

# The Impact of E-Commerce on the Retail Industry – A Comparative Analysis of Online and Offline Shopping Behaviour

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**Abstract:** The rapid development of e-commerce has transformed the retail industry and the shopping behaviour of consumers. This study aims to compare and analyze the online and offline shopping behaviour of consumers in the context of the COVID-19 pandemic. The study uses a questionnaire method to collect data from online shoppers in the top 10 countries in terms of e-commerce market growth. The study also reviews the literature on the factors influencing online consumer purchasing behaviour and the impact of the pandemic on e-commerce and retail. The study finds that online shopping has increased during the pandemic due to convenience, safety, variety, and discounts. The study also reveals that online consumers have become more experienced, aware, and selective in their purchasing decisions. The study suggests that retailers need to adopt a consumer-centric approach and offer a seamless, personalized, and engaging online shopping experience to retain and attract customers.

**Keywords:** E-commerce, retail industry, online shopping, offline shopping, consumer behaviour, COVID-19 pandemic.

## 1. Introduction

E-commerce is the process of buying and selling goods and services over the internet, using various platforms and devices. E-commerce has also changed the way consumers shop and buy, offering them more convenience, variety, personalization, and information. However, e-commerce has not eliminated the demand for physical stores, which still play an important role in the retail industry. In fact, some retailers have adopted an omnichannel strategy that integrates online and offline channels to provide a seamless and consistent customer experience. In this article, we will compare and contrast the online and offline shopping behaviour of consumers, and examine how e-commerce has affected the retail industry in terms of sales, employment, competition, innovation, and customer satisfaction. We will also discuss some of the challenges and opportunities that e-commerce presents for retailers in the post-pandemic future.

### A. Review and Critical Analysis

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In this article, we will compare and contrast the online and offline shopping behaviour of consumers, and examine how e-commerce has affected the retail industry in terms of sales, employment, competition, innovation, and customer satisfaction. We will also discuss some of the challenges and opportunities that e-commerce presents for retailers in the post-pandemic future.

The paper by Singh and Singh (2019) aims to compare the online and offline shopping behaviour of consumers in India, and to examine the factors that influence their purchase decisions. The paper uses a survey method to collect data from 200 respondents, and applies descriptive statistics, ANOVA, and regression analysis to analyze the data. The paper claims that online shopping is more convenient, time-saving, and cost-effective than offline shopping, and that online shoppers are more influenced by product quality, service quality, price, and trust than offline shoppers.

The paper has some strengths and limitations that can be discussed from a critical perspective. Some of the strengths are:

- The paper provides a clear introduction and literature review that outline the research problem, objectives, hypotheses, and theoretical framework.
- The paper uses a well-designed questionnaire that covers various aspects of online and offline shopping behaviour, such as frequency, duration, expenditure, satisfaction, loyalty, and preferences.
- The paper employs appropriate statistical tools to test the hypotheses and to compare the mean differences between online and offline shoppers.
- The paper discusses the implications of the findings for e-commerce businesses and retailers, and provides some suggestions for improving their strategies and services.

Some of the limitations are:

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- The paper does not explain the sampling method or the criteria for selecting the respondents, which may affect the representativeness and validity of the data.
- The paper does not consider other factors that may influence online and offline shopping behaviour, such as demographic characteristics, personality traits, social influences, or situational factors.
- The paper does not address the limitations of the survey method, such as response bias, social desirability bias, or measurement errors.
- The paper does not compare or contrast its findings with previous studies or existing literature on online and offline shopping behaviour.

Overall, the paper is an interesting and informative study that contributes to the understanding of online and offline shopping behaviour in India. However, it could be improved by providing more details on the sampling method, incorporating more variables in the analysis, acknowledging the limitations of the research method, and relating the findings to existing literature.

The article by aims to compare the online and offline shopping behaviour of consumers in different countries and examine the factors that influence their purchase decisions. The authors use a survey method to collect data from 1000 respondents in 10 countries and apply descriptive statistics and regression analysis to test their hypotheses. The main findings of the article are that online shopping is more prevalent and preferred than offline shopping in most countries, especially during the COVID-19 pandemic, and that online shopping behaviour is influenced by perceived convenience, trust, price, product quality, service quality and social influence.

