



PAHLE INDIA FOUNDATION
PUTTING INDIA FIRST TO MAKE INDIA FIRST

ASSESSING THE NET IMPACT OF E-COMMERCE ON EMPLOYMENT AND CONSUMER WELFARE IN INDIA



Report

Ashish Kumar
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Research Associate



Pahle India Foundation (PIF) is a not-for-profit policy think tank, established in June 2013 by Dr. Rajiv Kumar. At PIF, we undertake analytical research and disseminate its findings both to policy makers and in the public domain. The driving vision in all that we do is “Putting India First to make India First.” PIF also provides a credible, trustworthy and neutral policy platform for bringing together government, industry, academia and civil society for enriching the public narrative on topical issues. In the past one decade, PIF has been able to carve out a niche for itself and earn a reputation with policymakers as an independent, extremely credible institute that can be relied upon for producing high quality inputs for policy formulation. It is registered as a Section 8 company and is FCRA certified.

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ACKNOWLEDGEMENTS

Without the help of several people, this report would not have been possible.

The authors would like to extend their gratitude to the survey partner PRICE (People's Research on India's Consumer Economy), particularly Mr. Rajesh Shukla, MD-CEO, who took a keen interest in the project, and his colleagues Mr. Vishal More, Ms. Pooja Sharma, Ms. Asha Sharma, Mr. Rajender Singh, Mr. Shailendra Dubey, and Mr. Manoj Awasthi. We deeply appreciate the effort of the on-ground enumerators for conducting the primary survey efficiently, and the PRICE team for swiftly compiling the results with valuable practical insights. The authors are also grateful to the 2,031 offline vendors, 2,062 online vendors, and 8,209 e-commerce consumers who took the time to participate in the survey.

Throughout the study, the authors interacted with various stakeholders, including policymakers, e-commerce companies, industry associations, representatives from the industry, and academic experts. The authors appreciate the valuable insights shared by these stakeholders, which greatly strengthened the report. Special thanks to Dr. Jaijit Bhattacharya, Dr. Harsha Vardhana Singh, Ms. Sabina Dewan, Mr. Rajneesh Kumar, Dr. Harsh Verma, Dr. Badri Narayanan Gopalakrishnan, and Ms. Nirupama Soundararajan for participating in our webinar and sharing their expertise on the subject. Additionally, we thank Mr. Archish Murarka for his support in formulating the questionnaires.

We are immensely grateful to Dr. Rajiv Kumar, Chairman of PIF and Mr. Ravi Pokharna, Executive Director of PIF for their continuous guidance and encouragement. We also thank Mr. Jaydev Dubey, Fellow at PIF for his valuable inputs on the analysis. Thank you to Ms. Neera Bali, Director - HR & Administration at PIF, for helping coordinate with the survey team and design team.

All errors and omissions are the authors' sole responsibility.

CONTENT

Executive Summary	6
Introduction to the Study	20
A Review of Literature on the Impact of E-commerce on Employment	20
Impact of E-commerce on Employment in India: Findings from the Survey	40
Experience of Vendors with E-commerce: Findings from the Survey	60
Consumer Behaviour: Findings from the Survey	78
A Review of Literature on the Impact of E-commerce on Consumer Welfare	90
Impact of E-commerce on Consumer Welfare in India: Findings from the Survey	100
Conclusion	114
Citations	116

EXECUTIVE SUMMARY

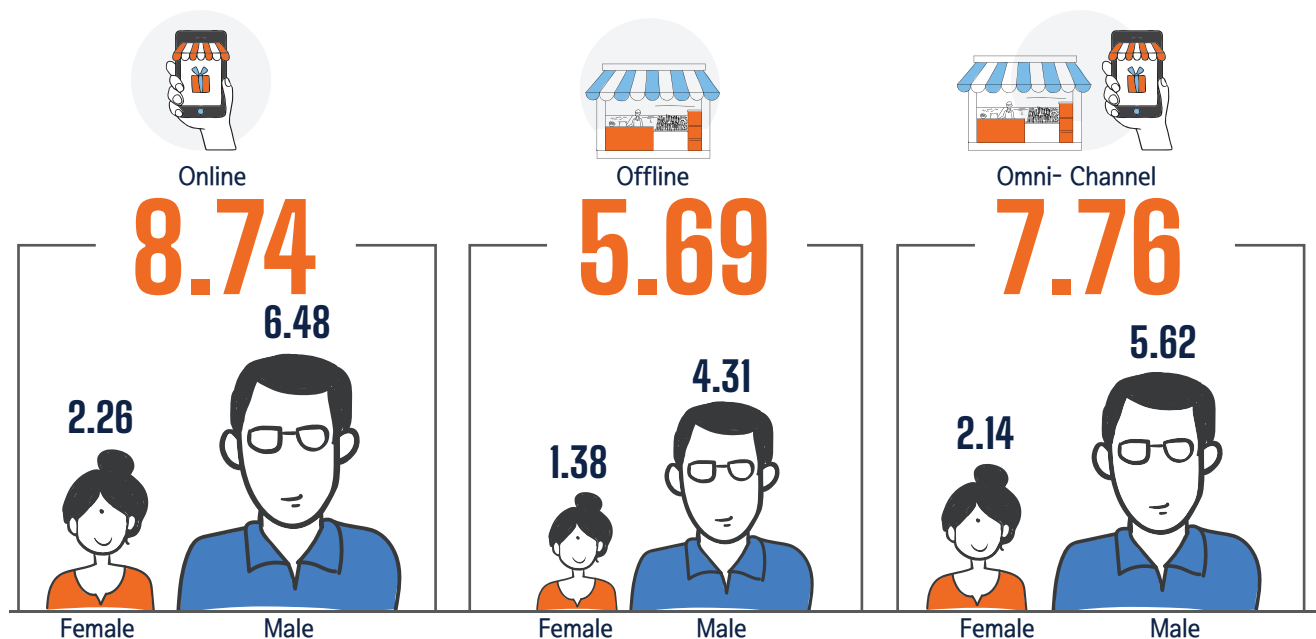
The retail sector is a growth engine for the Indian economy. A small but rapidly-growing chunk of the retail pie is e-commerce, comprising 7.8% of total retail sales in 2022 and growing at a CAGR of 27% between 2018 and 2030, which has transformed the retail landscape significantly in a short period of time. Two of the most widely-recognised contributions of e-commerce penetration in the retail sector are (1) growth in employment and (2) improvements to consumer welfare. At the same time, there are concerns that this impact may be two-sided. This study takes stock of the impact e-commerce has had on employment and consumer welfare through a pan-India survey of 2062 online vendors, 2031 offline vendors, and 8209 consumers of products from e-commerce websites across 35 cities in 20 states and UTs.

The findings from the study can be summarised as follows:

01 E-Commerce Has Been A Key Driver Of Employment Generation In India

Comparison of average employment size across online, offline, and omni-channel vendors

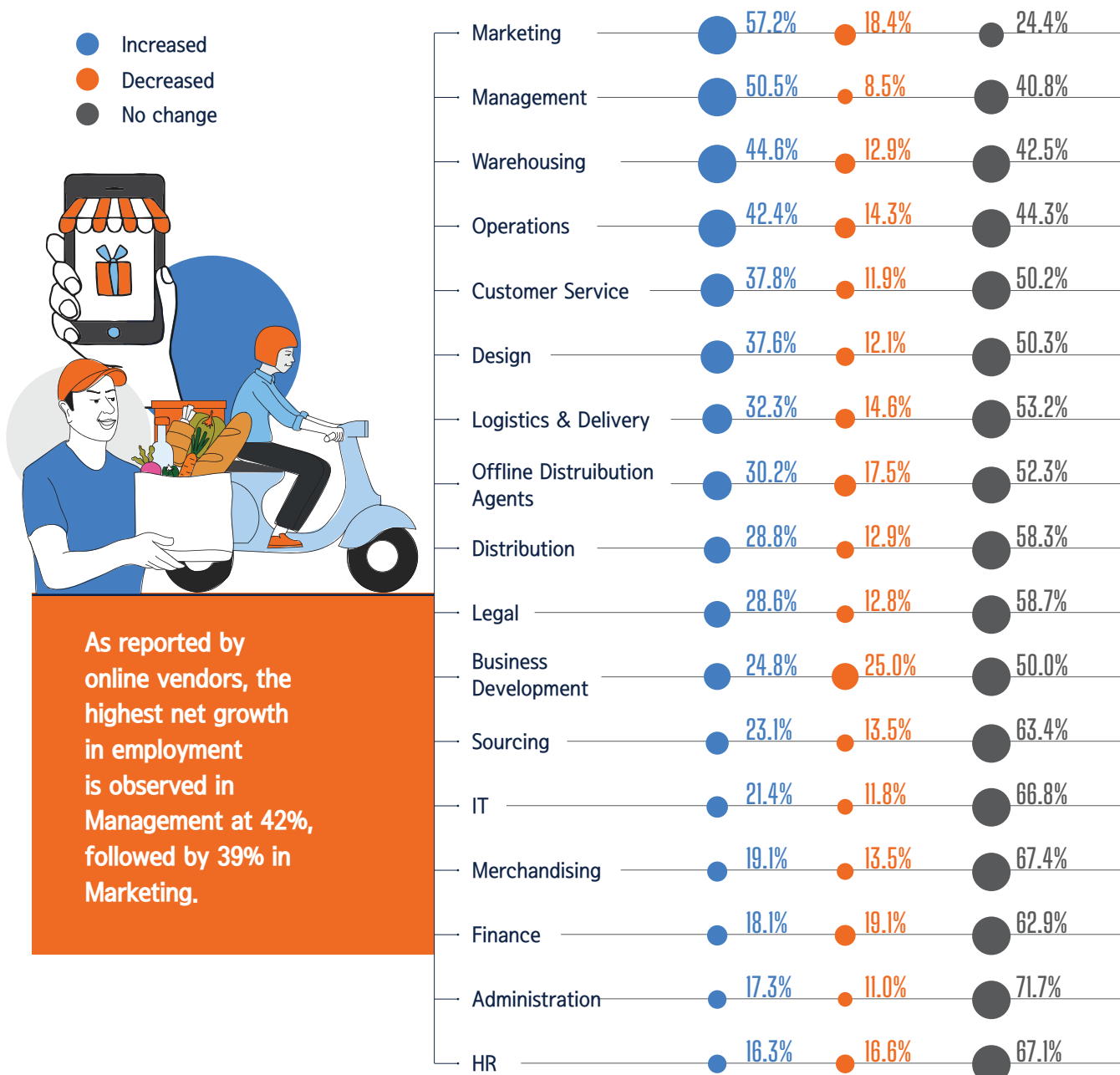
The average number of jobs created per vendor



▶ On average, online vendors employ **54% more people** and **almost twice the number of female employees**, compared to offline vendors.

Each e-commerce vendor employs about 9 people, about 2 of whom are female on average, while each offline vendor employs about 6 people, about 1 of whom is female. Based on NSS data and estimates of e-commerce penetration, approximately 1.76 million retail enterprises participate in e-commerce activity in India. Plugging in data from our survey, we estimate that online vendors generate 15.8 million jobs, including 3.5 million jobs for women.

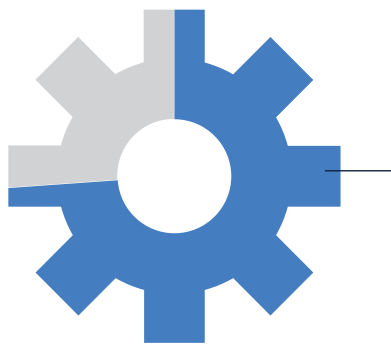
02 Growth is seen in employment across retail functions and across skill levels



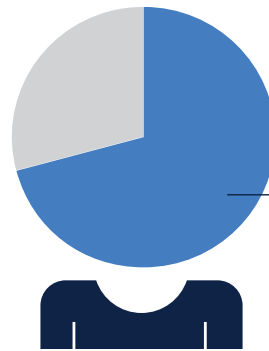
For all the top functions that recruit the highest number of people, there has been a net increase in the number of people employed. **This data additionally shows that the reported increase in employment is seen across skill levels, including high-skilled (Management, Marketing), medium-skilled (Customer Service, Operations), and low-skilled (Warehousing, Logistics, Delivery) functions.**

03 Technological upgradation by online vendors coexists with direct and indirect job creation

Retail functions that see the highest level of technological upgradation have also seen a high net increase in employment and outsourcing. Consider the top two employment generating functions i.e. Marketing and Management.



While 74%
of vendors have adopted
technology under the
Marketing function,



Indirect employment is
generated by
71%
of them through outsourcing.

Along the same lines, 73% of vendors state that tasks under Management have become more digitally-enabled, while 63% of vendors outsource tasks under this function.

Similar trends in indirect employment generation and technological upgradation are seen for all other functions. Even for the lowest direct employment-generating functions such as HR, Administration and Merchandising, one-fourth or more of the vendors outsource tasks, demonstrating indirect employment generation under functions for which vendors do not recruit full-time employees. A comparable percentage of vendors have embraced technology in each of these functions.

04 Offline retail functions have seen technological upgradation and commensurate workforce adaptation as well

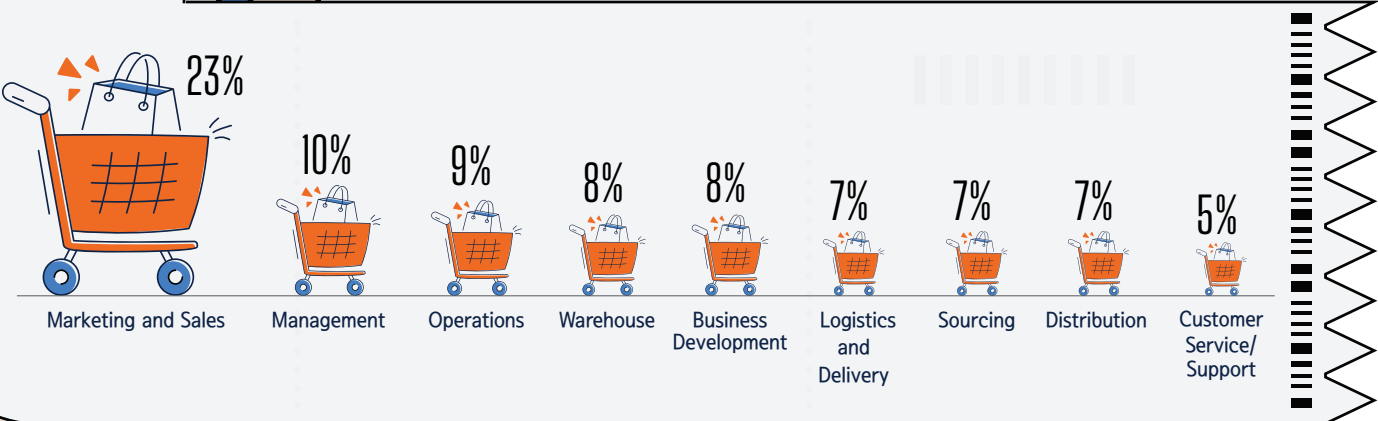
41% of offline vendors either created direct employment, indirect employment, or upskilled their employees with digitalization.



Only 17% of them state that technological adoption replaced employees, while 42% saw no change. Instead of replacing jobs, therefore, technology has become a pre-requisite for many new jobs.

05 The growth of e-commerce and accompanying digitalisation have fundamentally changed the skill sets and roles required in the industry

Functions that have assumed importance with the shift of firms to online sales



Percentage of vendors that indicate new job roles have been created under the function since shifting to online sales

Top employee skills demanded by online vendors



Percentage of vendors that indicate the skillset is in higher demand since shifting to online sales

- ▶ Demand is rising for skills like data management, social media management, website and app savviness, packaging and delivery, and inventory management.

Resultantly, new job roles have been created by about 40% of vendors since their shift online. In fact, vendors selling on all the top platforms by the volume of sales hosted report an increase in the number of job roles.

06 Vendors have experienced improved business performance parameters since listing online, including higher sales and profits

- ▶ 60% and 52% of vendors, respectively, state that their sales and profits have increased since the time they have started selling online.



Overall, more than two thirds of the online vendors interviewed experienced an increase in online sales value and profits in the past year. 58% saw an increase in both. Barring costs, vendors have seen a positive shift in all other aspects of business performance in the time since they started selling online.

About 60% of vendors agree that they have better market access now and have seen an increase in purchase value per customer, respectively. The impact of e-commerce on the efficiency of vendors can be established as well with 56% and 59% of them improving their sourcing & distribution methods and product design, respectively. Furthermore, 62% of them introduced new payment options since the time they listed on an e-commerce platform.

07 There is a strong business case for offline vendors to list on e-commerce platforms or pursue an omni-channel strategy

A simple comparison between pure offline vendors and omni-channel vendors shows that the latter fare better on several facets of business performance i.e. average purchase value per customer, sales, profits and plans of expansion.

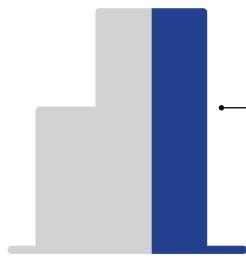
▶ An average purchase value per customer greater than ₹500 is experienced by more than half of the omni-channel vendors, but by only a little more than one third of exclusively offline vendors



In line with this finding, 54% of omni-channel vendors saw an increase in both sales and profits in the past year, as compared to 39% of offline vendors.

08 E-commerce integration has accrued significant benefits to vendors from smaller cities and micro-enterprises

71% of Tier 3 city vendors have seen an increase in sales since the time they have shifted to online sales, a figure comparable with the increase experienced by vendors from bigger cities.



One third of vendors running micro enterprises have experienced an uptick in market size,



innovation and efficiency, as compared to less than **One fifth of medium** and small enterprises.

However, elderly vendors and those with lower education levels have fared worse than others at adopting digital technology, indicating the need for support mechanisms and targeted interventions for skill development towards greater e-commerce inclusion.

09 The growth of e-commerce is not at the cost of traditional retail; the 'retail apocalypse' narrative is rejected by offline vendors themselves

Less than 20% of the offline vendors reported a physical store closure in their neighbourhood since 2020 - the year of the e-commerce boom - and cited several reasons for the same.

Reasons cited by offline vendors for physical store closures in their vicinity



Figures expressed as a percentage of total

► Only a small fraction of offline vendors (6%) attributed brick-and-mortar store closures to consumers shifting to online shopping.

Indeed, a higher proportion of offline vendors (8%) attributed physical store closures to the growth of large organised retail.

When asked about the impact of e-commerce on their overall business, 86% of offline vendors disagreed with the notion that e-commerce growth negatively affects the employment they generate. Instead, 14.4% of vendors are now prioritizing 'Packaging & Delivery' skills in their employees. This highlights a second-order impact of e-commerce: it has driven local shops to hire staff for delivery services, enabling traditional mom-and-pop stores to adapt to the evolving market.

10 Physical retail continues to grow and thrive; brick-and-mortar retailers are increasingly digitising to keep up with evolving industry standards

E-commerce remains relatively under-penetrated in India and the traditional, brick-and-mortar segment continues to thrive.

- ▶ About one fourth of offline vendors plan to expand by either buying a new store, expanding or renovating their existing store, diversifying their product range, adopting more technology, or listing on e-commerce platforms.

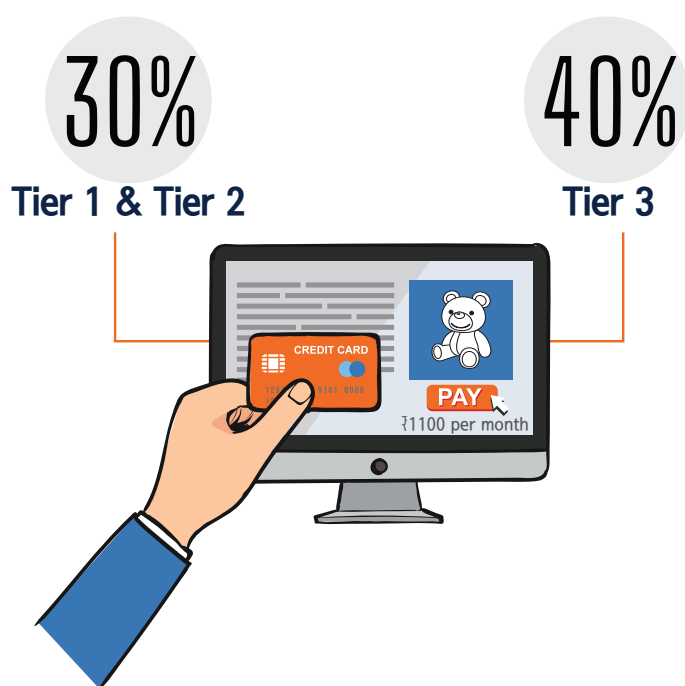


Around 70% of offline vendors have adopted some form of technology - 54% adopted technology to enable cashless and digital payments, followed by the use of software like Logic ERP, Tally etc. by 22% of these vendors.

11 Instead of replacing physical markets, e-commerce is expanding into newer markets like Tier 3 cities

Respondents from Tier 3 cities spend more time and money on e-commerce platforms than Tier 1 and Tier 2 respondents. Half of the consumers from Tier 3 cities spend about 3 hours per week on online shopping, surpassing their counterparts in bigger cities by an hour, on average.

▶ 30% of respondents in Tier 1 and Tier 2 cities spend more than ₹1000 per month, while 40% of respondents in Tier 3 cities reported a monthly spending of above ₹1000 on online shopping.



Thus, the India growth story enables the co-existence of physical and digital retail.

12 The e-commerce consumer base is highly engaged, spending time and money on online shopping

More than half of the respondents spend upwards of 2 hours on e-commerce platforms per week, and a staggering 70% of respondents have made a purchase in the last month alone.

13 Online buying continued even after the COVID-19 pandemic

About 30% of consumers started shopping online during the pandemic, with the highest percentage of shoppers (60%) in the clothing, footwear and apparel segment. 93% of them continued shopping for clothes and footwear online even after the pandemic.



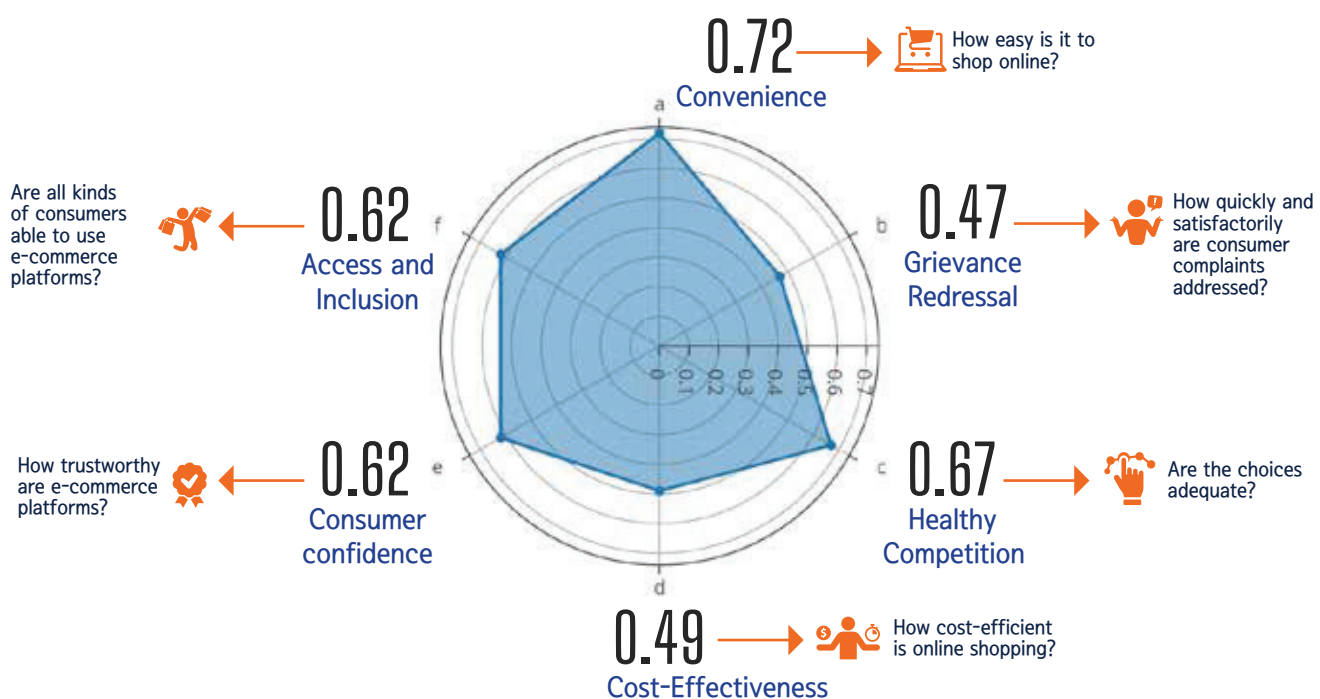
74% of those who adopted online shopping during the pandemic kept up the habit even after it ended.

This trend extends across all product categories, showcasing a lasting shift in consumer behaviour.



14 Convenience and Healthy Competition drive consumer welfare gains from online shopping

To understand the impact of e-commerce on consumer welfare, various indicators under six parameters were coded into an index.



Which parameters drive consumer welfare? (score out of 1)

▶ Convenience stands out as the primary driver of consumer welfare gains in e-commerce.

It aligns with the main reason people say they turned to online shopping initially: ease and convenience. Many consumers also prefer the Cash on Delivery (COD) payment method due to its convenience.

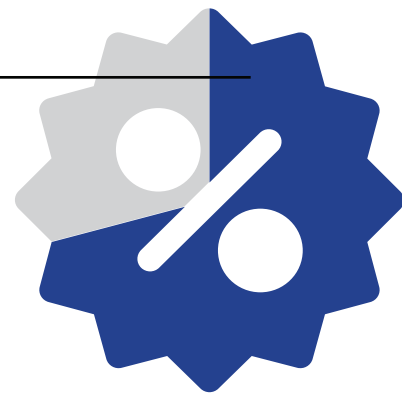
Following Convenience, Healthy Competition drives consumer welfare. This includes factors like product quality, innovation, and the variety of platforms available. Cost-Effectiveness and Grievance Redressal have had a much lower impact in comparison. This suggests that customers are largely attracted to online shopping due to the value it adds over offline shopping in terms of convenience, product variety, and access, to a much larger extent than low price points. Consumers feel that e-commerce needs significant improvements with respect to Grievance Redressal, as seen in the relatively low score assigned by consumers to this parameter.

15

Since the time they started online shopping, consumers feel the greatest improvements have taken place in terms of Discounts & Offers

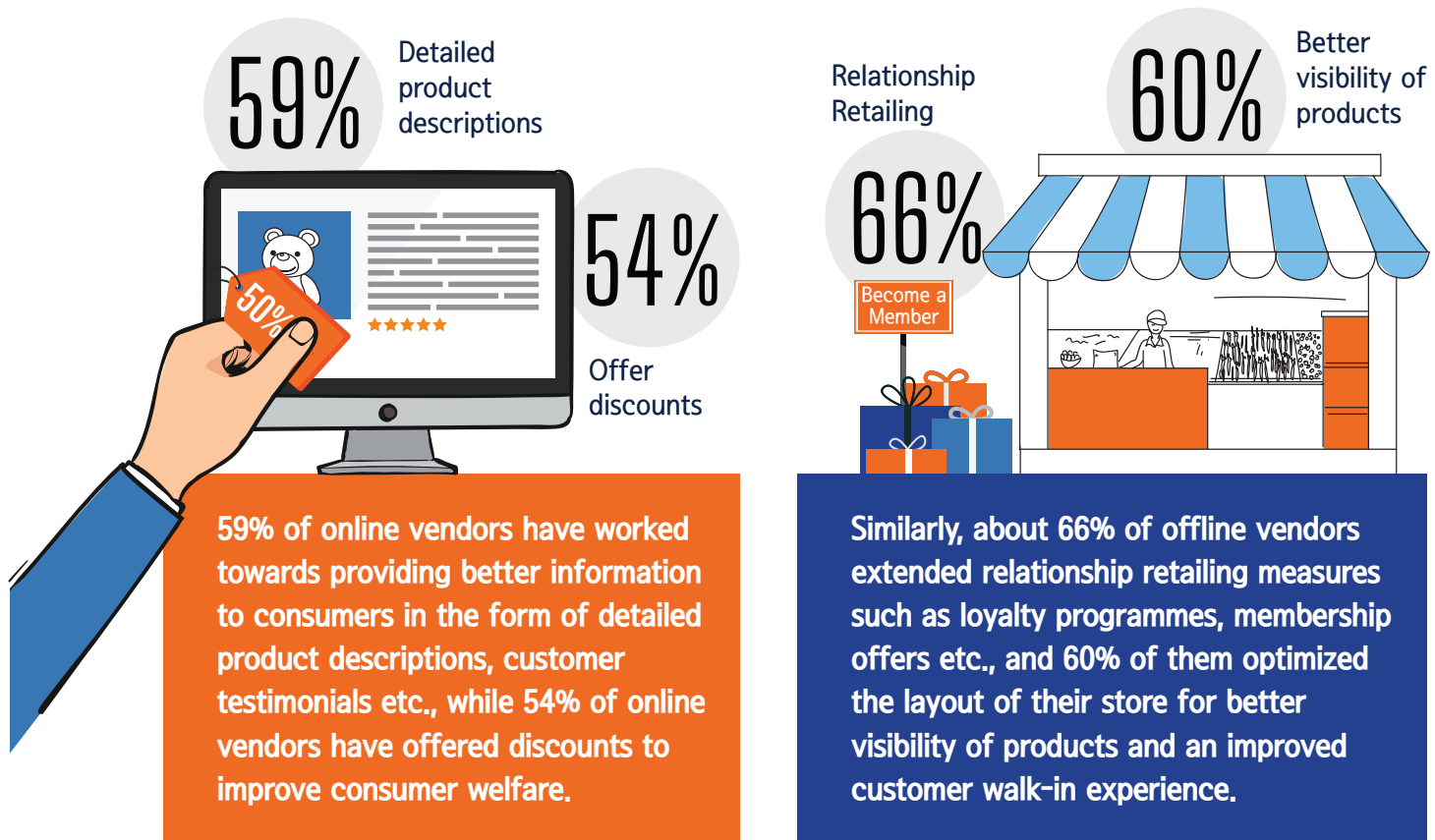
▶ A whopping 71%

of consumers feel that discounts and offers on e-commerce platforms have increased over time.



Additionally, 67% believe that product variety has significantly improved, and 66% appreciate the expanded language options. However, about one third of consumers note that other costs associated with online shopping like shipping, exchange, and subscription fees have risen.

16 Both online and offline vendors have undertaken several actions to enhance the customer experience



Thus, e-commerce is reshaping consumer behaviour and employment patterns in India, leading to a more robust yet dynamic retail environment.

INTRODUCTION TO THE STUDY

01

1.1 Study Context: Retail and E-commerce in India

Retail is a growth engine for the economy and a major source of employment in India. The retail sector contributes to 10% of the country's GDP and 8% of employment.³ Valued at USD 795 billion in 2017, the Indian retail industry is projected to reach USD 1.3 trillion by 2025.⁴ Estimates of its employment base range from 35 million⁵ to 43 million.⁶

▶ The National Skill Development Corporation (NSDC) posits that retail would require 56 million skilled workers by 2022.⁷



In terms of composition, about 88% of the retail landscape is unorganised, dominated by small and often owner-staffed or family-run kirana stores.⁸ Currently, 12 million kirana stores are operational in India.⁹

A small but rapidly growing chunk of the retail pie is e-commerce. Bolstered by a sustained shift in consumer buying patterns due to the Covid-19 pandemic, rising financial and digital inclusion, and concerted efforts by policymakers, the e-commerce market is predicted to grow at a CAGR of 27%, from USD 22 billion in 2018 to USD 350 billion by 2030.¹⁰ This outpaces the worldwide e-commerce growth rate of 9.1% by a high margin.¹¹ The key drivers of this growth are likely to be the consumer segments of food and grocery, as well as apparel. In 2020, the largest segments in e-commerce by retail value were consumer electronics (40%), apparel (40%), food and grocery (7%), jewellery (7%) and furniture (4%).¹²

India promises tremendous future growth in online retail. Supported by its large population, rising incomes, smartphone penetration, and strong digital infrastructure, India is expected to surpass the US to become the world's second largest e-commerce market by 2034.¹³ Departing from the traditional transition path of the US retail market, India has leapfrogged organised retail penetration directly towards e-commerce.¹⁴ The country boasts the second largest internet user base in the world after China, at 933 million in 2022,¹⁵ as well as the second largest online shopper base after China, at 312 million in 2023.¹⁶ The Covid-19 pandemic marked an inflection point for e-commerce development, with the shopper base maturing rapidly post 2020.¹⁷ Shoppers onboarded to digital platforms in 2019 have since doubled their engagement, frequency of purchases, and online spending.¹⁸ Moreover, 7 out of 10 Indian online shoppers hail from Tier 2 cities.¹⁹ As the growth of the Chinese retail market reaches saturation, an array of thought leaders and investors alike see India as the largest remaining retail frontier.²⁰

E-commerce remains relatively under-penetrated in India and has significant room for growth, even as the traditional, brick-and-mortar segment continues to thrive. The IBEF notes that online retail comprised 4.7% of total retail sales in 2019 and expects this figure to rise to no more than 10.7% in 2024.²¹ This is a low figure compared to international markets.

▶ EY estimates the share of online retail in total retail sales at 7.8% in India in 2022, compared to 46% in China and 16% in the US.²²



The e-commerce seller base is also growing rapidly to meet demand. The online seller base is projected at 1.3 million in 2020.²³ Twice as many online sellers joined the e-commerce ecosystem in 2022 compared to 2021, two-thirds of whom came from Tier 2 cities.²⁴ Brick-and-mortar retailers are increasingly expanding their online presence and adopting digital technologies, while many digital-first retailers are connecting online sales to physical stores for a seamless omni-channel customer experience.²⁵ This new phase of retail evolution has been dubbed by some as Retail 4.0, characterised by Online + Offline (O+O) convergence. Online and offline retail today have the opportunity to coexist and play non-conflicting, or even mutually beneficial roles in the retail space.

