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From Traditional to Digital Shopping: An Analysis of Consumer Buying Behaviour Before and After COVID-19 in Madurai District

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Abstract: The present study, titled "From Traditional to Digital Shopping: An Analysis of Consumer Buying Behaviour Before and After COVID-19 in Madurai District," aims to examine changes in consumer shopping behaviour following the COVID-19 pandemic. The study adopts a descriptive research design, with a sample of 150 respondents selected through convenience sampling. Primary data are collected using a structured questionnaire, and percentage analysis is employed to compare consumer behaviour before and after COVID-19. The study focuses on changes in digital technology usage, social media engagement, online product information searches, internet banking, digital financial transactions, and access to digital devices. The illustrative comparative data indicate an increase in digital adoption after COVID-19, particularly in online information searches, internet banking, and digital transactions. These patterns suggest a shift towards digital platforms in consumer purchasing activities. The study highlights the growing importance of digital accessibility, technological awareness, and convenient payment systems in shaping consumer buying behaviour in Madurai District.

Keywords: Consumer Buying Behaviour, Digital Shopping, Traditional Shopping, COVID-19, Online Shopping

Introduction

Consumer buying behaviour has undergone substantial transformation over the past decade, particularly with the increasing integration of digital technologies into everyday commercial activities. Traditionally, consumers preferred purchasing goods and services through physical retail outlets, where they could personally examine products, interact with sellers, compare alternatives, and make immediate purchasing decisions. However, the expansion of internet connectivity, smartphone usage, electronic payment systems, and e-commerce platforms has gradually changed the conventional retail environment. Online shopping has emerged as an alternative purchasing channel, offering consumers greater convenience, wider product availability, competitive pricing, and the flexibility to shop without geographical or time restrictions. Aryani et al. (2021) observed that technological advancements and improved access to digital marketplaces have encouraged consumers to shift from conventional retail transactions towards online purchasing. Nevertheless, their study also established that traditional shopping continues to retain importance because many consumers prefer physically examining products before making purchase decisions. This demonstrates that digital shopping represents not necessarily the complete replacement of traditional retailing but an evolving relationship between physical and online purchasing channels.

The outbreak of coronavirus disease (COVID-19) in late 2019 and its subsequent declaration as a global pandemic in March 2020 represented a significant turning point in consumer purchasing behaviour. The introduction of lockdowns, physical distancing measures, mobility restrictions, and temporary closures of commercial establishments disrupted established shopping practices across the world. Consumers were compelled to reconsider their purchasing priorities, shopping frequency, preferred retail channels, and methods of payment. The restrictions imposed during the pandemic encouraged many individuals to explore online purchasing options to obtain essential goods while minimizing physical contact and potential exposure to infection. Khayru (2021) explained that the pandemic altered consumer decision-making processes by increasing health concerns, encouraging online transactions, and generating changes in the demand for essential and non-essential products. Similarly, Akter et al. (2021) identified health and safety concerns, government restrictions, financial conditions,

and environmental influences as important determinants of changes in consumer purchasing behaviour during the pandemic.

The transformation of shopping practices was particularly significant because the adoption of online shopping during COVID-19 was influenced by both technological developments and situational necessity. Before the pandemic, consumers generally selected online shopping based on perceived convenience, product variety, promotional offers, accessibility, and their familiarity with digital technology. During the pandemic, however, concerns regarding personal safety, restricted movement, limited access to physical markets, and disruptions in product availability became additional motivations for digital purchasing. Hashem (2020), in a study of consumers in Jordan, demonstrated that the pandemic influenced online shopping behaviour through changes in purchase frequency, product necessity, payment methods, pricing considerations, and product availability. The study also identified differences associated with consumer demographic characteristics, suggesting that behavioural responses to the pandemic were not uniform across population groups. These findings indicate that understanding the transition from traditional to digital shopping requires an examination of both individual consumer characteristics and external environmental circumstances.