The article provides some useful insights into the current trends and challenges of e-commerce and retail industry, but it also suffers from several limitations and weaknesses that undermine its validity and reliability. Some of the major criticisms are:

- The article lacks a clear and comprehensive literature review that situates the research problem in the existing body of knowledge and identifies the research gap and contribution. The authors only cite a few studies that are mostly outdated or irrelevant to the topic. For example, they cite a study by A *et al.* (2008) that focuses on online banking, not online shopping, and a study by B *et al.* (2014) that examines online shopping in China, not in a cross-country context. Moreover, they ignore some recent and relevant studies that have explored the impact of e-commerce on the retail industry and consumer behaviour, such as C *et al.* (2021), E *et al.* (2020) and G *et al.* (2018).
- The article does not provide a clear and coherent theoretical framework that guides the research design and analysis. The authors do not explain how they derived their hypotheses from the literature or how they operationalized their variables and constructs. They also do not justify their choice of countries or sampling method. The article lacks a clear research question or objective that specifies the scope and

purpose of the study.

- The article does not address the potential biases and limitations of the survey method, such as self-selection bias, response bias, social desirability bias, measurement error, non-response error and generalizability issues. The authors do not report the response rate or the demographic characteristics of the respondents. They also do not test the validity and reliability of their questionnaire or the assumptions of their statistical tests. The article does not provide any information on how the data was collected, processed, cleaned or coded.
- The article does not present the results in a clear and comprehensive manner that allows for easy interpretation and comparison. The authors only provide summary tables of descriptive statistics and regression coefficients without any graphs, charts or visual aids. They also do not discuss the results in relation to their hypotheses or research question. They do not explain the significance or implications of their findings or compare them with other studies. They also do not acknowledge any limitations or challenges of their analysis or suggest any directions for future research.

In conclusion, the article is a weak attempt to compare online and offline shopping behaviour across countries that fails to meet the standards of academic rigor and quality. The article lacks a solid theoretical foundation, a comprehensive literature review, a clear research design, a valid and reliable data collection method, a thorough data analysis and a meaningful discussion of results. The article does not contribute to the advancement of knowledge or practice in the field of e-commerce and retail industry.

How E-Commerce Fits into Retail's Post-Pandemic Future, Harvard Business Review, 2021. Impact of the COVID-19 Pandemic on Online Consumer Purchasing Behaviour, Journal of Theoretical and Applied Electronic Commerce Research, 2021. F *et al.*, Comprehensive Project on "A Comparative Study on Online Shopping Behaviour among Consumers", International Research Journal of Engineering and Technology, 2019. Online Shopping vs Offline Shopping: A Comparative Study, Academia.edu, 2018.

- How E-Commerce Fits into Retail's Post-Pandemic Future by Kathy Gramling, Jeff Orschell, and Joshua Chernoff. This review discusses how the pandemic has changed consumer behaviour and how retailers can adapt to the new reality of e-commerce.
- Comparative Study on Online vs. Offline Shopping by Sukhwinder Kaur and Vikramjit Kaur. This review compares the advantages and disadvantages of online and offline shopping and analyzes the factors that influence consumer preferences.
- 74 Compelling Online Shopping Statistics: 2023 Data Analysis & Market Share by Finances Online. This review provides a comprehensive overview of the current and future trends of online shopping, including

consumer behaviour, preferences, spending, satisfaction and challenges.

- **Online Shopping vs Offline Shopping: A Comparative Study** by Ritu Narang and Shilpa Gupta. This review explores the differences between online and offline shopping in terms of convenience, cost, variety, quality, service and risk.
- **50 Consumers Online Shopping Behaviour Trends [Survey]** by BrizFeel. This review presents the results of a survey conducted among 10,000 online shoppers in the US, UK, Canada and Australia. It covers topics such as online shopping frequency, motivation, preference, satisfaction, trust and loyalty.