With India on a high growth trajectory, both online and offline retail are growing year on year. Offline retail has experienced slower growth over time, reporting 6% sales growth in April 2023, a fall compared to the corresponding period in 2022.²⁶ The difference in the pace of growth between e-commerce and offline retail may be attributed to the already extensive and higher base of brick-and-mortar retail, while e-commerce is expanding more rapidly from a lower base. Moreover, traditional retail has made a resurgence in the post-pandemic economy, particularly the 2023 festive season.²⁷ Indeed, in the first quarter of FY 2024, offline retail demand outpaced that of e-commerce, driven by rural demand for fast-moving consumer goods (FMCGs).²⁸

One of the most recognisable advantages of e-commerce is its contribution to employment. At the same time, there are fears that its impact on employment is two-sided. With consumers demonstrating a propensity to buy online (in certain product categories more than others), concerns have been raised around potential losses in profits and revenues, layoffs and closures in the traditional retail sector. There is a need to evaluate the employment impact of e-commerce on ground through data collection.

E-commerce has also played a pivotal role in improving consumer welfare by offering customers choices, price competitiveness, enhanced user experience, and the freedom to shop from the comfort of their homes. Additionally, e-commerce has expanded the customer base to include hitherto under-serviced areas and communities. However, consumers may continue to face bottlenecks on online shopping platforms, including but not limited to product mismatches, exchange and return logistics, refund processing, installation issues, after-sales service, and data privacy.

It is thus imperative to take stock of the impact e-commerce has created and ideate ways in which it can be designed to benefit both vendors and consumers – the two pillars upon which e-commerce growth rides.

1.2 Research Objectives

In this context, Pahle India Foundation conducted a study on the net impact of e-commerce (limited to the retail goods trade) on the Indian economy, with the following research objectives:

01

Assess the net impact of the growth of e-commerce on employment.

02

Evaluate the net impact of the growth of e-commerce on consumer welfare.

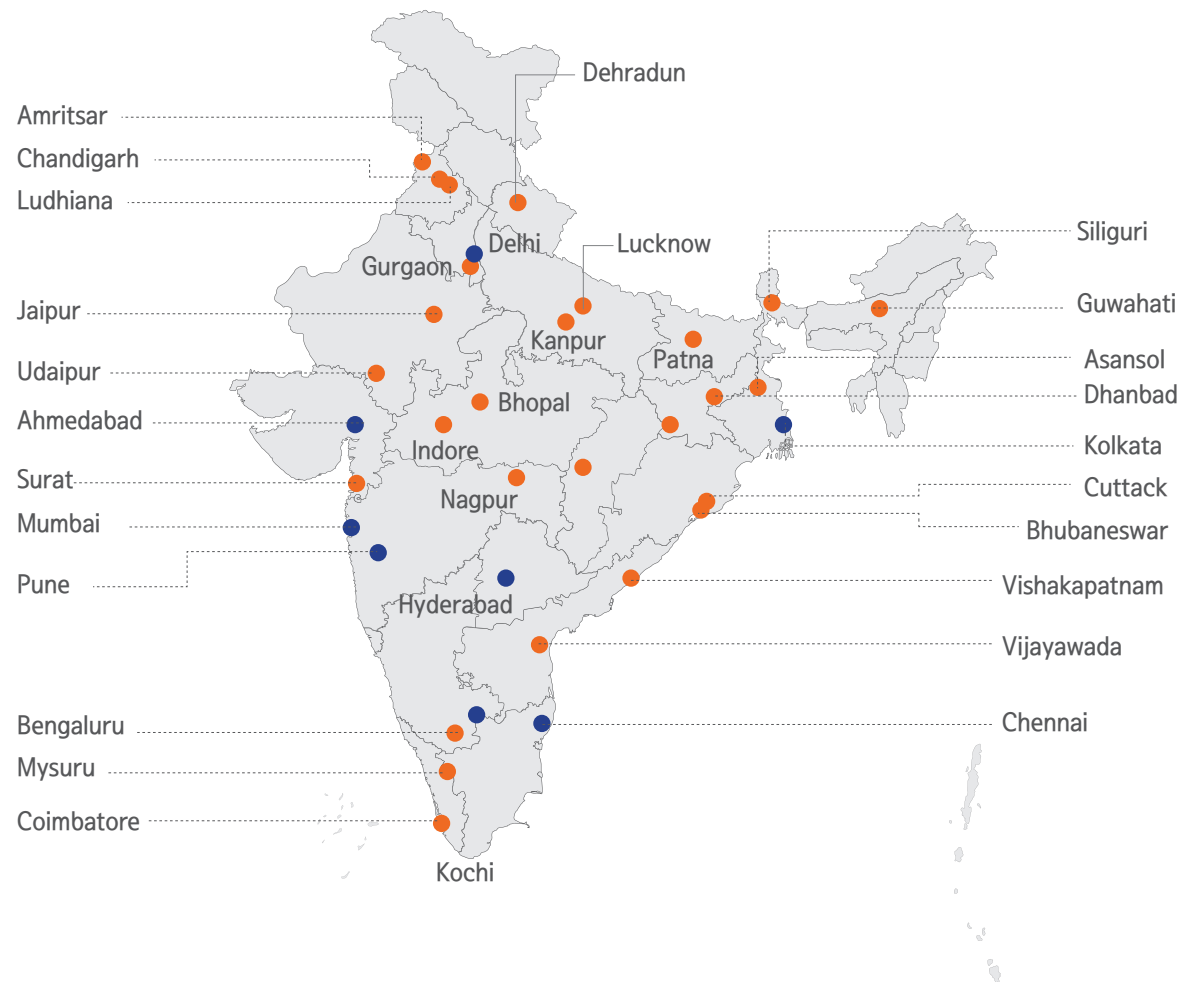
1.3 Research Methodology

Three primary surveys were conducted with 2062 online vendors, 2031 offline vendors, and 8209 consumers of products from e-commerce websites. The survey spanned across 35 cities in 20 states and UTs in India to ensure pan-India geographical coverage and strong representation from all three tiers²⁹. Data was collected from eight Tier 1 or metro cities, eighteen Tier 2 cities, and nine Tier 3 cities.

Tier 1 cities are defined as those having a population of over 50 lakh. Tier 2 cities are defined as those with a population between 10 lakh and 50 lakh. Tier 3 cities are defined as those with a population between 1 lakh and 10 lakh. Exceptions have been made for Gurgaon and Chandigarh, which have been classified as Tier 2 cities. Population estimates from the latest available Census data (2011) were used.

High weightage has been placed on Tier 2 and Tier 3 cities to reflect the large and growing consumer and seller base in these regions.

The following map represents the cities where the survey was conducted, with Tier 1 cities marked in blue and Tier 2 and Tier 3 cities marked in orange:



Towards measuring the net impact of e-commerce on employment, the survey for online and offline retail vendors captured information in the following thematic areas:

- General profiling
- Direct employment size across time
- In case there has been a change in employment size over time, which roles this change has been concentrated in, whether any roles have been created or destroyed entirely, and which skill sets there is a higher or lower requirement for
- Whether they have an offline and/or online presence
- When they first developed their offline and/or online presence
- Their share of offline and/or online sales and how this has changed over time
- The growth in turnover observed across offline and/or online modes of shopping over time
- How their online business has potentially affected their offline business, and vice versa

For the offline vendor survey, five markets were selected in each city. In each market, respondents were selected purposively to ensure representation from five key product categories, namely consumer electronics, apparels, food & grocery, jewellery, furniture, and others. This category included traditional mom-and-pop or kirana stores that were predominantly offline, and excluded franchisees, organised retail, and exclusive brand outlets.

For the online vendor survey, a mixed approach was adopted to identify vendors with a sizable share of online retail sales, including local enquiries and available databases. Similar to the offline vendor survey, respondents were then selected purposively from the five key product categories in proportion to their e-commerce market share.

Towards determining the impact of e-commerce on consumer welfare, the questionnaire for e-commerce consumers captured information in the following thematic areas:

- General profiling
- Consumer purchase behaviour
- Their preferred modes of payment
- Their consumption patterns (e.g. their share of online and/or offline consumption)
- Potential shifts in their consumption patterns over time
- Reasons for their preferred mode of shopping (online and/or offline)
- Any consumer welfare benefits incurred through their chosen mode of shopping
- Ease of shopping/any grievances or bottlenecks faced on online platforms

For the consumer survey, a certain number of blocks or wards were selected in each city, proportionate to the total population of the city. Respondents were then identified purposively to ensure representation in the gender and age categories.

The study is largely based on the perceptions of e-commerce consumers, online vendors, and offline vendors, as expressed through the survey.

Additionally, the report has been informed by qualitative insights from discussions with a variety of key stakeholders in the e-commerce sector, including representatives from major e-commerce platforms, trader associations, retail associations, ancillary businesses like logistics providers, and policymakers.

A REVIEW OF LITERATURE ON THE IMPACT OF E-COMMERCE ON EMPLOYMENT

2022

2.1 Global Experiences

Our literature review indicates that while its employment impact is two-sided, the growth of e-commerce has been a net job creator across the globe. Terzi (2011) expects e-commerce to both create and destroy jobs; jobs would likely be created in the information and communication technology sector, while employment would likely be lost in the retail sector, postal offices, and travel agencies. Terzi (2011) notes that there would also be indirect job creation via increased product demand and productivity.

As cited by Oxford Martin School and Citi (2017), past technological advances in retail, like barcode scanners, serve as examples of disruption that did not hurt employment, as demand expanded in tandem with retail workers becoming more productive.³⁰ Moreover, the World Bank (2016) states that the growth of e-commerce platforms may lead to a more inclusive labour market, increasing opportunities for previously-excluded or discouraged people like women, the youth and the unemployed by mitigating the barriers of geography and location.³¹

As with any technological disruption, e-commerce has induced complex movements in the labour market and lasting shifts in the nature of employment. As Terzi (2011) writes, the net effect of e-commerce on employment is the result of a complex set of interactions, which is unlikely to be uniform across countries, geographic areas, industries, or skill groups. It is important to note that a true causal effect between e-commerce and employment cannot be established, as factors like the growth of large, organised retail stores also play a role in the retail job displacement phenomenon.

2.1.1 Global Quantitative Impact

With the growth of e-commerce, the following employment trends have been observed in top e-commerce markets around the world, namely the European Union (EU), United Kingdom (UK), United States of America (USA), and China, regions where e-commerce has existed for longer and experiences a higher penetration rate. As the Indian e-commerce market matures steadily, the Indian job market may experience comparable trends over time.

EU: Banescu, Titan and Manea (2022), through a panel regression model for 28 European states between 2008 and 2020, conclude that the development of e-commerce and the associated increase in the percentage of technology-specialised human resources contribute to a higher activity rate in the labour market.³²

Botezatu, Gherghina and Simionescu (2021) study the impact of e-commerce on the employment rate in a panel of 27 member states of the EU from 2010 to 2019, finding

that e-commerce impacts the employment rate positively.³³ In particular, after including country-level control variables, a 1% increase in the total enterprise turnover from e-commerce sales in the country increased the employment rate by 0.2 percentage points.

Americo and Veronico (2018) analyse 35 European countries between 2007 and 2016 using the Eurostat database and find that an increase in e-commerce sales negatively affects employment in the retail sector, while acknowledging that job creation by e-commerce may have offset these losses.³⁴

United Kingdom: Oxford Martin School and Citi (2017) find that e-commerce is a driver of automation in warehouses, as it requires higher stock availability and more efficient handling of inventory than traditional retail, given shorter order cycles and a higher level of returns.³⁵ However, warehouse automation has thus far complemented worker skills rather than substituted for them. Productivity gains from automation have increased the demand for workers in picking and packing tasks, and even created entirely new jobs like supply-chain software engineers and robot technicians. As the number of orders has expanded over time, employment has also increased.

However, they remain cautious that mass retail job displacement could take place in the future, as e-commerce is still in its infancy and growing rapidly. A potential fall in retail employment would have a widespread impact, unlike the case of manufacturing jobs, which tend to be regionally concentrated. Oxford Martin School and Citi (2017) conclude that while overall employment has risen with the growth of e-commerce, the growth of online retail has, to some extent, come at the expense of the traditional retail model. In the UK, physical mall footfall has been in decline since 2011, and traditional brick-and-mortar retailers are investing heavily in omni-channel capabilities to maintain local market share and access new customers.

A 2017 PWC report notes that up to 44% of jobs in wholesale and retail trade in the UK could be impacted by automation by the early 2030s, but this would be offset by job gains elsewhere in the economy, leading to a change in the nature of jobs rather than their disappearance.³⁶

United States: The Progressive Policy Institute (2017) uses United States census data to estimate that e-commerce jobs in fulfilment centres and e-commerce companies rose by 400,000 between December 2007 and June 2017, exceeding the 140,000 decline of brick-and-mortar retail jobs by far.³⁷

▶ This job growth is explained by households saving 64 million hours a week of shopping time through e-commerce and shifting some of these unpaid household hours into market work.

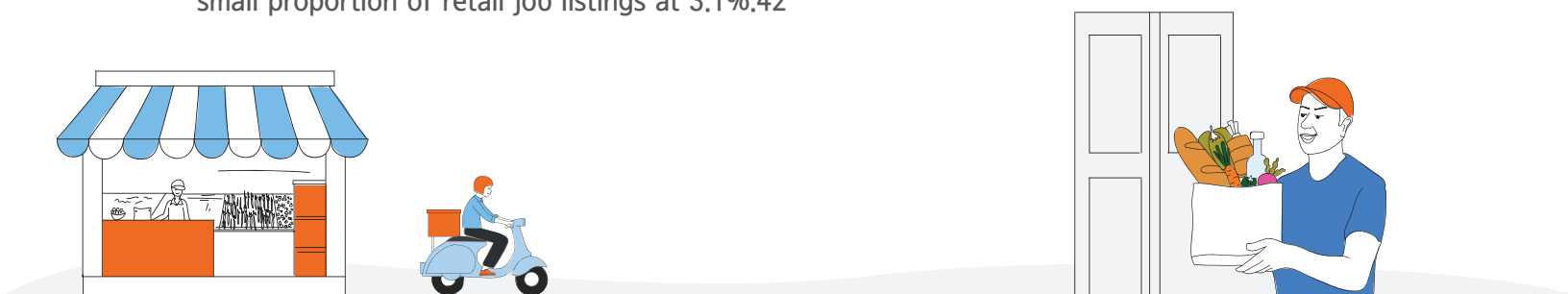
The US Bureau of Labor Statistics (2018) projects that e-commerce job creation will be concentrated in the following occupations between 2016 and 2026: customer service representatives (8,300 new jobs), shipping, receiving, and traffic clerks (6,000 new jobs) and store clerks and order fillers (4,700 new jobs), all of which require no more than a high school diploma or the equivalent.³⁸

Bram and Gortan (2017) find that between 2013 and 2017, department stores have eliminated roughly 80,000 jobs, on net, while non-store retailers have added roughly 100,000.³⁹ Though total employment has not changed much at the national level, there have been significant differences across counties: the areas that are losing department store jobs are often not the same ones gaining e-commerce jobs. This is because department stores tend to spread out staff geographically, while online retailers tend to concentrate staff in one or a few locations. However, warehousing, local freight trucking, and couriers and messengers have also seen robust job growth in recent years, and e-commerce also allows small manufacturers to flourish from anywhere. The job creation effect on these roles is likely to be more evenly distributed.

▶ The IHL Group (2019) debunks the ‘retail apocalypse’ narrative and finds that more than five retailers are opening stores for every brick-and-mortar store that shuts down, and that the closure phenomenon is limited to a few stores, with the 20 firms announcing the most closures representing 75% of all closures.⁴⁰

Burning Glass Technologies (2017) finds that the annual job postings for traditional brick-and-mortar retail roles (including retail salespersons, cashiers, and retail supervisors) declined between 2015 and 2017, while in the same period e-commerce job postings (including pure online services and online branches of traditional retailers) increased rapidly.⁴¹

The demand for e-commerce skills in retailing grew by 32%, while specialised roles like e-commerce analysts grew by 27%. However, e-commerce jobs still formed a relatively small proportion of retail job listings at 3.1%.⁴²



China: China's 14th Five-Year Plan for E-Commerce Development expects the number of people employed in e-commerce to exceed 70 million by 2025, acknowledging cross-border e-commerce (CBEC) as a new pillar of China's economic development.⁴³ While Wu (2021, as cited in Huang, Liu and Xie, 2022) finds that CBEC would negatively impact workers in traditional industries,⁴⁴ Lei (2015, as cited in Huang, Liu and Xie, 2022) finds that the development of e-commerce has ultimately created many opportunities for employment and entrepreneurship across the industry chain.

2.1.2 Global Quantitative Impact

Around the world, Terzi (2011) finds that the growth of e-commerce results in "skilled-bias technical change", increasing employer demand for skills in managing information technology and utilising consumer insights for decision-making. Indeed, the rise of e-commerce has contributed to growing demand for educational qualifications. In the US, Burning Glass (2017) finds that only 12% of traditional retail job postings were looking for a candidate with a university degree, while the equivalent figure for e-commerce postings was 78%.⁴⁵

As e-commerce drives automation, a greater amount of training is required for the same job positions. Oxford Martin and Citi (2017) find that 53% of new jobs in automated warehouses in the US require a university degree.⁴⁶ They also note that the adoption of technology like self-service checkouts in brick-and-mortar retail has increased the complexity of cashiers' tasks, which have evolved away from receiving payments towards providing better customer service. Moreover, cashiers are increasingly required to use digital technologies, including accounting software, spreadsheets, database user interfaces, and query software.⁴⁷ Similarly, e-commerce-led automation may replace tasks rather than jobs, freeing up employees for higher-level work.

E-commerce hiring may also increase wages on average, for the same qualification level. The Progressive Policy Institute (2017) estimates that e-commerce fulfilment centre jobs pay 31% more than brick-and-mortar retail jobs in the same area, suggesting that e-commerce reduces income inequality by raising the wages paid to high school graduates.⁴⁸

E-commerce can contribute to a wage premium at the higher end of the skill distribution (e.g. for those with a university degree). Through a survey in 31 countries, Grundke et al. (2018) find that skills are better rewarded in digitally-intensive sectors like e-commerce, workers in digitally-intensive sectors are better paid, and certain bundles of skills (e.g. high levels of numeracy skills, self-organisation, and managing and communication skills) are even better rewarded.⁴⁹ Bram and Gorton (2017) find that between 2012 and 2016, the annual average wage in the e-commerce sector in the US increased by approximately 18%, while in brick-and-mortar retail there were no significant changes.⁵⁰ This is partly due to the fact that department store jobs tend to be part-time, and partly because e-commerce employers seek out higher skill levels (if wages are seen as a rough proxy for skill demand).

It is clear that the needs of the labour market are evolving rapidly with the growth of e-commerce in many countries. The supply of skilled workers must increase to cover the increased demand triggered by the e-commerce disruption. China is an example of an e-commerce market that experiences a shortage of talent. Huang, Liu and Xie (2022) estimate that future demand for e-commerce talent in China is 200,000 people per year, while the relevant talent output is currently less than 100,000.⁵¹

Worker skills must evolve in line with market requirements to mitigate wage inequality and prevent structural unemployment. Sanz et al. (2020) find that e-commerce requires specialists with knowledge of marketing, social media, and technical solutions.⁵² The World Economic Forum projects rapid growth of jobs in sales, marketing and content, identifying the following top 10 skill requirements: digital marketing, social media, business management, digital literacy, advertising, product marketing, video, graphic design, leadership, and writing.⁵³ Kovacs and Keresztes (2022) investigate which employability skills are required in the field of e-commerce based on young worker perceptions, and conclude that the transferable skills perceived to be of highest importance for e-commerce are motivation, oral communication, presentation skills, interpersonal skills, flexibility, teamwork, stress resilience, problem solving, and creative thinking.⁵⁴ In addition, good analytical and conceptual skills, knowledge of social media, e-commerce, mobile, and internet and software are also among the top categories.

2.2 Secondary Research: India

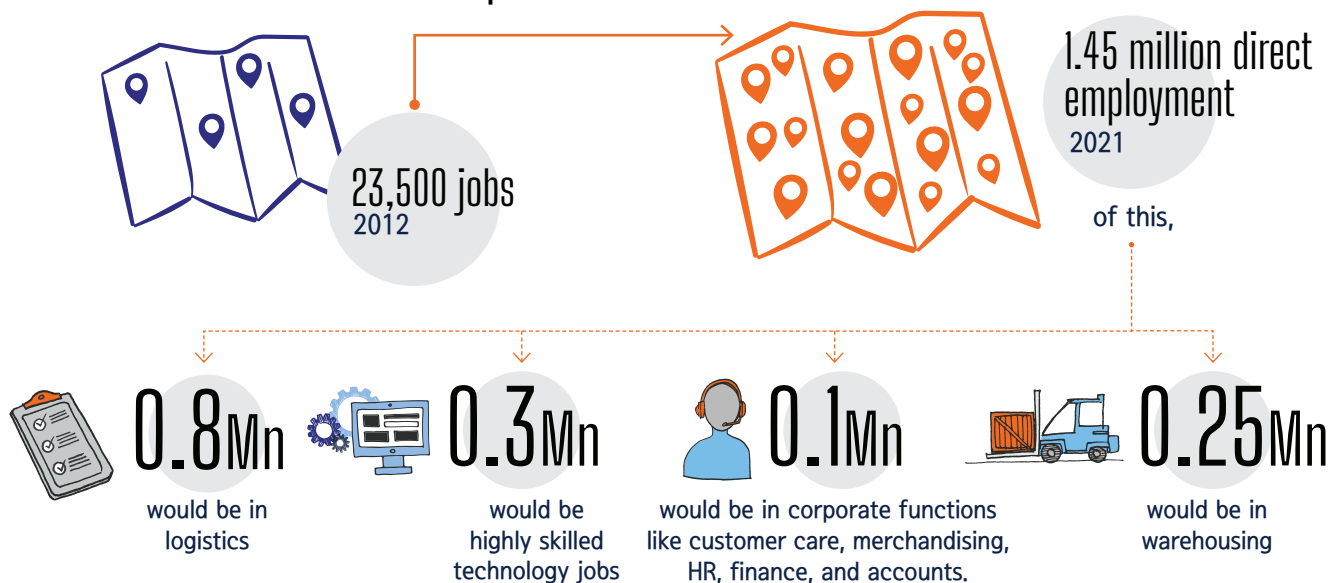
2.2.1 Quantitative Impact in India

Past studies have approximated the role of e-commerce in job creation in India, indicating that e-commerce will generate significant employment in retail and allied sectors, particularly in logistics, warehousing, and technology roles. In comparison, a relatively small decline in employment has been observed in the traditional retail sector. Certain product categories, such as books, music, media, and games, and consumer electronics (particularly mobile phones), have been more affected than others.

Estimates of Job Creation in India

Several estimates posit the job creation potential of the e-commerce industry. E-commerce not only generates jobs across the industry value chain, but in allied sectors like logistics, warehousing, IT/ITeS, sellers and SMEs, and other support industries like payment solutions, marketers, advertisers, etc.

▶ KPMG and Snapdeal (2016) estimate that e-tail and its allied ecosystem would create 1.45 million direct employment opportunities by 2021, a significant jump from the 23,500 jobs that existed in the space in 2012.



This represents a CAGR of 58% for e-commerce and allied employment on the whole, and a CAGR of 64% for technology jobs.

Aside from its direct and indirect/adjacent employment contribution, e-commerce also induces downstream employment, through its influence on the increase in consumption, and the growth of industries like real estate, security, housekeeping, etc. to support the supply side. Additionally, KPMG and Snapdeal (2016) expected the growth of the online seller base to create more than 10 million new jobs by 2020.

Technopak (2020) estimates the employment base of the retail and allied industry at 36.3 million in 2020, of which e-commerce accounts for 1.7 million.

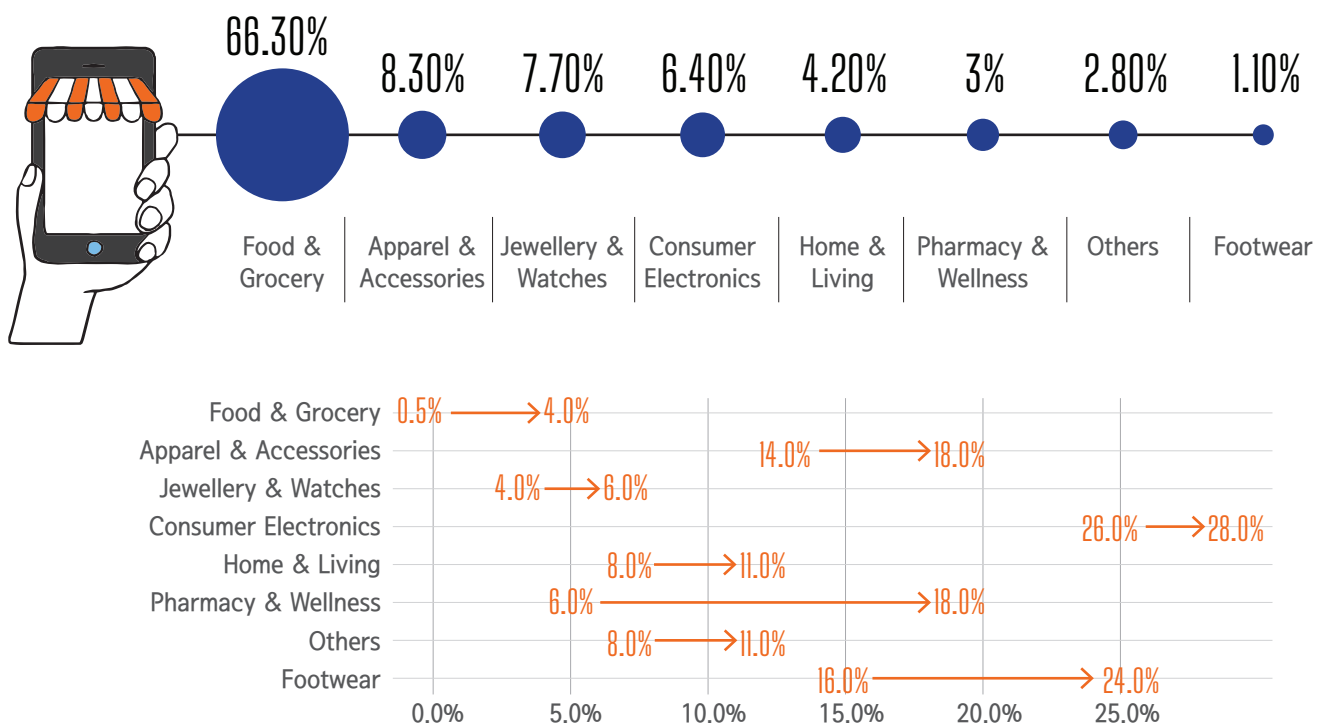
▶ By 2025, retail employment is expected to rise to 45.5 million, while e-commerce employment is expected to rise to 3.4 million.

Of these 1.7 million new e-commerce jobs, the largest share would be in supply chain and logistics (0.8 million). Other promising areas of job creation would be technology (0.1 million), offer management (0.2 million), and other functions (0.6 million). Technopak (2020) argues that since these are entirely new job profiles, jobs added through e-commerce will be complementary to and not at the cost of job creation in traditional retail channels. Traditional retail is also expected to add 5.69 million new jobs between 2020 and 2025, particularly independent business entrepreneurs and shop assistance executives.

Impact on Brick-and-Mortar Retail in India

As suggested by literature, the impact of online retail on traditional retail is most evident in the categories of music, media and games, books, consumer electronics, and fashion and shoes. These sectors have already reported store closures.⁵⁵ Relatively insulated from the impact of e-commerce are the categories of food, jewellery and watches, household items, and health and beauty, products that face low risk from the growth of the online sales channel.

► Category Size and estimated change in e-commerce penetration from 2020 to 2025



(Bubble size represents the e-commerce market penetration in respective product categories and the arrows point to an estimated change in their e-commerce penetration from 2020 to 2025)

Source: Technopak, 2020

E-commerce has the highest penetration rate in the consumer electronics category in India, estimates of which range from 26% (Technopak) to 30% (Statista) of the overall retail market. The Confederation of All India Traders (CAIT) has claimed that more than 50,000 mobile stores have closed down in the last few years, noting that while 8% of global mobile phone sales happen via e-commerce platforms, this percentage is artificially high in India.⁵⁶ In a Competition Commission of India Workshop, the Chairman of the Indian Cellular and Electronics Association indicated that the number of brick-and-mortar mobile phone retailers in India has fallen from 2,95,000 to 45,000.⁵⁷ PredictiVu (2021) finds that about 9,600 handset retail stores (8% of the 120,000 total in India) shut down in the 2020-21 period, attributing this in part to Covid-19 lockdowns and in part to deep discounting on e-commerce platforms.⁵⁸

A Competition Commission of India (CCI) market study notes that the discounting practices of large online platforms are a major point of contention for brick-and-mortar retailers, particularly in the electronics segment. Offline vendors indicate that the prices listed on marketplace platforms are in many instances lower than costs, forcing them to price match at a significant loss. There is apprehension amongst sellers and service providers that platforms use discounts as a discriminatory device, offering higher discounts to their exclusive partners. Platforms have denied any direct role in pricing or discounts, stating that third party sellers offer discounts. The CCI concludes that there is a need for greater transparency around what constitutes the basis for the extent of discounts available to a particular seller or service provider on a particular product, for a better assessment of whether these discounts are discriminatory and market-distorting, or reflective of true cost savings through efficiency.

It is notable that estimated job creation figures in e-commerce and associated industries exceed by far the job loss figures in impacted traditional retail sectors. The negative impact of e-commerce on traditional retail must not be overstated; brick-and-mortar stores continue to thrive and grow in the Indian retail ecosystem, with offline retail comprising over 90% of total retail sales.⁵⁹ For example, the grocery sector, which accounts for half of India's retail consumption, sees no more than 1% online retail penetration thus far.⁶⁰ As e-commerce penetration rises across consumer categories, fair practices such as transparent mechanisms for discounting must be upheld to prevent market distortion.

2.2.2 Qualitative Impact in India

Singh (2008) notes that in India, as well as in the other low-income economies, e-commerce holds the potential to shift employment from the informal to the formal sector, thereby bringing employment under the purview of regulatory protections and improving the quality of work.⁶¹

In line with global experiences, Technopak (2020) finds that e-commerce in India will lead to a higher proportion of skilled and semi-skilled employment compared to traditional retail formats.⁶² Singh (2008) finds that the e-commerce economy has significant potential to generate employment in the roles of computers and information system managers, computer system analysts, computer engineers, computer support specialists, database administrators, computer scientists and computer programmers, as well as commercial artists, designers, writers and editors.⁶³ KPMG and Snapdeal (2016) note that e-commerce organisations predominantly hire in technology profiles, followed by other key functions like product marketing, supply chain, pricing and profit management, customer and seller experience management, merchandising, vendor management, content development, and service.⁶⁴ The Ministry of Electronics and IT reports that India is expected to have 60-65 million jobs that require digital skills by 2025-26.⁶⁵

Drawing from global experiences, it is imperative that worker skills in India adapt in accordance with the evolving needs of the labour market. Efforts have been made in this domain by e-commerce marketplaces themselves. In India, Flipkart partnered with the NSDC's Logistics Sector Skill Council in 2019 to conduct training modules for their supply chain workforce in product delivery, local transportation laws, end-to-end knowledge of the supply chain, behaviour-focused soft skills for improved customer experience, etc.⁶⁶ In the retail sector as a whole, the NSDC identifies key skill gaps to be remedied, including numeracy, computer knowledge, marketing skills, and technological knowhow.⁶⁷ It predicts the creation of job roles like customer service, after-sales service and administrative tasks like supervisor, manager etc. The following gaps in skills are identified:

Job Roles	Representative Skill Gaps
Customer Service Associate	Inadequate product knowledge, resulting in little or no support to customers in purchase, Poor customer service orientation, Poor numeracy skills, often in combination with lack of computer knowledge, Inadequate grooming and hygiene
After-sales Service Associate	Inadequate communication skills, with ineffective demonstration and marketing of products, Poor customer empathy, with weak after-sales support and customer feedback mechanism, Poor adaptation to changing technologies, hindering marketing via digital media, etc.
Cashier	Inadequate operational knowledge of POS terminal and payment processing, hindering speedy transactions, Inadequate book-keeping/accounting skills, Inadequate product knowledge, hindering speedy processing/scanning
Supervisor, Assistant Departmental Manager, Departmental Manager	Inadequate communication, people management and leadership skills, Inadequate co-ordination skills, especially during peak seasons or high attrition periods, Poor grievance-handling skills

Source: NSDC

2.3 Impact on Vendors

In its early stages, the growth of e-commerce was met with some scepticism regarding its potential negative impact on brick-and-mortar retail. Sodi (2014) wrote that e-commerce had an adverse impact on brick-and-mortar retail.⁶⁸ Small-scale surveys of offline retailers reflect negative perceptions towards e-commerce. Joshi and Sahni (2022) survey 50 retailer business owners in Haldwani, Uttarakhand and find that they believe e-commerce has increased competition, and prevented their customer base, turnover, and profit

margins from increasing over the past few years.⁶⁹ Saha (2015) found through interviews with 50 offline retailers in Guwahati that their growth has stagnated, and turnover and profit margins have decreased in recent years.⁷⁰ Customers are seen window shopping more frequently, having a physical look at products to buy them online later. To compete with online shops, the brick-and-mortar retailers surveyed lowered their prices, sacrificing profit margins to offer discounts. They accepted that they would be unable to compete on variety; they could not offer as vast a product range as online retailers, being unable to maintain a large inventory or bear the risk of unsold stock.

However, in larger and more representative surveys, vendor perceptions of e-commerce are much more positive.

