

IMPACT OF E-COMMERCE: EVIDENCE FROM KERALA STATE – THE EMERGING KNOWLEDGE ECONOMY IN SOUTH INDIA

**Dr. Keerthan Rose Alexon Puthukkeril¹, Ajeesh S², Akshay A. L.³, Ajmal Mohammed
N. S.⁴, Hariprasad S.⁵, Dr. Siji Cyriac.⁶, Prof. (Dr.) Manoj P. K.⁷**

¹Faculty, Gregorian College of Advanced Studies, Thiruvananthapuram, Kerala – 695011 (INDIA).

²Student, Gregorian College of Advanced Studies, Thiruvananthapuram, Kerala – 695011 (INDIA).

³Student, Gregorian College of Advanced Studies, Thiruvananthapuram, Kerala – 695011 (INDIA).

⁴Student, Gregorian College of Advanced Studies, Thiruvananthapuram, Kerala – 695011 (INDIA).

⁵Student, Gregorian College of Advanced Studies, Thiruvananthapuram, Kerala – 695011 (INDIA).

⁶Assistant Professor, St. Pius College, Rajapuram, Kasaragod, Kerala – 671 532 (INDIA).

⁷Professor and Head, Department of Applied Economics, CUSAT, Kerala – 682 022 (INDIA).

(Corresponding Author) (ORCID ID: <https://orcid.org/0000-0002-5710-1086>)

KEYWORDS

E-commerce, Online
shopping, ICT,
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Environment.

ABSTRACT:

This study aims at a comprehensive understanding of the impact of e-commerce on the economy, focusing on various dimensions of household consumption pattern, impact on the lives of beneficiaries with special mention to delivery persons and economic impact on retail shops. The study has found that though e-commerce platform is widely used by individuals to purchase textiles, electronic goods and for miscellaneous shopping. Half of the respondents think online shopping has not changed their consumption pattern. It brings forth the fact that people rely on online shopping mainly for convenience. For the retail shops, overall returns have increased through online sales. For majority of delivery persons surveyed, this job is their primary source of income. This shows that e-commerce can emerge as key employment generating platform especially for youths. This is particularly true for Kerala State in India, it being the State with high youth unemployment rate. Kerala has huge ICT resources including manpower and the State is mandated to become a knowledge economy in the globe. The paper suggests the promotion of e-Commerce for environment-friendly and sustained economic growth in today's knowledge era.

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INTRODUCTION

The incredible development of the Internet and its wide-range of applications are changing various aspects of our society in very fundamental ways in the 21st century. Among the many transformations the Internet brings to society, perhaps the most important, is that of the growth of internet-based businesses for the delivery of goods and services on a global scale is an obvious outcome of this digital economy. (Sui & Rejeski, 2002).

Electronic commerce or e-commerce in short, refers to the exchange and processing of information relating to business transactions using computers connected through a network. (Kazemi & Saeedy, 2015). In a loose sense the term 'e-commerce' means doing business over the Internet, selling goods and services which are delivered offline as well as products which can be "digitised" and delivered online, such as computer software. Trades can be among businesses or between businesses and consumers. (Coppel, 2000). In 1991 the internet had less than 3 million users around the world and its use in e-commerce was non-existent. By 1999, an estimated 250 million users accessed the Internet and approximately one quarter of them made purchases online from e-commerce sites, worth approximately USD110 Billion. (Coppel, 2000). Revenue in the e-commerce market is projected to reach USD 4,117 Bn in 2024. Revenue is expected to show an annual growth rate of 9.49 per cent, resulting in a projected market volume of USD 6,478 Bn by 2029. In the e-commerce market, the number of users is expected to amount to 3.6 Bn users by 2029. User penetration will be 40.5 per cent in 2024 and is expected to hit 49.1 per cent by 2029. (Statista, 2024).

Many global studies, have noted development potential of ICT like the experience at Philippines wherein a common ICT-device mobile phone prove to be powerful tool women empowerment (Pickens, 2009). In the India, a research study by Chattopadhyay et. al (2024) published in *RBI Bulletin* (Oct. 2024) has revealed that ICT capital could improve India's output and labour productivity growth during the post-liberalisation period (1980-2000). In the Kerala context

too, many empirical studies have revealed that ICT-based interventions could accelerate business growth and ultimately the regional economic development also.

Kerala, often celebrated for its rich cultural heritage and diverse economic sectors, has not remained untouched by the sweeping tide of e-commerce. E-commerce operates in different types of market segments and can be conducted over computers, tablets, smart phones, and other smart devices. This study endeavours to explore and critically analyse the multifaceted impact of e-commerce in Kerala. Govt. of Kerala (GOK) has embarked on a policy to transform this south Indian State into a knowledge economy in the globe.

LITERATURE REVIEW AND RESEARCH GAP

Studies have noted the positive economic impact of e-commerce and ICT-based businesses. E-commerce allows a shop, a showroom or an office to operate 24 hours a day, seven days a week. Time zones are no more a constraint. (Kazemi & Saeedy, 2015) Businesses can be contacted by or contact customers or suppliers at any time. E-commerce enables customers to shop or conduct other transactions 24 hours a day, all year round from almost any location. (Shahjee, 2016) A website enables an enterprise in advertising and passing on information directly to the ultimate customers without any mediator. Business can be done efficiently with reduced costs and prices. Online transactions ensure lower search costs for buyers, quick comparisons between products sold in different platforms, lower prices, superior customer service due to high competition, reduced barriers to entry, multiple virtual partnerships, product differentiation and personalization etc. These factors make the competition in online markets very intense. (Kazemi & Saeedy, 2015) (Coppel, 2000). With the growing competition in the e-commerce market, players who are able to adapt and innovate quality products will gain profit and enhance the economy of the country. (Puthiran, 2016)

E-commerce enlarges the transparency of markets and open the door for new products and production processes. They can buy from foreign sellers, and sellers can reach more buyers. Markets thus become not only more transparent, but also larger. Therefore, e-commerce can intensify competition. The broadening of markets offers the opportunity to exploit economies of scale. In the end, consumers get the products at lower prices. Furthermore, the higher level of transparency causes lower search and transaction costs (in time and money). (Sujiker, 2002-03). Although the direct employment consequences of e-commerce may not be large, it is likely to drive widespread changes in the labour market, shifting the composition of workers required to produce and deliver a product or service. For example, a retail sale via the Internet probably does not require the same intensity of sales staff, but it requires people with IT skills to develop and program software, operate and maintain computer servers and networks and people skilled in graphics design to keep the web site attractive and others to dispatch orders. (Coppel, 2000).

