



# "Influence Of E-Commerce On Consumer Purchasing Patterns For Electronic Goods In North Karnataka"

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ARTICLE INFO	ABSTRACT
	<p>The first chapter of the thesis, titled "Influence of E-Commerce on Consumer Purchasing Patterns for Electronic Goods in North Karnataka" serves as an introductory exploration into the dynamic interplay between e-commerce and consumer behavior in the realm of electronic goods. This chapter sets the stage by elucidating the transformative influence of the internet and e-commerce on modern consumer habits, particularly focusing on the North Karnataka region.</p> <p>The chapter begins by acknowledging the pivotal role of the internet in reshaping how consumers research and purchase electronic goods. It highlights the convenience and speed offered by online markets, which have become a preferred avenue for many consumers seeking electronic products. The World Wide Web (WWW) and internet technologies have not only revolutionized information access but have also become integral to the business landscape, necessitating a deeper understanding of online consumer behavior.</p> <p>Furthermore, the chapter delves into the evolution of e-commerce in India, emphasizing the growing trends in online shopping and the advantages and disadvantages associated with this mode of commerce. It explores the determinants and types of consumer buying behavior, shedding light on the factors that influence purchasing decisions in the context of electronic goods.</p> <p>Additionally, the chapter provides insights into the top electronic companies and popular online electronics shopping sites in India, offering a snapshot of the electronic goods market. It also discusses the impact of e-commerce on online buying behavior, considering the unique challenges and opportunities.</p> <p>The second chapter transitions into a detailed review of the literature, spanning from 2006 to 2021, to glean insights from previous studies and identify research gaps. This literature review sets the groundwork for the present study's objectives, which aim to comprehensively understand and analyze consumer buying behavior towards electronic goods in the North Karnataka region within the e-commerce landscape.</p> <p>The subsequent chapters of the thesis delve into data collection, analysis, interpretation, and findings, culminating in a comprehensive exploration of the impact of e-commerce on consumer behavior regarding electronic goods. The study's conclusions and recommendations provide valuable insights for businesses, policymakers, and researchers interested in navigating the evolving e-commerce ecosystem and effectively catering to consumer preferences and needs in the North Karnataka region.</p> <p><b>Keywords:</b> Online shopping, Consumer behavior, E-commerce &amp; the effects of e-commerce</p>

## 1. INTRODUCTION

The concept of e-commerce took shape in 1991, a time when the internet was virtually non-existent in India. Globally, only a handful of individuals grasped the potential for buying and selling goods and services over the internet to become as widespread as it is today. By the late 1990s, consumer awareness of the internet began to grow, although many viewed it primarily as a source of entertainment rather than a necessity. [1]It wasn't until 2002, with the introduction of an online reservation system by the Indian Railway Catering and

Tourism Corporation (IRCTC), that the Indian public truly embraced the internet as a valuable tool in their lives.

During this period, companies like Amazon had already established themselves in the US, setting the stage for the digital revolution that India would experience in the following years. With over 50% of the country's population now accessing internet-enabled devices, India has become a fertile ground for internet-based businesses, with the e-commerce industry emerging as the biggest beneficiary. According to a report by the India Brand Equity Foundation (IBEF), the revenue generated by the e-commerce industry in India is poised to surpass the US\$100 billion mark by 2020.[2]

However, the journey for online businesses in India hasn't always been smooth. Initially, there was a sense of reluctance among the masses to fully embrace the digital platform and all its offerings. This reluctance gradually faded as the benefits and convenience of e-commerce became more apparent, leading to the widespread adoption and success of online businesses across the country.

### **Impact of E-commerce on India's Economic Growth**

The growth of e-commerce in India is driven not only by the increasing penetration of the internet but also by the conducive market environment. E-commerce platforms and electronic automation solutions have experienced a surge in popularity across India. [3]E-commerce has played a pivotal role in connecting rural areas for business activities, contributing to the growth of village economies. The National Report on E-commerce Development in India highlighted a significant rise in internet usage in the country. The number of internet users in India has seen a remarkable increase, reaching 429.23 million in 2017 and expected to reach 829 million by 2021. This substantial growth in internet users is poised to fuel India's internet economy significantly.