▶ Through a survey of 3000 retailers and shoppers, NeoGrowth (2023) finds that 80% of retailers do not see e-commerce as a threat, with only 18% saying their sales have been impacted by online platforms.⁷¹



NeoGrowth (2023) also notes that the offline sales channel remains highly lucrative, with 7 out of 10 retailers planning to increase their physical presence, and 90% of retailers making more than half their sales offline.

Factors like assured authenticity, product quality, family bonding time, in-store ambience, and friendly staff draw consumers to offline shopping. Only 10% of shoppers prefer shopping in the 'only online' mode. KPMG and Snapdeal (2016) write that mom-and-pop stores offer a value proposition that is very different from that of e-commerce players, being hyperlocal in nature and focused on loose and unbranded rather than standardised products.⁷² By many accounts, the dominance of traditional retail is here to stay.

Indeed, the advent of e-commerce can re-invigorate the growth of traditional retail by introducing an impetus to upgrade customer service and digitise operations to keep up with evolving industry standards. Turban et al. (2018) write that e-commerce pressures retail companies to provide better customer service customers and improve their brand image.⁷³ Saha (2015) notes that retailers are more engaged in customer satisfaction since the rise of e-commerce, through discounting, advertisement, home delivery, and after-

sales service.⁷⁴ Brick-and-mortar stores seek to differentiate themselves by specialising in their own unique selling propositions, such as customer service, where online shops fail. Moreover, NeoGrowth (2023) finds that 70% of retailers had plans to ramp up investments in digital tools in their business.

Offline retailers stand to benefit significantly from digitisation, which includes shifting to digital payments, using retail technology to manage operations, and integrating into the e-commerce sector. A Tata Institute of Social Sciences study from 2022 finds that enterprises that use e-commerce and digital technologies are far ahead of non-users in outcomes like value creation, employment, productivity, exports, and women in employment. Digital technology helps small enterprises to mitigate transaction costs, coordinate demand and supply better, overcome challenges of space and time, and achieve more efficient last-mile delivery.⁷⁵ Payment platforms like Google Pay, Paytm, and PhonePe not only allow vendors to offer multiple payment options to potential customers but can help them access credit more easily. Digitising financial activities through point-of-sale (POS) devices, digital payments, and debit and credit payments generates data, which can help lenders assess the creditworthiness of the vendor.

E-commerce platforms offer services like on-boarding, imaging, cataloguing, and warehousing at low cost to the retailer. Retail-tech and mobile apps like OkCredit, KhataBook, Jumbotail, Tally, SnapBizz, and duNOW provide vendors digital solutions to achieve more efficient inventory management, supply chain management, accounting, credit management, regulatory compliance, and customer service. The impetus to digitise and keep abreast with the times is highly necessary; of India's 12 million kirana stores, only 15,000 have digitised operations with mobile apps thus far.⁷⁶ NeoGrowth (2023) finds that 60% of retailers have adopted digital payments.⁷⁷

2.4 Impact on Ancillary and Allied Sectors

The rapid growth of e-commerce has created numerous opportunities for its support infrastructure to build capacity and grow. As a result, several allied ancillary industries have benefitted due to the rise of e-commerce. KPMG and Snapdeal (2016) write that e-commerce has generated indirect/adjacent employment in logistics, IT-BPM, sellers, MSMEs, payment solutions, marketers, advertisers, etc., as well as support industries like real estate, security, housekeeping, etc. to meet supply-side requirements.⁷⁸

The following sectors have experienced a significant and notable impact:

01	02	03	04
Logistics	IT-BPM (Information Technology and Business Process Management)	MSMEs	Advertising and Marketing

01 Logistics

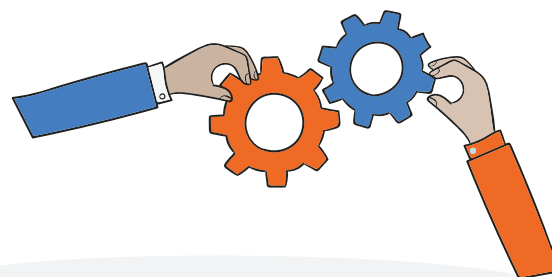


The logistics sector includes packaging, warehousing, transportation, supply chain and related solutions.⁷⁹ In India, the logistics sector employed around 22 million people (as of 2016) with relatively low skill requirements, with most logistics workers being unskilled or semi-skilled with only 4.7% formally skilled workers.⁸⁰ The Logistics Sector Skill Council estimates that the sector's workforce would increase from 22 million in 2016 to over 31 million by 2022.⁸¹ The e-commerce logistics sector has grown at a CAGR of 27.4% on the basis of the number of shipments between FY 2015 and FY 2020.⁸²

As consumers began to expect shorter delivery timelines on e-commerce orders, many logistics companies revamped their approach. To meet the quick turnaround required by “just in time” deliveries, logistics companies have built robust last-mile delivery infrastructure and digitised operations through state-of-the-art technology and automation, bringing in much-needed efficiency.⁸³

The logistics sector was one of the earliest to benefit from the growth of e-commerce, with one of its first documented positive externalities being on postal and courier services. Between 2017 and 2018, India Post experienced an increase in their turnover by nearly 13 per cent, and a significant rise in its speed post revenue.⁸⁴ In 2014, India Post's online delivery of parcels witnessed a significant growth of 35% (after a decline in the previous year) thanks to partnerships with leading e-commerce players for delivery of goods to smaller towns.⁸⁵

02 IT-BPM (Information Technology and Business Process Management)



IT (Information Technology) is the use of computer systems to manage information, and BPM (Business Process Management) is considered the bridge between IT and business. The Indian IT-BPM sector thus forms the backbone of e-commerce and is expected to make up 10% of India's GDP by 2025.⁸⁶ The total revenue generated by the IT-BPM industry in India was USD 154 billion in FY 2017⁸⁷, of which e-commerce revenue made up USD 33 billion.⁸⁸

Direct employment in this sector is projected at 5.4 million in FY 2023, up from around 2 million in FY 2009.⁸⁹ About 2.9 lakh new jobs were added to this industry in FY 23.⁹⁰ With the pandemic-induced e-commerce boom, BPM hiring rose significantly in July-August 2020 to respond to increased customer inquiries and support back office and supply chain management.⁹¹

03 MSMEs



The MSME sector is a major employer in the country; the Udyam portal states that the MSME sector employs approximately 123 million people as of February 2023.⁹² E-commerce has been a major enabler of exports and wider market connect, which the MSME sector has long struggled with. While India has over 14 million MSMEs registered on the Udyam platform⁹³ and MSMEs contribute around 45 per cent to the country's exports, only 33,000 registered MSMEs are exporters.⁹⁴ KPMG (2015) notes that 98 per cent of technology-enabled SMEs in India participate in the export economy.⁹⁵ 85% of SMEs who adopted e-commerce believe it is a cost-effective medium to grow sales.⁹⁶

SMEs who actively adopt the Internet for business activities boast 51 per cent higher revenues, 49 per cent more profit, and a 7 per cent broader customer base than their offline-only counterparts. Moreover, SMEs using e-commerce record 60-80 per cent reduction in marketing and distribution costs. As such, not having an online presence can put businesses at a competitive disadvantage, but only 27 per cent of Indian SMEs using the internet engage in e-commerce.⁹⁷ There is a need to improve awareness and training to enable the MSME sector to exploit the e-commerce opportunity to the fullest.

04 Advertising and Marketing



The increasing digital marketing requirements of e-commerce have led to greater demand for tasks such as advertising, online marketing, social media management, search engine optimization (SEO), etc. India's digital advertising industry is set to reach 88,502 crore in 2024, accounting for 57% of total advertising revenue.⁹⁸ The growth rate of advertising is forecasted at 10.2% in 2024, led by the growth of digital media at 13%.⁹⁹ E-commerce constitutes 18% of digital ad spending, particularly on platforms like Flipkart, Amazon, Swiggy, and Nykaa.¹⁰⁰ E-commerce advertising was estimated to grow at an impressive CAGR of 42% between 2021 and 2025.¹⁰¹

IMPACT OF E-COMMERCE ON EMPLOYMENT IN INDIA: FINDINGS FROM THE SURVEY

03

3.1 Employment Landscape

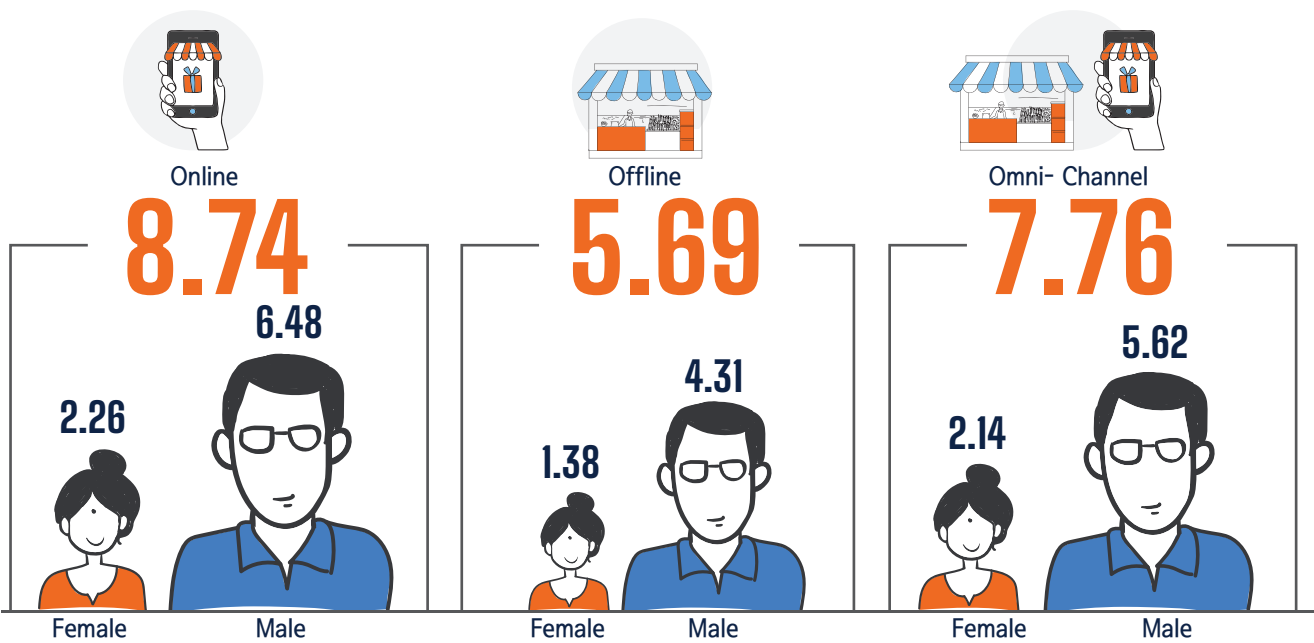
Much in line with several estimates that highlight the job creating role of e-commerce in India, a landscaping of employment generation from our survey reveals that each vendor listed on e-commerce platform employs ~9 people on an average.

▶ 22% of the online sellers interviewed employed more than ten people and about 15% said yes to having a female or non-binary member among their founders or top executives.



In fact, it was seen that online and omni-channel vendors employ a much higher number of people than purely offline vendors. The table below illustrates this:

▶ Comparison of average employment size across online, offline, and omni-channel vendors



(Figures expressed as the average number of people employed per vendor)

Both the female and male employment rates are highest amongst online vendors followed by omni-channel vendors, while vendors with no online presence employ less than 6 people on an average. Only 3% of the online vendors surveyed had no other employee besides themselves while for offline vendors, the figure stood at 10%.

Based on National Sample Survey (NSS) data, the estimated number of trading establishments in India is 22.58 million in 2022-23.¹⁰² E-commerce penetration in the Indian retail sector is 7.8%.¹⁰³ Following from this, approximately 1.76 million retail enterprises in India participate in e-commerce activity.

▶ Plugging in data from our survey, we estimate that online vendors generate 15.8 million jobs, including 3.5 million jobs for women.

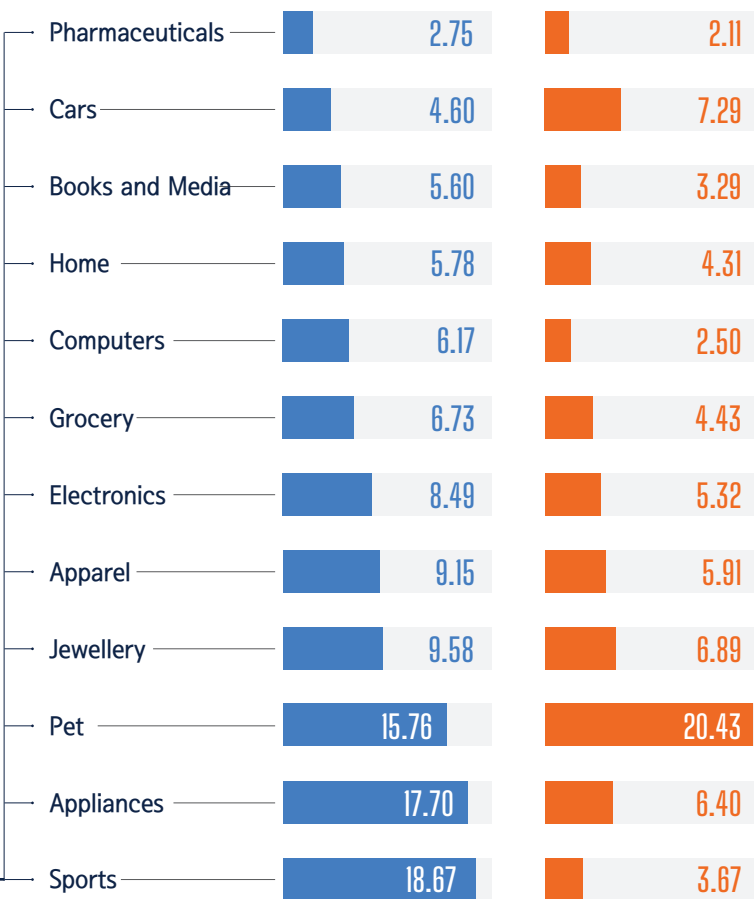


A further comparison of employment generated by online and offline vendors across product categories is shown here:

▶ **Employment generated by online and offline vendors in each of the product categories**

Product categories sorted in ascending order of jobs created by online vendors

- Online
- Offline



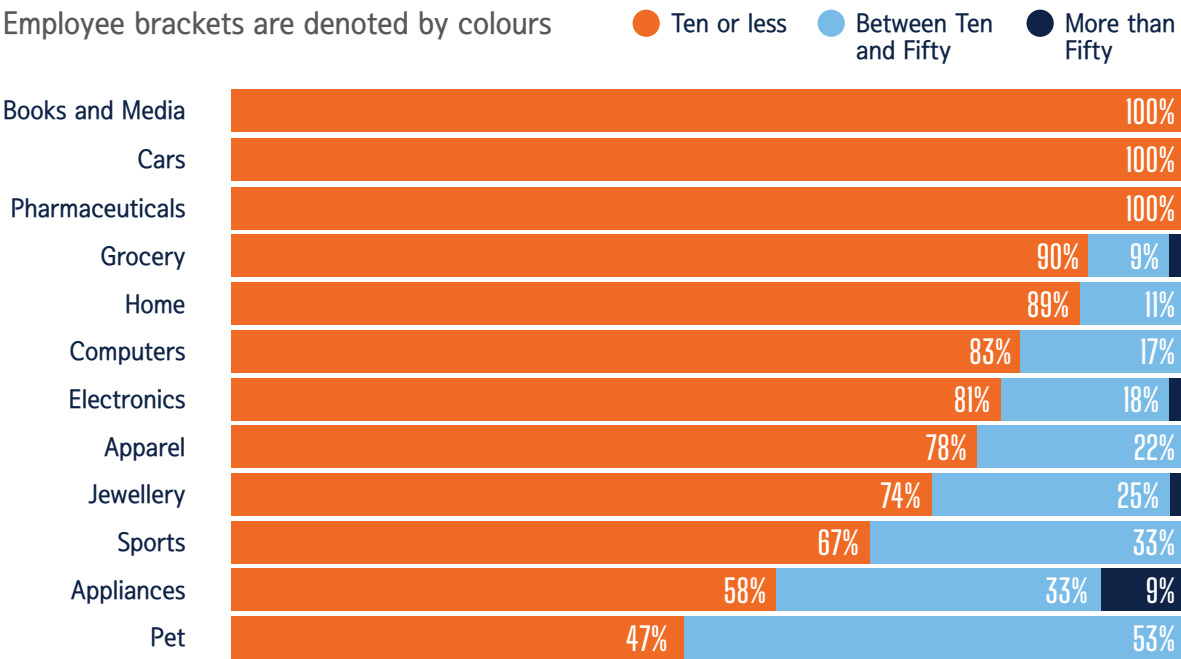
(Figures expressed as the number of people employed per vendor)

Data shows that barring ‘Pet things’ and ‘Cars’, more employment is generated by online vendors across product categories. Offline vendors selling ‘Pet things’ employ a much higher number of people as compared to offline vendors selling in any of the other product categories.

The top employing product categories amongst online vendors are ‘Sports’, ‘Appliances’, and ‘Pet things’. Most of the companies employing upwards of fifty people sell appliances.

Slicing employment data from online vendors into employee brackets, the following employment figures emerge:

► **Product category-wise employment generated by online vendors**



(Figures expressed as a percentage of vendors within respective product categories)

‘Appliances’ is the one product category that sees vendors employing more than fifty people while a few of the vendors (1%) who employ more than fifty people sell electronics and grocery, respectively. Further, more than half the vendors selling appliances employ anywhere between ten and fifty employees. Roughly over half the online vendors selling ‘Pet things’ employ between ten and fifty people. About half the vendors selling apparel employ between zero and five employees.



3.1.1 Who amongst online vendors generates employment and of what kind?

Deep-diving into who amongst online vendors creates the most employment, it is seen that the annual revenue of a company and annual profits may be related to the number of people employed. The following table elucidates this:

► **Annual Revenue of the company selling online and employment generation**

Annual revenue of company in lakhs (L) and crores (cr)

	Less than 50 L	50 L to 5 cr	5-50 cr	50-250 cr
0-5 employees	79%	36%	33%	6%
6-10 employees	14%	38%	40%	31%
11-25 employees	6%	20%	16%	6%
26-50 employees	1%	5%	10%	50%
More than 50 employees	0%	1%	1%	6 %

(Figures expressed as a percentage of vendors in each revenue category)



While a bulk of companies in the lowest revenue bracket employ less than 5 employees, the employment numbers increase with increasing company revenue. A sizeable number of companies with an annual revenue between ₹50 lakhs to ₹50 crore – the category representing three fourths of the respondents – employ between 6-25 employees. As expected, half the companies with a high revenue, greater than ₹50 crore, employ 26-50 employees.

Similar patterns emerge with the profit level of the companies. While most companies with mid-level profits i.e. between ₹10 lakhs to ₹1 crore employ less than 5 employees, about 64% of high-profit firms employ more than 5 people and 24% of them employ more than 10 people each.

Vendors are further classified as per the Stock Keeping Units (SKUs) they sell. SKUs are the unique items sold by a vendor; if a product has different colours and sizes, each variation is to be considered a unique item. It is seen, as follows, that the employment generated by a vendor is related to the number of products hosted by them to some extent:

► SKUs hosted by companies and employment generation

SKU brackets based on estimates of average number of products hosted by vendors online

	<500	500-1000	1000-1500	1500-3000	>3000
0-5 employees	51%	51%	38%	29%	25%
6-10 employees	11%	17%	18%	33%	30%
11-25 employees	3%	8%	4%	13%	18%
26-50 employees	34%	23%	40%	23%	25%
More than 50 employees	0%	2%	0%	2%	3%

(Figures expressed as a percentage of vendors within each SKU category)

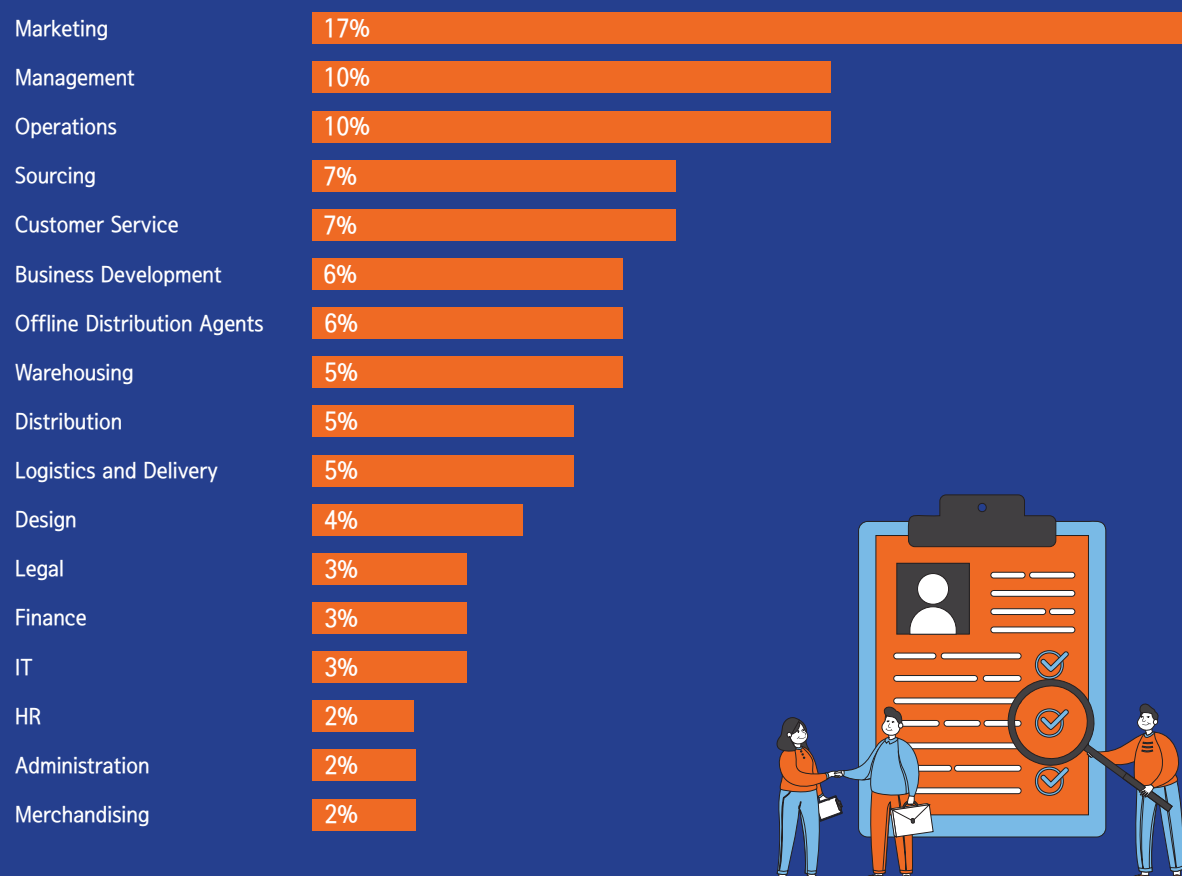
Overall, as one moves to higher SKU brackets, employment rates seem to be more dispersed rather than just being concentrated in the '0-5 employee' bracket.

► As the number of unique items by the vendors increase from less than 500 to 1500, they seem to have more than 25 employees. Beyond 1500 SKUs, however, a significant increase in the employment bracket is not observed.

The retail functions under which online vendors hire people is visualized below:

► Function-wise employment generated by online vendors

Functions sorted by their contribution to employment generation



(Figures expressed as a percentage of total employment generated)

Out of the total employment generated by online vendors, 17% get created under the 'Marketing' function, thus making it the highest employment generator. This is followed by the functions of 'Management', 'Operations', 'Sourcing', and 'Customer Service' respectively. Only 2% of the total jobs created are found under the 'Human Resources', 'Administration', and 'Merchandising' functions.

Finally, vendors also create employment through outsourcing functions.

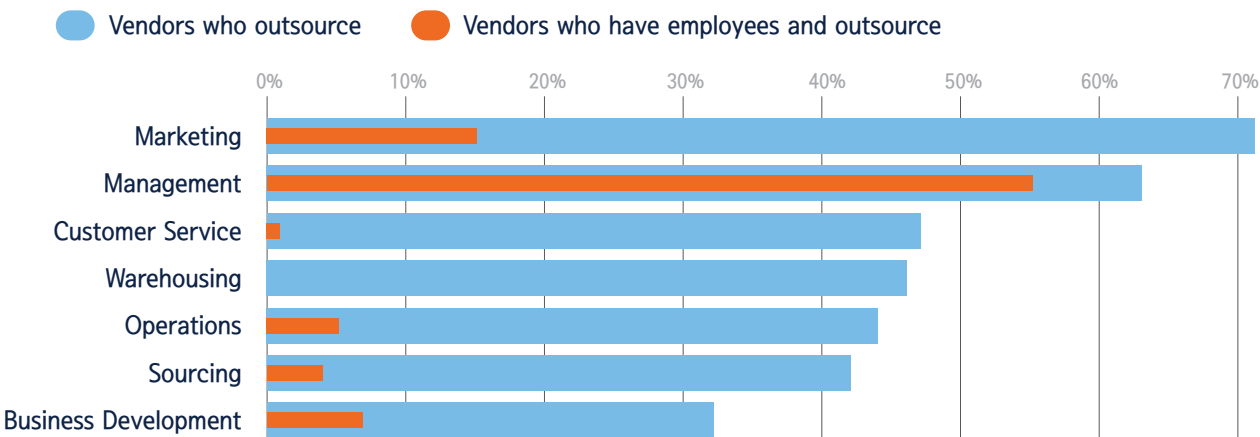
► About 71% and 63% of vendors admit to outsourcing tasks under the highest direct employment generating functions i.e. 'Marketing' and 'Management' respectively.

It is also seen from the survey that two-thirds of the online vendors outsource logistics, delivery, and/or warehousing. E-retail may have led to significant creation of employment in allied sectors such as delivery, logistics, associated infrastructure, etc. The reasons for outsourcing include factors such as costs (83%) and trustworthiness (70%). Blue Dart, Ecom Express, DTDC, Mahindra Logistics, and Ekart Logistics emerge as the top five logistics partners for online vendors.

The graph below shows the extent of outsourcing under the top employment generating functions:

► Outsourcing of retail functions by online vendors

Top employment generating functions are represented; Functions are sorted by percentage of vendors outsourcing them



(Figures expressed as a percentage of total)

Under the top employment generating functions, vendors create both direct employment by hiring people in their firms and through outsourcing.

► For instance, while 63% of vendors outsource tasks under ‘Management’, more than half of them also have their own employees under the same function.



Even for the least direct employment generating functions such as ‘HR’, ‘Administration’ and ‘Merchandising’, more than one-fourth of vendors respectively admit to outsourcing tasks, ergo demonstrating indirect employment generation under functions for which vendors do not recruit full-time employees. It is to be noted that ‘Outsourcing’ here is

considered a proxy for the indirect employment generation potential of e-retail firms in allied and ancillary sectors like advertising and marketing, logistics and delivery, IT, etc.

3.1.2 Employment generation reported by vendors enlisted on various platforms

As reported by online vendors, our data shows some variation in the employment generated by the vendors enlisted on various platforms. While vendors selling on BigBasket employ double the number of people than the mean employment generated by online vendors in total, vendors selling on Zomato and Blinkit employ a little less than 12 people on an average. Overall, greater employment is created by vendors selling on food and grocery platforms compared to other product platforms (e.g. fashion, home, personal care). The visualization below looks at the number of jobs created by vendors selling on non-grocery/non-food platforms and under various retail functions:

► Platform-wise and function-wise employment generated by vendors

Blue cells represent the highest employment per vendor in each function category

Jobs created by each vendor on the average

Vendors enlisted on platform	Jobs created by each vendor on an average									
	Total	Marketing	Management	Operations	Sourcing	Customer Service	Business Development	Offline Distribution Agents	Warehousing	Others
Myntra	10.79%	2.01	0.75	1.10	0.85	0.73	0.60	0.50	0.49	3.77
Snapdeal	9.71%	2.16	0.65	1.15	0.61	0.68	0.44	0.49	0.57	2.96
Meesho	8.85%	1.77	0.76	1.00	0.62	0.56	0.54	0.39	0.47	2.74
Amazon	8.63%	1.47	0.76	0.73	0.57	0.52	0.61	0.53	0.59	2.84
Flipkart	8.38%	1.53	0.79	0.82	0.61	0.51	0.63	0.50	0.47	2.54
Own Website	6.49%	1.29	0.70	0.54	0.24	0.51	0.30	0.49	0.70	1.72
Instagram	6.07%	1.08	0.77	0.71	0.58	0.38	0.55	0.33	0.34	1.33
Facebook	5.95%	1.06	0.74	0.67	0.54	0.34	0.50	0.32	0.38	1.38
Whatsapp	5.49%	1.01	0.70	0.53	0.31	0.43	0.28	0.36	0.56	1.31

(Figures expressed as number of jobs created per vendor)

▶ Myntra, Snapdeal, and Meesho emerge as the top three platforms in the non-food/non-grocery section in terms of employment creation.



Vendors enlisted on Myntra employ the greatest number of people, averaging at 11, while those selling through Flipkart employ around 8 people on an average. Moreover, vendors selling on Myntra create the highest employment under 'Sourcing' and 'Customer Service', as compared to vendors selling on other platforms. Vendors selling through Flipkart create the highest employment in the functions of 'Management' and 'Business Development'.



3.2 Impact of e-commerce boom on employment in India

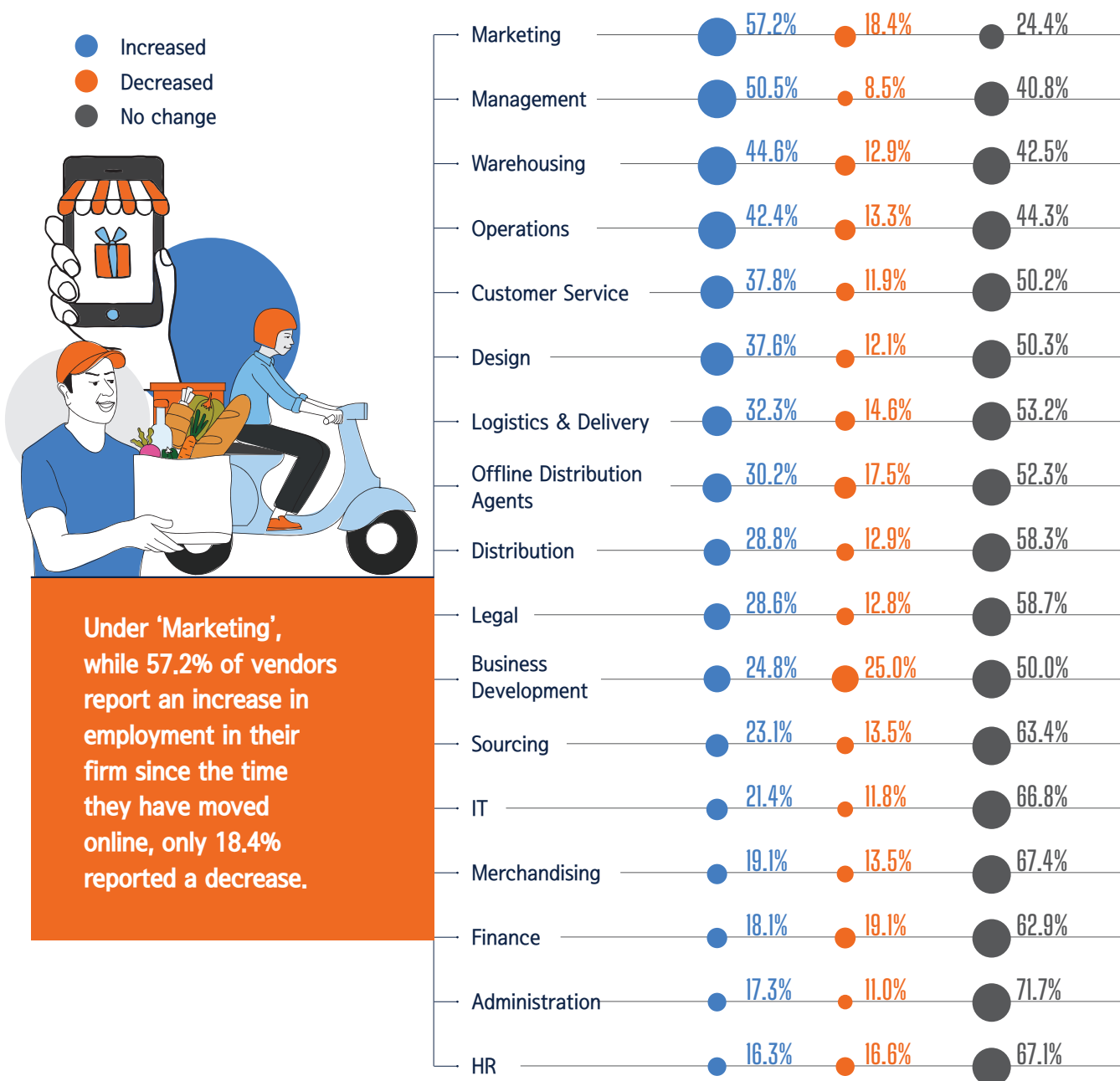
Adumbrating widely posited arguments by academics and the media on the impact e-commerce expansion has had on employment is useful to contextualize our study data. A 'retail apocalypse' was prophesized by many of those believing that e-commerce would throttle brick-and-mortar stores in their entirety, leading to physical store closures and livelihood losses. While a slew of scholars nipped this line of thought in the bud, a few expressed concerns about technology replacing low-skilled work and excluding those unable to cope with the rising demand for skills and technical requirements. The 'retail apocalypse' premise predicts an adverse impact on employment as e-commerce expands. Through the survey, these arguments are put to test, and the following points emerge:

3.2.1 Growth is seen in employment across functions

When vendors were asked about how recruiting has changed under various functions since they have moved to the online sales channel, they reported a net increase in employment generation under most functions. The graph below shows this:

► Incidence of employment change in each of the individual retail functions, as indicated by online vendors

Functions sorted by percentage of vendors reporting an increase in employment



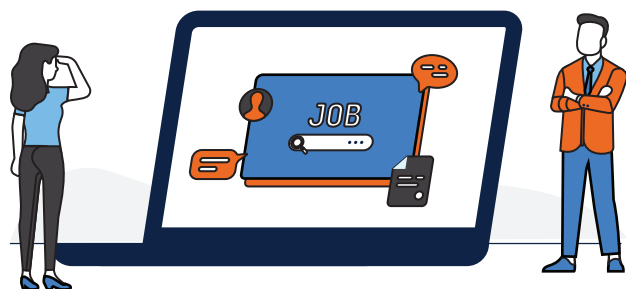
(Figures expressed as a percentage of total)



For all the top functions that recruit the highest number of people, there has been a net increase in the number of people employed, as per the online vendors. Under 'Marketing', while 57.2% of vendors report an increase in employment in their firm since the time they have moved online, only 18.4% reported a decrease. The percentage of vendors reporting an increase in employment generation outstrips the percentage of vendors reporting a decrease for all functions, except 'Business Development', 'Finance' and 'HR', all of which show a slight decrease. Additionally, the graph exhibits that for all functions where the vendors do not report a high increase in employment since their shift online, a high proportion of them report 'No change'. It can further be deduced from the data that the reported increase in employment is seen across functions that encompass high-skilled (Management, Marketing), medium-skilled (Customer Service, Operations) and low-skilled (Warehousing, Logistics, Delivery) tasks. With employment generation observed across skill levels, this finding challenges arguments that there is a 'skilled-bias technical change' coming at the cost of traditional employment due to e-commerce-led automation.