For goods like cars and houses which cannot be traded over the internet, the internet acts as a useful tool for collecting information beforehand. For these commodities, e-commerce may lower search costs for consumers and sales costs for producers. In case of digitised information goods (music, games, software) which are characterised by high fixed costs of product development and low marginal costs of production, through a diversified pricing policy (personalised pricing, versioning and group pricing) and distribution methods (focus groups, free samples), producers try to maximise their sales as soon as possible in order to make up for the sunk costs. Distribution costs of digital goods are very low. (Sujiker, 2002-03). A macro level study in India on ICT's role in economic growth, Manoj P.K (2007), "ICT industry in India: a SWOT analysis" has noted the vast growth prospects of ICT industry and this suggests the prospects of E-Commerce sector. At the global level, Pickens, M (2009) has clearly pointed out as to how a simple and relatively inexpensive ICT-based device (viz. Mobile phone) has been instrumental in empowering the masses, including rural women, in Philippines. Manoj, P.K. (2005), 'Cost accounting systems in Banks-for strategic advantage through effective cost management' has noted the key need for applying scientific cost management by commercial banks and so also in another paper Manoj, P.K. (2005), 'Scientific pricing of bank products through cost accounting-a vital need in the LPG regime' the need for scientifically pricing the bank products. Manoj, P.K. (2014), "Role of ICT in Women Empowerment: A Study with a Focus on 'Kudumbashree' programme in Kerala State of India" has noted the vast scope of women-based

empowerment programme *Kudumbashree* in empowering women through their SHGs. Manoj, P. K. (2015). “Financial inclusion through microfinance: A Study with a focus on the exposure of commercial banks in Kerala” has noted the need for promoting microfinance, especially with ICT-adoption also. Manoj (2010) “Impact of technology on the efficiency and risk management of old private sector banks in India: Evidence from banks based in Kerala” has observed that ICT-adoption by banks has made them more efficient. Manoj, P.K. (2013) “Prospects and Challenges of Green Buildings and Green Affordable Homes: A Study with Reference to Ernakulam, Kerala” has noted the good growth potential of green homes as they can create huge employment avenues and can ensure fast and sustained economic growth. Many studies have focused on the need for sustained economic growth through diverse kinds of interventions, models and tools; right from educational loans to exports and from SEZs to ecotourism. Manoj, P.K. (2015) “International Container Transshipment Terminal (ICTT) and its impact on coffee exports from India: An analysis” has observed the vital role of ICTT to boost exports and economic growth. Manoj, P.K.(2017) “Segmentation Strategy for Promotion of Ecotourism Products: Evidence from Thenmala Ecotourism” the author has pointed out that meticulous planning using segmentation of tourists can lead to economic growth through ecotourism.

Studies have noted the positive environmental impact of e-commerce and ICT-based deals. The environmental effects of e-commerce focus on three aspects: energy, resources and pollution. As of today, the scientists or policy makers still do not have clear statements about relationship between the ecommerce and the environment. But, it has potentials of positive environmental impacts which has been summarized as three D’s for the new economy: dematerialization which reduces the material consumption by shifting books to bytes, compact disks to MP3s, and so on, de-carbonization by reducing the Green House Gas emissions and demobilization by reducing the transportation. (Tiwari & Singh, 2011).

E-commerce applications are the means of conducting business without actually commuting. Business may further reduce their carbon foot print, by allowing their employees work in virtual office, shopping online and working from home which reduces the number of commuters on the road. The number of commuters may further reduce, if more business transactions could be conducted online. Moving towards the paperless society would be advantageous for deforestation which contributes to global warming. There are many ways in which digital transfer of information through ecommerce could be useful. Ecommerce can potentially reduce waste and the need for inventory, warehouse space, operating cost of business. For example, it is not required to have the office space on rent or to send out bills via the traditional more expensive means using papers. Further for the benefit of the environment recyclable packaging of goods must be used. (Tiwari & Singh, 2011). Doing business online gives numerous advantages to the entrepreneur like speed, flexibility, cost savings, wider reach, and so on. (Kharat & Tibe, 2022). E-commerce presents unique opportunities for less developed countries to greatly expand their markets, both internally and externally. Externally, the Internet and other technologies may allow for low-cost international trade, even for small, local businesses. Internally, many groups of citizens who had been considered "marginalized" and "unbanked" may gain affordable access to financial services, and may thus involve readily in all aspects of the economy. (Anjum & Tiwari, 2011)

A study by Rajesh and Manoj (2015) “Women Employees work life and challenges to Industrial Relations: Evidence from North Kerala” has noted the crucial importance of a trade-off between job life and family life of employed women to improve the industrial relations. Manoj (2016) “Employment Generation from Rural Tourism: A Field Study of the Local Community at Kumbalangi, Kerala” has noted the vital capability of tourism to create employment avenues, along with suggestions like better infrastructure, ICT resources, online services, etc. Manoj (2016) “Real Estate Investment Trusts (REITs) for Faster Housing Development in India: An Analysis in the Context of the New Regulatory Policies of SEBI” has observed that innovations in financing models such as REITs are vital to bring about rapid development of India’s housing status which could lead to faster development of the whole Indian economy, given the linkages of housing. Manoj (2016) “Bank marketing in India in the current ICT era: Strategies for effective promotion of bank products” observed ICT-enabled marketing as a key need for India’s banking sector in this digital era.