The correlation between e-commerce growth and the increasing digital and internet penetration in India is evident. [4]The expansion of digital buyers has led to a proportional rise in internet penetration, facilitating the rapid growth of e-commerce. Technological advancements, particularly in smartphones and internet service providers, have played a crucial role in driving internet penetration and influencing the Indian market.

The Indian government has also allocated substantial funds, amounting to US\$1.55 billion, to initiatives like Bharat Net in the 2017-18 Union Budget, further boosting internet connectivity and e-commerce expansion. This strategic investment in digital infrastructure has had a profound impact on India's economic growth, particularly in the e-commerce sector. The Indian e-commerce industry, which was valued at US\$ 38.5 billion in 2017, is projected to reach a staggering US\$ 200 billion by 2026. The significant increase in internet and smartphone penetration has been a key driver of this growth.

Projections indicate that India's e-commerce revenue will witness substantial growth from US\$ 39 billion in 2017 to US\$ 120 billion in 2020, representing the world's fastest annual growth rate of 51%. This rapid expansion underscores the transformative impact of e-commerce on India's economy, highlighting its role as a key driver of economic growth and digital transformation.[5]

### **Models of E-commerce**

**1. Business-to-business e-commerce (B2B):** Business-to-business e-commerce is a digital business model that involves the electronic exchange of goods and services between businesses. In this model, businesses sell their products or services to wholesalers, who then distribute them to the final consumers. This form of e-commerce streamlines the supply chain process by eliminating intermediaries and facilitating direct transactions between businesses.

**2. Business to Consumer (B2C) e-commerce:** Business to Consumer e-commerce is another prevalent model in electronic commerce. It establishes a direct connection between businesses and individual consumers. Through their online platforms or websites, businesses directly market and sell their goods and services to customers. This model is characterized by personalized marketing strategies, customer-centric services, and efficient delivery mechanisms to cater to the diverse needs of individual consumers.

**3. Consumer to Business (C2B) e-commerce:** Consumer to Business e-commerce represents a unique approach where consumers offer products or services to businesses. This model allows individuals to monetize their skills, expertise, or unused assets by providing them to businesses in exchange for payment. C2B e-commerce platforms enable consumers to showcase their offerings and negotiate terms with interested businesses, fostering a collaborative and mutually beneficial relationship.[6]

**4. Consumer-to-consumer (C2C) e-commerce:** Consumer-to-consumer e-commerce is a dynamic electronic commerce model where individuals act as both buyers and sellers. Platforms like OLX exemplify C2C e-commerce, where consumers list their items for sale and other consumers can purchase them directly. This model promotes peer-to-peer transactions, enabling individuals to engage in buying and selling activities within a digital marketplace, fostering a sense of community and trust among users.

**5. Business-to-government (B2G) e-commerce:** Business-to-government e-commerce is a specialized form of e-commerce that revolves around business interactions with government entities. In this model, businesses engage in electronic transactions with government agencies, providing goods, services, or solutions tailored to meet governmental needs. B2G e-commerce streamlines administrative processes, enhances transparency, and promotes efficiency in government-business collaborations, contributing to effective public service delivery.[7]

**6. Business to Business to Consumer (B2B2C):** Business to Business to Consumer (B2B2C) refers to a model where a business sells its goods to another business, which in turn sells these goods to the end consumer. This indirect connection between the business and the consumer is facilitated through another business entity. Despite this intermediary role, consumers are aware of and recognize the brand of the original company. Examples of companies operating in this model include Intel Corporation, Qualcomm Incorporated, and MRF Limited.

**7. Business-to-employee (B2E):** Business to Employee (B2E) involves businesses utilizing their intranet websites to provide various official products and services exclusively to their employees. These intranet platforms are designed to streamline business processes by digitizing paperwork and automating administrative tasks. Examples of B2E services include employee information portals and platforms for managing company insurance and tax-related matters.

### CONSUMER BUYING BEHAVIOUR

Consumers utilize the internet in diverse ways for different types of purchases. For instance, they often rely on social media and product-rating websites to seek opinions when making significant personal decisions, such as healthcare choices or major electronic purchases. Conversely, for routine transactions involving commoditized items like utilities or airline tickets, consumers tend to use company-controlled sources.[8]

Despite the benefits the internet offers, consumers harbor concerns about online safety and the reliability of online information. These concerns underscore the importance of building trust and credibility in online interactions.