In the Indian context, the COVID-19 pandemic accelerated changes in consumer purchasing preferences and created new challenges for conventional retailers and e-commerce businesses. The nationwide lockdown announced in March 2020 restricted access to several physical retail establishments, encouraging consumers to consider alternative purchasing channels. Aggarwal and Kapoor (2020) emphasized that the difficulties associated with offline shopping during the pandemic increased the relevance of internet-based purchasing and required e-commerce companies to adapt their marketing strategies to changing consumer expectations. Likewise, Verma and Naveen (2021) examined the impact of COVID-19 on Indian consumer buying behaviour and identified the growing importance of hygiene, locally manufactured products, sustainability-related considerations, and changing purchase priorities. Their findings suggest that pandemic-related disruptions influenced consumer decision-making beyond the selection of shopping channels, extending to product preferences, attitudes, and consumption-related values.

Empirical investigations have further established that consumer migration towards digital shopping during COVID-19 involved changes in purchase frequency, expenditure patterns, product categories, and preferences for online shopping services. Jamunadevi et al. (2021), in their study of online consumer buying behaviour during the pandemic, examined the influence of demographic characteristics, payment preferences, promotional offers, shipping facilities, product categories, and customer satisfaction. Their research highlighted the importance of convenience-oriented features and promotional incentives in shaping online purchasing decisions. Similarly, Roy and Datta (2023), through a comprehensive review of consumer buying behaviour before, during, and after the pandemic, identified convenience, payment methods, and promotional offers as important considerations influencing online and offline shopping decisions. These findings indicate that changes in purchasing behaviour cannot be explained solely by the temporary restrictions associated with COVID-19; rather, they involve an interaction of technological, economic, psychological, and marketing-related factors.

An important question emerging from the pandemic-induced expansion of digital commerce is whether the changes in consumer behaviour were temporary or have continued into the post-pandemic period. Although several consumers initially adopted online shopping because of mobility restrictions and health-related concerns, repeated exposure to digital platforms may have increased their familiarity with online transactions and influenced their subsequent shopping preferences. Jensen et al. (2021), in their investigation of online grocery shopping among consumers in the United States, found that previous online shopping experience, demographic characteristics, employment conditions, and pandemic-related concerns influenced the likelihood and frequency of online purchases.

However, the expansion of online shopping does not necessarily indicate the disappearance of conventional retail preferences. Consumers may continue to favour physical stores for products requiring personal inspection, immediate possession, direct interaction with sellers, or greater confidence regarding quality and authenticity. Aryani et al. (2021) found that many consumers continued to value traditional shopping despite recognizing the advantages of online purchasing. Likewise, Ismajli et al. (2022) observed that although COVID-19 positively influenced online shopping adoption in Kosovo, traditional shopping remained an important consumer preference, while increased online purchasing did not automatically result in greater confidence in digital transactions. This distinction is particularly relevant in understanding the coexistence of online and offline shopping channels in the post-pandemic retail environment. It also highlights the importance of examining consumer trust, perceived risk, product characteristics, and satisfaction when assessing changes in shopping behaviour.

Against this background, examining consumer buying behaviour in Madurai district, Tamil Nadu, assumes particular relevance. Madurai district provides a meaningful geographical setting for investigating the relationship between traditional retailing and digital commerce because consumers may differ in their access to digital infrastructure, purchasing power, educational background, technological familiarity, and shopping preferences. Conventional retail establishments, neighbourhood shops, supermarkets, and local markets operate alongside online retail platforms, offering consumers alternative channels for purchasing goods and services. The coexistence of these options creates opportunities to examine whether consumers have changed their preferred shopping channels, how frequently they purchase products online, and which factors influence their decisions. However, the extent and nature of such changes among consumers in Madurai district must be established through empirical investigation rather than inferred from findings obtained in other geographical contexts.

Although existing studies have extensively discussed the impact of COVID-19 on online shopping adoption and consumer preferences, the reviewed literature primarily examines consumers at national, international, or broader regional levels. The findings of Hashem (2020), Aryani et al. (2021), Jensen et al. (2021), Roy and Datta (2023), and Kabakuş et al. (2025) provide valuable insights into the factors associated with changing purchasing behaviour across different consumer environments.

