejected. The difference between the sample correlation and the expected correlation is not big enough to be statistically significant, followed by *Good SMS Services*: Since the p-value  $< \alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 0, ( $P(x \leq 12.5472) = 1$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 0 (0%). The smaller the p-value the more it supports  $H_1$ . The test statistic T equals 12.5472, which is not in the 95% region of acceptance: [-1.9719, 1.9719]. The 95% confidence interval of correlation is: [0.5786, 0.7344]; *Bank Mobile App*: Since the p-value  $< \alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 1.544e-9, ( $P(x \leq 6.3343) = 1$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 1.544e-9 (1.5e-7%). The smaller the p-value the more it supports  $H_1$ . The test statistic T equals 6.3343, which is not in the 95% region of acceptance: [-1.9719, 1.9719]; *Effective Mobile Banking*: Since the p-value  $< \alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 0.0009015, ( $P(x \leq 3.3701) = 0.9995$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 0.0009015 (0.09%).



The test statistic T equals 3.3701, which is not in the 95% region of acceptance: [-1.9719, 1.9719]. The 95% confidence interval of correlation is: [0.09686, 0.3584] and *Effective UPI Services*: Since the p-value <  $\alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 0.03703, ( $P(x \leq 2.0995) = 0.9815$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 0.03703 (3.7%). The smaller the p-value the more it supports  $H_1$ . The test statistic T equals 2.0995, which is not in the 95% region of acceptance: [-1.9719, 1.9719]. The 95% confidence interval of correlation is: [0.008978, 0.2792]. *It infers that Socio, Economic Conditions in Bihar, Secured and trustable, Good SMS Services, Good Compliant Handling, Effective Mobile Banking, and Effective UPI Services* have a positive association with overall e-service quality. Hence,  $H_{02}$  is rejected and  $H_{12}$  is accepted (Table 7.2).

Table 7.3: The Association between III set of variables (V1 to V4)-Reliability and Popularity of E- Commerce Apps and Good Attitude towards online shopping (GAOS)

| Parameter                           | <i>Trust on E-Commerce platform</i> | <i>Online shopping saves time</i> | <i>Convenient type of shopping</i> | <i>Affordable cost</i> |
|-------------------------------------|-------------------------------------|-----------------------------------|------------------------------------|------------------------|
| Pearson correlation coefficient (r) | <b>0.1468</b>                       | <b>0.2449</b>                     | <b>0.5155</b>                      | <b>0.1921</b>          |
| P-value                             | 0.03703                             | 0.0004425                         | 5.551e-15                          | 0.006428               |
| Covariance                          | 0.6177                              | 0.2821                            | 0.3352                             | 0.05719                |
| Sample size (n)                     | 202                                 | 202                               | 200                                | 200                    |
| Statistic                           | 2.0995                              | 3.5729                            | 8.4659                             | 2.7544                 |
|                                     | H13 Supported                       | H13 Supported                     | H13 Supported                      | H13 Supported          |

Source: Study Analysis

The association between III set of variables (V1 to V4) and Good Attitude towards online shopping (GAOS) factors via, *Trust on E-Commerce platform, Online shopping saves time, Convenient type of shopping, Affordable cost, Ratings* is calculated with the help of Pearson correlation coefficient (r), T & P- values. *Secured and trustable*: Since the p-value <  $\alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 0.03703, ( $P(x \leq 2.0995) = 0.9815$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 0.03703 (3.7%). The smaller the p-value the more it supports  $H_1$ . The test statistic T equals 2.0995, which is not in the 95% region of acceptance: [-1.9719, 1.9719]. The 95% confidence interval of correlation is: [0.008978, 0.2792], followed by *Online shopping saves time*: Since the p-value <  $\alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 0.0004425, ( $P(x \leq 3.5729) = 0.9998$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 0.0004425 (0.044%). The smaller the p-value the more it supports  $H_1$ . The test statistic T equals 3.5729, which is not in the 95% region of acceptance: [-1.9719, 1.9719]. The 95% confidence interval of correlation is: [0.1106, 0.3705]; *Convenient type of shopping*: Since the p-value <  $\alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 5.551e-15, ( $P(x \leq 8.4659) = 1$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 5.551e-15 (5.6e-13%). The smaller the p-value the more it supports  $H_1$ . The test statistic T equals 8.4659, which is not in the 95% region of acceptance: [-1.972, 1.972]. The 95% confidence interval of correlation is: [0.4058, 0.6106] and *Affordable cost*: Since the p-value <  $\alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 0.006428, ( $P(x \leq 2.7544) = 0.9968$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 0.006428 (0.64%). The smaller the p-value the more it supports  $H_1$ . The test statistic T equals 2.7544, which is not in the 95% region of acceptance: [-1.972, 1.972]. The 95% confidence interval of correlation is: [0.05482, 0.3223]. Hence, it is inferred that *the Trust on E-Commerce platform, Online shopping saves time, Convenient type of shopping, Affordable cost, Ratings* have a positive association with Good Attitude towards online shopping. Hence,  $H_{03}$  is rejected and  $H_{13}$  is accepted (Table 7.3).