Furthermore, understanding consumer behavior is essential for companies aiming to succeed with existing products and new product launches. Successful sellers delve into questions such as who their customers are, what motivates them to buy, when and how they make purchasing decisions, and where they prefer to shop. [9] These insights help businesses align their marketing efforts and offerings with consumer preferences, increasing the likelihood of success.

Consumer buying motives play a significant role in purchasing decisions, with each buyer having unique preferences and attitudes toward products and brands. Failure to comprehend consumer reactions and preferences can lead to product failure in the market.

## 2. LITERATURE REVIEW

**Lissy N.S. (2021)**, “Belief And Seeming Risk In Online Shopping-A Pragmatic Study” stated that building online trust is an essential component for vendors to succeed in an E-commerce environment – where transactions are more impersonal and anonymous as this affects consumers’ purchase intentions. If customers do not trust online provides sufficiently, the result may be that they do not enter into transactions because they fear the risks involved.[10]

**Adamczyk G. (2021)** conducted a study with the title "Compulsive and compensative buying among online shoppers: An empirical study." The purpose of this research was to investigate the phenomenon of online shopping addiction as well as the compensatory behavior associated with it. The study collected empirical data from a sample of consumers aged 15 and above, categorized based on their engagement or non-engagement with the e-commerce sector, to gauge the prevalence of compulsive and compensative buying tendencies. Furthermore, the findings shed light on various factors influencing these purchasing behaviors, including online shopping frequency, expenditures on online versus offline shopping, attitudes towards online shopping, and socioeconomic status.[11]

**Georgie N.A. (2021)** explored the influence of selected factors on online shopping behavior in their article titled "The influence of selected factors on online shopping behaviour: a study with respect to Kottayam district." The study specifically investigated how customer preferences contribute to shaping the success or failure of businesses operating in the online shopping realm. Given the diverse range of opinions and preferences among online shoppers, understanding and catering to customer preferences have emerged as critical determinants for businesses navigating the online sales landscape.[12]

## 3. RESEARCH METHODOLOGY

### RESEARCH DESIGN

The research methodology employed in the current study is a descriptive research design. As the name implies, this design is specifically crafted to describe a phenomenon or aspect under investigation. It serves as

a fact-finding approach with a comprehensive explanation of the subject matter. Given the nature of our study, which aims to delve into consumers' buying behavior regarding online shopping, the descriptive research design is deemed the most suitable method. This is because it allows for a thorough description of consumer behavior, providing valuable insights into their preferences, motivations, and decision-making processes related to online purchases.

The descriptive research design facilitates a detailed exploration of the study field through various observation methods, such as interviews or questionnaires. These methods enable researchers to gather firsthand information from consumers, allowing for a nuanced understanding of their online shopping habits, perceptions, and experiences. By employing this method, we can effectively capture and describe the intricate nuances of consumer behavior in the context of e-commerce, thereby enhancing the depth and accuracy of our study findings.

## SAMPLING

### Sampling Techniques

The researcher employed Simple Random Sampling techniques to select the sample for the study, ensuring unbiased representation from the population. This method involves randomly selecting participants or elements from the population without any predetermined criteria, thereby minimizing potential biases and increasing the generalizability of the findings.

### Sample Size

In determining the sample size, the researchers utilized a sample size formula to calculate the appropriate number of participants or data points required for the study. This formula takes into account factors such as the desired level of confidence, margin of error, population size, and expected variability within the population. By adhering to a scientifically determined sample size, the study aims to achieve reliable and statistically valid results, enhancing the credibility and robustness of the research findings.

$$\text{Sample size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left( \frac{z^2 \times p(1-p)}{e^2 N} \right)}$$