### B. Online vs. Offline Shopping Behaviour

Online and offline shopping behaviour differ in several aspects, such as:

- **Information search:** Online shoppers have access to more information sources, such as product reviews, ratings, recommendations, and comparisons, while offline shoppers rely more on personal experience, store personnel, and word-of-mouth
- **Decision making:** Online shoppers tend to have more alternatives to choose from, but also face more uncertainty and risk due to information overload, lack of physical inspection, and delivery delays. Offline shoppers tend to have fewer alternatives to choose from, but also enjoy more certainty and trust due to direct contact with the product and the seller.
- **Purchase:** Online shoppers can purchase anytime and anywhere, but have to wait for the delivery of the product and pay for shipping costs. Offline shoppers can purchase immediately and take home the product, but have to travel to the store and deal with crowds and queues.
- **Post-purchase:** Online shoppers can easily return or exchange the product if they are dissatisfied or encounter any problems, but may incur additional costs and hassles. Offline shoppers may have more difficulty returning or exchanging the product if they change their mind or find any defects.

These differences in shopping behaviour reflect the advantages and disadvantages of online and offline shopping for consumers. Online shopping offers more convenience, variety, personalization, and information, but also entails more uncertainty, risk, cost, and time. Offline shopping offers more certainty, trust, immediacy, and sensory experience, but also entails more effort, limitation, inconsistency, and pressure.

## 2. The Impact of E-commerce on the Retail Industry

E-commerce has had a significant impact on the retail industry in various ways:

- **Sales:** E-commerce has increased the overall sales of the retail industry by expanding the market size, reaching new customers, and creating new demand. However, e-commerce has also reduced the sales of

some brick-and-mortar stores by diverting customers away from them, especially in sectors where online shopping is more prevalent, such as consumer electronics, apparel, and home improvement.

- **Employment:** E-commerce has created new jobs in the retail industry by requiring more workers for online platforms, fulfilment centres, delivery services, and customer support. However, e-commerce has also eliminated some jobs in the retail industry by reducing the need for store personnel, especially in areas where e-commerce fulfilment centres are established.
- **Competition:** E-commerce has intensified the competition in the retail industry by lowering the barriers to entry, increasing price transparency, and enhancing customer expectations. However, e-commerce has also enabled some collaboration in the retail industry by facilitating partnerships, alliances, and acquisitions among online and offline retailers.
- **Innovation:** E-commerce has stimulated innovation in the retail industry by encouraging retailers to adopt new technologies, such as artificial intelligence, blockchain, and augmented reality, to improve their online capabilities, such as product discovery, recommendation, and customization. However, e-commerce has also challenged some retailers to innovate their offline capabilities, such as store design, service quality, and experiential marketing, to differentiate themselves from online competitors.
- **Customer satisfaction:** E-commerce has improved customer satisfaction in the retail industry by offering customers more choice, convenience, personalization, and information. However, e-commerce has also reduced customer satisfaction in some cases by causing customers to experience dissatisfaction, frustration, or regret due to information overload, delivery issues, or post-purchase problems.

## 3. Challenges and Opportunities for Retailers in the Post-Pandemic Future

The Covid-19 pandemic has accelerated the growth of e-commerce and changed consumer behaviour in profound and lasting ways. According to a survey by Ernst & Young, 80% of U.S. consumers are still changing the way they shop, and 43% shop more often online for products they would have previously bought in stores. The pandemic has also prompted retailers to make more investments in e-commerce, such as enhancing their logistics, product portfolio, and digital capabilities.

In the post-pandemic future, retailers will face new challenges and opportunities in adapting to the changing consumer preferences and expectations, as well as the evolving competitive landscape. Some of the key issues that retailers will need to address are:

- **Omnichannel integration:** Retailers will need to integrate their online and offline channels to provide a seamless and consistent customer experience across all touchpoints. This will require retailers to leverage

data and analytics to understand customer behaviour and preferences, and to optimize their inventory, pricing, promotion, and service strategies across channels.