The present study, seeks to understand the role of demographic characteristics, perceived convenience, trust, promotional offers, delivery services, and perceived risks in shaping consumer preferences towards online shopping. By examining these dimensions, the study aims to provide empirical insights into the extent of digital shopping adoption and the continued relevance of traditional retailing among consumers in Madurai district.

The significance of the study lies in its potential contribution to understanding the changing retail landscape at the district level. Identifying whether consumers have permanently shifted towards digital shopping or adopted a combination of online and offline purchasing practices can provide useful information for local retailers, e-commerce businesses, marketing professionals, and policymakers. The findings may assist traditional retailers in developing digital marketing and omnichannel strategies, while enabling online retailers to improve service quality, customer trust, delivery systems, and consumer satisfaction.

Review of Literature

2.1 Use of Cell Phones and Consumer Online Shopping Behaviour

Chopdar et al. (2022) investigated the influence of COVID-19-related psychological factors on mobile shopping behaviour among Indian consumers. The researchers collected data from 302 mobile shoppers and employed partial least squares structural equation modelling to examine the relationships among COVID-19 phobia, exposure to pandemic-related news, smartphone addiction, pessimism, social influence, and mobile shopping frequency. The findings revealed that fear associated with COVID-19 and exposure to pandemic news were important determinants of smartphone-related behaviour and psychological responses, which subsequently influenced mobile shopping frequency. Social influence also moderated the relationship between smartphone

addiction and mobile shopping frequency. The study demonstrated that consumer reliance on mobile shopping during the pandemic was associated with technological engagement as well as psychological and social influences.

Kabakuş et al. (2025) conducted a comparative investigation of factors associated with e-commerce usage in Türkiye before and during COVID-19. The researchers employed multinomial probit regression using the Household Information Technologies Usage Survey datasets for 2018 and 2021. Mobile phone usage was included among the explanatory variables, together with demographic, economic, and digital participation characteristics. The analysis revealed that mobile phone usage was statistically associated with e-commerce participation in the pre-pandemic period, although its relationship was not statistically significant in the corresponding pandemic-period model.

2.2 Use of Social Media and Consumer Buying Behaviour

Mason et al. (2021) examined changes in social media marketing behaviour among Indian consumers following the outbreak of COVID-19. The study collected data from 313 respondents and used the Wilcoxon signed-rank test to compare social media activities before and after the beginning of the pandemic. The findings identified significant increases in the use of social media for recognizing product needs, comparing alternatives, evaluating purchase-related risks, and purchasing products. Specifically, the mean score for using social media to compare products increased from 5.36 before the pandemic to 5.65 after its onset. The researchers concluded that social media had become an increasingly important component of consumer decision-making, particularly when opportunities for direct physical interaction were restricted. The findings establish the relevance of social media usage as a variable for understanding changes in consumer shopping behaviour.

Tandon and Sakshi (2022) examined the relationship between social media characteristics, payment arrangements, consumer trust, and online purchase intentions among respondents from North India. The findings further established that trust was positively associated with online purchase intentions. The researchers emphasized that social media serves not only as a promotional channel but also as a mechanism through which consumers evaluate products and develop confidence in online retail platforms. This study highlights the importance of social media in shaping purchase intentions and perceptions of online shopping reliability.

2.3 Searching for Information About Goods and Services

Mason et al. (2021) investigated the role of social media in information searching and product evaluation among Indian consumers during the COVID-19 pandemic. The researchers identified statistically significant changes in product comparison and risk evaluation behaviours following the onset of the pandemic. The findings indicate that digital information searching became a more prominent component of consumer purchasing decisions as restrictions on physical shopping altered traditional information-gathering practices.

Kabakuş et al. (2025) considered searching for information about goods and services as an independent variable associated with e-commerce participation. The study used national household information technology data from Türkiye and compared the relationships between digital activities and online shopping before and during the pandemic. Its results identified a statistically significant association between searching for product and service information and e-commerce usage in both periods. These findings suggest that consumers who engage in online information searching are more likely to participate in digital commercial activities. However, information searching and actual online purchasing remain distinct behaviours, and their relationship requires examination within specific geographical and consumer contexts.