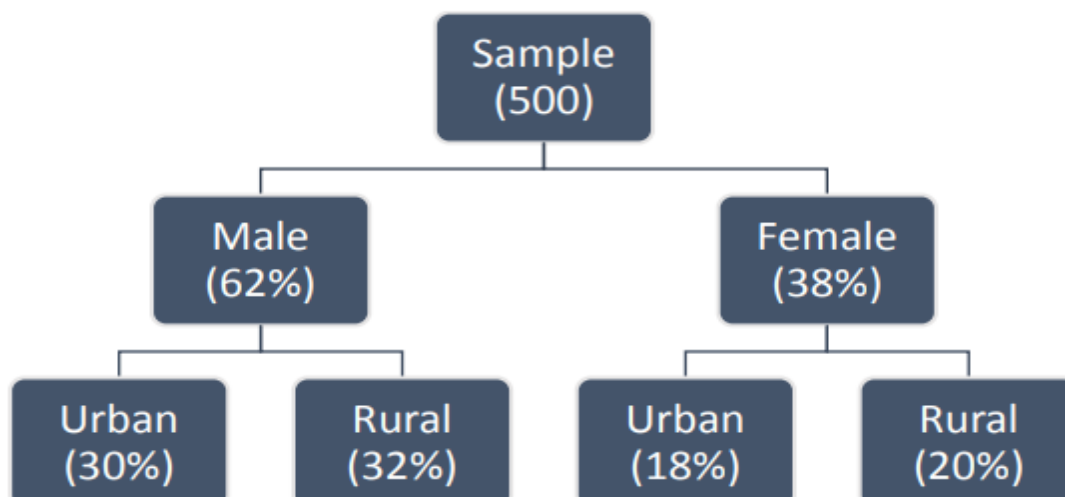
**N = Population Size (77,03,218)**

**e = Margin of error (0.05)**

**z = z-score (1.96)**

**p = Population proportion (it has be taken as 50%)**

After applying the formula mentioned above, it was determined that the minimum required sample size for the study was 384, deemed optimal. However, a larger sample size of 700 was chosen for this research. Thus, a total of 500 consumers will make up the sample; 125 will come from the city of Hubli, 125 from the city of Dharwad, 125 from the city of Belgaum, and 125 from Gulbarga.



## Data Collection

This research is primarily focused on gathering and analyzing both primary and secondary data related to online shopping for electronic goods. The data collection process involves gathering insights from online customers regarding their opinions and experiences with online shopping, particularly focusing on the challenges and problems they face.

### a. Primary Data Collection:

Primary data is collected through a structured questionnaire designed specifically for this study. The questionnaire comprises both hard-copy versions for in-person surveys and online versions distributed via platforms like Google Docs or email. This approach ensures a comprehensive collection of customer feedback and insights into their perceptions and behaviors regarding online shopping for electronic goods.

### b. Secondary Data Collection:

In addition to primary data, secondary data sources are utilized to complement the research findings. These secondary sources include data from books, reputable websites, industry reports, academic journals, conference papers, audit reports, magazines, and other published materials from government and non-government sectors. Leveraging secondary data enriches the research by providing a broader context, industry trends, expert analyses, and statistical information to support and validate the primary research findings.

## RESEARCH LIMITATIONS

The study's limitations are as follows:

- **Small Sample Size:** The study's sample size is relatively small, which may limit the generalizability of the findings across a diverse and populous country like India. The results derived from a limited sample may not accurately represent the broader population's perspectives and behaviors.
  - **Limited Geographic Scope:** The research is restricted to specific cities in North Karnataka, namely Hubli, Dharwad, Belgaum, and Gulbarga. This narrow geographic focus may hinder the generalizability of the study's outcomes to other regions or demographic segments within India. The findings may not fully capture the variations and nuances in consumer behavior prevalent in different geographic areas.
  - **Dependency on Data Provided by Respondents' References:** The accuracy and reliability of the research outcomes heavily on the data provided by the references of the respondents. Any inaccuracies or biases in the information provided could potentially impact on the study's validity and credibility.
  - **Narrow Focus on Electronic Goods Purchases:** The study primarily focuses on the purchase behavior of electronic goods only. This limited scope may overlook other important factors and variables that could influence consumer behavior in the broader context of retail or e-commerce.
  - **Time and Resource Limitations:** Time and resource restrictions may have an impact on the depth and breadth of data collection, analysis, and interpretation in the research. These constraints could potentially limit the study's ability to explore various facets of consumer behavior comprehensively.
- Acknowledging these limitations is essential for interpreting the research findings accurately and understanding the boundaries within which the study's conclusions can be drawn. Future research endeavors may address these limitations to enhance the robustness and applicability of findings in broader contexts.