It is important to note that about 36% of the respondents among the online vendors were 'Employees'. No significant difference is found in the perceptions of employees and employers when it comes to the reported change in employment across functions. Under some functions like 'Marketing', 'Finance', 'Warehousing', 'Logistics'; a higher percentage of employees than employers report an increase in recruitment since the shifting of their firm online.

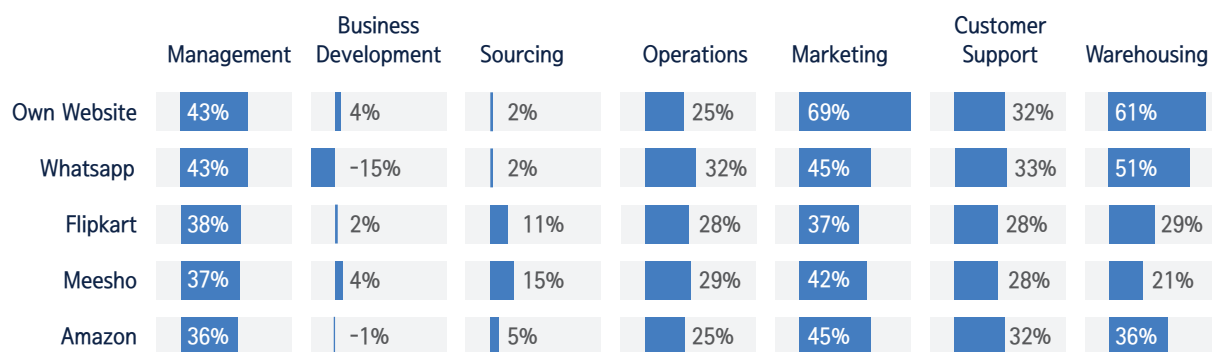
▶ Upon enquiring whether new job roles have been created within their firms since the shift online, 36% of employers respond 'Yes' while '42%' of employees respond in the affirmative.



Our data further shows that the net increase in employment under various functions is found across vendors selling on various platforms. The graph below exhibits this for the top platforms and top retail functions:

► Reported change in function-wise employment for vendors across platforms

Top eight functions that recruit the highest number of employees are represented & Top five platforms based on sales volume are represented



(Figures are expressed as percentage of vendors listed on the respective platforms)

Across the top five platforms that host the highest volume of sales by vendors, we find a reported increase in employment by vendors. While vendors selling on Flipkart, Meesho, and through their own website report a positive change in employment across all functions, vendors selling through Amazon and social media report a slight decline in employment under certain functions. Overall, the net reported increase in employment is observed across platforms.

Finally, it is found that vendors have been reporting a net increase in employment under most functions irrespective of the year in which they moved online.

► For instance, 57% of vendors that moved online in 2012 reported an increase in employment under ‘Marketing’ over and above those who reported a decrease. The figures stood at 76% for employment under ‘Management’ and 62% for ‘Operations’.

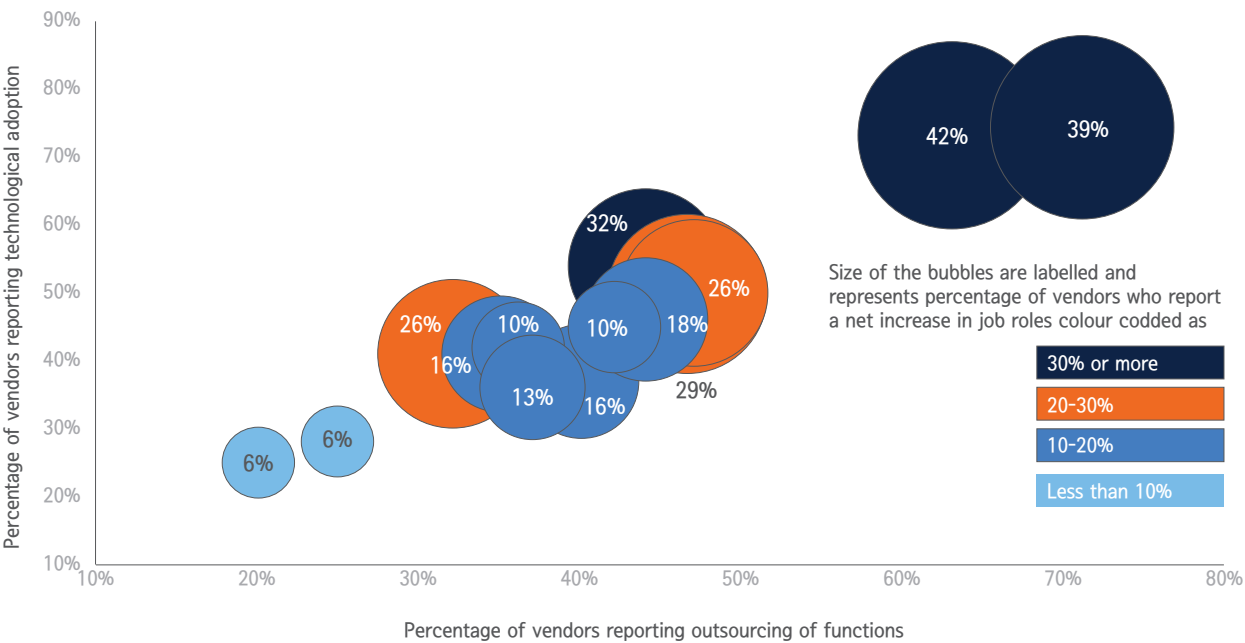
This trend continued in the pre-Covid years as well. About 36% more vendors reported an increase in hiring across all functions than those that reported a decrease. This evidences the fact that employment growth, as reported by vendors, has been accompanying firms shifting online long before Covid and the pandemic-era rise in e-commerce. This means that neither the shifting of firms online nor the concomitant employment generation is a

discrete, one-off phenomena taking place as a reaction to events such as Covid. It has persisted for a long time and will continue taking shape as e-commerce progresses.

3.2.2 Technological upgradation coexists with direct and indirect job creation among online vendors

Our data indicates that when vendors shift to online sales, they adopt newer technologies. Close to 97% of the online vendors interviewed have digitally upgraded at least one function since the time they moved online. 73% of the vendors state that tasks under the ‘Management’ function have become more digitally-enabled, while 25% of the them have technologically upgraded tasks under ‘Administration’. The percentage of vendors adopting technology in all other functions lie in between. However, this technological upgradation has largely been congruent with direct and indirect employment generation within firms selling online. The graph below indicates the level of direct and indirect employment creation along with technological upgradation:

► Net Positive change in job creation, outsourcing and technological upgradation



(Figures expressed as a percentage of total)

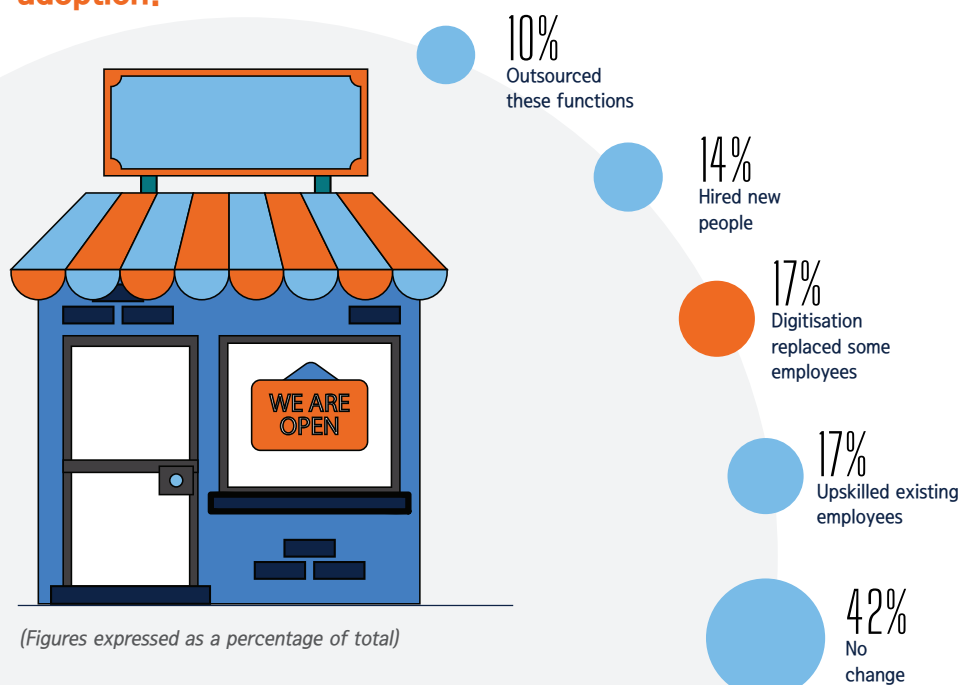
Each of the bubbles indicate a specific retail function. The Y-axis indicates the level of technological upgradation through the percentage of vendors reporting adoption of technology, the X-axis maps the percentage of vendors reporting outsourcing, and the bubble size represents the net change in employment (i.e. percentage of vendors reporting an increase in employment over and above those reporting a decrease). As represented by the big green bubbles on the top right corner, direct and indirect employment creation, by and large, are congruent with technological adoption. These bubbles represent ‘Marketing’,

'Management' and 'Warehousing'. Similarly, the small red bubbles indicate a low level of employment generation and technological adoption representing functions such as 'Administration' and 'Merchandising'. And finally, the blue bubbles in the middle indicate a medium level of job creation and technological adoption. All these point to the trend that the retail functions that have seen the highest level of technological upgradation have also seen a high net increase in employment generation. The few exceptions are 'Business Development', 'HR', 'IT' and 'Sourcing', all of which show negligible net change in direct employment but some level of outsourcing and technological adoption.

► Technology-induced lay-offs appear to be uncommon, based on the experiences of offline vendors with technological adoption. 70% of the offline vendors have adopted some form of technology.

Point-of-sale (POS) terminals for digital payments were the most common digital technology, adopted by more than half of the offline vendors, while the use of other technologies like software for retail, personnel management, book keeping or consumer management and digital marketing technologies were limited to roughly about 20% of the offline sellers. In fact, about half the vendors reported an increase in sales, while 42% reported an increase in both sales and profits after adopting technology. The graph below represents how these offline vendors adapted their workforce commensurately with technological upgradation:

► How have offline vendors adapted their workforce with technological adoption?



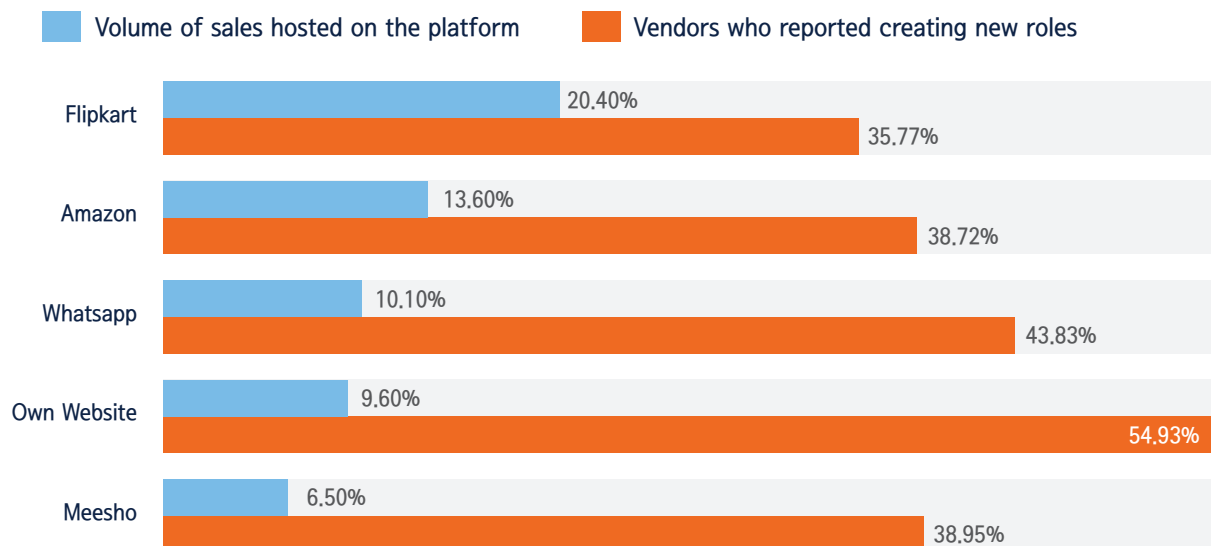
Only 17% of vendors said that digitalisation of functions replaced employees, while 42% saw no change in employment with technological adoption. The rest of the vendors either created direct and indirect employment i.e. by hiring new people and outsourcing certain tasks, or engendered a shift in the nature of employment by upskilling their employees. This segues into the third finding from the survey.

3.2.3 The growth of e-commerce and concomitant digitalization have altered the nature of employment by fundamentally changing the skill set required in the industry

Instead of jobs disappearing, newer roles have reportedly been created by vendors selling through all the top platforms since their shift online. The following graph lists the top platforms on which vendors host the highest volume of sales, and whether these vendors report 'Yes' to creating new job roles since the time they moved online:

► Vendors reporting new job creation since their shift online

Top five platforms where vendors host the highest aggregate sales volume have been represented



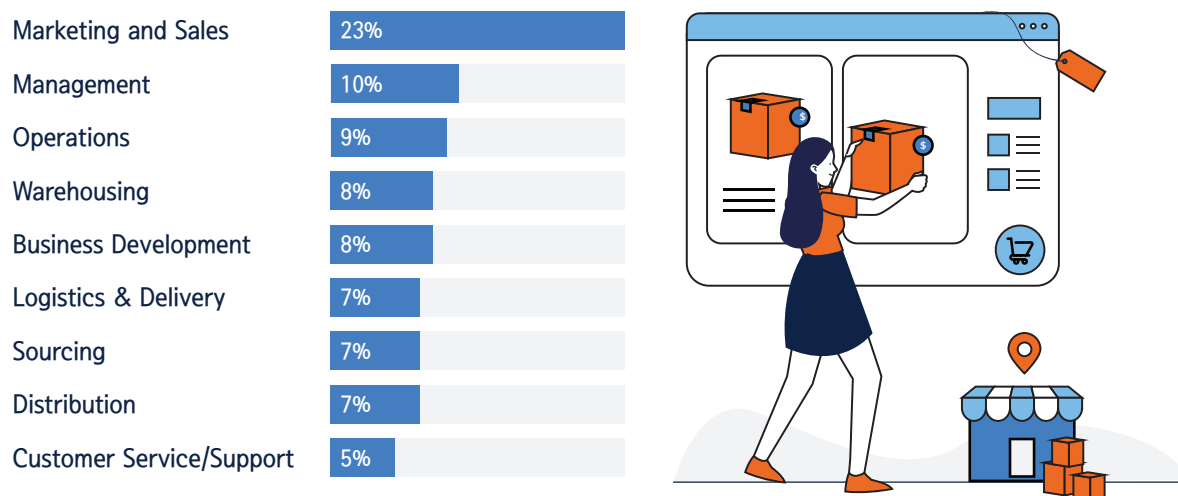
(Volume of Sales: Figures expressed as weighted average of the volume of sales of all vendors selling on the platform, Vendors who reported creating new roles: Figures expressed as percentage of vendors selling on the respective platform)

It is seen that Flipkart is the top platform in terms of volume of sales hosted by vendors. On an average, vendors on Flipkart use the platform for 20% of their aggregate sales by volume. About 36% of those selling through Flipkart answer 'Yes' to creating new job roles since the time they have moved online. More than half the vendors selling through their own website have created new jobs since they started selling online. Overall, 40% of vendors reported creating new job roles in their firm. The highest number of new roles have been created under 'Marketing', followed by 'Management' and 'Operations'. Job roles under some functions have also become obsolete. About 5% of vendors say roles under 'Sourcing' have become obsolete, followed by 'Business Development' pointed out by 4% of vendors. This may be the result of certain tasks under these functions being taken up by e-commerce platforms as vendors list on them. It should be noted that there

is a net reported increase in new role creation under each of the functions except 'Offline Distribution Agents', where the net change is zero.

What is happening with the proliferation of e-commerce is thus a change in the nature of employment, or the creation of new roles and demand for new skills in employees. The following visualisation summarizes how the nature of employment is transmogrifying:

► Functions that have assumed importance with the shift of firms online



(Figures expressed as a percentage of total)

► Top employee skills demanded by online vendors



(Figures expressed as a percentage of total)

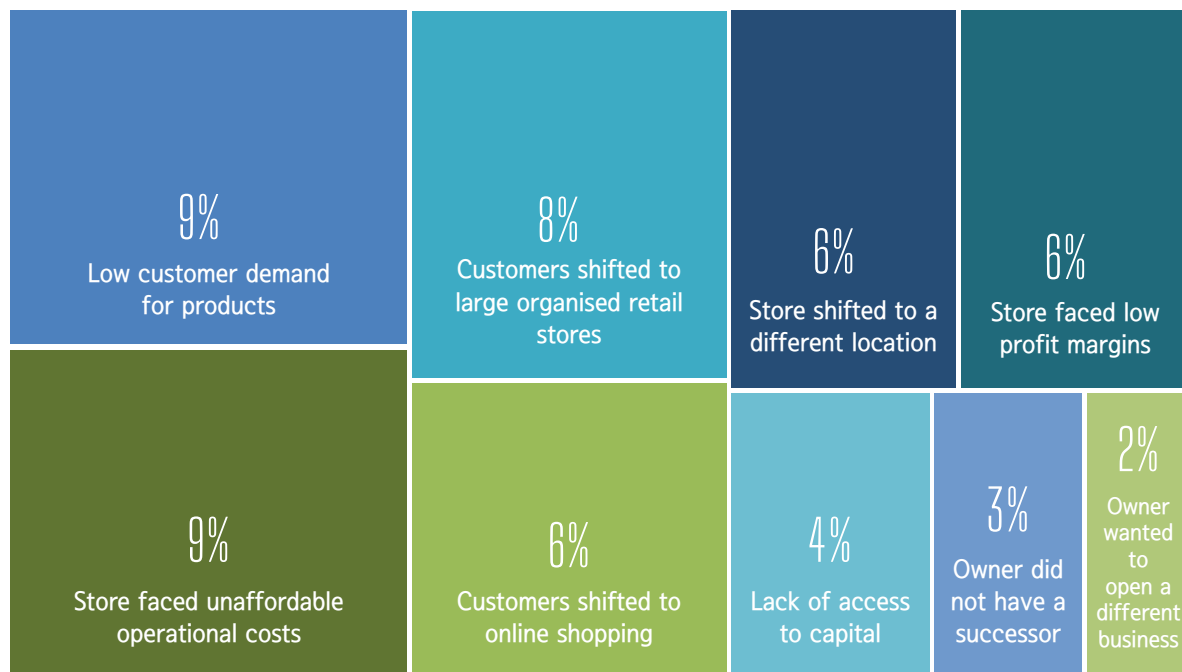
The top skills required by online vendors include Data Management, Packaging & Delivery, Social Media Management, Website or Mobile App savviness, knowledge of Computers and Software. Thus, technology doesn't replace jobs, but has instead enabled several functions as firms move online. Resultantly, 21% vendors expressed the imminence of a shortage in the availability of skilled professionals, especially for skills in 'Marketing' and 'Operations'.

Pursuant to the above-mentioned points, the narrative largely emerging from the survey results is that employment growth has accompanied the expansion of e-commerce in India, and has additionally engendered a change in the nature of employment in the industry. But does this mean that the growth of e-commerce has happened at the cost of physical retail? Harking back to our data from the interviews of offline vendors provides an answer.

3.2.4 'Retail apocalypse' claims are unsupported by the perception of offline vendors

Small-scale offline retailers and kirana stores of each market or locality tend to be a close-knit group with high awareness of business trends in the community. With this in mind, offline vendors were asked if they were aware of any physical stores that had shut down in their vicinity since 2020, and what they thought the reason for this was. Less than 20% of the offline vendors reported a physical store closure in their neighbourhood since 2020 – the year of e-commerce boom, during which 53% e-commerce growth was experienced in India.¹⁰⁴ They attributed it to several reasons as can be seen below:

► Reasons cited by offline vendors for physical store closed in their vicinity



(Figures expressed as a percentage of total)

No singular factor emerges as definitively responsible for physical store closures, in the view of offline vendors. This demonstrates that running a retail business is a complex and dynamic activity, wherein multiple factors can contribute to the failure of an enterprise. Sometimes a business may just not be relevant to existing consumer demands, and at other times it may face high operational costs like rent, utilities, etc., making it unsustainable. Stores may shift to different locations, store owners may not have a successor, or owners may want to open a different business altogether. With only 6% of offline vendors citing consumers shifting to online shopping as a reason for physical store closures, e-commerce appears to be a relatively small part of the story of physical store closures – a story which itself holds no water as per our data. Indeed, a higher proportion of offline vendors (8%) attribute physical store closures to the growth of large organised retail.

Furthermore, vendors were specifically asked about the impact of e-commerce on their overall business and a composite score was created on the basis of their level of agreement with several statements.

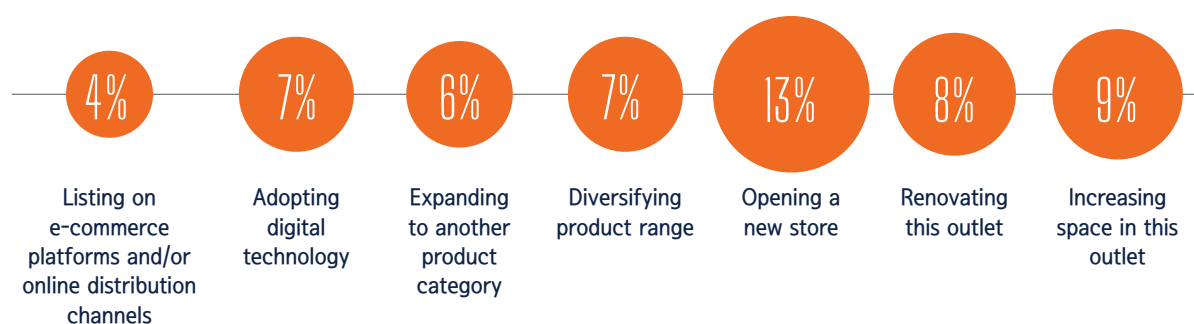
It is noteworthy that 86% of offline vendors disagreed with the statement that ‘the number of employees in their company has decreased with the growth of e-commerce and online shopping’, thus allaying fears that e-commerce has had an adverse impact on employment generated by offline vendors.

Moreover, a second-order impact of e-commerce has been to push local shops to hiring staff that can deliver goods – a service addition that has enabled the local mom-and-pop stores to adapt. When asked about the skill set that offline vendors seek in employees since 2020, ‘Packaging & Delivery’ emerged as the biggest choice (14.4%) after ‘None’ (63%). Although the percentage of vendors seeking these skills in employees is small, it is a common observation that quite a few of them provided delivery services even before 2020. The data may thus be pointing at vendors who jumped on the bandwagon as e-commerce and quick commerce took root.

Claims of a ‘retail apocalypse’ are further challenged from survey data that shows how offline retailers have experienced growth. Half the offline vendors interviewed have reported an increase in sales and profits in the past year. The highest proportion of vendors who have seen an increase in both sales and profits sell in the categories Baby Products, Cars and Toys. Indeed, there are offline vendors in the retail ecosystem who are willing to compete with online retail by opening a new store, listing on e-commerce, adopting digital technology, expanding to other product categories, diversifying their product range, renovating their outlet, etc.

About one-fourth of offline vendors plan to expand in one or more of the following ways

Expansion plans by offline vendors



(Figures expressed as a percentage of total)

The expansion plans of offline vendors suggest that their business is sustainable and thriving'

Offline and online retail are both thriving. Echoing various estimates that posit a sharp growth of e-commerce markets in India, our data evidences the growth in digital retail as well. Not only have a majority of online vendors interviewed seen an increase in both sales and profits following their shift to the online sales channel, they have experienced a positive shift amongst a series of other variables too i.e. product variety, technological upgradation, customer base, and sourcing methods. It will be flawed, however, to conclude that this growth has been at the cost of physical retail when, in reality, e-commerce is expanding into and creating newer consumer markets, e.g. in Tier 2 and Tier 3 cities, instead of replacing physical markets (further elucidated in the Consumer Behaviour section of the report). This is the India consumption story that allows for the co-existence of physical and digital retail.

3.3 Conclusion

To conclude, our data shows that as vendors moved online, they experienced a growth in employment generation across retail functions like marketing, management, warehousing, operations, customer service, etc. Commensurate with creation of jobs, both within the firm and through outsourcing, technological upgradation was also undertaken by vendors. Instead of replacing employees, technology enabled the creation of new job roles requiring new skills, such as data management, social media management, website, app savviness, etc. As vendors move online, they indicate greater demand for skills like packaging, delivery, and inventory management in their employees. E-commerce has thus led to a transformation in the nature of jobs in the retail industry.

EXPERIENCE OF VENDORS WITH E-COMMERCE: FINDINGS FROM THE SURVEY

04

4.1 Popular platforms amongst online and omni-channel vendors

Online vendors were asked whether they have used a particular platform to host their products and what percentage of their total sales happen through the platform(s) being used, an amalgamation of which provides an idea of the e-commerce platforms popular amongst vendors. The table below presents the percentage of vendors using each of the platforms and the weighted average share of sales through each platform:

► Popular e-commerce platforms amongst online vendors

Platforms sorted by percentage of vendors using them

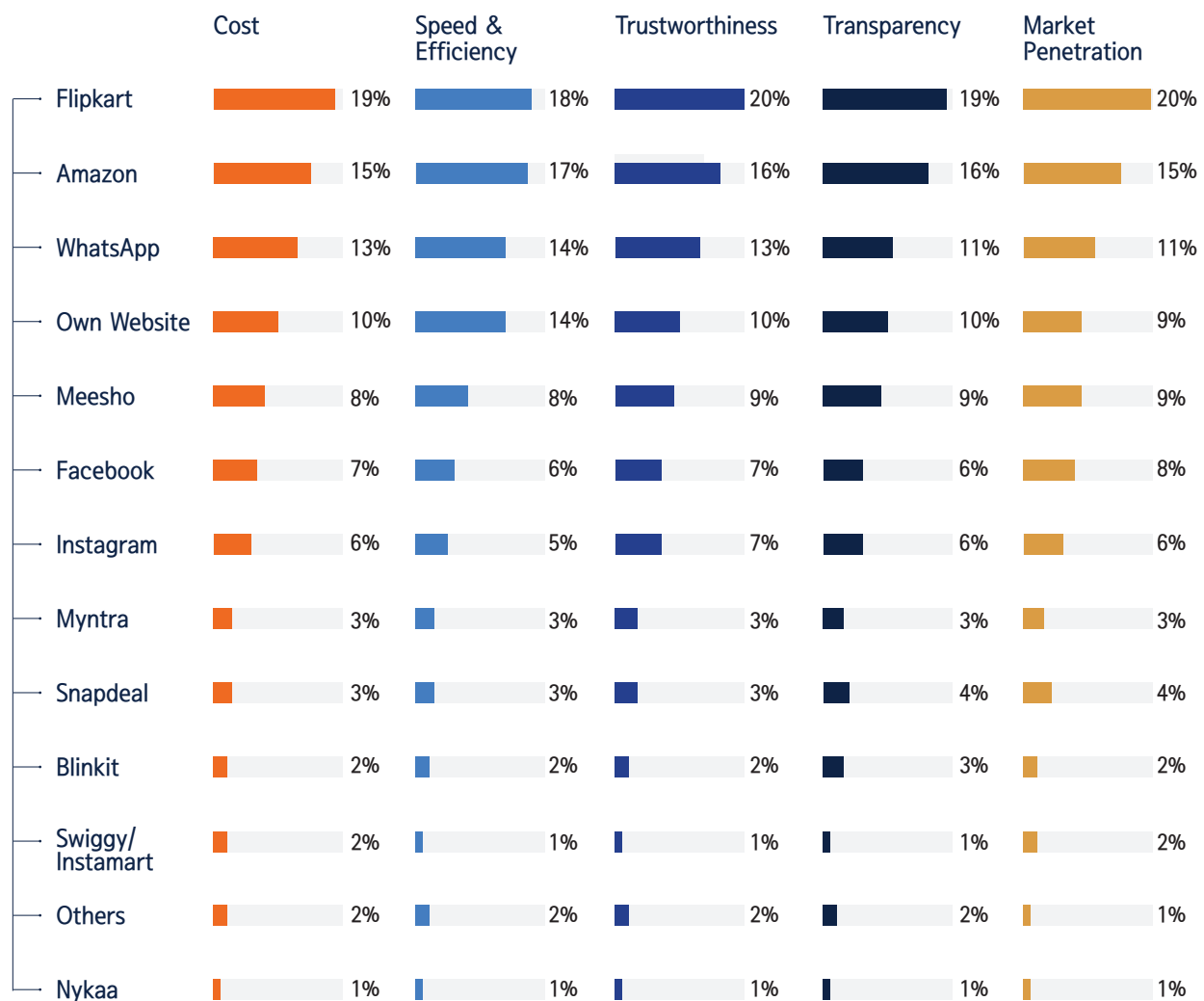
Platform	Vendors using the Platform	Average sales through the platform
Flipkart	54.4%	20.4%
Amazon	45.6%	13.6%
WhatsApp	35.0%	10.1%
Own Website	27.5%	9.6%
Meesho	23.9%	6.5%
Facebook	18.8%	2.3%
Instagram	16.8%	2.1%
Snapdeal	9.5%	2.5%
Myntra	8.5%	2.3%
Blinkit	6.1%	1.5%
Swiggy/Instamart	4.8%	1.4%
Zomato	4.6%	1.8%
JioMart/Dunzo	4.2%	1.2%
Reliance Digital	3.2%	1.1%
Shopclues	3.1%	0.5%
MyKirana App	3.0%	0.7%
ONDC	2.8%	0.6%
Bigbasket	2.7%	1.0%
Nykaa	1.9%	0.5%
Ajio	1.9%	0.4%
Moglix	1.9%	0.4%
TataCliq	1.1%	0.3%

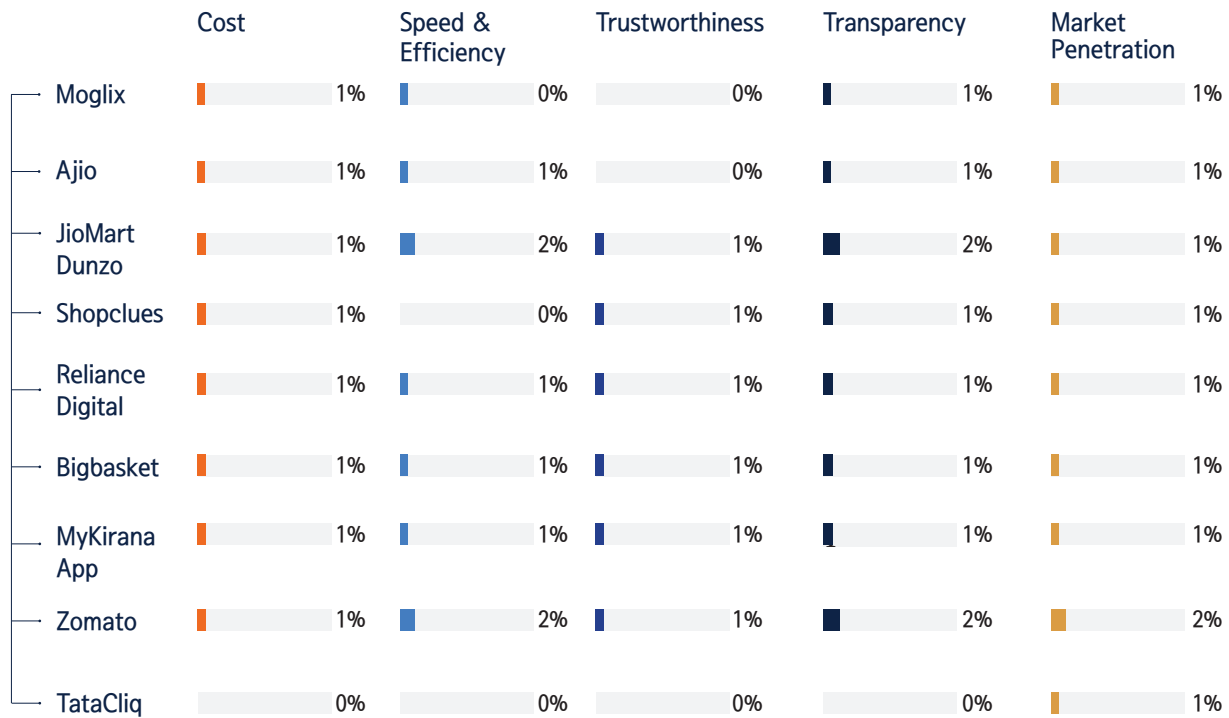
(Figures expressed as a percentage of total)

Flipkart remains the most popular online sales platform among vendors followed by Amazon, WhatsApp, selling through own Website, and Meesho. While the use of platforms and their contribution to sales are largely in line, there are some interesting variations. Facebook and Instagram are used by a significant proportion of online sellers, but the average sales hosted by vendors on those platforms are significantly lower. This also appears to be true for Blinkit in the food and grocery segment.