A study by Lakshmi and Manoj (2017) “Service quality in rural banking in north Kerala: A comparative study of Kannur district co-operative bank and Kerala Gramin bank” has noted that KGB could make greater use of ICT than KDCB thus enabling the former to get a market edge. A paper by Lakshmi and Manoj (2017) “Rural Customers and ICT-based Bank Products A Study with a Focus on Kannur District Co-operative Bank and Kerala Gramin Bank” has observed that ICT-enabled services of Kerala Gramin Bank (KGB) have been accepted to a greater level than KDCB’s non-ICT-enabled services. A joint study by Joju, Vasantha, and Manoj (2017) “Future of brick and mortar banking in Kerala: Relevance of branch banking in the digital era” has observed the vital need for ‘human touch’ as in ‘brick and mortar’ banking even if ICT or virtual banking is the new normal.

A study by Joju et. al. (2017) “Financial technology and service quality in banks: Some empirical evidence from the old private sector banks based in Kerala, India” has observed that Fin-Techs could significantly enhance quality of banking service and they have become essential for superior service delivery by banks. Manoj (2017) “Construction costs in affordable housing in Kerala: Relative significance of the various elements of costs of affordable housing projects” ordered the different elements of cost based on their relative priority for effective control of costs, and ICT has been noted to be a vital tool for effective cost control. Manoj (2017) “Cost management in the construction of affordable housing units in Kerala: A case study of the relevance of earned value analysis (EVA) approach” has demonstrated that EVA could be a powerful tool for effective control of construction costs. Another study by Joju et. al. (2017) “Electronic CRM & ICT-based banking services: An empirical study of the attitude of customers in Kerala, India” has noted the key significance of ICT-based banking practice called e-CRM (Electronic Customer Relationship Management) as an enabler of efficient and competitive banking, along with noting good feedback of customers to latest ICT-based products like e-CRM. Another CRM paper relating to bank management area by Manoj (2018) “CRM in old private sector banks and new generation private sector banks in Kerala: A comparison” has noted that CRM adoption by the new private sector banks (NPBs) being to a greater extent than that of the old private sector banks (OPBs) particularly in respect of the latest ICT-enabled or electronic version of CRM (e-CRM); thus enabling the NPBs to get a clear competitive edge in the market vis-à-vis the OPBs. Manoj (2019) “Social banking in India in the reforms era and the case of financial inclusion: Relevance of ICT-based policy options” has suggested ICT-based strategic options to enhance social banking that fits into the current digital banking regime. Manoj (2019) “Dynamics of human resource management in banks in the ICT era: A study with a focus on Kerala based old private sector banks” observed the key relevance of ICT-enabled policies for the management as well as development of bank staff in this very competitive digital era. Manoj (2019) “Competitiveness of manufacturing industry in India: need for flexible manufacturing systems” pointed out the vital significance for adoption of ICT as well as other technological advances such as flexible manufacturing systems (FMS) so as to make Indian manufacturing more competitive, given the high globalization pressures.

A paper by Joju and Manoj (2019) “Digital Kerala: A study of the ICT Initiatives in Kerala state” has studied the major initiatives in the ICR front in Kerala, the State in India having many unique ‘firsts’ like the topmost in internet penetration, topmost in literacy (universal literacy) etc. and has suggested strategies for the better use of Kerala’s vast ICT potential for its faster development. Joju and Manoj (2019) “Banking Technology and Service Quality: Evidence from Private Sector Banks in Kerala” have observed ICT as an enabler of banking quality and as such ICT-adoption should be encouraged. Ali and Manoj (2020) “Impact of Falling Price of Rubber-A Case Study of Kothamangalam Taluk in Ernakulam District” has pointed out that due to frequent price falls affect the livelihood of farmers and that governmental interventions like minimum support prices are vital. Manoj (2015) “Prospects of Responsible Tourism in Kerala: Evidence from Kumarakam in Kottayam District” has noted that responsible tourism (RT) has vast potential for supporting economic growth, if sustainably promoted. Manoj, P.K. (2016) [45] “Determinants of sustainability of rural tourism: a study of tourists at Kumbalangi in Kerala, India” has noted the key variables affecting tourism’s sustainability in the rural context and also suggested strategies like upgrading digital (ICT) resources

as of the factors. Manoj, P.K.(2015), “Impact of Rural Tourism on the Environment and Society: Evidence from Kumbalangi in Kerala, India” noted certain adverse impacts that are imminent in rural tourism and that it is vital to control such effects. Manoj, P.K. (2023) “Housing Sector in India: An ESG Route into a Greener Future” has noted imminent need for an ESG approach for the long term sustainability of the housing sector in India”. Manoj (2019) “Tourism Sector in Kerala in the Post-Flood Scenario: Strategies for its Sustainable Growth With a Focus on Responsible Tourism” noted the key role that RT plays for revival of flood-hit Kerala. Manoj, P.K.(2015) “Housing Microfinance: A Study on Quality, Cost and Default Rate with Respect to Bhavanashree in Kerala” has noted that housing microfinance (HMF) type home loans have lower quality (higher NPAs) and also that their transactional costs are higher. Manoj (2023) “Affordable Healthcare and Affordable Housing: Need for an Integrative Approach for the Holistic Growth of the Digital Economy of Kerala, India” has noted that a knowledge society like Kerala must promote housing and healthcare sectors holistically using ICT.