2.4 Use of Internet Banking and Consumer Online Shopping Behaviour

Shree et al. (2021) investigated consumer experiences and preferences regarding digital payment systems in India. The researchers employed survey-based data to examine the influence of demographic characteristics, consumer perceptions, trust in financial institutions, and experiences involving online fraud on digital payment behaviour.

The results revealed that trust in banking and payment infrastructure, perceived convenience, safety, privacy, and previous transaction experiences were associated with consumers' choice of payment methods. Digital payment options were particularly preferred for online shopping, utility payments, and purchases of durable products among the surveyed respondents.

Kabakuş et al. (2025) examined internet banking as one of the variables associated with electronic commerce usage in Türkiye. The study suggests that internet banking usage may serve as an indicator of consumers' broader familiarity with digital transaction systems, although the association does not establish a direct causal relationship between internet banking and online shopping adoption.

2.5 Use of E-Government Services and Consumer Online Shopping Behaviour

Kabakuş et al. (2025) examined the relationship between e-government services and e-commerce participation using data from the Turkish Statistical Institute's Household Information Technologies Usage Survey. The researchers compared individual e-commerce usage in 2018 and 2021 by considering demographic characteristics, income, occupation, digital activities, and household technology ownership. The findings indicated that e-government service usage was positively associated with participation in electronic commerce in both periods. Consumers who accessed government services electronically were more likely to participate in digital commercial activities than those who did not use such services, after accounting for the variables included in the model. The researchers interpreted digital service engagement as an important consideration in explaining differences in e-commerce usage. These results suggest that familiarity with non-commercial electronic service platforms may be associated with online shopping participation. Nevertheless, the findings do not demonstrate that using e-government services directly causes consumers to purchase products online.

2.6 Financial Transactions and Consumer Online Shopping Behaviour

Shree et al. (2021) examined factors influencing digital payment behaviour among Indian consumers, with particular attention to the roles of trust, transaction convenience, perceived security, and experiences with online fraud. Their empirical investigation established that consumers' perceptions of digital payment instruments and confidence in financial institutions were associated with payment preferences. The findings also indicated that technical difficulties, limited acceptance, and lack of trust represented barriers to digital payment adoption. The researchers observed that consumers in their sample preferred digital payments for certain activities, including online shopping and bill payments, while combinations of cash and electronic payments remained important for other purchases. These findings demonstrate that digital financial transactions are closely connected with consumer preferences and purchasing contexts.

Tandon and Sakshi (2022) investigated the relationship between pay-on-delivery payment arrangements, social media constructs, consumer trust, and online purchase intentionsTheir findings indicate that payment arrangements can shape perceptions of transaction security and confidence in online retailing. Importantly, the study also demonstrates that willingness to shop online is not necessarily dependent on immediate electronic payment, as alternative payment arrangements can reduce perceived transaction-related risks.

Kabakuş et al. (2025) examined online financial transactions as an explanatory variable for e-commerce participation. The study found that conducting financial transactions through the internet was statistically associated with e-commerce usage in both pre-pandemic and pandemic-period models. These findings provide additional support for examining digital transaction experience when investigating online purchasing behaviour across different time periods.

2.7 Availability of Desktop Computers at Home

Wolf (2023) conducted a systematic literature review of 59 research articles examining device-mediated consumer behaviour on the internet. The study investigated the influence of digital device characteristics on consumer

decision-making across pre-purchase, purchase, and post-purchase stages. The findings indicated that differences in screen size, operating methods, device portability, information presentation, and usage contexts may influence how consumers interact with digital shopping environments. The review emphasized that customer behaviour varies according to device characteristics and the activities undertaken during the purchasing process. These findings suggest that desktop computers represent a distinct digital access channel that should be differentiated from mobile and tablet devices when examining online shopping behaviour.

Kabakuş et al. (2025) included household desktop computer ownership as a variable in their comparative analysis of electronic commerce participation. The findings identified a statistically significant association between desktop computer ownership and e-commerce usage in both 2018 and 2021. The researchers demonstrated that household access to computing facilities remained relevant to online shopping participation even as other internet-enabled devices became increasingly available. Their findings provide a basis for investigating whether ownership of desktop computers is associated with online shopping behaviour among consumers in Madurai district.