Table 7.4: The Association between IV set of variables (V5to V8)- On-line Products Marketing and Good Attitude towards online shopping (GAOS)

| Parameter                           | <i>Promotion and advertisement efficiency</i> | <i>Free or low cost delivery charges</i> | <i>Easier for finding products</i> | <i>Guarantee and warrantee of goods</i> |
|-------------------------------------|---|--|------------------------------------|---|
| Pearson correlation coefficient (r) | <b>0.5368</b>                                 | <b>-0.06065</b>                          | <b>0.4083</b>                      | <b>0.172</b>                            |
| P-value                             | 2.22e-16                                      | 0.3936                                   | 1.961e-9                           | 0.01486                                 |
| Covariance                          | 0.6913  | -0.03487                                 | 0.3454                             | 0.3699                                  |
| Sample size (n)                     | 200   | 200                                      | 200                                | 200                                     |
| Statistic                           | 8.9968  | -0.855                                   | 6.293                              | 2.4573                                  |
|                                     | H14 Supported                                 | H04 Not rejected                         | H14 Supported                      | H14 Supported                           |

Source: Study Analysis

The association between IV set of variables (V5 to V8) via, *Promotion and advertisement efficiency*, *Free or low cost delivery charges*, *Easier for finding products*, *Guarantee and warrantee of goods* and *Good Attitude towards online shopping (GAOS)* is calculated with the help of Pearson correlation coefficient (r), T & P- values. *Promotion and advertisement efficiency*: Since the p-value <  $\alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 2.22e-16, ( $P(x \leq 8.9968) = 1$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 2.22e-16 (2.2e-14%). The smaller the p-value the more it supports  $H_1$ . The test statistic T equals 8.9968, which is not in the 95% region of acceptance: [-1.9719, 1.9719]. The 95% confidence interval of correlation is: [0.4306, 0.6283] followed by *Free or low cost delivery charges*: Since the p-value >  $\alpha$ ,  $H_0$  cannot be rejected. The difference between the sample correlation and the expected correlation is not big enough to be statistically significant. A non-significance result cannot prove that  $H_0$  is correct, only that the null assumption cannot be rejected. The p-value equals 0.3936, ( $P(x \leq -0.855) = 0.1968$ ). It means that the chance of type I error, rejecting a correct  $H_0$ , is too high: 0.3936 (39.36%). The larger the p-value the more it supports  $H_0$ . The test statistic T equals -0.855, which is in the 95% region of acceptance: [-1.972, 1.972]. The 95% confidence interval of correlation is: [-0.1977, 0.07875]; *Easier for finding products*: Since the p-value <  $\alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 1.961e-9, ( $P(x \leq 6.293) = 1$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 1.961e-9 (2e-7%). The smaller the p-value the more it supports  $H_1$ . The test statistic T equals 6.293, which is not in the 95% region of acceptance: [-1.972, 1.972]. The 95% confidence interval of correlation is: [0.2857, 0.5177] and *Guarantee and warrantee of goods*: Since the p-value <  $\alpha$ ,  $H_0$  is rejected. The difference between the sample correlation and the expected correlation is big enough to be statistically significant. The p-value equals 0.01486, ( $P(x \leq 2.4573) = 0.9926$ ). It means that the chance of type I error (rejecting a correct  $H_0$ ) is small: 0.01486 (1.49%). The smaller the p-value the more it supports  $H_1$ . The test statistic T equals 2.4573, which is not in the 95% region of acceptance: [-1.972, 1.972]. The 95% confidence interval of correlation is: [0.03411, 0.3035]. It infers that *Promotion and advertisement efficiency*, *Free or low cost delivery charges*, *Easier for finding products*, *Guarantee and warrantee of goods* have a positive association with *Good Attitude towards online shopping*. Hence,  $H04$  is rejected and  $H14$  is accepted (Table 7.4).