Studies have also noted the positive social impact of e-commerce and other ICT-based deals. E-commerce has revolutionized the way consumers buy goods and services. The processing allows for products and services to be customized to the customer’s requirements. For instance, now-a-days, customers can configure a car according to their specifications within minutes on-line. E-commerce enhances the quality of life for a whole host of people in society, enabling them to work from home. Not only is this more convenient and provides happier and less stressful working environments, it also potentially reduces environmental pollution as fewer people have to travel to work regularly. E-commerce also facilitates delivery of public services -for example, health services available over the Internet (on-line consultation with doctors or nurses), and filing taxes over the Internet etc. (Shahjee, 2016). A macro level analysis by Manoj, P.K.(2022) ‘ESG Reporting for Business Sustainability: Role of CMAs in Internal Audit’ has noted the key benefits of ESG adoption for business sustainability in India in this ICT-oriented and globalised economic environment. Joju. et. al. (2023) “ICT for Enhanced Competitiveness of Micro Enterprises in Digital India: A Tool for Women Empowerment and Rural Development” have noted the key significance of using ICT for competitiveness and business growth. A study by R Nayar and PK Manoj (2023), “Special Education and Training for the Differently Abled In the ICT Era: Evidence from the Knowledge Economy of Kerala In Digital India” have noted that ICT adoption can be very effectively used in special education. Saritha, C.K and Manoj, P.K (2023) in Social inequalities in IT sector: Evidence from Kerala State in India” have identified significant inequalities in Kerala’s IT sector and accordingly have suggested strategies to combat this menace based on their study findings. Manoj et. al. (2023) “ICT and Women Empowerment in Digital India: A Global Perspective” have noted that going by international experiences and success stories women empowerment demands digital transformation in every walk of life, whether in self-employment or in service or in family. A study by Joju. et. al. (2023), “ICT for Promotion of Retail Banking in Digital India: A Study with a Focus on Housing Finance”, have noted that ICT-integrated processes and systems, and ICT-based marketing of retail banking are vital in this ICT era. The need for ESG adoption coupled with ICT-integrated development policies has been noted by Manoj, P.K. (2023) in Housing Sector in India: An ESG Route into a Greener Future; as an ICT-enabled development paradigm in sectors like housing accelerates the economic growth. The need for an integrative approach to healthcare and housing has been pointed out in a study by Manoj, P. K. (2023). Affordable Healthcare and Affordable Housing: Need for an Integrative Approach for the Holistic Growth of the Digital Economy of Kerala, India; wherein the utmost need for adopting ICT-based techniques and processes is specially noted. A study by Manoj, P.K. (2023) ICT For Sustained Community Development in India in the 5G Era, has noted the crucial need for adopting ICT advances in accelerating the pace of social and community development in India. The need for ICT-integration and AI adoption for the players in housing finance has been noted by Manoj, P. K (2024) in Housing finance by banks and housing finance companies in India: A review, because such ICT-based tools ensure superior quality customer service and competitiveness.

There are studies that highlight the negative environmental impact also. Each potential positive impact is coupled with a potentially overwhelming negative impact as well. For example, moving business online can reduce waste such as printed catalogues, retail space, and transportation requirements, but we have to manufacture more energy intensive computers instead. Indeed, the Internet has already dramatically increased mass production of various products on a global scale. The ease of online shopping itself causes people to buy more. When we opt for trucks instead of boats or rail, energy use goes up by a large factor. Moving the same package by air again increases the energy use dramatically. (Tiwari & Singh, 2011). There are other concerns too. Customers are unable to examine the products. Security is the biggest concern. Online payment transactions can result in fraud sometimes. Website maintenance is the biggest concern for business owners. It needs to be taken care 24*7 for technical glitches. The updates part in both the hardware and software consistent is a must. As middlemen are eliminated, to reduce costs, most of the companies try to eliminate these positions; their jobs are in danger these days. (Kharat & Tibe, 2022).

There are studies that point out the negative economic impact of e-commerce and such other ICT-based business deals. Despite the phenomenal growth in the Internet for commercial purposes there are a number of legal and technical obstacles which could hinder the full potential of e-commerce from being reaped. For example, the virtual environment of electronic markets makes it more difficult to determine who the contracting parties are, where an electronic commerce operator is established and whether that operator is complying with all relevant legal obligations and regulatory regimes. This can create legal and regulatory uncertainty. Regarding technical problems, consumers have concerns over privacy, consumer protection, security of credit card purchases, order fulfilment and delivery. (Coppel, 2000). Economies of scale and a good reputation can offer a few e-tailers (for example, Amazon) some market power on an electronic market which might result in tacit collusion. Furthermore, producers may react to intensified competition by product differentiation. It may thus be more difficult for consumers to compare products on the Internet. They must compare not only prices but also quality characteristics. (Sujiker, 2002-03)

Saroj Kumari et. al. (2023) in “Health Monitoring Based Cognitive IOT Using Fast Machine Learning Technique” have proved that ICT-based technologies like IOT (Internet of Factors) could be used meaningfully for effective health monitoring and better standard of living. An industry report by IBEF (2024) on *E-Commerce* has portrayed the bright future of Indian e-commerce and its steady growth over the years, including the role of e-commerce in sustained economic growth. A paper in *RBI Bulletin* (2024) by Chattopadhyay, S.K. et. al., “New Digital Economy and the Paradox of Productivity” has critically studied ICT’s role as a driver of productivity growth. It has been noted that ICT capital could support output and labour productivity growth during the post-liberalisation period (1980-2000), with some moderation thereafter. Thus, the above study refutes Solow’s productivity paradox. But, later during the latter part of 2010s that is marked by the advent of modern digital technologies the productivity differential between ICT sector and non-ICT sector is noted to be insignificant.

From the above it is noted that there are studies that proved the positive economic, social and environmental impact of e-commerce. Empirical studies in Kerala on e-commerce and its impact on individual consumption pattern, its economic impact on retail shops, and its impact on the beneficiaries especially the delivery persons are virtually nil. Hence the present study seeks to bridge this research gap by making a field-based study in the Kerala context along with a macro level study of the prospects and challenges of e-commerce in the ongoing scenario wherein the State of Kerala is striving to transform itself into a knowledge economy. The state of Kerala has accorded utmost priority for encouraging all sorts of electronic transactions, including widespread adoption of e-governance and digital services through its paper-less offices.