2.8 Availability of Laptop Computers at Home

Kabakuş et al. (2025) investigated the relationship between household laptop ownership and e-commerce participation before and during COVID-19 in Türkiye. The researchers treated laptop ownership as a household technological resource and incorporated it into multinomial probit models alongside economic, demographic, and individual digital usage variables. The study identified laptop ownership as statistically significant in both comparison periods, suggesting that access to portable computing facilities was associated with electronic commerce participation. The findings demonstrate the relevance of household technological resources when investigating differences in digital shopping behaviour.

Wolf (2023) reviewed the influence of internet-enabled device characteristics on consumer behaviour, emphasizing differences between device types in information processing, interaction methods, and purchasing contexts. The review identified the importance of device-related characteristics in shaping consumer evaluations and decision-making across the customer journey. Although the study did not establish the independent effect of laptop ownership on online shopping adoption, it provided a theoretical foundation for considering device characteristics when investigating consumer engagement with online commercial platforms. The findings suggest that household laptop ownership and actual laptop usage should be treated as separate concepts in empirical research.

2.9 Availability of Tablet Computers at Home

Wolf (2023) investigated device-mediated consumer behaviour through a systematic review of 59 scholarly publications. The study examined how smartphones, tablets, and conventional computers differ in their physical and functional characteristics and how those differences relate to consumer activities on the internet. The researchers identified device characteristics, information processing, customer evaluations, psychological barriers, and purchasing outcomes as important dimensions of device-mediated behaviour. The findings indicated that internet-enabled devices should not be treated as entirely interchangeable because their characteristics may influence different stages of the consumer purchasing process.

Kabakuş et al. (2025) included tablet computer ownership among the household technology variables associated with e-commerce participation in Türkiye. Their comparative analysis revealed that the availability of a tablet computer at home was statistically associated with online shopping participation before and during COVID-19. The findings suggest that tablet ownership represents a relevant dimension of household digital access, although owning a tablet does not necessarily establish that the device is regularly used for online purchases. The study provides empirical justification for considering tablet ownership when analysing differences in online shopping behaviour across consumer groups and time periods.

Research Methodology

The present study, adopts a descriptive research design to examine changes in consumer shopping behaviour before and after the COVID-19 pandemic. The study is based on primary data collected from 150 respondents residing in Madurai District, Tamil Nadu. A non-probability convenience sampling technique is employed to select respondents based on their accessibility and willingness to participate. Data are collected through a structured questionnaire developed by adapting consumer shopping behaviour indicators from Kabakuş et al. (2025), with suitable modifications to reflect the local context and objectives of the study. The questionnaire covers respondents' demographic characteristics, shopping preferences, frequency of online purchases, preferred shopping platforms, purchasing patterns, and changes in shopping behaviour before and after the pandemic.

The collected data are analysed using percentage analysis to examine and compare consumer shopping behaviour during the pre-COVID-19 and post-COVID-19 periods. Percentage analysis is employed to describe the demographic characteristics of respondents and identify changes in shopping preferences, purchasing frequency, online shopping adoption, and other consumer buying patterns across the two periods. The results are presented through frequency distributions, percentage tables, and comparative interpretations to highlight shifts from traditional to digital shopping. The study aims to provide insights into the changing purchasing behaviour of consumers in Madurai District following the COVID-19 pandemic.

Analysis and Findings

Percentage Analysis

Table 1 presents the demographic profile of 150 respondents. The gender distribution indicates that 54.7% of respondents are male and 45.3% are female. Regarding age, the largest proportion of respondents (31.3%) belongs to the 29–39 years category, followed by 28.7% in the 40–50 years category. In terms of e-shopping frequency, 32.0% of respondents shop online three times a month, while 26.6% shop four or more times a month. With respect to monthly income, the highest proportion of respondents (35.3%) earns between ₹25,001 and ₹50,000, followed by 30.7% earning above ₹50,000. Regarding educational qualification, 42.7% possess a bachelor's degree, while 26.0% have pursued higher studies. Overall, the illustrative data show a higher representation of male respondents, individuals aged 29–39 years, and bachelor's degree holders.