Several factors influence platform choice for vendors. Cost is the most important factor for vendors while choosing a platform, followed by trustworthiness. About 28% of the vendors choose a platform based on the costs of on-boarding, operations, commission, etc., followed by trustworthiness, which is considered important by 24% of the vendors. When vendors were asked what factors they considered for choosing a particular platform, the following results emerged:

► Factors that influence platform choice of online vendor





Figures expressed as a percentage of vendors who consider the respective factors while choosing a platform
 Chart: Created by PIF - Created with Datawrapper

Amongst vendors who consider cost important, 19% enlist on Flipkart. A similar choice is exercised by 20% of vendors who consider trustworthiness of the platform important. Flipkart emerges as the most preferred platform across all factors that vendors consider important, followed by Amazon and WhatsApp. This platform-wise segmentation furnishes results in proportion of total vendors enlisting on the respective platform, and hence platforms that host the highest number of vendors (e.g. Amazon, Flipkart, Own Website) figure at the top of the graph. The visualization, however, still gives a sense of the factors vendors consider important and the platforms they choose. A few platforms are perhaps highly preferred by vendors as they check all or most of the important factors.

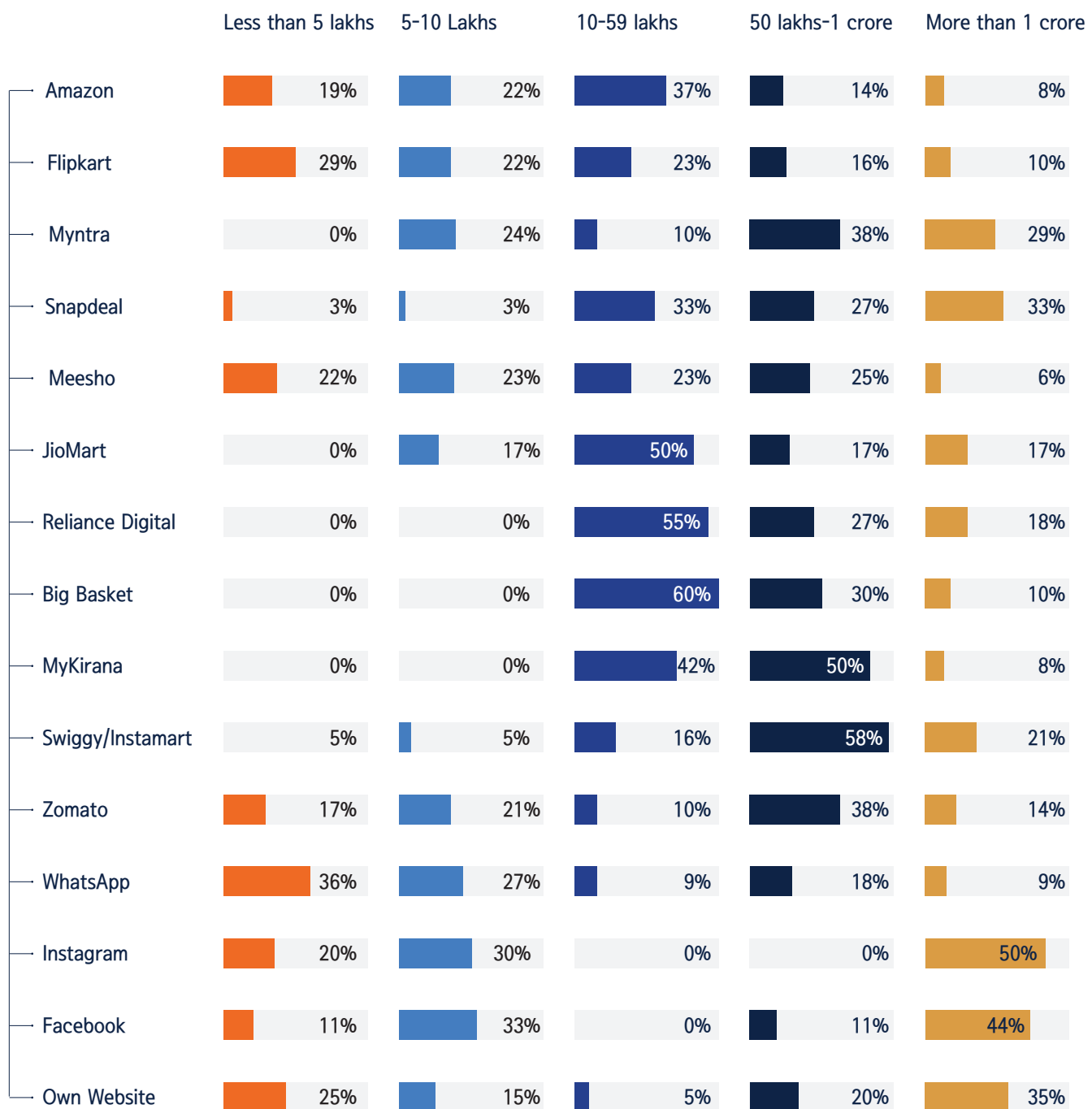
▶ About 11% of offline vendors interviewed, or 215 vendors out of 2031 in the sample, have been on-boarded or listed on one or more e-commerce platforms. The most common platforms are Flipkart, used by 52% of these omni-channel vendors, followed by Amazon and Meesho, on-boarded by 42% and 30% vendors respectively.



In a majority of the cases, these vendors listed online in 2020 or later, showing that the Covid-19 pandemic pushed firms to jump the omni-channel bandwagon to attract customers. As presented below, some variation is seen in the size of the company indicated by their value of sales in the past year and the platforms on-boarded by them:

► Total sale by omni-channel vendors on-boarded on various platforms

Sales made by the company in the last year in

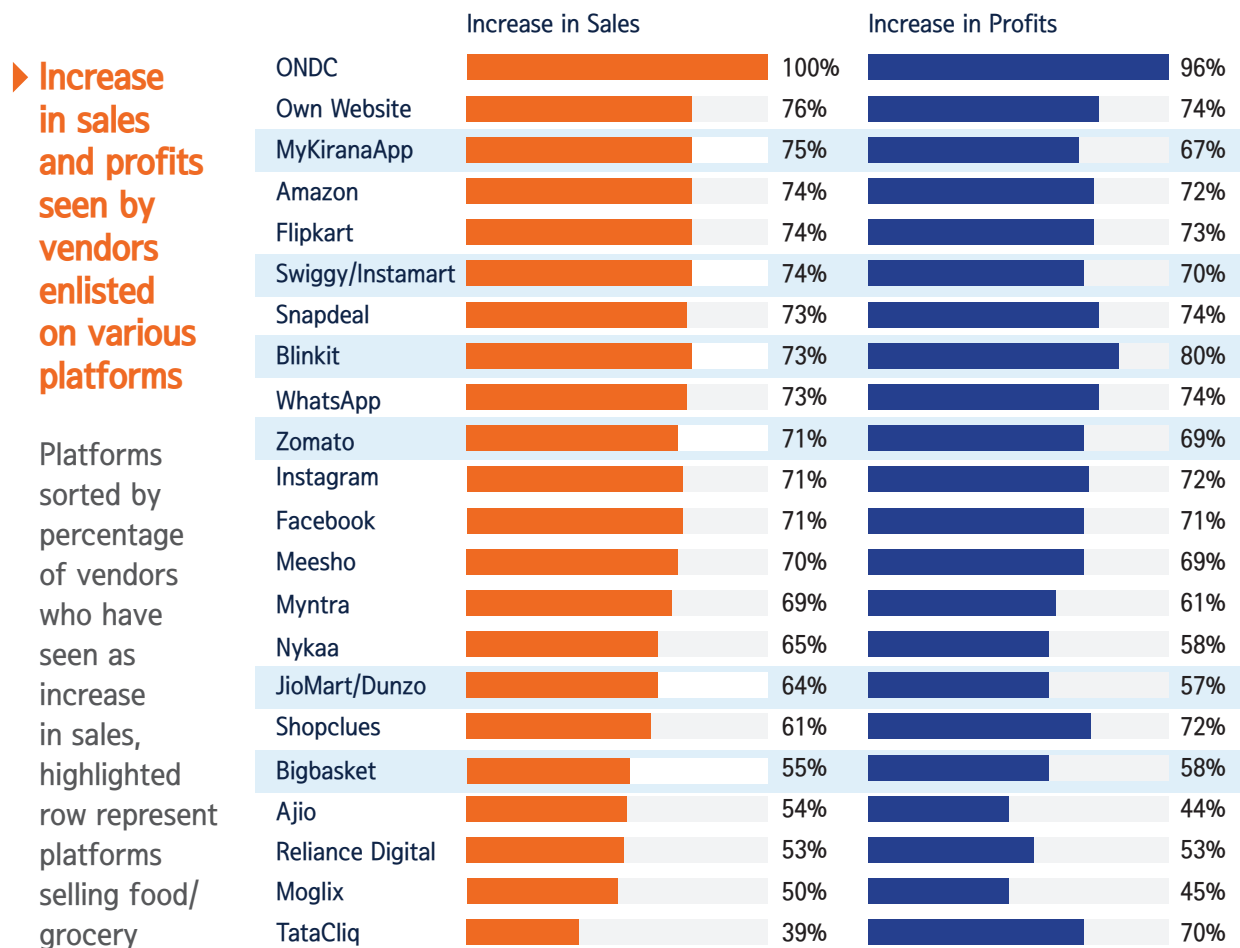


(Figures expressed as a percentage of omni-channel vendors selling in the respective platforms)

A big proportion of vendors with high sales seem to use Instagram and Facebook, while smaller vendors seem to use WhatsApp. For instance, about half the vendors using Instagram sold goods worth more than a crore in the past year. While Flipkart has representation from all sizes of vendors, platforms like Snapdeal and JioMart have greater representation from mid-sized players, and a sizeable percentage of vendors enlisting on Myntra exhibit high sales. In the food segment, Zomato has a somewhat equitable distribution across sales brackets. When asked about the specific functions for which they have used e-commerce platforms, about 70% of omni-channel vendors pointed at 'Customer Support' followed by 42% for 'Sourcing of Goods'. No discernible platform-wise differences emerge in the functions vendors use them for, except that social media platforms are predominantly used for 'Customer Support', amongst other functions.

4.2 Experience of vendors with e-commerce

More than two-thirds of the online vendors interviewed experienced an increase in online sales value and profits in the past year. 58% saw an increase in both while only 3.67% saw a drop in both. The rest of them did not see any change. The platform-wise division of vendors who have seen an increase in sales and profits in the past year is presented below:

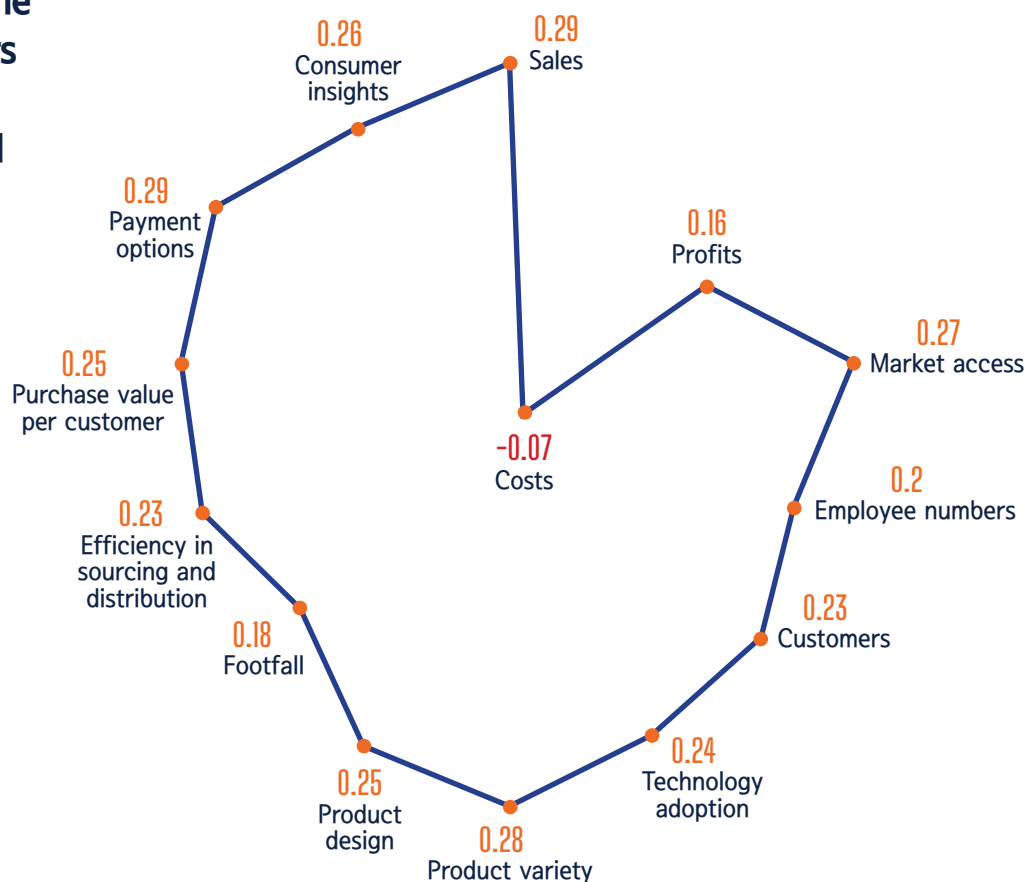


(Figures expressed as a percentage of omni-channel vendors selling in the respective platforms)

While the number of vendors enlisted on ONDC is small in our sample (3%), nearly all of them (96%) saw an increase in sales and profits in the past year. 75% of grocers enlisted on the My Kirana app have seen an increase in sales in the last year - the highest in the food and grocery segment. In most cases, there is congruence between increases in sales and profits. In most cases, the percentage of vendors who saw an increase in profits lags slightly behind those who have seen an increase in sales. However, on a few platforms, namely Bigbasket, TataCliq, Shopclues, and Blinkit, a greater percentage of vendors have seen an increase in profits, compared to an increase in sales. Given that 42% of these vendors admitted to seeing an increase in profits since they on-boarded to an e-commerce platform, the increasing profits may, in part, be attributed to selling online.

When specifically asked whether they attribute this increase in sales and profits to selling online, about 60% of vendors agreed that their sales have increased and 52% of them said their profits have increased since the time they started selling online. Vendors were further asked to rate their level of agreement on a range of statements assessing whether they view their move online positively. The graph below shows that barring costs of operations, vendors have seen a positive shift in all other aspects since they started selling online:

Experience of online vendors with e-retail



(Figures expressed as a score on 1, scores are created using a weighted measure of the level of agreement of the vendors on a 5-point likert scale)

With their move online, vendors have seen an improvement in their sales, number of customers, footfall in their physical stores and profits. Other aspects of running a business have seen improvements too. About 60% of vendors agree that they have better market access now and have seen an increase in purchase value per customer, respectively. The impact of e-commerce on the efficiency of vendors can be established as well. Vendors have been able to usher in greater efficiency in their sourcing and distribution methods since the time they enlisted on an e-commerce platform.

The perceived changes in all of these aspects supports the viewpoint that e-commerce has positively transformed the manner in which retail business is conducted. As supply chain management becomes more complex and nuanced, involving several stakeholders and touchpoints, it becomes imperative for vendors to adapt too. The fact that e-commerce lays at their disposal a slew of options to source products from, a host of shippers to optimize delivery and drop shipping i.e. direct order fulfilment by the manufacturer, among other things, has fostered more efficient supply chain management. Resultantly and in combination with greater customer intel at their disposal, vendors today are better equipped to meet consumer expectations of quick, hassle-free delivery of quality products. As customers seek better and cheaper products, competition among vendors rises too. About half the vendors interviewed said that they face more competition since the time they started selling online. In line with the thinking of market economists who regard competition as a prerequisite to innovation, vendors interviewed have made improvements in their product design and variety, opened up new payment options for consumers, and adopted technology in their functioning, paving the way for greater innovation. Therefore, online vendors, on the whole, regard their move to e-commerce platforms positively.

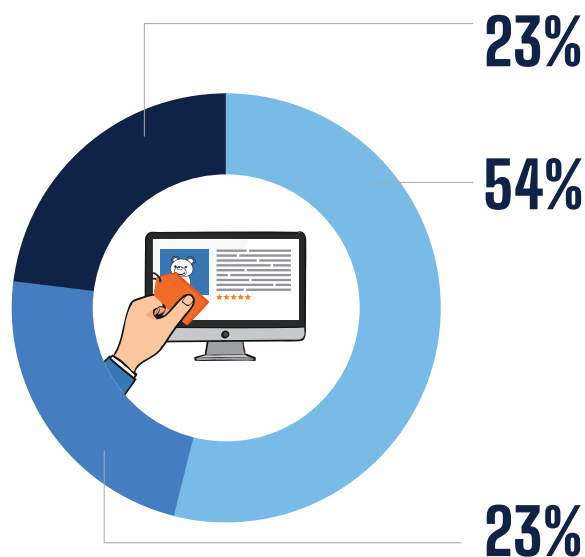


In the face of rising e-commerce, in fact, offline vendors have been improving their product variety and payment options too. When offline vendors were asked if their product variety and payment options have decreased since the growth of e-commerce, a negative score was obtained. This was also true for consumer insights, showing that offline vendors also have greater customer insights since the boom in e-commerce. A few aspects that were negatively affected due to e-commerce according to offline vendors were costs and competition - in consonance with the perception of online vendors as well. However, our data shows that it makes business sense for offline vendors to sell online. For this, we compare the average purchase value per customer of purely offline vendors with the rest 10% of vendors who also sell online (omni-channel) in the chart below:

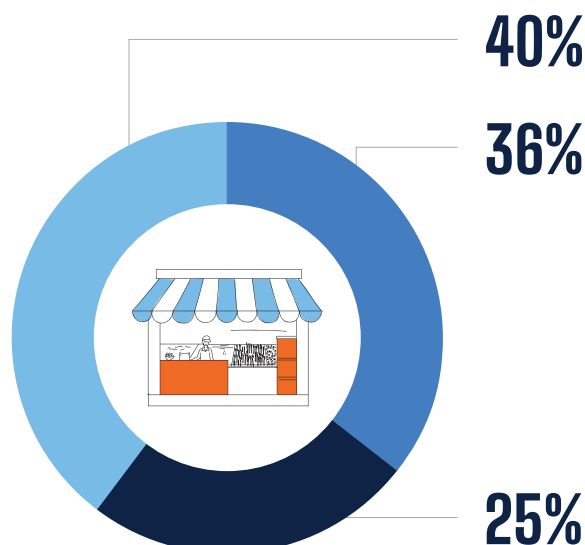
► **Distribution of offline and omni-channel vendors by average purchase value per customer**

- Less than INR 200
- INR 200-500
- More than INR 500

Omni-channel Vendors



Purely Offline Vendors



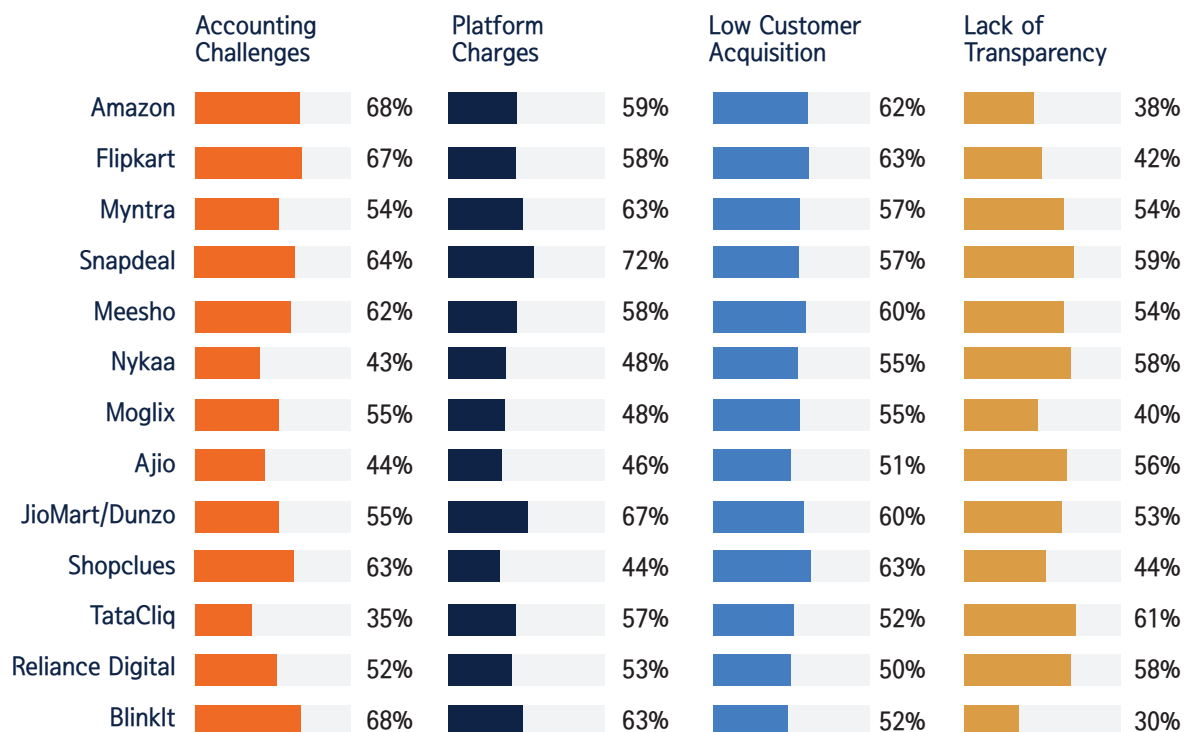
(Figures expressed as a percentage of respective vendor category)

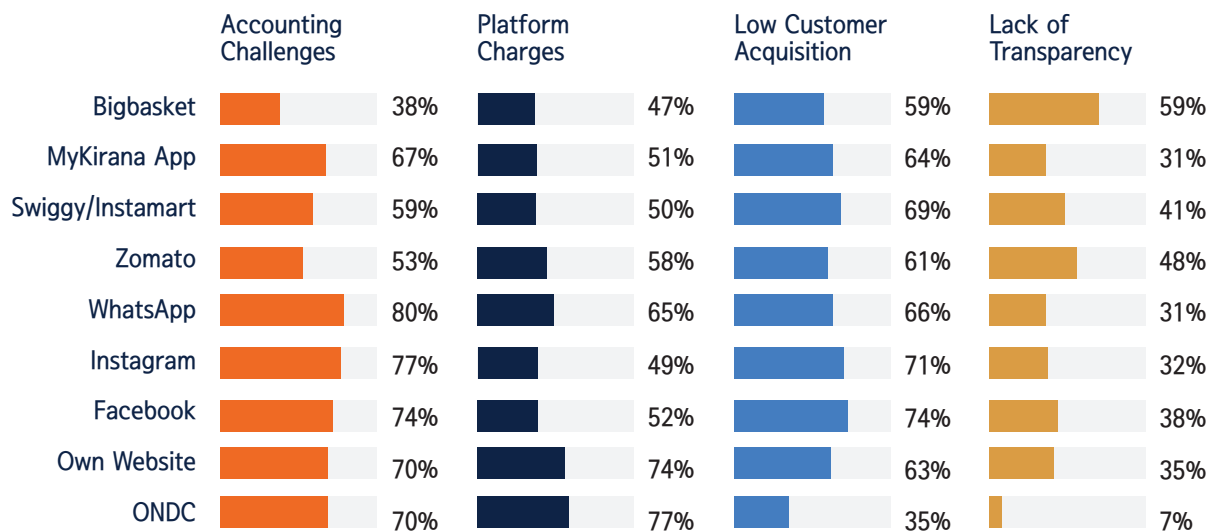
An average purchase value per customer greater than 500 is experienced by more than half of the omni-channel vendors, but by a little more than one third of purely offline vendors. In line with this finding, 53.5% of omni-channel vendors saw an increase in both sales and profits in the past year, as compared to 39% of offline vendors. Out of these omni-channel vendors, 46% planned to expand their business in one way or another. Ergo, purely from the sales point of view, our data shows that omni-channel vendors are likely to have higher sales than purely offline vendors.

4.3 Challenges faced by online vendors

While many factors have improved since the time vendors moved online and there is an overall positive perception around e-commerce, there are some grievances that vendors have with e-commerce platforms. Accounting challenges are faced by 64.4% of the online vendors while using e-commerce platforms, followed by about 60% of vendors experiencing low customer acquisition and high platform charges, respectively. About 40% of vendors also said that lack of transparency or inadequate information from the platforms is a cause for concern. Here is a platform-wise representation of grievances by vendors. It is to be noted that most vendors sell on multiple platforms, but this visualization does give us a sense of the concerns raised by online vendors:

► Grievances of online vendors against e-commerce platforms

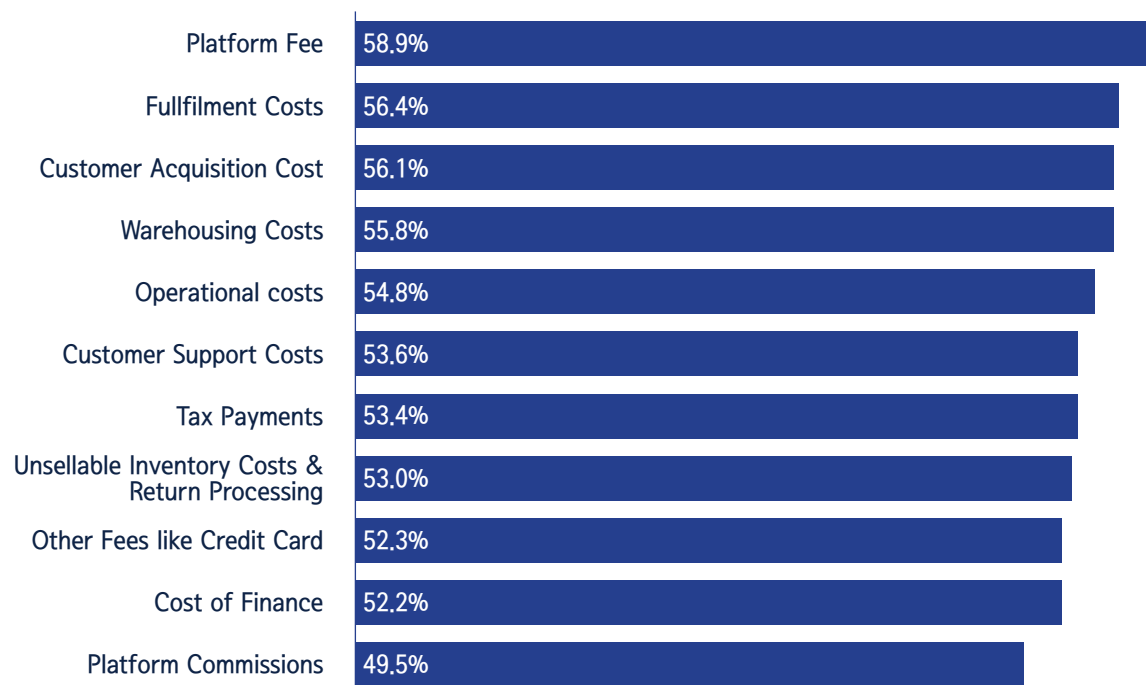




(Figures expressed as a percentage of vendors enlisted in the respective platforms, vendors may have more than one grievance and hence the total will not add upto 100)

Problems with accounting and high platform costs segue into the larger concern raised by online vendors pertaining to 'Costs' – the only factor that was perceived to worsen over time, as opposed to a slew of factors that have improved according to vendors since their shift online. Delving deeper into this issue shows the following costs have increased since the time vendors have started selling online:

► Vendors who think the following costs have increased since they started selling online



(Figures expressed as a percentage of total)

- ▶ While platform commissions or referral fees have increased according to slightly less than half the online vendors, more than 70% of those selling on websites like TataCliq, Snapdeal, Blinkit and Instagram report an increase in those costs.

Around 70% of vendors selling through Blinkit and social media report an increase in fulfilment costs, which include the costs of logistics i.e. weight handling, packaging, delivery, etc. and customer acquisition costs i.e. costs for marketing and sales, respectively. A high percentage of vendors selling on platforms such as Blinkit, Instagram and through their own website report an increase in customer support costs. The highest percentage of vendors reporting an increase in unsellable inventory costs sell on Blinkit, social media platforms, and ONDC. Around three-fourth of vendors selling on Blinkit report an increase in all costs, respectively. The figures for vendors selling on platforms like Amazon, Flipkart, and Myntra lie between 55-62% for all costs, respectively. A lower percentage of vendors selling on Meesho, on the other hand, reported an increase in the respective costs, potentially because Meesho charges a zero commission rate from vendors¹⁰⁵.

We further categorize the vendors into micro, small, medium and large to see their perception of costs. The table below shows that more or less the same trend is seen in vendors' perceptions of various kinds of costs:

- ▶ **Online vendors who think different costs have increased sliced revenue-wise**

	Platform Fees	Other Fees	Platform Commission	Customer Acquisition Costs	Cost of Goods Sold (COGS)	Fulfillment Costs	Warehousing Costs	Unsellable Inventory Costs	Taxes	Operations Costs	Cost of Finance	Customer Support Cost
less than ₹ 50L	50%	48%	45%	55%	52%	53%	53%	50%	52%	52%	48%	54%
₹ 50L - 5 cr	61%	49%	50%	52%	58%	54%	57%	53%	51%	55%	52%	51%
₹ 5-50cr	65%	65%	56%	68%	70%	68%	58%	56%	61%	60%	58%	60%
₹ 50-250cr	31%	25%	31%	50%	31%	44%	38%	50%	44%	25%	38%	44%

(Figures expressed as a percentage of vendors in the respective revenue brackets)

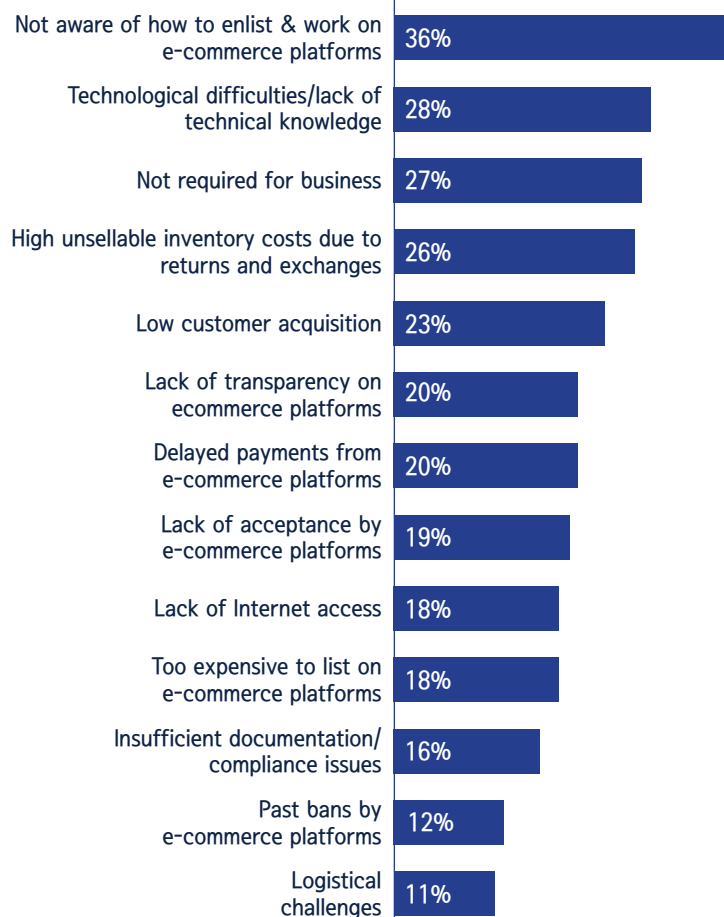
As indicated by the dark blue cells, the category of vendors that has experienced the highest percentage of increase in all types of costs are medium-size vendors. Overall, there is an increase in the share of vendors experiencing rising costs from micro (revenue of upto 5 cr) to medium enterprises (revenue between 5 and 50 cr), and a sudden dip amongst large enterprises (revenue between 50 and 250 cr). Interestingly, within the micro enterprises, fewer vendors with lower revenues experience rising costs, as compared to those with higher revenues. While the increase in Cost of Goods Sold (COGS) could be because of inflation-induced increase in raw material price or labour costs, it seems to affect the medium-sized enterprises more with 70% of them reporting an increase in COGS since their shift online. Costs for acquiring new customers and unsellable inventory costs remain high among all types of vendors while there is a big perception difference about costs like platform-related costs and operations costs amongst medium and small-size vendors.

Some areas of concerns with e-commerce platforms have also been raised by vendors – both online and offline – who on-boarded a platform but subsequently discontinued using it. About 11% of online vendors who discontinued the use of an e-commerce platform stated ‘technical difficulties’ as the biggest reason. Other concerns expressed by online vendors include a high amount of returns, low customer acquisition, platform costs and compliance issues.