STATEMENT OF THE PROBLEM

Given the topmost priority that the Govt. of Kerala (GOK) has accorded to ICT and allied services including e-governance, this study aims at a comprehensive understanding of the impact of e-commerce in Kerala, duly encompassing the various dimensions of household consumption pattern, impact on the lives of beneficiaries with special reference to delivery persons and also the economic

impact on retail shops. As businesses increasingly embrace digital platforms for transactions and consumers navigate towards a virtual marketplace, the implications for a State like Kerala, with its distinct market dynamics, necessitate careful examination of the afore-mentioned key aspects relating to e-commerce in the Kerala context.

OBJECTIVES OF THE STUDY

- 1) To make an overall study of the dynamics of the global e-commerce market with special reference to India and that too with a focus on the State of Kerala in India;
- 2) To make an empirical study in the Kerala context on the impact of e-commerce on individual consumption pattern, the economic impact of e-commerce on retail shops, and also the impact of e-commerce on beneficiaries like the delivery persons.
- 3) To make suggestions for the more effective

SIGNIFICANCE OF THE STUDY

Over the past decade, Kerala has witnessed a notable surge in internet penetration, digital literacy, and the explosive growth of online platforms facilitating trade. As traditional retail practices encounter the digital frontier, questions arise regarding the repercussions on local businesses, consumer choices, and the broader economic ecosystem. Understanding this paradigm shift is not only important for academics and researchers but is also crucial for policymakers, entrepreneurs, and stakeholders vested in the sustainable growth of the state. Kerala has emerged as one of the best IT destinations in the whole of India. The superior status of this State is reflected in the high internet penetration, high and steadily growing number of Akshaya Centres (centres authorised by the Govt. to provide ICT-based services). Wi-Fi hotspots, tech start-ups etc. and also IT-based Parks like Technopark at Trivandrum. Box I is self-explanatory regarding the excellent IT infrastructure existing in Kerala (Box I).

Box I: Highlights of the IT Infrastructure in Kerala.

- The phase I of KFON project envisages to provide internet connection to 30,000 Government institutions and offer free internet to 20 lakh economically backward families and internet services at a lower rate for others. At present 26993 offices were connected through KFON, 3345 BPL families were provided with free internet connectivity
- 2792 Akshaya Centres are functioning across the State giving employment to 8509 persons.
- Completed installation of 2023 Wi-Fi hotspots and nearly 15 lakh unique mobile users are availing the facility. Per day data consumption is up to 8 TB.
- Techno Park has become the largest employment base campus in Kerala and with the commissioning of Technopark Phase III; it became one of the largest IT parks in India with 380 acres of land, 10.6 million square feet built-up area.
- The number of tech start-ups eco system in 2021-22 is 3650 as compared to 3143 in 2020-21.

Source: GOK (2024), *Economic Review*, p.236.

Given the superior IT resources (including human resources, e.g. trained manpower) and also the concomitant IT infrastructure facilities (like, internet penetration) as well as Governmental policies of the State Government, it is significant to make a closer study of the impact of e-commerce on the individual consumption pattern, its economic impact on the retail shops, its impact on the beneficiaries etc. for informed policy decisions. (Box I).

METHODOLOGY

This descriptive-analytical research was done with the use of both primary data and secondary data. For the broader and macro level study secondary data from authentic sources like the RBI publications, reports of reputed agencies, like, IBEF and EDCB, was used for the study. For the purpose of empirical study, primary data collected through a field-study at Trivandrum (Thiruvananthapuram) district in southern part of Kerala State in India was used. Accordingly, data from 50 persons engaged in activities relating to e-commerce. (Table I).

Table I: Sources and Types of Primary Data

Sl. No.	Sources and Types of Primary Data	Frequency (Nos)
01.	Individual Consumers using e-commerce based business services	30
02.	Delivery persons involved in delivery of products and services	10
03.	Retail shops engaged in e-commerce based business dealings	10
	TOTAL	50

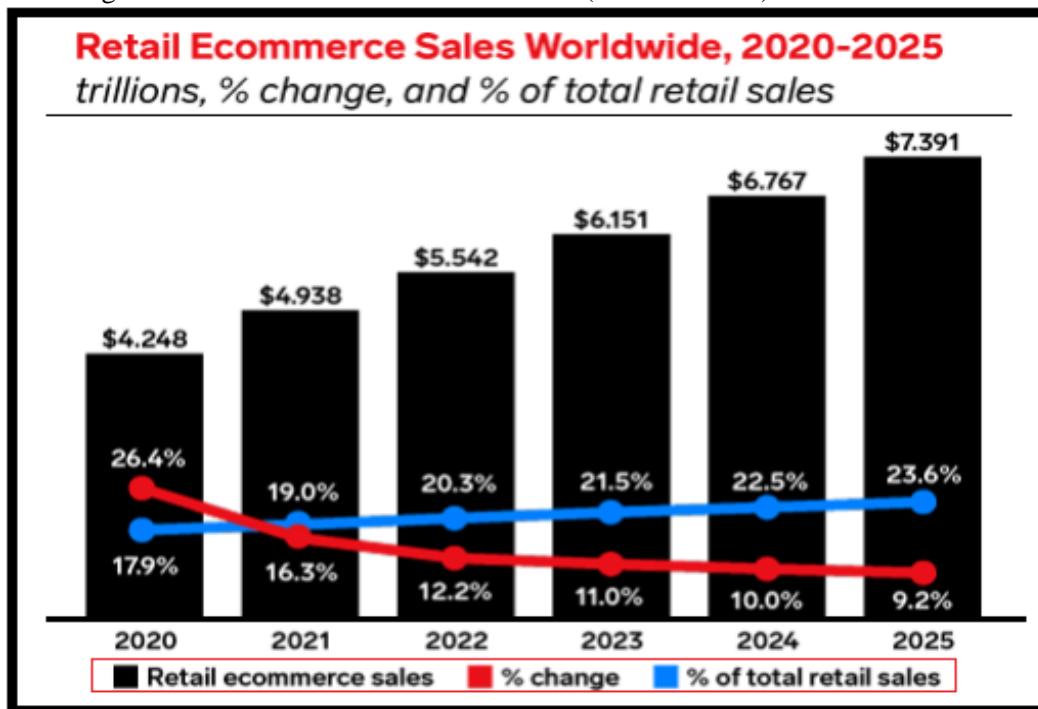
Source: As per the Research Design of the study.