## RESEARCH OBJECTIVES

1. To identify factors influencing online buying behavior in rural and urban areas in the North Karnataka region.
2. To analyze growth trends of consumers towards electronic goods in rural and urban areas in North Karnataka region.
3. To compare online and offline buying behavior of consumers towards electronic goods in North Karnataka region.
4. To study the impact of e-commerce on online shopping behavior of consumers towards electronic goods in the North Karnataka region.

## HYPOTHESIS

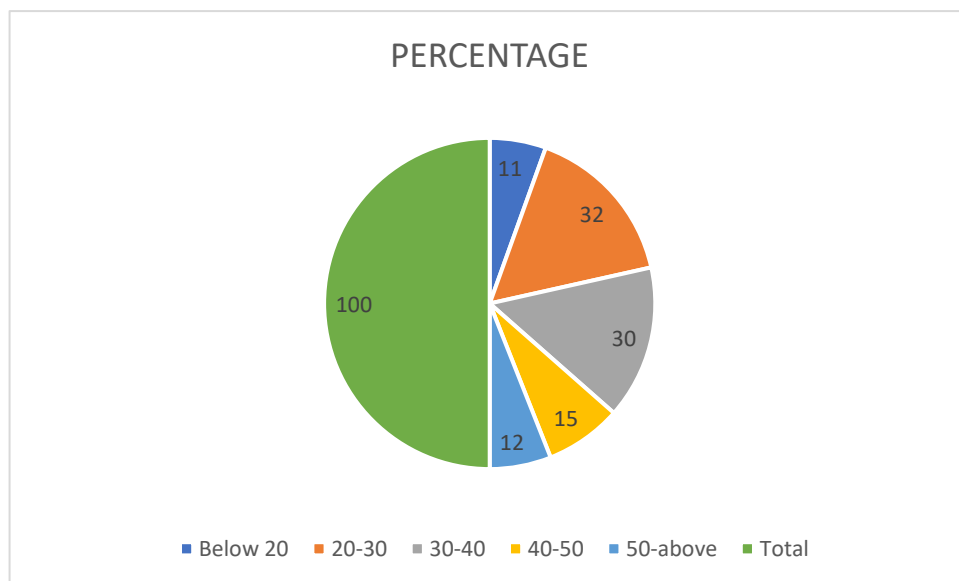
- H01- There is no significant relationship between consumer electronic goods growth trends in rural and urban areas.
- H02- There is no significant relationship between online and offline buying behavior of consumers towards electronic goods.
- H03- There is no significant impact of e-commerce on the online shopping of consumers towards electronic goods.

## 4. RESULTS



**Table 1.Respondents' Ages**

STATEMENT	PERCENTAGE
Below 20	11%
20 – 30	32%
30 – 40	30%
40 – 50	15%
50 Above	12%
Total	100%

**Figure 1: Respondents' Ages**

The analysis of the table and figures indicates the age distribution of the respondents, revealing that 18% of respondents are below 20 years old. Following this, 32% of respondents fall within the age group of 20 to 30 years, while 30% are aged between 30 and 40 years. Additionally, 15% of respondents belong to the 40- to 50-year-old age group, with the remaining 5% being above 50 years old. These findings suggest that the majority of respondents, specifically those between 20 and 40 years old, are more prevalent compared to other age groups among the surveyed population.

**Table 2: Respondents' Gender**

STATEMENT	PERCENTAGE
Male	62%
Female	38%
Total	100%

The data presented in the table and figure provide insights into the gender distribution among the respondents. Among the total number of respondents, it is observed that 62% of the respondents are male, while 38% are female. This data indicates that there is a higher representation of male consumers compared to female consumers in the study sample.