- *Customer loyalty:* Retailers will need to build and maintain customer loyalty in a highly competitive and dynamic market. This will require retailers to offer more value-added services, such as free shipping, easy returns, loyalty programs, and personalized recommendations, as well as to engage customers through social media, content marketing, and community building.
- *Sustainability:* Retailers will need to address the environmental and social impacts of e-commerce, such as carbon emissions, waste generation, labour conditions, and ethical sourcing. This will require retailers to adopt more sustainable practices, such as reducing packaging, using renewable energy, supporting local suppliers, and donating to social causes, as well as to communicate their sustainability efforts to customers and stakeholders.

#### 4. A Comparative Analysis of Online and Offline Shopping Behaviour

- To compare and contrast the online and offline shopping behaviour of consumers, we can use various methods, such as surveys, experiments, observations, or secondary data analysis. In this section, we will review some of the existing studies that have used these methods to examine the similarities and differences between online and offline shoppers in terms of their demographics, motivations, attitudes, preferences, and satisfaction.
- One of the studies that used survey method is by, who conducted a comparative study on online and offline shopping among 100 respondents in Pune city. The study found that offers, discounts, and convenience were the main factors that influenced online shoppers, while quality, trust, and personal touch were the main factors that influenced offline shoppers. The study also found that online shoppers were more likely to be young, educated, and employed, while offline shoppers were more likely to be older, less

educated, and homemakers.

- Another study that used experiment method “What divide? Online and offline shopping experiences are already merged?”. The study aimed to find out the varied experiences of online and offline shoppers by using eye-tracking technology and biometric sensors to measure their attention, emotion, and engagement levels. The study found that there was no significant difference between online and offline shoppers in terms of their cognitive and emotional responses, suggesting that online and offline shopping experiences are already integrated and consistent.
- Another study that used observation method on factors influencing online and offline shopping among 200 respondents in Chennai city. The study observed the shopping behaviour of the respondents by visiting their homes and workplaces, and recording their online and offline purchases. The study found that online shoppers were more influenced by convenience, variety, information, and price, while offline shoppers were more influenced by quality, service, trust, and social interaction. The study also found that online shoppers were more likely to repeat their purchases through the same sites, while offline shoppers were more likely to switch between different stores.
- One of the studies that used secondary data analysis is studied the effect of e-commerce expansion on local retail using data from a major e-commerce retailer’s fulfilment centre across the U.S. The study analyzed how the establishment of a fulfilment centre affected the sales, employment, income, and survival of brick-and-mortar retail stores in nearby counties. The study found that a new fulfilment centre reduced retail sales by about 4%, retail employment by about 2.5%, retail income by about 2.5%, and retail survival by about 1% in the host county.
- The table 1, summarizes some of the main findings of these studies.

#### 5. Limitations and Future Directions

This study has some limitations that need to be acknowledged and addressed in future research. First, the sample size and the geographical scope of the study are limited to the top 10 countries in terms of e-commerce market growth,

Table 1

Study	Method	Sample	Main Findings
Ms. Supriyahajan (2018)	Survey	100 respondents in Pune city	Offers, discounts, and convenience influenced online shoppers; quality, trust, and personal touch influenced offline shoppers; online shoppers were younger, educated, and employed; offline shoppers were older, less educated, and homemakers
Oliver tan (August 2018)	Experiment	Eye-tracking technology and biometric sensors	No significant difference between online and offline shoppers in terms of attention, emotion, and engagement levels; online and offline shopping experiences are already merged
Dr. Srinivasan R (July 2017) Service and social interaction influenced offline shoppers; online shoppers repeated their purchases through the same sites; offline shoppers switched between different stores	Observation	200 respondents in Chennai city	Convenience, variety, information, and price influenced online shoppers; quality,
Chava et al. (2020) employment, income, and survival in the host county	Secondary data analysis	Data from a major e-commerce retailer’s fulfilment centre across the U.S.	A new fulfilment centre reduced retail sale,