The primary data collected from 50 respondents as in Table I (30 individual consumers, 10 delivery persons and 10 retail shops) using random sampling technique were used for further analysis in this study. For the purpose of collection of primary data as above, separate structured questionnaires were administered on individuals, retail shops and delivery persons. Since the study was focusing on online shopping, the data from individuals were collected online through google forms. Retail shops and delivery persons are interviewed personally.

ANALYSIS AND DISCUSSION

From the data available from authentic published sources, it is noted that there is excellent growth prospects for the retail e-commerce Sales that takes place at the global level. This is evident from the steadily growing trend in sales figures and also the share of e-commerce sales in total retail sales, which is nearly one-fourth as of 2025. The share of e-commerce in total retail sales has been gradually growing year after year, even though the year-on-year annual growth rate (per cent) has been gradually falling (Figure I).

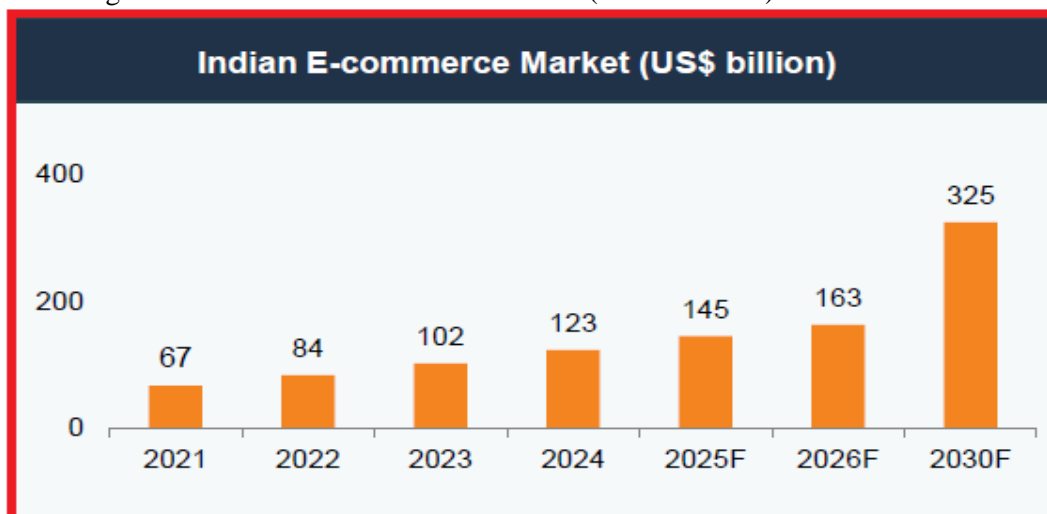
Figure I: Global Retail E-Commerce Sales (USD Trillions)– Growth Trends.



Source: Official estimates of Emarketer (www.emarketer.com).

Regarding the growth prospects of the E-Commerce market in the Indian scenario, a gradually growing trend is noted, from USD 67 Billion to as high as USD 145 Billion estimated in 2025 and further USD 163 Billion in 2026. (Figure II).

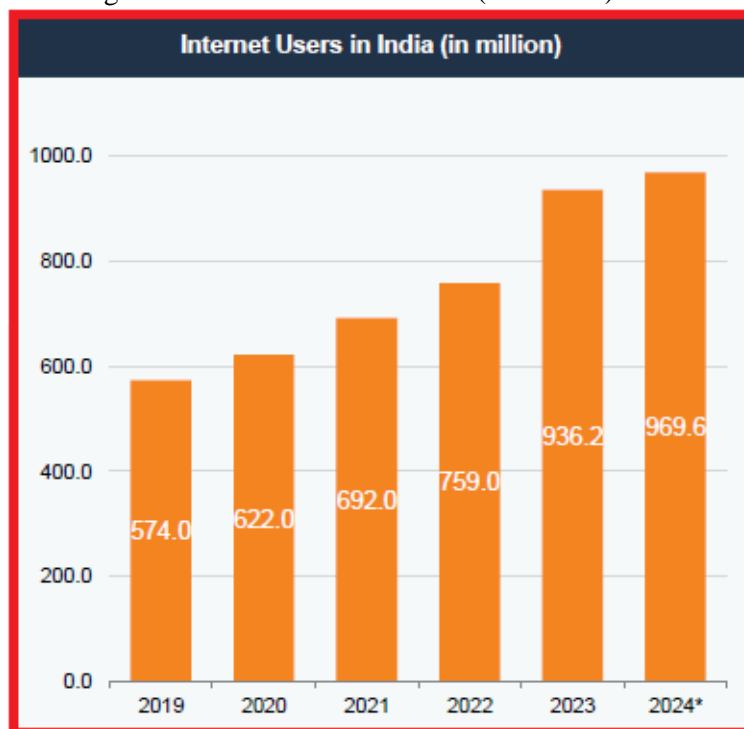
Figure I: Global Retail E-Commerce Sales (USD Trillions) – Growth Trends.



Source: IBEF (2024), Nov., p.3.

The fast growing internet penetration in India (Figure II) is just an indicator of the enabling environment that India has got in the current era of *Digital India* wherein more and more people are using internet and so also other ICT-based devices especially mobile phones. The vast development potential of simple and cheap ICT-based devices (e.g. mobile phones) for financial inclusion, women empowerment and sustainable economic development is well acknowledged in the literature. The experience in Philippines noted by Pickens (2009) is just one global example and similar ones are noted in India too, including in Kerala.