► **Reasons why e-commerce is not being used by offline vendors**



Offline vendors were asked the reason(s) why they do not prefer to sell online; the following reasons were informed:



(Figures expressed as a percentage of offline vendors who do not use e-commerce platforms; vendors may have more than one reason and hence the total will not add up to 100)

The top concerns raised by vendors include lack of awareness on how to on-board and work on e-commerce platforms followed by lack of technical skills and a perceived lack of requirement for business. Further cross tabulating the 'not required for business' with the product category sold, apparel selling vendors were the biggest category who do not feel the need to sell online followed by electronics and grocery.

Our data further shows that a small section of offline vendors who want to on-board an e-commerce platform state lack of documentation and compliance issues as the biggest concern followed by low customer acquisition and high unsellable inventory cost.

4.4 How inclusive is e-commerce?

Our data helps us establish that e-commerce has opened a vista of opportunities for vendors by enabling better market access, fostering greater digitalization and ushering in innovation. Hence, by and large, it is perceived positively by online vendors. However, especially in the context of a developing economy such as India, the question is whether this growth is inclusive.

A point of contention against e-commerce is that it is often exclusive to people who have the means, resources and aptitude to adapt to increasing digitalization. It may thus exclude small enterprises, vendors lacking technical know-how and prior education or training to acquire it, older individuals, and those belonging to smaller cities. We hark back to our data to test this. We compare the experience and perception of online vendors across several demographic factors and enterprise size to investigate how inclusive e-commerce is. Size is indicated by the revenue of the enterprise and demographic factors such as age, tier of the city the vendor operates in and education are considered for this analysis.

The inclusivity of e-commerce is understood through several data points that measure how various categories of vendors have fared with respect to sales and profits, technological adoption, and other business performance parameters such as market size, efficiency and innovation since the time they started selling online. Market size is indicated by a combination of data points such as market access, number of customers and average purchase value per customer. Similarly, innovation is an amalgamation of payment options, product design and variety; and efficiency is indicated by a combination of efficiency in operations and sourcing, leveraging consumer intel for marketing, and, adoption of technology.

The table below looks at how far vendors of different age categories perceive an improvement in various parameters since their move online:

► **Age-wise vendors who perceive an improvement in the following parameters since they started selling online**

	Sales	Market Size	Innovation	Efficiency
Youth	67%	28%	26%	23%
Prime Working Age	70%	28%	29%	29%
Middle age	76%	33%	33%	34%
Elderly	68%	37%	26%	47%

(Figures expressed as a percentage of vendors in the respective categories)

Here, youth is defined as ages between 19 and 29 taking from the India Youth Policy, prime working age is defined as ages 30 to 44, middle age as 45 to 59 and elderly from the age 60 onwards. Although we have a small sample size of vendors within the 'Elderly' category, the data can be used to draw some comparisons between them and the others. Contrary to the popular perception, our data indicates that the old vendors have seen an improvement in all aspects of business performance at par with other age categories. In fact, a greater percentage of elderly vendors perceive an improvement in their efficiency and market size as compared to other age categories. While middle age vendors have seen the highest improvement in sales and innovation, young vendors lag slightly on all parameters. The better performance of middle age and elderly vendors can perhaps be attributed to their experience in retail.

► **Delving deeper into why only a smaller proportion of elderly vendors have seen an improvement in 'innovation', it is found that the technological adoption rate amongst them is the lowest as compared to all other categories.**

While 26% of elderly vendors did not adopt any technology, only 8% of middle age vendors and 11% of young vendors have reportedly not adopted any technology. This is thus an area where there can be some support mechanisms thought out for older vendors.

On investigating if elderly vendors have specific grievances with e-commerce platforms, it is found that 'low customer acquisition' and 'lack of transparency' are raised by a higher percentage of elderly vendors as compared to vendors from other age categories. On the other hand, a fewer number of elderly vendors think that they face high platform charges as compared to the rest.

In the table below, vendors are categorized on the basis of their education and their perception of e-commerce is measured:

► **Education-wise vendors who perceive an improvement in the following parameters since they started selling online**

	Sales	Market Size	Innovation	Efficiency
Illiterate	57%	57%	43%	43%
Primary school	57%	21%	14%	36%
Middle school	52%	39%	34%	43%
Matric	59%	26%	26%	21%
Secondary school	66%	23%	21%	24%
Graduation	77%	31%	31%	31%
Post-graduation & above	73%	43%	54%	49%

(Figures expressed as a percentage of vendors in the respective categories)

As indicated by the dark green cells, barring market size, there is an increasing perception of improvement in all the other above-mentioned parameters amongst highly educated vendors. Surprisingly, the vendors who have no formal education view change in market size more positively than all other category of vendors. In terms of innovation and efficiency as well, a greater proportion of illiterate vendors have seen an improvement as compared to those who have been to school and have a graduation degree. Increase in sales, more or less, follows an increasing trend through education. About 29% of illiterate vendors have not adopted any technology, followed by 20% and 17% of vendors educated up to middle school and matric level, respectively. Only 9% of graduate vendors, on the other hand, have not adopted any technology. It should be noted, however, that since the sample of vendors are representative of the extant demography in the marketplace, the number of illiterate vendors and those schooled up to primary level in our survey was very small.

Next, we pull up a city-wise categorization of vendors to compare their perception of e-commerce:

► **City-wise vendors who perceive an improvement in the following parameters since they started selling online**

	Sales	Market Size	Innovation	Efficiency
Tier 1	72%	31%	31%	30%
Tier 2	69%	23%	22%	23%
Tier 3	71%	44%	45%	46%

(Figures expressed as a percentage of vendors in the respective categories)

Tier 1 cities constitute the big cities and metropolitans with a population of more than 5 million people, Tier 2 cities have a population between 1 and 5 million people and Tier 3 cities have less than 1 million people. The proportion of vendors from Tier 3 cities who agree that their sales have improved are at par with vendors from metropolitans and Tier 1 cities. In fact, a higher proportion of Tier 3 city vendors have experienced improvements in Market Size, Innovation and Efficiency since their shift online as compared to vendors from other cities. In the same breath, only 3% of Tier 3 city vendors have not adopted any technology as compared to 13% of Tier 1 city vendors and 10% of Tier 2 city vendors. Our data thus shows that vendors from smallest cities have been quick to adopt technology and adapt their operations with increasing digitalization of retail.

Finally, to investigate if there has been a difference in the benefits accrued to big or small vendors as result of selling online, we categorize the vendors into micro, small, medium and large enterprises. While micro and medium enterprises have a much higher representation in the survey sample, small and large vendors are few. Micro entities have a revenue of less than 5 cr (50 M), medium entities have revenue between 5 and 50 cr (50 - 500 M), small entities have a revenue between 50 to 250 cr (0.5 - 2.5 B) and large entities have a revenue greater than 250 cr (2.5 B). The following trends are seen:

► **Vendors who perceive an improvement in the following parameters since they started selling online categorized by their size**

	Sales	Market Size	Innovation	Efficiency
Micro	68%	33%	33%	33%
Medium	79%	18%	18%	19%
Small	75%	19%	13%	13%
Large	100%	50%	100%	50%

Micro enterprises have a lower number of vendors who saw an increase in sales as compared to other vendors. However, under all other parameters, more vendors of micro enterprises have seen an improvement as compared to medium and small enterprises. A higher proportion of large-scale vendors have seen an improvement in all of the above-mentioned parameters although their absolute numbers in the sample were small.

4.5 Conclusion

Given the data discussed in this chapter, it is clear that online vendors harbour a positive perception about e-commerce having seen an increase in sales, profits and other attributes such as market access, technological upgradation, innovation and efficiency. However, the biggest grievance faced by vendors include accounting challenges, low customer acquisition and high platform charges. Finally, upon investigating how inclusive e-commerce has been to vendors of various stripes, it is learnt that vendors from Tier 3 cities have been quick to adapt, while elderly vendors have seen an increase in sales and other positive attributes too. However, the elderly have lagged in terms of adopting technology, and vendors with lower levels of education have not fared as well as other vendors. Finally, micro and large vendors have fared better than medium and small-size vendors.

CONSUMER BEHAVIOUR: FINDINGS FROM THE SURVEY

05

Before delving on how the proliferation of digital retail has transformed the way consumers shop, it is important to understand consumer behaviour, as well drivers and challenges of online shopping. This section sheds light on patterns and trends emerging from our data on how consumers shopping online behave.

5.1 How do consumers shopping online spend their time and money?

Access to Internet is not a concern amongst e-commerce platform users across cities. Over 90% people spend more than 1 hour per week on the internet, with almost 40% spending more than 10 hours on the internet every week. A significant portion of their time on the internet is spent browsing e-commerce platforms. The figure below gives a snapshot of how people shopping online spend their time and money:

► Time & money spent by online shoppers

Time in hours per week and money in ₹/ month

	<500	500-1000	1001-2000	2001-5000	>5000
< 1 hour/week	2%	4%	4%	1%	0%
1-2 hour/week	5%	17%	12%	3%	1%
2-3 hour/week	4%	11%	9%	3%	1%
3+ hour/week	4%	8%	7%	2%	2%

(Figure expressed as a percentage of total)

More than half of the respondents spend upwards of 2 hours on e-commerce platforms per week, while only one tenth of consumers seem to be spending less than an hour. Men, young people in the 18 to 25 age group, middle-income groups, and people from Tier 3 cities spend more time than other demographic groups on e-commerce platforms. 57% of young men and 56% of young women spend more than 2 hours a week on e-commerce platforms compared to just over half of the rest of the respondents. A half of Tier 3 city respondents spend more than 3 hours on e-commerce platforms per week while a bulk of Tier 1 and Tier 2 city respondents spend between an hour to 3 hours.

Mobile phones are the most commonly used device for online shopping with about 94% of respondents saying that they use their own phone while 18% borrow it from their friends or family. 15% of the respondents use a laptop while 7% use a tablet for online shopping. About half the respondents started shopping before the pandemic with a small section amongst them i.e. 6% who were consumers of e-retail even before 2014.

Consumers exhibit significant interest in buying online with about 70% of the respondents having bought something online in the last month. About 40% of respondents admitted

to having spent between ₹500- ₹1000 in the last month on online shopping while 55.7% said that they subscribe to paid delivery services like Flipkart Plus, Amazon Prime, Zomato Gold, or, Swiggy One. Our data shows that women have a slightly higher propensity to buy than men. While young male respondents spend the maximum time browsing e-commerce websites, female respondents report the higher incidents of paid subscriptions and purchases. The table below shows how men and women spend their money on online shopping:

► **Gender-wise money spent by consumers on online shopping in the last month**

Money in ₹/ month

	<500	500-1000	1001-2000	2001-5000	>5000
Male	9%	25%	21%	7%	4%
Female	10%	28%	21%	6%	3%

(Figure expressed as a percentage of respondents in a particular gender group)

While women tend to buy slightly more than men, more men than women spent north of 2000 last month. While a bulk of respondents spend between ₹500 - ₹2000 per month on online shopping, some differences emerge in how people in different types of cities shop. The figure below illustrates this:

► **Month spent on online shopping in the past month across Tier-1, 2 and 3 cities**

Money in ₹/ month

	<500	500-1000	1001-2000	2001-5000	>5000
Tier 1	9%	25%	19%	7%	3%
Tier 2	11%	30%	22%	5%	3%
Tier 3	11%	25%	29%	5%	6%

(Figure expressed as a percentage of respondents in a particular Tier city)

No significant difference emerges in spending pattern between Tier 1 and Tier 2 cities. Respondents in Tier 3 cities, on the other hand, seem to be spending across all values with a bulk of them spending more than 1000 per month. Less than one third respondents in Tier 1 and 2 cities spend more than 1000 per month while 40% of respondents in Tier 3 cities reported a spending of above 1000. Tier 1 and 2 see the highest spending in the 500- 1000 bracket while Tier 3 sees it in the 1000- 2000 bracket. Finally, slightly higher proportion of people in Tier 3 cities reported to have spent more than 5000 on shopping online last month as compared to people from other cities.

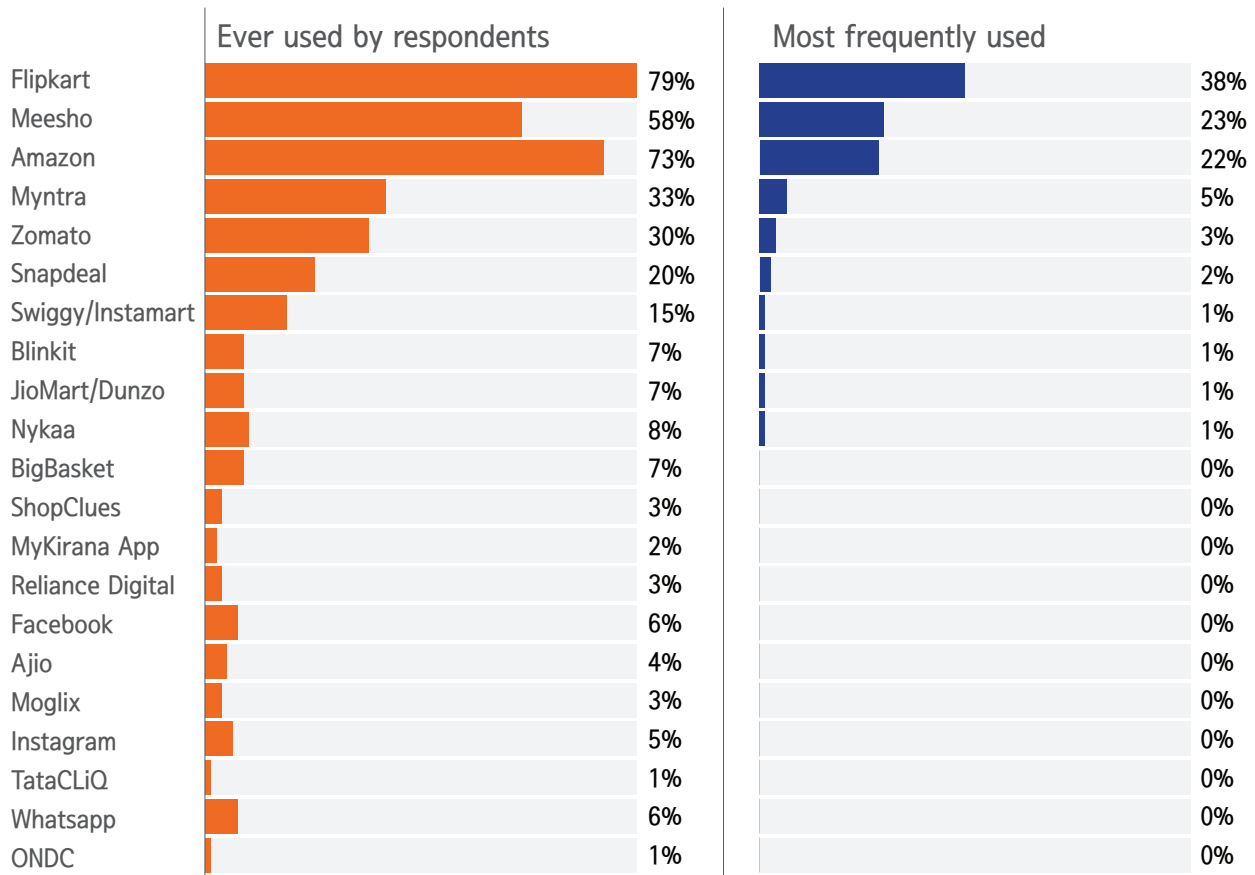
About 96% of adult men and women seem to be buying products for themselves or for people of same gender while 85% of them buy products for people of the opposite gender. Buying of products for the opposite gender is lower amongst single people (i.e. 77.5%) and higher amongst married people (86.5%). As expected, women buy more for babies and children but the difference between men and women is merely 3%.

5.2 Popular platforms amongst consumers

Respondents were given a list of e-commerce platforms and asked if they have ever used a platform and which platform is the most frequented by them. An amalgamation of results from these questions, represented in the figure below, provides a fair picture of the most popular platforms amongst users:

► Popular e-commerce platforms amongst consumers

Platforms sorted by most frequently used



(Figure expressed as a percentage of total)

Flipkart emerges as the most popular platform amongst consumers along with Meesho, Amazon, Myntra and Zomato as the Top 5 online seller platforms in India. Zomato, Swiggy/Instamart and Nykaa are category leaders, with significant reach. Within the grocery segment, quick commerce platforms like Instamart, Blinkit, and Dunzo are popular. A considerable number of people have used social media platforms like Facebook, Instagram, and WhatsApp for buying goods. Meesho is the second most frequently-used platform, but less than 60% of people have ever used it, thus exhibiting considerable headroom for growth.

Not much variation in amount spent per month is seen on densely used platforms such as Flipkart, Amazon, Meesho, Nykaa, Snapdeal, or Myntra. The graph below looks at platform choice based on income of the consumers:

► Income-wise users of e-commerce platforms

Top platforms for apparel and personal care

	Amazon	Flipkart	Myntra	Snapdeal	Meesho	Nykaa	Ajio	Reliance Digital	Whatsapp/ Facebook/ Instagram
Below ₹ 3 lakh	20%	22%	10%	5%	16%	2%	1%	1%	3%
₹ 3 lakh to 3 lakh	16%	17%	8%	5%	11%	2%	1%	1%	3%
₹ 6 lakh to 9 lakh	8%	8%	4%	3%	5%	1%	0%	0%	2%
₹ 9 lakh to 12 lakh	3%	4%	1%	1%	2%	0%	0%	0%	1%
₹ 12 lakh to 15 lakh	1%	1%	0%	0%	1%	0%	0%	0%	0%
More then ₹ 15 lakh	1%	1%	0%	0%	1%	0%	0%	0%	0%
No Income/Not Reported	23%	26%	9%			2%	1%	1%	7%

(Figure expressed as a percentage of total)

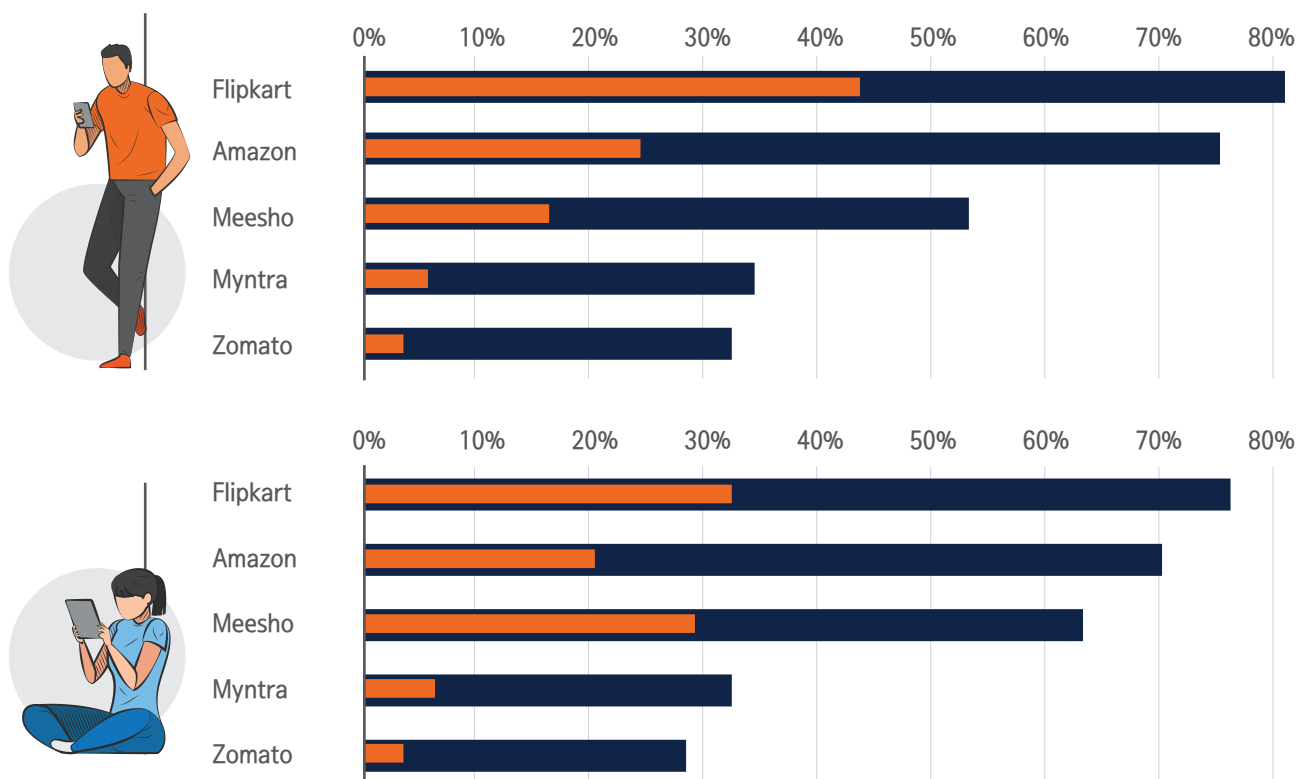
While no significant difference is seen in the platform choice of consumers earning between 3 lakhs to 12 lakhs per annum, the higher income categories do not seem to use websites such as Myntra, Snapdeal, Nykaa, Ajio, and social media platforms. What, however, sticks out is that people who do not earn form a significant buyer base for e-commerce platforms (or that many were unwilling to report their income in the survey).

The following graph compares the popularity of platforms amongst men and women:

► Gender-wise platform choice of consumers

Amongst the Top-5 platforms

● Ever used
● Most frequently used

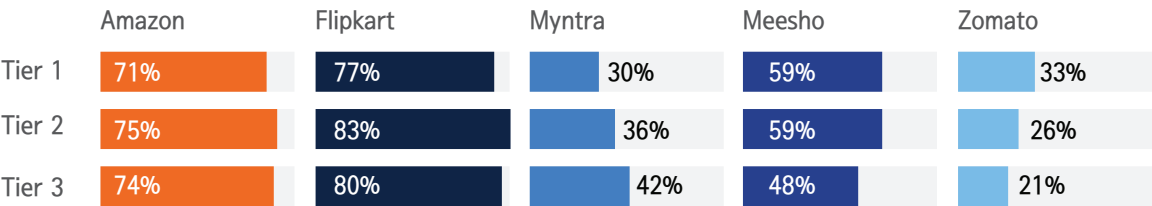


(Figure expressed as a percentage of respondents within the respective gender category)

While Flipkart is generally the most popular platform, it is more popular amongst men than women. 43% of men use it more frequently than any other platforms while less than a third of women use Flipkart most frequently. The same holds true for Amazon. However, Meesho seems to be more popular amongst women with more than a 60% of women using it and about 30% using it most frequently. Very little gap is observed in the popularity of food & grocery and social media platforms between men and women.

Platform choices can also be influenced by the type of city the respondents live in. The graph below looks at the usage of the top-5 platforms amongst consumers from Tier 1, 2 & 3 cities:

► Comparing the use of platforms accross Tier 1, 2 & 3 cities
Amongst the Top-5 platforms



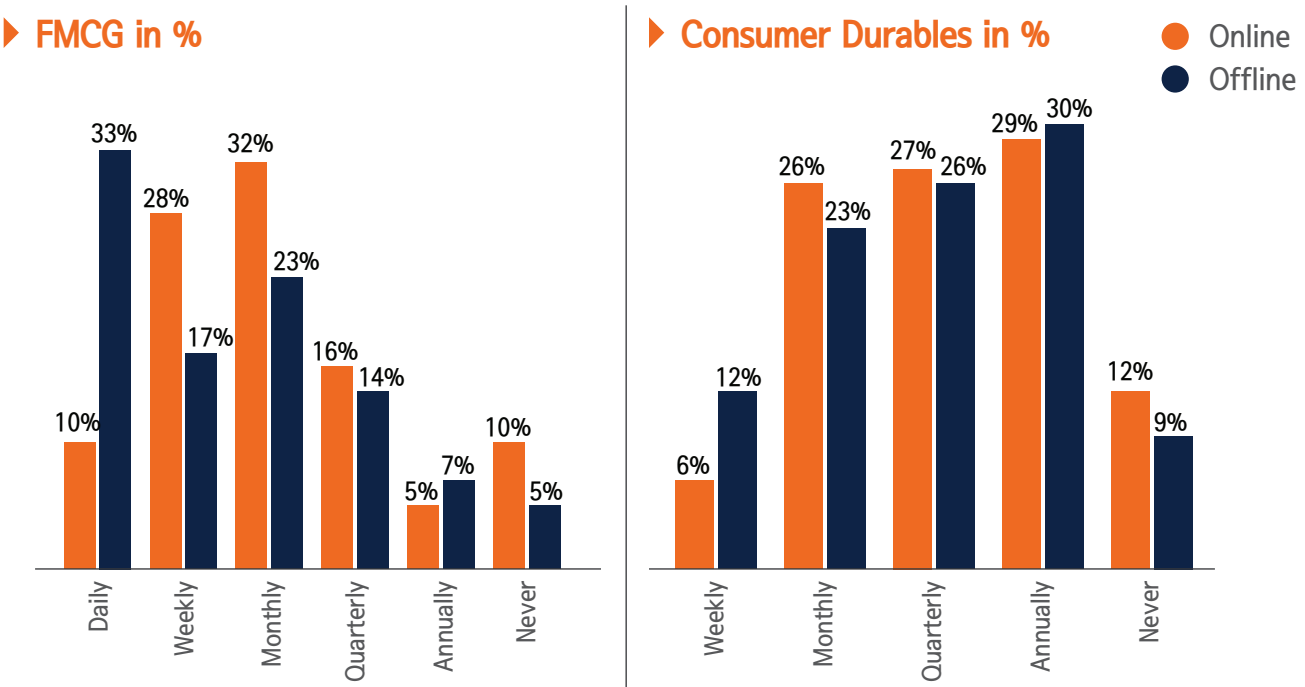
(Figure expressed as a percentage of respondents within the respective city tier categories)

Flipkart, Myntra and Amazon are popular among small city dwellers. Surpassing all other platforms, Flipkart seems to be driving a bulk of online sales in smaller cities. These may also be indicative of the reach of e-commerce platforms in smaller cities. Among the top 5 platforms with volume of sales, Flipkart is the most popular in Tier 3 cities. While Flipkart and Amazon seem to have entrenched their roots in Tier 3 cities, platforms like Meesho and Zomato will be looking at expanding.



5.3 How do consumers behave while shopping online?

In order to draw a comparison of how people shop online with how they shop from brick-and-mortar shops/ kirana stores, we asked them the frequency with which they buy consumer durables and fast-moving consumer goods or FMCGs. FMCGs are non-durable products that sell quickly at relatively low costs. FMCGs have low profit margins and high-volume sales. Examples of FMCGs include milk, fruits and vegetables, soda, and over-the-counter drugs like paracetamol. Consumer durables, on the other hand, do not wear out quickly and therefore do not have to be purchased frequently. Examples include large and small appliances, consumer electronics, furniture, and furnishings. The results are visualised below:



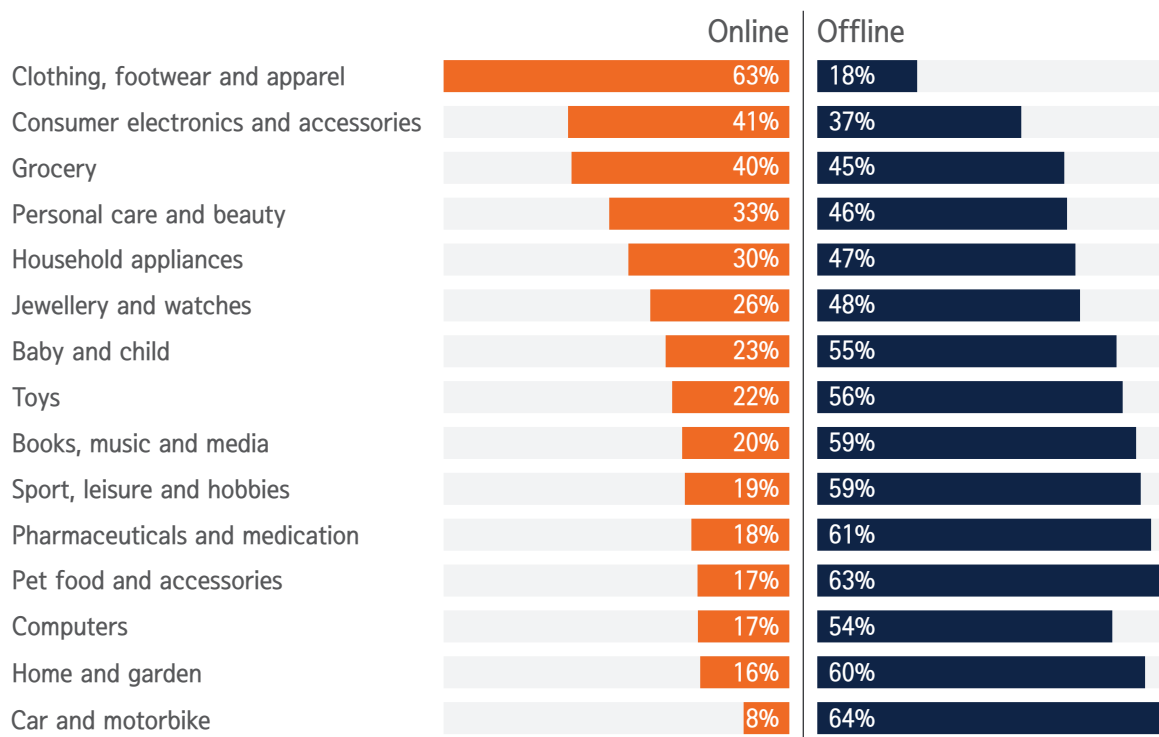
(Figure expressed as a percentage of respondents)



High frequency use of online channels is lower than offline channels with the difference being more pronounced for the FMCG category. Notably, barring the highest frequency purchase in both the categories, online sales dominate. This may indicate that incidents of buying from physical stores maybe common for respondents who like to buy their groceries everyday while shoppers who plan and aggregate their purchases weekly, monthly or quarterly are likely to buy online. The difference is not so pronounced within the consumer durables category. The visualization below further delves deep into what kind of products consumers prefer to buy online and offline:

► Product that consumers buy online and offline

Product categories sorted by online purchases



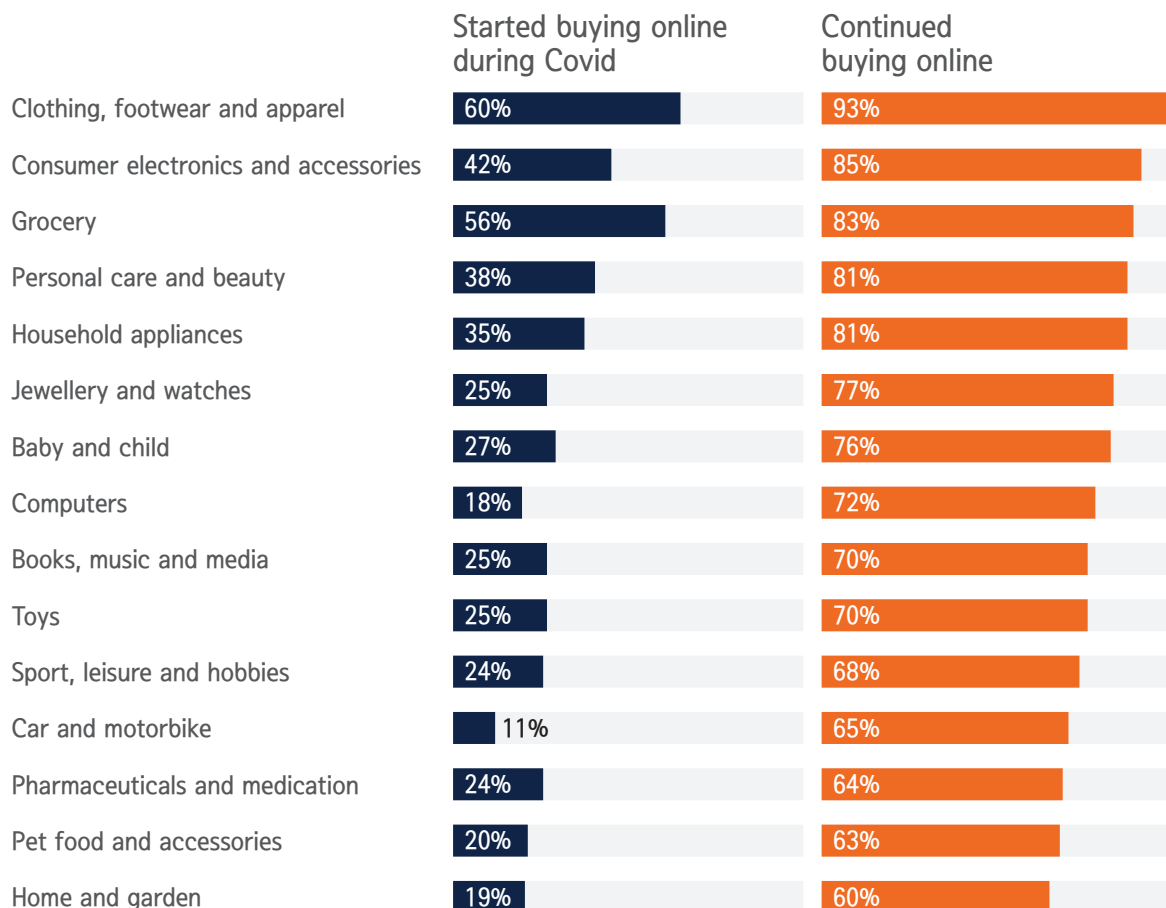
(Figure expressed as a percentage of total)

It is seen that there are a select few categories that attract more online buyers than offline buyers. Apparel drives the highest online purchases as compared to other product categories. Cars, on the other hand, is the least preferred category for online purchase by consumers. On probing the rationale behind their preferences, 'Convenience' emerges as the top reason followed by 'Trust'. In product categories where preference for offline shopping is more pronounced, 'Better Grievance Redressal' also emerges as a significant reason for consumer choices. While buying cars and computers, consumers tend to value 'Trust' as much as 'Convenience'. These two product categories also see about 20% of consumers researching/ searching online but buying offline - the highest among all product categories. On the other hand, categories such as electronics, appliances, cars and computers see 8% of people searching offline but buying online.