### B. Regression Analysis

The relationship between a response (dependent) variable and a number of explanatory (independent) variables is calculated with help of Regression Analysis. We also predict the future value of the dependent variable using the established relationship. Standard errors should be computed in accordance with the complexity of the sampling designs; neglect of that complexity is a common source of serious mistakes. In this chapter we will consider regression analysis from complex survey designs under design-based, model-based, and model/design-based approaches. e- Customer satisfaction in online shopping is influenced by several actors which can be grouped under two heads via, 1.

Overall e- service quality and 2. Good attitude towards online shopping. .In the present study, an attempt has been made to analyze the influence of the above two factors on e-Customer satisfaction. The adjusted R square .213 reveals that there is about 21 per cent of combined influences of the two independent factors that representing the 4 sets of 20 variables, (1v-6 variables,2v-6 variables, V1- 4 variables and V2- 4 variables) on the Dependent Variable: e- Customer satisfaction (Table-7.5).

Table7.5: Model Summary

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .461 <sup>a</sup> | .213     | .180              | .34342                     |

a. Predictors: (Constant), v1,v2- overall e-service quality & V1, V2- *Good Attitude towards online shopping*

Table 7.8: ANOVA<sup>a</sup>

| Model |            | Sum of Squares | df  | Mean Square | F     | Sig.               |
|-------|------------|----------------|-----|-------------|-------|--------------------|
| 1     | Regression | 6.094          | 8   | .762        | 6.459 | <.001 <sup>b</sup> |
|       | Residual   | 22.526         | 191 | .118        |       |                    |
|       | Total      | 28.620         | 199 |             |       |                    |

a. Dependent Variable: *e- customer satisfaction in online shopping*

b. Predictors: (Constant), v1,v2- overall e-service quality & V1, V2- *Good Attitude towards online shopping*

There is a significant difference that has been found in the influence of such independent variables on the dependent variable (F- 6.459, significant at 0.01 levels) (Table- 7.8). It infers that e- Customer satisfaction in online shopping is influenced by the factors via, Overall e- service quality and Good attitude towards online shopping. Hence, H05 is rejected and H15 is accepted.

### VIII. SCOPE, FINDINGS AND CONCLUSIONS OF THE STUDY

This study focused on factors influencing consumer’s online buying behavior. It is very important to know the factors that influence consumer buying decision to formulate strategies of advertisement and know what the customer wants from the company. Customer satisfaction can be achieved with the optimum utilization of effective marketing mix and strategies. An online buying decision gets influenced by several Psychographic, Demographic, and Socio Cultural Variables (Chaturvedi, Molly 2022).The target respondents were the people who are internet users and live in urban areas of Bihar. These samples were selected because the respondents who use internet are techno savvy and they are pioneer towards online shopping. Future research should consider a variety of product segments and/or other industries to make sure that the measurement works equally well. In other industry setting, the measurement may need to be adjusted. Future research could also use different methodologies such as focus group and interviews. The findings of the study reveal that customers in the age 16 to 40 are the prolific customers who purchase the products online compare to above 40 years age group people. This will help the retailers to develop strategy according to various age groups. Male respondents are more than the female married respondents. Majority respondents are doing job and have formal education that have monthly income in between 50001 – 100000, do shopping once in a month, mostly purchase, Amazon followed by Flipkart and Snapdeal. For apparel shopping, they prefer Jabong followed by Myntra. The conclusions of the study are that the studying these unique characteristics of online shopping and consumer behavior of online shoppers would benefit the tech-entrepreneurs and policymakers to craft their strategies properly for the market. This study empirically reveals the consumer behavior of online shoppers in Bihar, India. The study gives a clear picture to various retailers and helps them to understand the specific factors considered in the present study and role of these factors in consumer buying behavior over internet. The demographic factors and their role in various factors also covered in this study, this will help the retailers to identify the attitudes of various demographical factors towards online shopping. The result of age, education, income, occupation wise indicates that there is significant difference in with respect to these categories in buying intention of customers in online shopping platform. Results indicate that, overall, the independent variables have a significant positive influence on online behavior of shoppers. Finally, to ensure continued success of the yet-evolving e-commerce ecosystem, it is essential to involve all stakeholders—consumers, marketers, sellers, website managers as well as developers—in the service or product development. A customized and personalized online shopping experience will be the face of future e-commerce services, and online vendors need to build innovative service offerings using advanced technologies.

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