Figure II: Internet Users in India. (in Million)

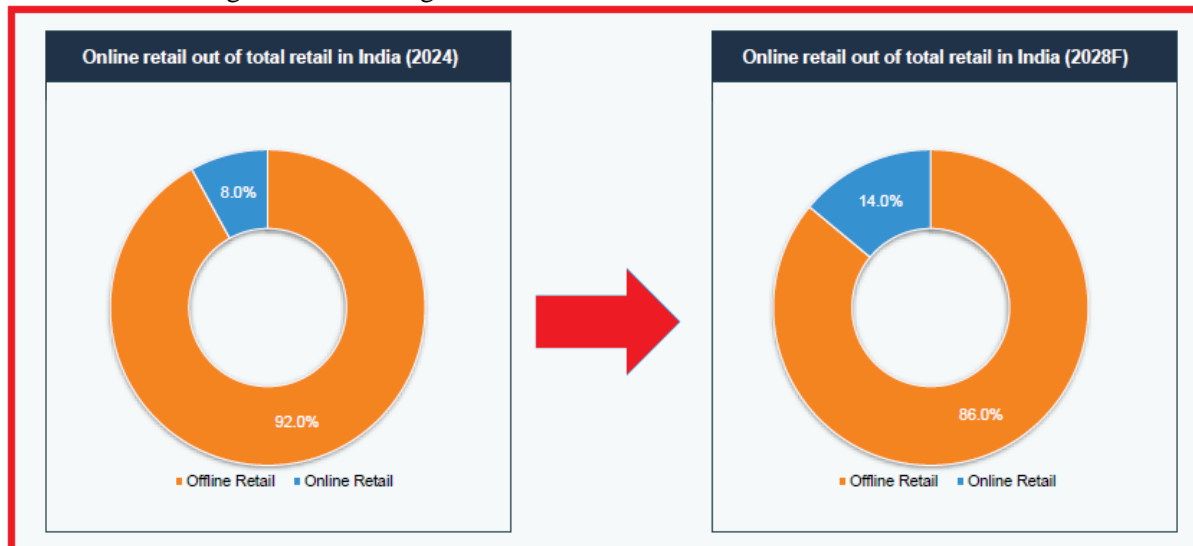


Source: IBEF (2024), Nov., p.9.

As a consequence of the growing usage of ICT-based devices and tools and also an enabling governmental policy (at the national and also at the State level, like in Kerala) it may be noted that there has been a gradual shift from offline sales to online sales and this in turn is an indicator of the

growing significance of e-commerce in India. As per the estimates, the share of online sales (e-commerce) is expected to grow from 8 percent in 2024 to as high as 14 percent in 2028, as high as 6 percent transition in 4 years' period. (Figure III).

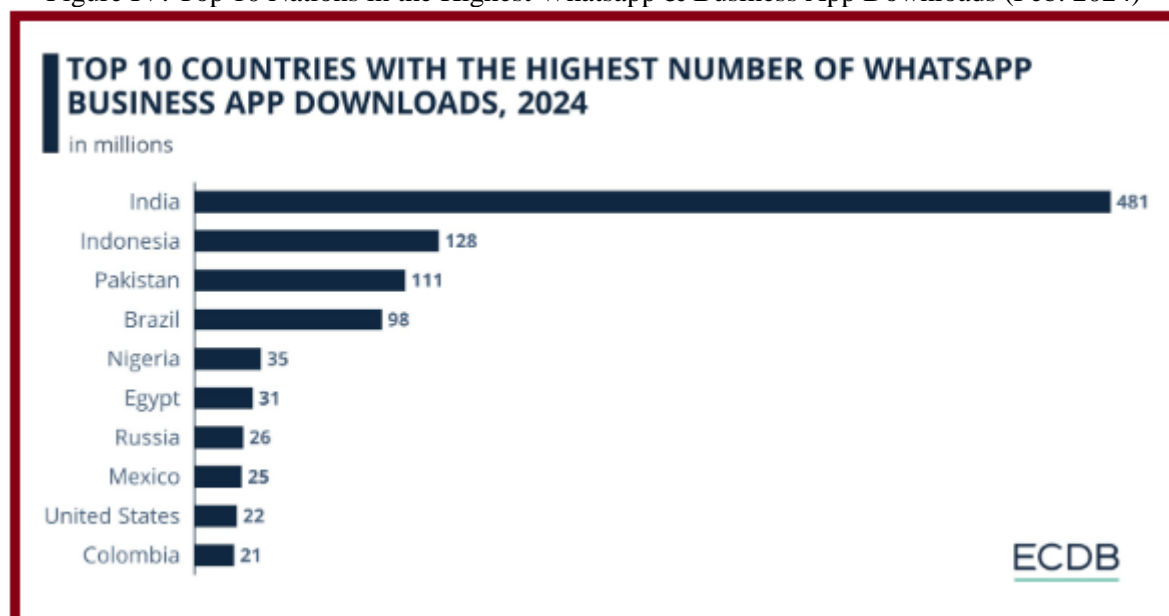
Figure III: Growing Transition from Offline to Online Sales in India.



Source: IBEF (2024), Nov., p.9.

Regarding the latest status of the nations with the greatest number of Whatsapp and Business App downloads India ranked first as of February 2024 and the nation is far ahead of its peer nations like Indonesia, Pakistan, Brazil, etc. in this regard. (EDCB, 2024)(Figure IV). Thus, the growing number of internet user, fast transition from offline to online sales and the very high level of downloads of Whatsapp and Business Apps are clear indications of the huge growth prospects of the e-commerce sector in India in the days to come.

Figure IV: Top 10 Nations in the Highest Whatsapp & Business App Downloads (Feb. 2024)



Source: EDCB (2024). ([www.https://ecommercedb.com](https://ecommercedb.com))

The impact of e-commerce on individual consumption pattern-Experience in Kerala:

Based on a field-based study, the experience in respect of e-commerce in Kerala is sought to be assessed in this section. Further details regarding this empirical study are given below.