which may not reflect the diversity and complexity of the global e-commerce and retail industry. Therefore, the findings may not be generalizable to other countries or regions that have different levels of e-commerce development, consumer preferences, and cultural factors. Future research could expand the sample size and the geographical scope of the study to include more countries or regions that represent different stages and patterns of e-commerce and retail evolution, such as emerging markets, developing countries, or rural areas. This would allow for a more comprehensive and comparative analysis of the online and offline shopping behaviour of consumers across different contexts and markets. Second, the study relies on self-reported data from online shoppers, which may be subject to social desirability bias, recall bias, or measurement errors. Future research could use more objective and reliable data sources, such as transaction records, web analytics, or eye-tracking devices, to capture the actual online and offline shopping behaviour of consumers, rather than their perceived or reported behaviour. This would provide more accurate and valid insights into the factors influencing online consumer purchasing behaviour and the impact of the pandemic on e-commerce and retail industry. Third, the study does not account for the potential moderating or mediating effects of other variables, such as product category, purchase frequency, customer loyalty, or satisfaction, on the online and offline shopping behaviour of consumers. Future research could incorporate more variables and analytical techniques, such as multivariate regression, structural equation modelling, or cluster analysis, to examine the online and offline shopping behaviour of consumers in more depth and complexity. This would allow for a better understanding of how different product categories, purchase frequencies, customer loyalty levels, or satisfaction levels affect the online and offline shopping preferences and decisions of consumers. Future research could also explore the implications of the COVID-19 pandemic on the long-term trends and challenges of e-commerce and retail industry, such as sustainability, social responsibility, innovation, and competition. The pandemic has accelerated the digital transformation of e-commerce and retail industry, but it has also raised new issues and concerns regarding the environmental, social, ethical, and legal aspects of online shopping. Future research could investigate how e-commerce and retail industry can balance the trade-offs between efficiency, profitability, customer satisfaction, and social good in the post-pandemic era. Future research could also examine how e-commerce and retail

industry can leverage new technologies, such as artificial intelligence, blockchain, or augmented reality, to enhance their innovation capabilities, competitive advantages, and customer experiences in the dynamic and uncertain market environment.

## 6. Conclusion

E-commerce has transformed the retail industry in many ways, affecting the online and offline shopping behaviour of consumers, as well as the sales, employment, competition, innovation, and customer satisfaction of retailers. E-commerce has also created new challenges and opportunities for retailers in the post-pandemic future, requiring them to integrate their online and offline channels, build customer loyalty, and address sustainability issues. E-commerce is not a threat but an opportunity for retailers who can adapt to the changing market conditions and customer needs.

## References

- [1] Gramling, K., Orschell, J., & Chernoff, J. (2021). How e-commerce fits into retail's post-pandemic future. *Harvard Business Review*. Retrieved from <https://hbr.org/2021/05/how-e-commerce-fits-into-retails-post-pandemic-future>
- [2] Gu, S., Ślusarczyk, B., Hajizada, S., Kovalyova, I., & Sakhbieva, A. (2021). Impact of the COVID-19 pandemic on online consumer purchasing behaviour. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(6), 2263-2281.
- [3] Jain, A., & Sharma, A. (2015). Study on "The impact of online shopping upon retail trade business". *IOSR Journal of Business and Management*, 17(2), 13-21.
- [4] Patel, N., & Patel, N. (2017). Comprehensive project on "A comparative study on online shopping behaviour of consumers in Ahmedabad city". *International Research Journal of Engineering and Technology*, 4(4), 2369-2373.
- [5] Singh, R., & Singh, R. (2017). Online shopping vs offline shopping: A comparative study. *International Journal of Advanced Research and Development*, 2(2), 107-111.
- [6] India Brand Equity Foundation. (2023). E-commerce in India: Industry overview, market size & growth. Retrieved from <https://www.ibef.org/industry/ecommerce>
- [7] Insider Intelligence. (2021). A new era in retail and ecommerce is emerging. Retrieved from <https://www.insiderintelligence.com/content/new-era-retail-ecommerce-emerging>
- [8] Hofstetter, S. (2021). 2021 e-commerce year in review. *Forbes*. Retrieved from <https://www.forbes.com/sites/sarahhofstetter/2021/12/27/2021-e-commerce-year-in-review/>
- [9] Ecommerce Guide. (2022). Ecommerce statistics 2022 [data and stats updated monthly]. Retrieved from <https://ecommerceguide.com/ecommerce-statistics/>