It is widely accepted that the Covid-19 pandemic had a profound impact on how people buy and what they buy. Respondents were asked if they moved to shopping online during Covid under each of the product categories and if they continued buying online even after the pandemic. The graph below illustrates this:

► Impact of Covid-19 on online buying

Product categories sorted by 'Continued buying online'

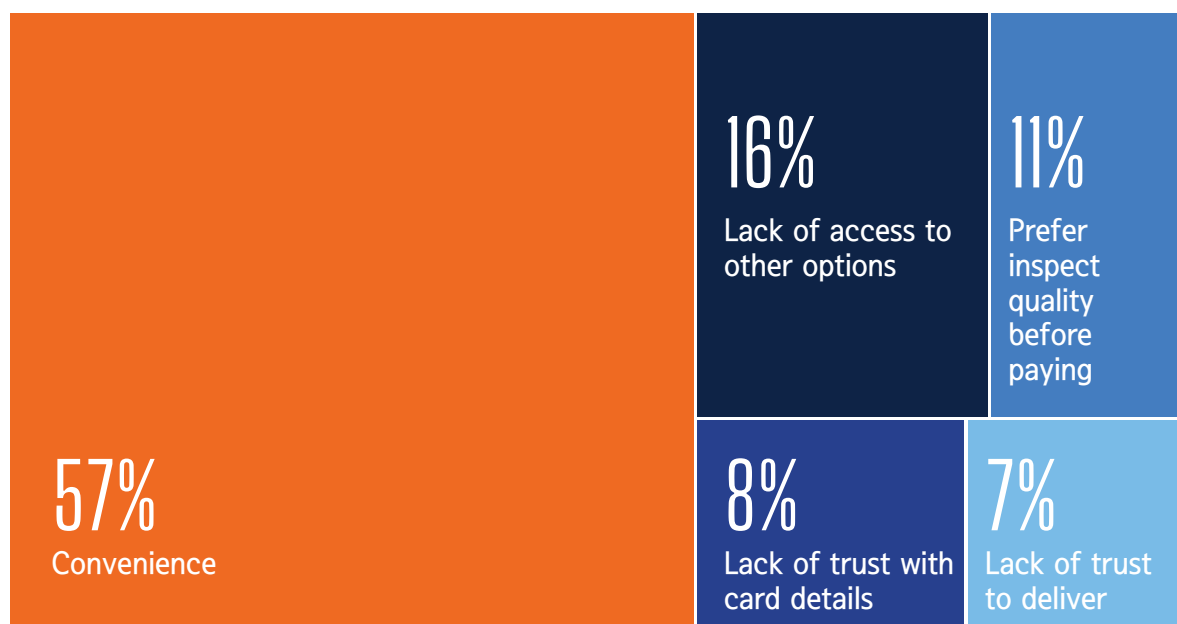


('Started buying online' expressed as a percentage of total, 'Continued buying online' expressed as a percentage of respondents who started buying within the respective product category)

About 93% of those who started buying apparel, footwear and clothing online during the pandemic have continued to do so. A few product categories such as apparel and personal care, electronics and appliances, and, grocery saw a marked continuation of shoppers buying online; the continuation in the trend of buying online is visible across all product categories. Akin to the preceding data, however, the shift to online shopping during the pandemic was quite small in many categories. One reason for this, of course, could be that people cut unnecessary expenditure and saved more aggressively during the pandemic, thus not buying luxury items such as vehicles, watches, jewellery or expensive items such as computers or appliances. However, the shift online remained small in sought-after categories such as pharmaceuticals, books and music as well.

Respondents were probed on their preferred means of payment. Cash on Delivery (COD) is by far the most preferred mode of payment for e-commerce purchases; 71.6% consumers' first preference COD, while 11.5% people's first preference is UPI. Traditional digital methods such as credit and debit cards, net banking, on the other hand, were preferred by less than 10% of the respondents. 83% of the respondents prefer COD as their first choice for payment, out of which 14% use UPI or other online methods to pay during delivery. The following are the reasons why:

► Reasons for preferring COD payment mode



(Figure expressed as a percentage of respondents who prefer COD)

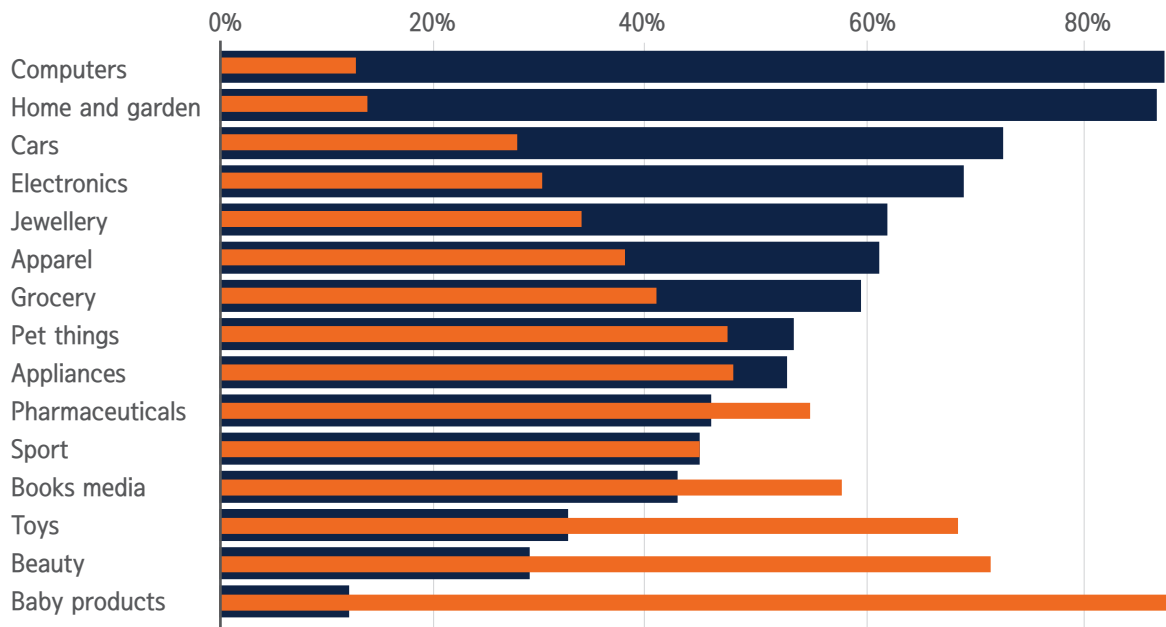
A bulk of consumers find it easier and hassle-free to opt for cash as the mode of payment while 16% lack access to any other payment methods.

The preference for payment in cash is more pronounced amongst shoppers buying in physical stores as well, as per the offline vendors interviewed for the study. 64% of the respondents say their customers commonly use cash as the mode of payment and 35% said UPI, other forms of transaction are not so preferred with debit card at 0.4% and credit card, cheque, bank transfer each being preferred by only 0.2% of the respondents' customers. The following graph compares the propensity of consumers shopping offline to pay in cash or other digital means across product categories:

► Product category-wise preferred payment mode of offline customers

Product categories sorted by preference for cash

● Cash ● UPI / Mobile payment / Digital wallet

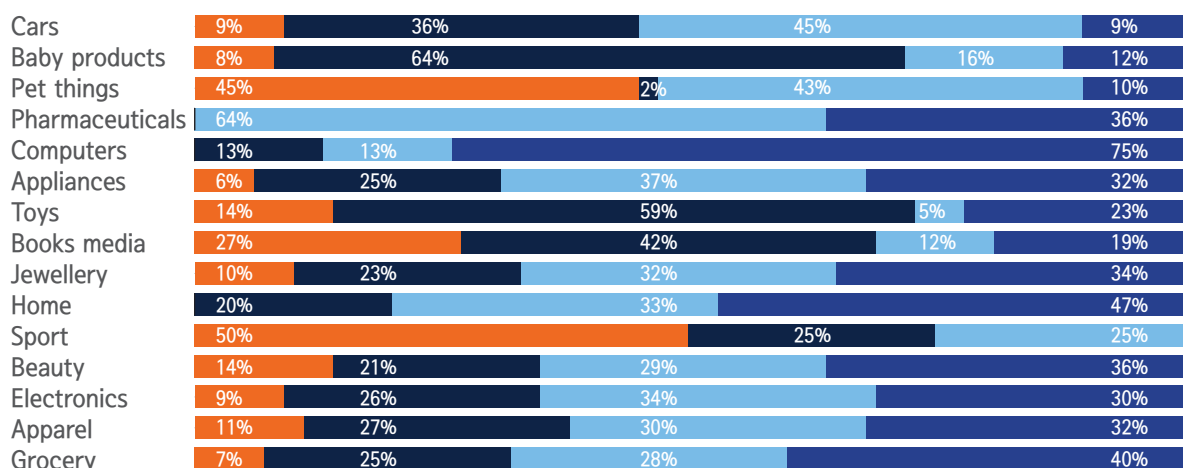


(Figure are the proportion of consumers who prefer cash or digital payment as per vendors selling in the respective product categories)

It can be inferred that consumers prefer transacting in cash while buying products in most categories. The preference for cash seems to be quite dominant in the relatively pricier segments of computers, cars and electronics along with other categories such as apparel, home, lifestyle, and, grocery. The only categories where vendors see a bulk of their consumers using digital payments include baby products and toys, beauty, books and media. One can further deep dive into this to assess what proportion of transaction happens in cash under each of the vendors selling in the respective product categories. The offline vendors in each of the product categories were asked what percentage of their transaction happens in cash, the results of which can be seen as follows:

► Cash-based transaction by retailers under each of the Product Categories

● Less than 25% ● 25-50% ● 50-75% ● More than 75%

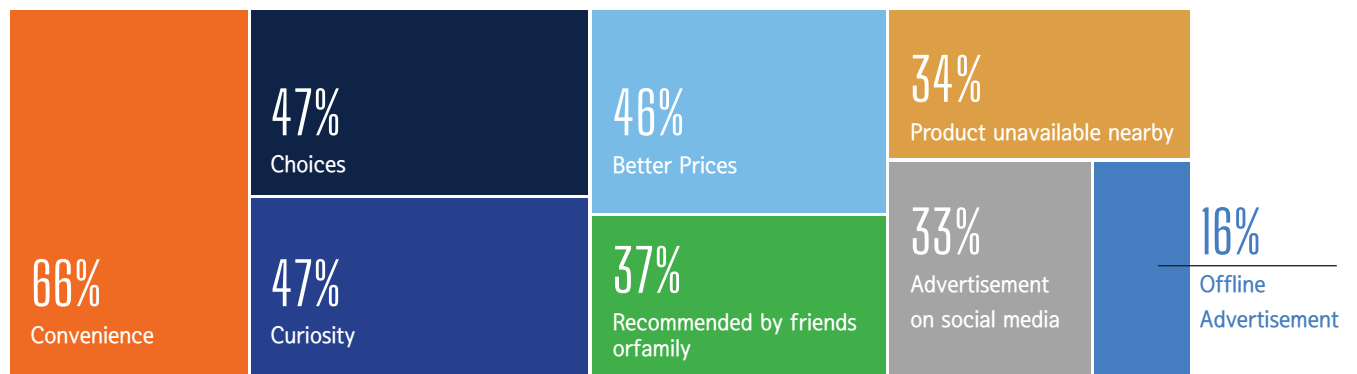


(Figures expressed as a percentage of total)

Overall, 66% of the respondents say that more than half of their transactions are cash-based. About 75% of vendors selling computers see more than three fourths of their transactions in cash while 13% see more than half their transactions in cash. Within the segment, 'home and garden', a little less than 50% of vendors see three fourths of their transactions in cash followed by 40% of transactions in the 'grocery segment'. All the vendors sell pharmaceuticals see more than a half of their transactions in cash. Approximately half the vendors selling pet things and sports transact through non-cash modes. Taking from the previous graph, vendors selling baby products say that their customers mostly prefer digital payment methods, yet a whopping 64% of vendors roughly see between one fourth and a half of their transactions in cash. Under the 'beauty' segment as well, 64% of vendors say that more than a half of their transactions happen in cash, despite a bulk of them saying that their customers prefer digital payment modes. All of these different data streams thus point to the same fact that there is a higher preference for cash payments among consumers of both online and offline retail.

To throw some light on what drives consumers online, they were asked the reason why they shopped online for the first time. The following results emerged:

► Factors that made people buy online for the first time



(Figures expressed as a percentage of total)

Quite in sync with what influences people's decision to shop online or offline, as discussed earlier, the ease and convenience of shopping online seems to be the biggest reason that drove people in the first place. Curiosity of shopping online along with the variety of products and brands available online encouraged a little less than half of the respondents to start shopping online. Other prominent reasons include the sales of discounted and better-priced products online and recommendations by family or friends. Word of mouth publicity seems to be a significant factor driving consumer purchase online. On asking where the respondents receive information about new products, promotions, or discounts; nearly three fourths of them attributed it to recommendations from family or friends. Roughly about 64% keep up to speed through advertisements on social media and digital channels, e.g. email newsletters, influencer, or celebrity ads.

Similar drivers to online shopping become apparent in the succeeding section(s) where the impact e-commerce has had on consumer welfare is discussed in detail.

A REVIEW OF LITERATURE ON THE IMPACT OF E-COMMERCE ON CONSUMER WELFARE

06

6.1 Introduction

Today's digital consumers have access to a vast variety of goods and services, various online discounts, and unprecedented ease of convenience, which have driven the success of e-commerce. However, online shoppers may continue to face bottlenecks on e-commerce platforms, including but not limited to product mismatches, exchange and return logistics, refund processing, installation issues, data privacy, and after-sales service. Assessing the impact of e-commerce on consumer welfare through primary surveys addresses the growing need to include the consumer voice in the policymaking process with a bottom-up approach.

6.2 Defining Consumer Welfare

The OECD's Glossary of Industrial Organisation Economics and Competition Law defines consumer welfare as follows: "Consumer welfare refers to the individual benefits derived from the consumption of goods and services. In theory, individual welfare is defined by an individual's own assessment of his/her satisfaction, given prices and income."¹⁰⁶ A conventional measure of consumer welfare is the economic tool of consumer surplus. Alfred Marshall's theory of economic welfare posits that consumer surplus represents the difference between what a consumer would be willing to pay for a good and the price they pay in actuality.

▶ OECD guidelines from 1999 recognise three essential dimensions of consumer protection in e-commerce:

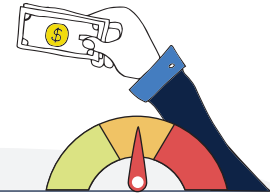
1. All consumers need to have access to e-commerce
2. The continued development of transparent and effective consumer protection mechanisms is required to build consumer confidence
3. All stakeholders must pay close attention to creating effective grievance redressal systems.¹⁰⁷

In 2016, the OECD updated this list to include stimulating innovation and competition, protection from privacy and security risks, payment protection, and product safety.¹⁰⁸

Based on a survey of literature, we use an expansive definition of consumer welfare, including price and non-price factors, such as quality, choice, information, safety,

competition, consumer rights, etc. To quantify and evaluate the impact of e-commerce on consumer welfare, we break down the idea of consumer welfare into six indicative parameters. The parameters are adapted from a CUTS Centre for Competition, Investment and Economic Regulation (CUTS C-CIER) study, which develops a Consumer Welfare Scorecard vis-à-vis e-commerce¹⁰⁹. Additionally, we have added a sixth parameter, 'Access and Inclusion' to make this a comprehensive index. Each parameter is defined based on extensive secondary research and mapped to a combination of indicators and concomitant data points:

01 Cost-effectiveness



How cost-efficient is online shopping?

Cost-effectiveness indicates whether money has been saved by the consumer through online shopping, e.g. by availing of discounts and offers, finding better deals through price comparison, buying on EMI, etc.

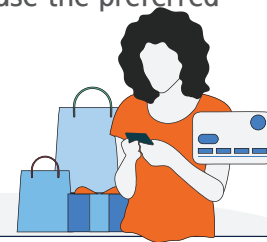
02 Convenience



How easy is it to shop online?

Convenience indicates the ease of shopping online, e.g. to place orders from anytime and anywhere, receive deliveries at a preferred time and place, search for and discover products, maintain shopping records, navigate websites and apps, use the preferred payment method, etc.

03 Consumer Confidence



How trustworthy are e-commerce platforms?

Consumer confidence indicates how much trust consumers have in e-commerce platforms, e.g., whether they believe they will receive genuine products that match photos and descriptions, whether they consider reviews and ratings helpful, whether they feel it is safe to make online payments, whether they feel it is safe to share and store personal information (e.g. card details) on the platform, etc.

04 Grievance Redressal

How quickly and satisfactorily are consumer complaints addressed?

Grievance redressal indicates how quickly and satisfactorily consumer complaints are addressed.



05 Healthy Competition

Are choices of products and platforms adequate?

Healthy competition indicates whether there is a sufficient variety of products and platforms available, the quality of products, level of product innovation, etc.



06 Access and Inclusion

Are all kinds of consumers able to use e-commerce platforms?

Access and inclusion indicate whether e-commerce platforms cater to all kinds of consumers, or, in other words, whether an individual can be an e-commerce consumer at all. This can be related to access to internet and devices, possibility of delivery to their pincode, ability to buy clothes in their size, ability to support causes like sustainability or cruelty-free, etc.



6.3 Secondary Research: Impact of E-commerce on Consumer Welfare

6.3.1 Cost-Effectiveness: Retail Prices and Inflation Reduction

As early as 2007, Malkawi noted the cost-saving and communication-easing nature of e-commerce.¹¹⁰ Both consumers and vendors benefit from the Internet's ability to disseminate information widely, quickly, and at minimal cost. Consumers can engage in comparison shopping. Vendors can set up online operations with low barriers to entry

and low transaction costs. As such, e-commerce can intensify competition both within the online market and between online and offline retailers, leading to discounting and reduced retail markups.

There is significant interest among scholars on whether downward pressure on prices due to e-commerce can influence inflation reduction. Yim, Son and Lee (2022) note that low inflation in major economies like Korea, United States, Japan and the Eurozone circa 2015 has spurred interest in the structural impact of e-commerce on inflation dynamics.¹¹¹ However, Cavallo (2018) observes that the lack of information on firm-level costs and pricing makes it difficult to isolate the e-commerce effect on inflation from other forces.¹¹²

Online retail prices tend to be lower than offline prices, particularly when delivery costs are excluded.

▶ Goolsbee and Klenow (2018) at the American Economic Association report that the digital price index is an estimated 1.5 to 2.5 percentage points lower than the corresponding consumer price index in the US.¹¹³ However, evidence is mixed.



Cavallo (2017) finds that online and offline within-retailer prices for multi-channel retailers are identical 72% of the time on average in ten countries, ranging from 91% in Canada and the UK and 42% in Brazil. Strasser et al. at the European Central Bank (2023) find that once online markets mature, prices converge between the online and offline market, particularly in the FMCG sector. This suggests that the effect of e-commerce-driven price reductions on aggregate inflation levels may be no more than transitory.

Cavallo (2017) suggests that online-offline price differences can be explained by a time lag between price changes on the two channels; offline price changes are slower because online prices can adjust more quickly to shocks. Strasser et al. (2023) write that e-commerce platforms change prices more frequently because of lower menu costs, given the technological ease of editing a listing, compared to re-tagging an item in a physical store.¹¹⁴ Notably, this has an ambiguous effect on consumer welfare. On one hand, lower menu costs reduce market frictions, create price flexibility, and speed up the pass-through of a firm's response to price changes by competitors. On the other hand, frequent price fluctuations can reduce price transparency for consumers, distorting information flow and creating consumer segmentation. The consumer segment that exhibits search intensity and

patience is rewarded with lower prices. Consumers also wait for discounts before making online purchases.

As e-commerce still forms a relatively small portion of overall retail sales around the world, its more sustained influence on inflation reduction is likely through its impact on the traditional retail sector. Low pricing on e-commerce can place pressure on brick-and-mortar retailers to limit price increases. Cavallo (2018) finds that online competition induces a change in overall retail pricing behaviour in terms of more frequent price changes and more uniform pricing, in both the online and offline market.¹¹⁵ Information technology like algorithmic pricing reduces managerial decision-making costs, and the transparency of the Internet can improve fairness. As traditional retailers list goods online, they reveal more information about prices across physical locations, equipping consumers to arbitrage price differences or demand price matching from the retailer. Former US

Federal Reserve Chair Janet Yellen suggested in a 2017 speech that the growth of online shopping in the US, by increasing competitiveness in the retail sector, may have reduced price margins and prevented firms from raising prices in response to rising demand.¹¹⁶

Similar trends are observed around the world. Jo, Matsumura, and Weinstein (2019) find that the entry of e-commerce in Japan lowered relative inflation rates for goods sold intensively online (e.g. electronics, books, clothing, footwear, furniture, etc.) between 1991 and 2016. It also raised the rate of price convergence between cities for these categories of goods. As a result, e-commerce led to welfare gains amounting to 0.3% of consumption expenditure. Additionally, e-commerce lowered the price index faced by consumers by 0.9 percentage points, with a greater impact in cities with highly educated populations.¹¹⁷ Yim, Son and Lee (2022) find using online price big data that the growth of online shopping has led to persistent pressure to lower product prices in Korea.¹¹⁸ Additionally, inflation rates have been found to decrease as Internet usage increases in ASEAN-5 countries.¹¹⁹

No studies appear to have been conducted on the relationship between e-commerce and inflation reduction in India, and global experiences in this area are mixed. It is thus essential to gather feedback from Indian consumers on whether they have experienced falling retail prices due to e-commerce, and whether this draws them to e-commerce platforms.



6.3.2 Convenience, Variety, and Access

Convenience is seen by many as the backbone of e-commerce. In a 2020 survey by the National Retail Federation, 83% of consumers said that convenience when shopping is more important now than it was five years ago, and 33% of consumers stated that they are busier now than they were five years ago.¹²⁰ Indeed, 97% of consumers have abandoned an online purchase due to inconvenience.¹²¹ Convenience is particularly important within categories purchased more frequently, such as groceries, followed by clothing, electronics, personal care, and pet items. CUTS-CCIER (2023) notes that convenience is not a one-size-fits-all solution. Different consumers can have different motivators and definitions of convenience, such as home delivery, ease of comparison, the ability to use their preferred payment method, the ability to maintain shopping records, ease of delivery, etc.¹²²

As early as 2003, Brynjolfsson et al. (2003) found that increased product variety on e-commerce platforms represented a significantly larger source of consumer surplus gains than lower price points.¹²³ Online retailers' ability to catalogue, recommend, and provide a wide variety of products is particularly appealing in SKU-intensive consumer markets like books, music, movies, and electronics.

Dolfen et al. (2023) quantify two kinds of gains to consumer welfare from the advent of e-commerce: variety and convenience.¹²⁴ Consumers enjoy greater variety through e-commerce as they can access stores and products that were not previously available at physical locations near them. Consumers can also enjoy the convenience of purchasing products online that they would have otherwise had to buy in person, saving them the travel costs of a physical trip to the store.

▶ In the US scenario, Dolfen et al. (2023) estimate that these gains from e-commerce yielded the equivalent of a 1% permanent boost to consumption by 2017, or USD 1,000 per household per year.

Fan et al. (2018) define the welfare effect of e-commerce on a city as the change in the real wage, which can occur through multiple channels: falling prices, rising variety, and new market entrants.¹²⁵ They find that the aggregate welfare gains from e-commerce in China are 1.6% on average, and 30% larger for the smallest and most remote cities. With higher welfare gains in smaller and more remote cities, e-commerce can mitigate spatial consumption inequality. Fan et al. (2018) also find that residents from smaller and more remote cities spend a larger fraction of their income online. Indeed, a consumer located further away from a given merchant's brick-and-mortar store is more likely to buy online.

This is consistent with observations in India. With e-commerce companies like Flipkart committed to ensuring access and inclusion by servicing addresses in all pin codes across the country, households in smaller and more remote cities in India are increasingly experiencing e-commerce adoption and making up a salient part of the e-commerce consumer base. By reaching the interiors of the country, e-commerce provides consumers in Tier 2 and Tier 3 cities access to products and brands that would otherwise be unavailable to them.

As of 2023, 7 out of 10 online shoppers in India reside in Tier 2 cities.¹²⁶ Moreover, consumers in Tier 2 cities spend 16% of their incomes on online platforms, which is almost double the proportion of income spent by consumers in Tier 1 cities.¹²⁷



6.3.3 Consumer Confidence

Consumer confidence plays a major role in the e-commerce context due to the lack of personal contact between the buyer and the seller. Francis, Sudeep and Kumar (2021) write that customer satisfaction poses a challenge for e-commerce companies due to their increased spatial and temporal separation with the customer.¹²⁸ The decision to shop online thus requires greater trust than offline shopping.

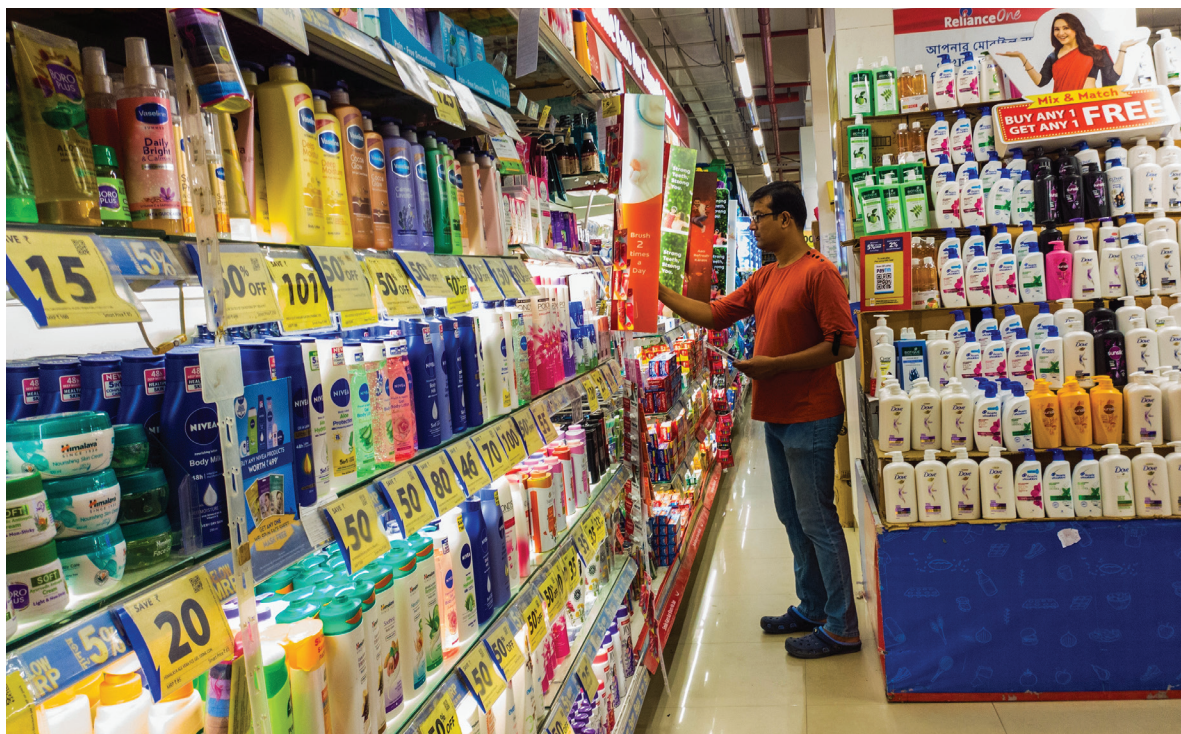
Through a survey of 290 online consumers, Chawla and Kumar (2022) find that the following factors are essential to consumer trust in an e-commerce platform: a secure and reliable system, website information on product features and manufacturers or suppliers, reviews, effective customer care services, warranty and guarantee, and privacy of personal information. Mallieswari, Mishra and Jeevitha (2023) gather data from 302 Gen-Z (born between the late 1990s and early 2010s) online shoppers in Bangalore, India, and find that consumer satisfaction is closely tied to timely, accurate, and hassle-free order deliveries in good condition. Through a survey of 200 respondents, Tirpude (2022) finds that consumers remain somewhat sceptical about online shopping for FMCG goods due to concerns about product quality assurance.¹³⁰

Concerns persist around counterfeit products, fake reviews, and financial fraud. As many as 38% of consumers complained of receiving counterfeit products from online retailers in 2017.¹³¹ The Department of Consumer Affairs, Government of India has released a voluntary compliance framework to curb fake reviews on e-commerce platforms, is considering making this system mandatory, and has initiated industry consultation to identify a way forward without hampering ease of doing business.¹³²

▶ 2% of Indians have experienced financial fraud, with over 0.9 lakh incidents of phishing and voice phishing reported between 2020 and 2022, representing a collective loss of nearly ₹1500 crore.¹³³

To draw more consumers to shop online, e-commerce platforms must facilitate a trustworthy user experience, including thorough background checks of vendors, accurate and up-to-date product information, filters and restrictions on fraudulent reviews, and financial data security and protection.

Indian customers may still be reluctant to place complete trust in online transactions, given the continued primacy of cash on delivery as a payment method. Chawla and Kumar (2022) find that cash on delivery remains the priority option for online shopping, and a crucial factor enabling consumers to go through with e-commerce transactions.¹³⁴ They note that widespread hesitation to use other e-payment options indicates the essentiality of protection and security for the Indian consumer, who prefers to minimise risk by paying for the product only upon receipt and inspection.



6.3.4 Grievance Redressal, Healthy Competition, and Dark Patterns

Under the Consumer Protection Act, every e-commerce entity must establish an adequate grievance redressal mechanism, including appointing a grievance officer, acknowledging the receipt of any consumer complaint within forty-eight hours, and redressing the complaint within one month from the date of receipt.¹³⁵ However, grievance redressal remains a pain point for consumers. In 2022, Consumer Affairs Secretary Rohit Kumar Singh stated that the number of complaints registered on the National Consumer Helpline (NCH) had gone up to 90,000 in November 2022, compared to 40,000 in the same period in the previous year.¹³⁶

▶ Consumer Affairs Secretary also stated that complaints pertaining to e-commerce transactions had risen from 8% to 48% of total complaints in a four-year period.



This indicates the urgent need for more user-friendly complaint filing processes for those who may not be tech-savvy, quicker turnaround times, and adequate responses to grievances.

The growth of e-commerce can increase competition between vendors, as well as between platforms. This can greatly enhance consumer choice and incentivise product innovation. However, there is also potential for anti-competitive behaviour. Lina Khan (2016) argues that competition law must ensure consumer welfare not only in terms of cost-effectiveness and variety of choice, but prevent the concentration of market power as it may harm consumers in the long run.¹³⁷ The Government of India clarified in 2021 that provisions under the Competition Act, 2022 regarding anti-competitive agreements and abuse of dominant position are applicable to e-commerce platforms.¹³⁸

The government has also notified guidelines addressing the regulation of dark patterns, which it defines as “any practices or deceptive design pattern using user interface or user experience interactions on any platform that is designed to mislead or trick users to do something they originally did not intend or want to do, by subverting or impairing the consumer autonomy, decision making or choice, amounting to a misleading advertisement or unfair trade practice or violation of consumer rights.”¹³⁹ Thirteen types of dark patterns have been specified. These include false urgency (deceptively conveying a sense of urgency or scarcity with false data to mislead users into making immediate purchases), basket sneaking (including additional items during the checkout process without explicit consent), subscription traps (making the cancellation of a paid subscription overly complex) etc.

HOW HAS E-COMMERCE IMPACTED CONSUMER WELFARE: FINDINGS FROM THE SURVEY

07

7.1 Consumer Welfare Index

To quantify the impact of e-commerce on consumer welfare in a nuanced manner, this study categorises Consumer Welfare into six contributing parameters: Cost-Effectiveness, Convenience, Consumer Confidence, Grievance Redressal, Healthy Competition, and Access and Inclusion. Underlying indicators are identified under each parameter; for example, indicators of Cost-Effectiveness include 'Discounts and offers', 'No added expenses', and 'Price comparison'. A list of parameters and contributing indicators is presented in the table below:

Cost-Effectiveness	Convenience	Consumer Confidence	Grievance Redressal	Healthy Competition	Access and Inclusion
• Discounts and offers • No added expenses • Price comparison	• Order products 24x7 • Product search and discovery • Product evaluation • Flexible delivery time and location • Multiple payment methods • Easy returns • Maintain shopping records	• Genuine products • Products match their photos and descriptions • Helpful ratings and reviews • Safe payments • Safe personal data sharing • Safe to save financial data	• Satisfactory complaint resolution • Timely complaint resolution • Easy complaint resolution process	• Sufficient choice of products and brands • Satisfactory quality of products • Level of innovation • Sufficient number of e-commerce platforms	• Inclusive, easy-to-understand language • Inclusive, easy-to-use technology • Responsive to ideas of sustainability

To collect information on consumer perceptions around these parameters and indicators, the questionnaire for consumers presents a list of indicator statements and asks the respondent to rate each statement on a Likert scale of 1-5 based on their level of agreement. For example, the statement for the 'Discounts and offers' indicator is 'I receive additional discounts and offers when online shopping, compared to offline shopping'. The complete list of indicator statements under each parameter is provided below:

Cost Effectiveness

- Online shopping has helped me save on my shopping expenses, compared to offline shopping.
- I receive additional discounts and offers when online shopping, compared to offline shopping.
- The cost benefits of online shopping outweigh the added expenses that come with it (e.g. shipping fees, platform subscription fees like Amazon Prime, return and exchange costs, etc.).
- I am able to compare prices and find better deals when online shopping, compared to offline shopping.

- Online shopping allows me to strategize my expenses by saving items in the cart and buying them when they are offered on discount.
- I am able to buy on credit (e.g. EMI and BNPL) more easily when online shopping, compared to offline shopping.
- I think discounts offered by e-commerce platforms are on inflated prices and thus lead to no real savings for me.