**Table 3 Preferential Electronic Items (Non-Storefront)**

STATEMENT	PERCENTAGE
Mobile	10%
Laptop	21%
Television	25%
Audio / Video products	10%
Fridge	20%
Washing machine	7%
Other	3%
Total	100%

The data presented in the above table and figure illustrate the preferred electronic goods among respondents when it comes to offline shopping. Among the respondents, 10% expressed a preference for mobile phones, 21% favored laptops, 25% opted for televisions, 10% chose audio/video products, 20% selected fridges, 7% preferred washing machines, and 3% indicated a preference for other products. Interestingly, the analysis reveals that the majority of respondents leaned towards purchasing fridges, televisions, and laptops when engaging in offline shopping activities.

**Table 4: Online Preferred Electronics Goods**

STATEMENT	PERCENTAGE
Mobile	35%
Laptop	24%
Television	13%
Audio / Video products	20%
Fridge	5%
Washing machine	2%
Other	1%
Total	100%

The study surveyed respondents' preferences for online and offline shopping, specifically focusing on electronic goods. The findings revealed a breakdown of preferences among respondents:

- 35% of respondents preferred purchasing mobile phones online.
- 24% of respondents preferred buying laptops through online channels.
- 13% of respondents opted for purchasing televisions online.
- 20% of respondents favored online shopping for audio/video products.
- 5% of respondents chose to buy fridges online.
- 2% of respondents preferred purchasing washing machines online.
- 1% of respondents showed interest in other products through online channels.

The analysis indicated a clear trend where most respondents leaned towards online shopping for mobile phones and laptops. However, their preferences shifted towards offline shopping when it came to products like fridges and washing machines. This suggests a nuanced consumer behavior pattern where certain electronic goods are more favored for online purchases while others are still preferred for offline transactions.

## 5.DISCUSSIONS

The age distribution data highlights that the majority of respondents, 62%, fall between the ages of 20 to 40 years. This age bracket is often associated with higher purchasing power, tech-savviness, and active

engagement with electronic goods. [13] The smaller representation of individuals below 20 years (18%) and above 50 years (5%) suggests these groups might have different purchasing priorities or limited engagement with electronic goods. These findings emphasize the importance of targeting marketing and sales efforts towards the 20–40-year demographic, as they form the most significant consumer base for electronic products.

The gender distribution shows a marked disparity, with 62% of respondents being male and only 38% female. This difference could reflect a potential gender gap in accessibility, decision-making, or interest in electronic goods. Businesses and policymakers should consider strategies to engage more female consumers, addressing potential barriers and tailoring campaigns to make electronic goods more appealing and accessible to women.[14]

The analysis of preferred electronic items for offline shopping reveals that fridges (20%), televisions (25%), and laptops (21%) are the most favored. This preference could be attributed to the perceived need to physically inspect and verify the quality of larger appliances like fridges and televisions before purchase. Mobile phones (10%) and audio/video products (10%) also have a presence, though less pronounced. Offline retailers should capitalize on these insights by ensuring a robust selection, better in-store experiences, and after-sales support for these categories. The preferences for online shopping highlight a distinct trend: mobile phones (35%) and laptops (24%) dominate online purchases.[15] This may be due to the convenience, competitive pricing, and detailed specifications readily available online for these products. In contrast, items such as fridges (5%) and washing machines (2%) are less popular for online purchases, likely due to logistical concerns, lack of physical inspection, and the preference for in-store advice. Interestingly, televisions show significant representation in both online (13%) and offline (25%) channels, suggesting mixed consumer confidence in purchasing this item online. The findings reveal a nuanced consumer behavior pattern where preferences for electronic goods vary significantly between online and offline channels. While online shopping is favored for portable and high-demand items like mobile phones and laptops, offline shopping dominates for bulkier appliances such as fridges and washing machines. Retailers must align their strategies to these preferences, emphasizing convenience and competitive pricing for online platforms while enhancing the in-store experience for offline channels.

## 6.CONCLUSION

The study underscores the complexity of consumer behavior in the electronics market. Age and gender play significant roles, with the 20–40 age group and male consumers dominating the sample. Preferences for offline shopping lean towards larger, physically-inspectable goods, while online shopping excels for portable and tech-focused items. By understanding these preferences, businesses can optimize their offerings, tailor marketing campaigns, and create strategies that cater to the diverse needs of consumers across both online and offline platforms. Enhanced consumer understanding will allow retailers to bridge gaps and strengthen their market position effectively.

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