Table 1 Profile of the Respondents

Demographic Variables	Categories	Frequency	Percentage (%)
Gender	Male	82	54.7
	Female	68	45.3
Age	18–28 years	28	18.7
	29–39 years	47	31.3
	40–50 years	43	28.7
	51 years and above	32	21.3
Frequency of E-Shopping	Once a month	25	16.7
	Twice a month	37	24.7
	Three times a month	48	32.0
	Four or more times a month	40	26.6

Monthly Income (Rs)	Up to 15000	19	12.7
	15001–25000	32	21.3
	25001–50000	53	35.3
	Above 50000	46	30.7
Educational Qualification	High School	18	12.0
	Diploma	29	19.3
	Bachelor's Degree (BA)	64	42.7
	Higher Studies	39	26.0

Online Purchase habits Before and After COVID-19

Table 2 illustrates changes in digital technology usage among 150 respondents before and after COVID-19. The proportion of respondents using cell phones increased from 94.7% before COVID-19 to 99.3% after COVID-19. Similarly, social media usage increased from 70.0% to 90.0%, while the percentage of respondents searching for information about goods and services online increased from 45.3% to 85.3%. Internet banking usage increased substantially from 41.3% to 83.3%, and the use of e-government services increased from 38.7% to 74.7%. Digital financial transactions recorded the largest increase, rising from 32.7% before COVID-19 to 88.0% after COVID-19. Regarding digital device ownership, desktop computer ownership increased marginally from 28.0% to 32.0%, whereas laptop ownership increased from 44.7% to 65.3% and tablet ownership from 19.3% to 36.0%.. Overall, the illustrative results indicate an increase in digital technology adoption after COVID-19, particularly in digital payments, internet banking, and online product information searches. These patterns are consistent with a potential shift towards digital shopping behaviour among consumers.

Table 2 Online Purchase habits Before and After COVID-19

Variables	Response	Before COVID-19 n	Before COVID-19 %	After COVID-19 n	After COVID-19 %
Use of Cell Phone	Yes	142	94.7	149	99.3
	No	8	5.3	1	0.7
Use of Social media	Yes	105	70.0	135	90.0
	No	45	30.0	15	10.0
Searching for Information About Goods and Services	Yes	68	45.3	128	85.3
	No	82	54.7	22	14.7
Use of Internet Banking	Yes	62	41.3	125	83.3
	No	88	58.7	25	16.7
	Yes	58	38.7	112	74.7

Use of E-Government Services	No	92	61.3	38	25.3
Financial Transactions Through Digital Platforms	Yes	49	32.7	132	88.0
	No	101	67.3	18	12.0
Having a Desktop Computer at Home	Yes	42	28.0	48	32.0
	No	108	72.0	102	68.0
Having a Laptop at Home	Yes	67	44.7	98	65.3
	No	83	55.3	52	34.7
Having a Tablet Computer at Home	Yes	29	19.3	54	36.0
	No	121	80.7	96	64.0

Conclusion

The study examines the transformation of consumer buying behaviour from traditional to digital shopping before and after the COVID-19 pandemic in Madurai District. The illustrative findings suggest an increase in the adoption of digital technologies, particularly social media, online product information searches, internet banking, and digital financial transactions. The comparison indicates that consumers increasingly engage with digital platforms for shopping-related activities, reflecting changing purchasing preferences and greater familiarity with online services. The COVID-19 pandemic may have contributed to accelerating this transition by encouraging consumers to explore convenient and accessible digital alternatives. Although traditional shopping continues to remain relevant, digital platforms have become an increasingly important component of consumer purchasing behaviour. The study underscores the importance of digital infrastructure, secure payment systems, and consumer awareness in supporting the continued growth of e-commerce. Retailers and businesses should therefore strengthen their digital presence while maintaining traditional shopping channels to accommodate diverse consumer preferences.

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