Convenience

- Online shopping is more time-saving compared to offline shopping.
- It is important to me to be able to place orders online anytime and anywhere.
- I am able to search for and discover products more easily when shopping online.
- I am able to return and exchange products easily when shopping online.
- Online shopping lets me maintain shopping records more easily, compared to offline shopping.
- I am able to use my preferred payment method when shopping online.
- I am able to navigate seamlessly on ecommerce websites and apps (switching between pages, loading products, etc.).
- I am able to easily track order delivery while shopping online.
- I am able to receive the products I buy online at a time and place of my convenience.

Consumer Confidence

- The products I have bought online have matched their descriptions.
- The photos and videos of the products largely match the received products when ordered online.
- E-commerce platforms have taken adequate measures to ensure genuine products are received.
- Reading ratings and reviews on e-commerce platforms helps me make informed purchase decisions.
- I feel it is safe to use digital payment options when shopping on e-commerce platforms.
- I feel it is safe to share and store personal data (e.g. addresses, card details) on e-commerce platforms.
- I feel satisfied with the information provided about the vendors/sellers on e-commerce websites.

Grievance Redressal

- It is easy to submit complaints on e-commerce customer service portals.
- When I have made complaints on e-commerce customer service portals, my concerns have been resolved in a satisfactory manner.
- When I have made complaints on e-commerce customer service portals, my concerns have been resolved in a timely manner.

- I have received an acknowledgement of my complaint within 48 hours.
- I have never had a complaint with an e-commerce company.
- I have had complaints but I did not register them with the e-commerce company.
- I have had to follow-up on complaints I made while shopping online.

Healthier Competition

- The overall choice of products and brands in the market has improved with the growth of e-commerce platforms.
- The overall quality of products in the market has improved with the growth of e-commerce platforms.
- I can find innovative products, or products that fulfil my requirements better, using e-commerce platforms.
- I am able to purchase a greater variety of products while online shopping, compared to offline shopping.
- I feel there is a sufficient number of e-commerce platforms to shop from.
- When I search for specific products online, the website shows sponsored products or their own products first.

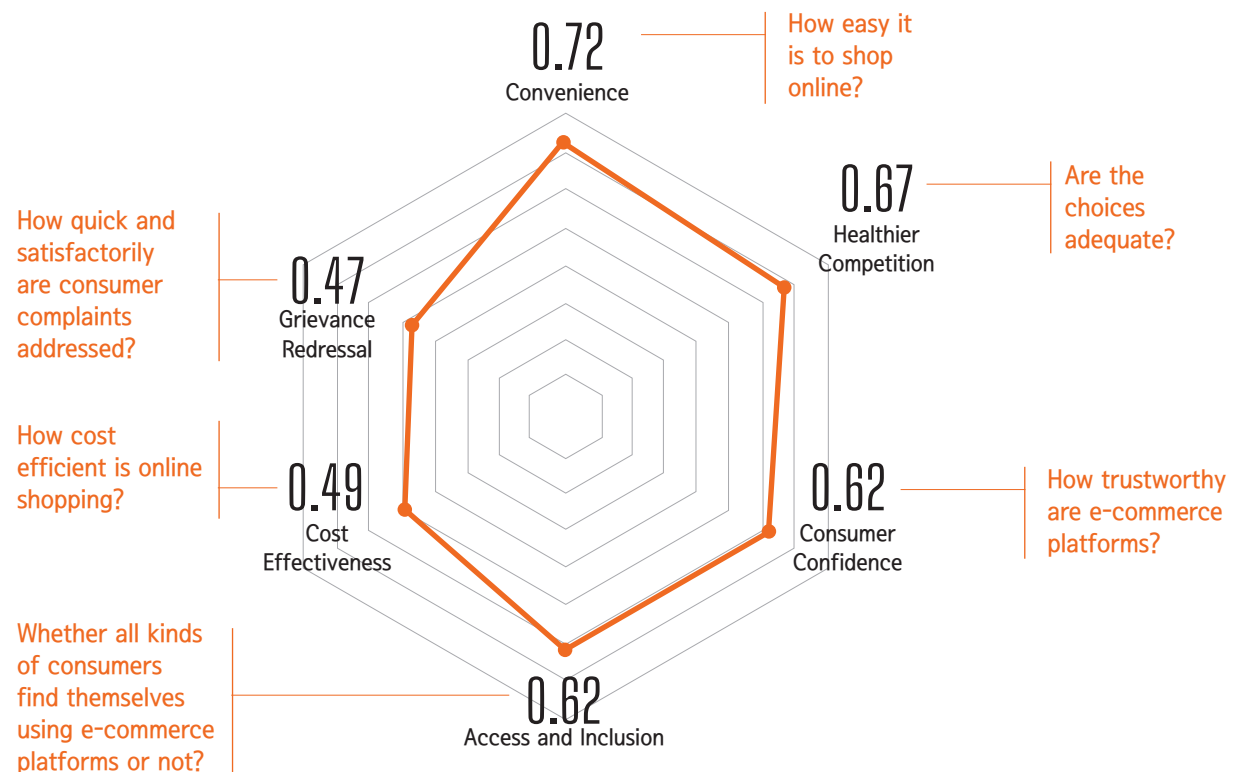
Access and Inclusion

- I have access to enough Internet to buy things online.
- E-commerce platforms deliver to my pin-code.
- I can shop online using my preferred language.
- I can find clothing, footwear and apparel of my size online.
- I am able to find products online even when I do not know the right name or spelling.
- I have been able to resell some of my products online.
- I am able to find good second-hand products online.
- I can support a cause or be a part of a community (e.g. buy sustainable, eco-friendly products) when I shop on specific websites online (e.g. buying sustainable, eco-friendly, and/or second-hand products, etc.)

Responses from consumers are summarized on a relative scale, with a higher number reflecting a higher level of agreement and therefore, greater consumer welfare gains to consumers from e-commerce. A rating of 'strongly agree' is assigned a higher relevancy weightage in the scale than 'agree' (similarly, 'strongly disagree' is assigned a higher relevancy weightage than 'disagree'). Scores are aggregated under each parameter across all consumers to evaluate their relative importance. The parameter scores range from 0 to 1, with a higher score indicating a higher relative value addition to consumer welfare.

7.2 How has E-commerce enhanced Consumer Welfare over Offline Shopping?

► Score on the parameters of consumer welfare for buying online vs. offline



(Figures expressed as a weighted average score on 1 for each parameter)

Online shopping has enhanced Convenience (0.72) and Healthy Competition (0.67) the most for customers, when compared to offline shopping. On the other side of the spectrum, e-commerce has had the lowest impact on Cost-Effectiveness (0.49) and Grievance Redressal (0.47) for consumers. E-commerce has enhanced Consumer Confidence (0.62) and Access and Inclusion (0.62) to some extent.

In other words, the following factors drove the sampled Indian consumers to shop online, in order of relative value addition to consumer welfare:



Convenience emerges as the biggest driver of e-commerce-led consumer welfare gains among the six metrics. As online shopping has allowed customers to browse and buy products from the comfort of their homes without the need for physical trips to the store, it is unsurprising that convenience is a major draw for online shoppers. It is notable that consumers consider cost-effectiveness to be the least significant contributor to their decision to shop online. This suggests that customers are largely attracted to online shopping due to the value it adds over offline shopping in terms of convenience, product variety, and access to a much larger extent than low price points. Online shoppers may be less price-sensitive than one expects; low prices and discounts offered on e-commerce platforms appear to be far from the main factor influencing an individual to buy online instead of offline.

The relatively high score received by Healthy Competition indicates that consumers are happy with the quality of products sold online, level of innovation, and number of e-commerce platforms. Consumer satisfaction with the level of competition is likely explained by the fact that e-commerce has expanded the product range available to consumers, particularly in Tier 2 and Tier 3 towns, where choice in products through the physical retail channel tends to be limited.

Consumer Confidence and Access and Inclusion have had a medium impact on consumer welfare. Consumer Confidence figures in the third spot of the list. While efforts have been made by e-commerce platforms to bridge the informational gap between the seller and consumer through photos, descriptions, reviews, etc., it is possible that a trust deficit still remains. Consumers may have lingering concerns about counterfeit products, mismatched photos, inaccurate descriptions, fake reviews, or financial fraud on e-commerce platforms. This aligns with the continued preference for cash-on-delivery as a payment method, suggesting that consumers still value the ability to “touch and feel” a product before paying for it. To continue on the growth path, e-commerce marketplaces must take additional steps to build consumer trust. Access and Inclusion receives the fourth spot on the list. Despite rising digital inclusion, the growing integration of Tier 2 and Tier 3 pin-codes into mainstream consumption by e-commerce, and expanding language and voice search options on online shopping platforms, there is room for improvement to allow more consumers to participate in the e-commerce market to the fullest extent.

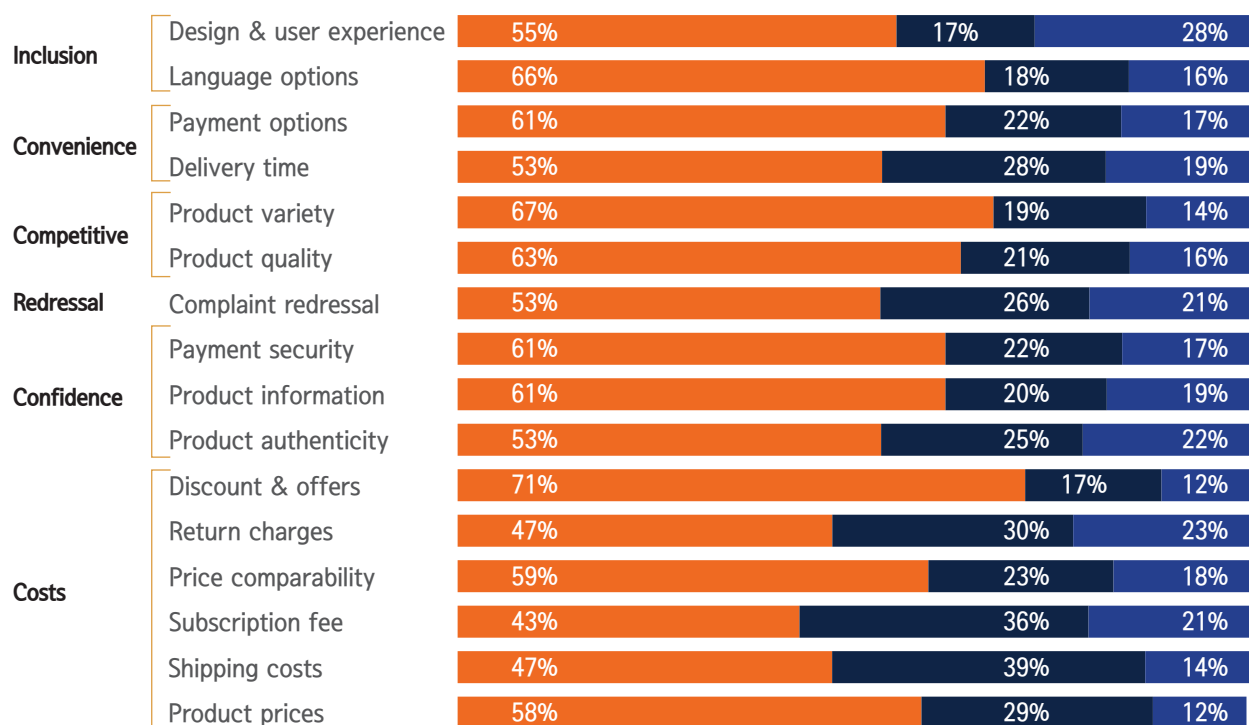
The relatively low score assigned by consumers to Grievance Redressal echoes reports of rising complaints from consumers registered against e-commerce platforms on the National Consumer Helpline, indicating an urgent need to strengthen grievance redressal mechanisms and address persisting consumer concerns in a timely and satisfactory manner.

7.3 How Has Consumer Welfare Changed Over Time?

The questionnaire asks consumers how their experience with online shopping has changed since the time they started buying products online in terms of product prices, shipping costs, discounts & offers, design & user experiences, payment options, delivery time, product variety, product quality, complaint redressal etc. The results are presented below:

► Change in shopping experience since the time consumers have started buying online

● Better ● Worse ● No change



(Figure expressed as a percentage of total)

Consumers feel the most positive changes have taken place in terms of Discounts & Offers, Product Variety and Language Options. 71% of consumers feel discounts & offers on e-commerce platforms have increased over time, 67% of consumers feel that product variety has improved, and 66% of consumers believe language options have expanded over time.

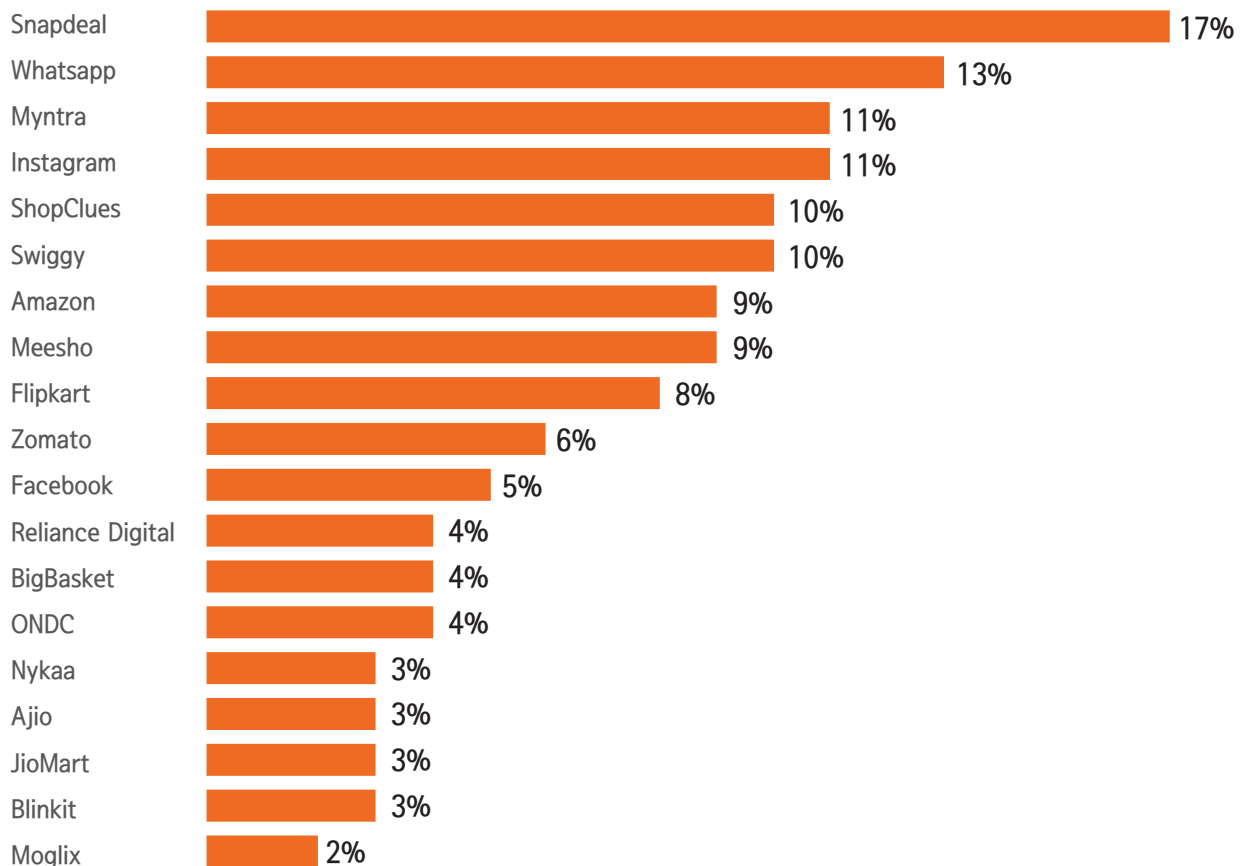
Conversely, consumers perceive the most negative changes in terms of Shipping Costs, Subscription Fees, and Return Charges. 39% of consumers believe shipping costs have increased over time, 36% of consumers feel subscription fees on e-commerce platforms have risen over time, and 30% of consumers believe return charges have increased on e-commerce platforms since they started shopping online.

Interestingly, both the biggest positive change and the biggest negative changes are experienced under the Cost-Effectiveness parameter. Customers are thus happy with the offers and discounts on e-commerce platforms, but feel other costs associated with shopping online have increased.

7.4 How does Consumer Welfare Differ Across E-commerce Platforms?

To examine the platform-wise impact on consumer welfare, we segregate the analysis for different e-commerce platforms. Snapdeal, WhatsApp, Myntra and Instagram emerge as the top platforms, with shoppers experiencing a positive shift in all Consumer Welfare parameters over time. 17% of online shoppers felt consumer welfare has improved across all parameters on Snapdeal, with the figure being 13% for WhatsApp and 11% for Myntra and Instagram, respectively. Notably, consumers appear to perceive strong welfare improvements over time in the use of social media apps like WhatsApp and Instagram to purchase goods.

► Platform users who think e-commerce has improved across all parameters since the time they started shopping online



(Figure expressed as a percentage of consumers using the respective platforms)

Customers were further asked which amongst the six parameters required improvement. The chart below represents what the shoppers on different platforms are happy about i.e. the parameters that they feel 'do not require any improvement':

► **Platform users who feel no improvement is needed across the respective consumer welfare parameters**

	Cost effectiveness	Convenience	Consumer confidence	Grievance redressal	Healthy competition	Access & inclusion
Amazon	8%	3%	2%	3%	3%	3%
Flipkart	8%	4%	3%	3%	3%	4%
Myntra	9%	4%	3%	3%	4%	4%
Snapdeal	6%	4%	3%	3%	4%	4%
Meesho	7%	4%	3%	3%	3%	4%
Nykaa	11%	7%	3%	3%	4%	4%
JioMart	8%	5%	2%	2%	5%	4%
Blinkit	18%	3%	1%	4%	4%	4%
BigBasket	15%	4%	1%	3%	4%	4%
Swiggy	8%	5%	2%	2%	3%	3%
Zomato	7%	4%	2%	3%	3%	3%

(Figure expressed as a percentage of consumers using the respective platform)

As shown by the heatmap, there is a congruence in satisfaction with the Consumer Welfare parameters amongst shoppers on various platforms. Consumers are relatively satisfied with the Cost-Effectiveness and Convenience of e-commerce platforms, compared to other parameters of Consumer Welfare. Quick commerce platforms like Blinkit and BigBasket fare particularly well on the Cost-Effectiveness metric with 18% and 15% shoppers on the respective platforms expressing that 'no improvement is required' in this domain. They are followed by Nykaa and Myntra, with 11% and 9% of their consumers respectively feeling that Cost-Effectiveness on these platforms is up to the mark. 7% of Nykaa consumers feel Convenience requires no improvement on the platform, while the figure is 5% for JioMart and Nykaa, respectively.

In the following chart, it is seen what the shoppers on different platforms are not happy about i.e. the parameters that they feel 'require a lot of improvement':

► **Platform users who feel no improvement is needed across the respective consumer welfare parameters**

	Cost effectiveness	Convenience	Consumer confidence	Grievance redressal	Healthy competition	Access & inclusion
Amazon	10%	16%	21%	25%	19%	18%
Flipkart	10%	16%	21%	24%	18%	18%
Myntra	10%	17%	20%	25%	21%	19%
Snapdeal	10%	19%	20%	23%	21%	19%
Meesho	9%	16%	22%	26%	19%	19%
Nykaa	10%	19%	23%	22%	22%	22%
JioMart	12%	17%	25%	30%	20%	20%
Blinkit	13%	15%	27%	31%	29%	27%
BigBasket	11%	19%	31%	31%	33%	27%
Swiggy	10%	16%	23%	26%	18%	18%
Zomato	10%	16%	21%	23%	19%	18%

(Figure expressed as a percentage of consumers using the respective platform)

Overall, Grievance Redressal and Healthy Competition require significant improvement across platforms, as per consumers. Online shoppers are particularly unhappy with the current state of Grievance Redressal on Blinkit, BigBasket, and JioMart, with 30%, 31% and 31% consumers of these platforms stating that significant improvement is required on this parameter. 33% of Bigbasket consumers and 29% of Blinkit consumers feel Healthy Competition requires a lot of improvement, suggesting the need for a higher variety of products, platform choices, and innovation in the quick commerce domain. Customers shopping on JioMart, Blinkit and Bigbasket are particularly unhappy on the Consumer Confidence front suggesting a need for these platforms to work on delivering genuine products or products as per their descriptions etc. Overall, Consumer Confidence and Access and Inclusion also lag behind other parameters.

7.5 What steps have the Vendors taken to improve Customer Satisfaction?

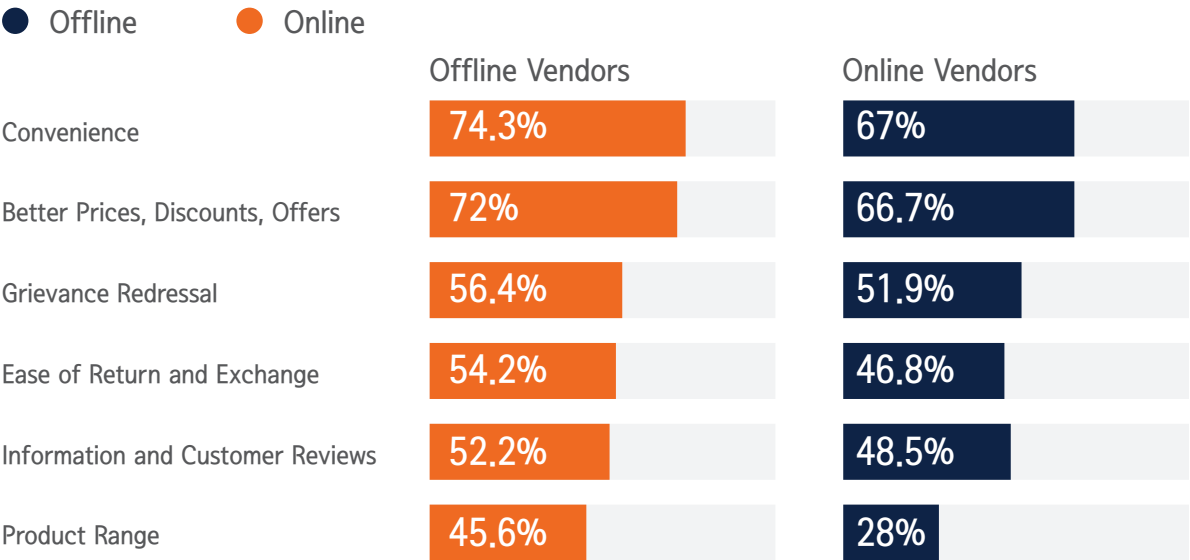
Online and offline vendors were asked a series of questions to determine their understanding of what drives consumers and influences their buying choices. 92% of offline vendors felt that the reason for customer loyalty is the trust they have on them. While other determining factors like product quality and prices were mentioned, no other factor for customer loyalty was considered as important as 'trust' by offline vendors. In

the same vein, 64.5% of online vendors felt that ‘low trust’ was a major disadvantage of online shopping for consumers.

Both the offline and online vendors were asked about the advantages that accrue to online shoppers. The following results emerged:

► **Advantages of online shopping for customers according to online and offline vendors**

Sorted by percentage of offline vendors who feel the respective advantage accrue to online shoppers



(Figure expressed as a percentage of online and offline vendors, respectively)
Table: Created by PIF - Created with Datawrapper

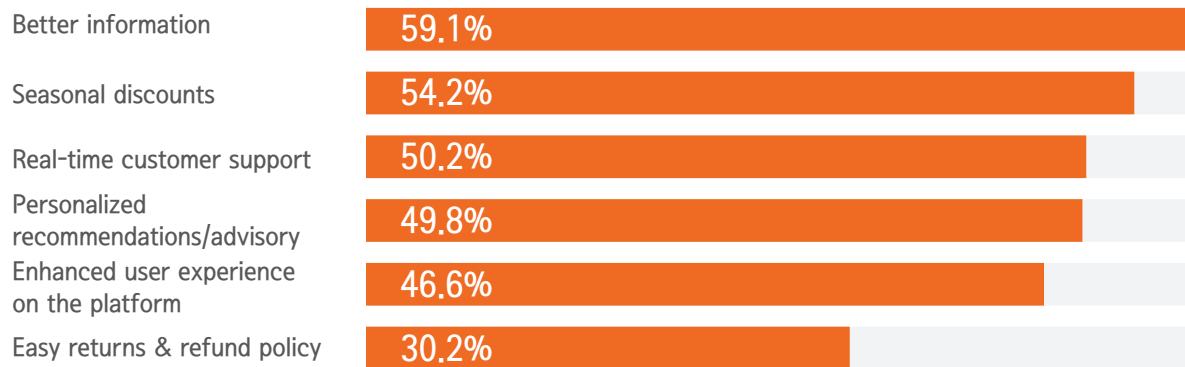
There is a lot of congruence between the understanding of online and offline vendors on the advantages of online shopping for consumers. According to the vendors, convenience is the biggest advantage that accrue to consumers shopping online followed by better prices. Interestingly, consumers feel the same about convenience of online shopping although they do not feel that cost-effectiveness is that big an advantage of online shopping. As compared to offline vendors, a smaller percentage of online vendors seem to agree with the respective advantages of online shopping. The difference is more pronounced while considering ‘Product Range’ as an advantage of online shopping.

Online vendors were also asked what disadvantages were faced by consumers shopping online. As mentioned above, ‘low trust’ was flagged as the biggest disadvantage. This was followed by reluctance to pay online/pay in advance mentioned by 57% and grievance redressal by 54% of the vendors, respectively. Other disadvantages include product-specific concerns like quality or mismatch with their description on the website, delay in delivery and problems w.r.t exchange or return.

Vendors were also asked the steps that they have taken to improve customer experiences and enhance customer satisfaction. The following strategies have been deployed:

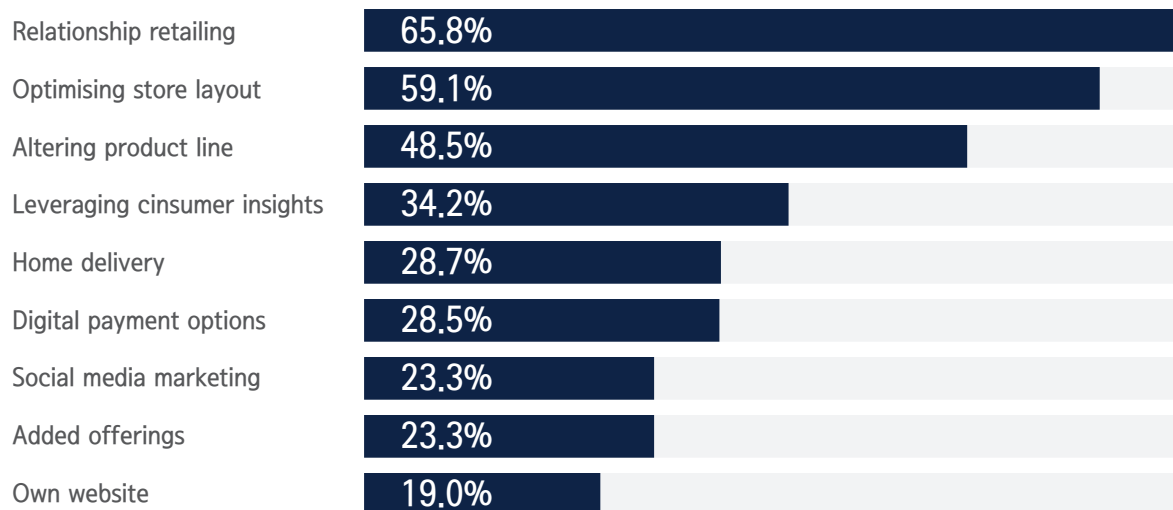
► Strategies deployed by vendors to enhance customer experience

Online Vendors



(Figure expressed as a percentage of total)

Offline Vendors



(Figure expressed as a percentage of total)

59% of online vendors have worked towards providing better information to consumers in the form of detailed product descriptions, customer testimonials etc. followed by 54% of online vendors offering discounts. About half the online vendors respectively offer real-time customer support over phone or through chatbots and personalized recommendations to customers based on their purchase history. 47% of vendors have deployed resources towards enhanced user experience through virtual testing before roll-out, better user design of platform, easy check out etc. It should be noted here that the online vendors do not distinguish between strategies deployed by them or the online platform they use to sell their products.

Offline vendors have also undertaken several innovative measures to enhance consumer experiences. About 66% of them resorted to relationship retailing measures such as

loyalty programmes, membership offers and discounts, monthly benefits etc.) followed by 60% of them who optimized the layout of their store for better visibility of products and ease of customers walking in. About half the offline vendors changed their product line based on changing customer preferences and demand while 34% of them stated to have been leveraging consumer intel like understanding consumer needs, making personalized recommendations, cross-selling based on the purchase history of consumers etc. Other steps taken by offline vendors include home delivery, providing digital payment options, reaching to customers through social media, providing added services like mobile phone recharge, ticket reservation, banking operations like assisted digital transactions, payments, account opening, KYC etc. A few of them started their own website.



7.6 Conclusion

To conclude, Convenience and Healthy Competition are the most important factors driving consumer welfare gains from online shopping, while Grievance Redressal and Cost-Effectiveness have had a much lower impact in comparison. E-commerce has most significantly enhanced the consumer welfare parameter of Convenience, and had the least impact on Cost-Effectiveness. This indicates that the e-commerce consumer base in India, limited to the study sample, perceives value-addition from e-commerce in terms of convenience, wider choices, and access, rather than merely a bargain.

Since the time they started online shopping, customers believe that discounts and offers have increased on e-commerce platforms, but feel other costs associated with shopping online have increased. In line with the perception of consumers, vendors also feel that the biggest advantage of e-commerce is convenience. Vendors - both online and offline - have taken numerous steps to enhance consumer experience. One may therefore conclude that e-commerce has enhanced several aspects of consumer welfare, while other aspects still require attention. More importantly, e-commerce has added many more dimensions to consumer welfare, beyond mere pricing, to encompass attributes such as inclusiveness, greater and better choices, confidence, and trust.

CONCLUSION

In today's digital age, consumers are not just connected; they are virtually living online. Our data shows that over 90% of consumers spend more than an hour per week surfing the web, with a staggering 40% investing over 10 hours online. A significant portion of this time is dedicated to perusing e-commerce platforms, predominantly via mobile phones. Online shopping evokes a lot of interest too, with 70% of respondents having made a purchase in the last month alone. Interestingly, even those without a steady income (or those who are unwilling to report their income in the survey) contribute significantly to e-commerce sales.

This shift towards digital commerce isn't just a trend; it's a revolution transforming consumer welfare. E-commerce offers unparalleled convenience and an expansive array of choices. It has also earned certain amount of consumer trust in delivering genuine products and safeguarding personal and financial information.

Moreover, e-commerce has emerged as a catalyst for inclusivity, reaching consumers in remote locations, offering diverse product sizes, language preferences, and helping consumers support causes like sustainability. While cost-effectiveness isn't the primary driver of consumption online, consumers do not think it requires any improvement.

When asked how the various parameters of consumer welfare have changed over time, consumers said that the biggest positive change is seen in offers and discounts offered by e-commerce platforms and language options to shop in. Consumers further acknowledge improvements in product variety, quality, payment security, and information availability since the time they started shopping online.

However, challenges persist, notably in grievance redressal. Consumers demand better handling of complaints and feedback by e-commerce platforms along with enhanced confidence-building measures. Consumers are also dissatisfied with the increasing costs of shipping, returns, and subscriptions since the time they started shopping online.

Vendors, recognizing the convenience factor, are investing in enhancing consumer satisfaction through various offerings like seasonal discounts, personalized recommendations, easy refunds, and enhanced user experience.

The growth of e-commerce isn't just reshaping consumer behaviour but also employment patterns. Data from over 2000 vendors who report an uptick in job creation across various retail functions evidences a positive shift in employment. Commensurate with job creation within firms and through outsourcing, jobs roles have also seen a technological upgradation. But rather than replacing workers, technology is creating new roles, requiring

skills in data management, social media, and website management. Vendors shifting online have engendered job creation in low-skilled roles like inventory management, packaging and delivery as well. Moreover, the geographical flexibility of e-commerce participation is extending employment opportunities to women and other marginalised groups, and spurring entrepreneurship in Tier 2 and Tier 3 cities.

E-commerce represents a new phase of digital evolution, which is transforming the needs of the labour market. There is a need for support mechanisms and targeted interventions to upskill and retrain the retail labour force, particularly for elderly vendors and vendors with lower education levels, to keep up with the demands of the economy for human capital in the digital age, while ensuring no one is left behind.

The question this begets is whether the growth of e-commerce has come at the expense of physical retail. Contrary to the fears, however, offline retail isn't withering away; it's thriving. Half of the offline vendors interviewed in our study have witnessed growth in sales and profits, with a quarter of them planning to expand.

The perceptions of offline vendors do not support the 'retail apocalypse' claim as well. Less than 20% of the offline vendors reported a physical store closure in their vicinity since 2020. Ranging from low customer demand to shifting of customers to large organised retail sectors, from moving of the store to another location to the lack of a successor – a plethora of reasons were cited for these closures. This diversity of challenges highlights the complexity of business survival in the retail sector.

E-commerce is not a threat to traditional retail but a force driving innovation and growth, reshaping the retail landscape for the better. Vendors are embracing technology, are investing in better product quality & design, and are leveraging consumer intel for smarter decision-making. Indeed, the advent of e-commerce can re-invigorate the growth of traditional retail by introducing an impetus to upgrade customer service and digitise operations to keep up with evolving industry standards.

Rather than displacing physical markets, e-commerce is expanding into new territories like Tier 3 cities. Our data shows that a higher percentage of Tier 3 city consumers spend more than 5000 per month on online shopping as compared to consumers from bigger cities. This is the India consumption story, which enables the co-existence of physical and digital retail.

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