Socio-economic background of individual consumers covered under the study: Majority of the respondents are of the age group of 18 to 25 years. Out of 30 respondents, 22 respondents are males

accounting 73.3 percent and 8 respondents are females accounting 26.7 percent. Out of 30 respondents, 22 respondents accounting 73.3 percent are students and the remaining 8 respondents accounting for 26.7 percent are working.

Frequency of online shopping: Out of 30 respondents, no one does online shopping daily. One respondent accounting for 3.3 percent do online shopping weekly. Fourteen respondents accounting for 46.7 percent do online shopping on a monthly basis. The rest of 15 respondents accounting for 50 percent do online shopping once in a while.

Table II: Frequently Used Online Shopping Platforms by the Respondents

Option	No of Respondents (Percentage of Respondents)				
	Amazon	Flipkart	Swiggy	Instamart	Meesho
Very Often	9 (30%)	15 (50%)	7 (23.33%)	1 (3.33%)	6 (20%)
Often	7 (23.33%)	10 (33.33%)	10 (33.33%)	1 (3.33%)	3 (10%)
Rarely	9 (30%)	4 (13.33%)	7 (23.33%)	6 (20%)	9 (30%)
Never	5 (16.66%)	1 (3.33%)	6 (20%)	22 (73.33%)	12 (40%)
TOTAL	30 (100%)	30 (100%)	30 (100%)	30 (100%)	30 (100%)

Source: Survey Data

To understand the preference of customers regarding online shopping platforms, the respondents were asked to rank their preference. Various options such as ‘very often’, ‘often’, ‘rarely’, and ‘never’ were given. The option ‘very often’ was given the highest score of 3 followed by ‘often’ with a score of 2, ‘rarely’ carried a score of 1 and ‘never’ was given a score of 0. The total scores of various online shopping platforms was calculated by multiplying the number of responses with corresponding scores. The study finds that Flipkart has the highest score of 69 thus ranking 1. Amazon has a score of 50 ranking 2. Rank 3 is for Swiggy. Meesho app secured the 4th rank with a score of 33 and Instamart came last with a score of 11 points.

Nature of products customers purchase online: Respondents were asked of the nature of products they usually purchase online. They could choose more than one options. Out of the total 30 respondents, 4 respondents accounting for 13.3 percent usually purchase groceries online, 18 respondents accounting for 60 percent buy clothes and garments. Eleven respondents accounting for 36.7 percent buy fast food. One respondent accounting for 3.3 percent has bought consumer durables, 15 respondents accounting for 50 percent depend on e-commerce for buying electronic goods. Sixteen respondents use e-commerce platform to buy other commodities (miscellaneous shopping) as well.

Impact of online shopping on expenditure pattern: Out of the 30 respondents, 15 respondents accounting for 50 percent have reported that their spending pattern has not changed even after they have started online shopping. That is, half of the respondents are neutral. For 26.7 percent, online shopping has not increased their spending behaviour at all. But on the other hand, 7 respondents (23.3 per cent) opined that their spending pattern has increased after they have started shopping online.

Overall experience with online shopping: To understand the overall experience of the customers in regard to online shopping, five important aspects of quality of products delivered, timely updates on product delivery status, safety of the products bought, behaviour of the delivery persons and the availability of choice in online shopping are examined. The 30 respondents surveyed are asked to rate their experience with respect to each aspect as to be ‘excellent’ or ‘good’ or ‘average’ or ‘not so good’ or ‘very poor’. If according to one respondent, his experience in regard to product quality is excellent, then the product quality aspect of online shopping gets the highest score of 4 points. Similarly, the opinion ‘good’ receives a score of 3, ‘average’ gets a score of 2, ‘not so good’ rating is scored 1 and ‘very poor’ is scored 0.

Product quality: With regard to product quality, out of the total 30 respondents, 4 respondents have opined it to be ‘excellent’, while 18 individuals opined it to be ‘good’ and in the opinion of 8

respondents, it is ‘average’. No one is of the opinion that product quality has ever been ‘not so good’ or ‘very poor’. Multiplying the scores with corresponding number of respondents and then summing, we get the total score as 86.

Timely updates on product delivery status: Regarding the timely updates on product delivery status 10 respondents are of the opinion that it is ‘excellent’, 12 respondents think it is ‘good’, according to 8 respondents, it is ‘average’. Multiplying the score with corresponding number of respondents and then summing, we get the total score as 92.

Product safety: About product safety 10 respondents think it is ‘excellent’, 11 respondents are of the opinion that it is ‘good’ and 9 respondents say it is ‘average’. Multiplying the score with corresponding number of respondents and then adding, we get the total score as 91.

Behaviour of delivery persons: Regarding behaviour of delivery persons, 10 respondents are of the opinion that it has been ‘excellent’, 14 respondents say it is ‘good’ and 6 respondents are of the opinion that it is ‘average’. Multiplying the score with corresponding number of respondents and then totalling, we get the final score of 94.

Availability of choice: Regarding choices available in online shopping, 10 respondents say they get excellent choices. Another 14 respondents think choices available in online purchasing are good. Five respondents think it is just average. But, according to 1 respondent, the choices are ‘not so good’. Multiplying the score with corresponding number of respondents and then summing, we get the total score as 93.

Table III: Scores of the Five Dimensions of Online Shopping

Overall Experience with Online Shopping	Total Score
Product Quality	86
Timely updates on product delivery status	92
Product safety	91
Behaviour of delivery persons	94
Availibility of choice	93

Source: Survey Data

Issues faced in online shopping: Out of the 30 respondents, 70 percent faced no issues but some respondents have faced difficulty with payment (10 percent) and delivery of a different product (10 percent). One respondent admitted of receiving damaged product (10 percent), yet another person has come across an issue regarding refund policy (3.33 percent). One respondent has faced network issues.

The economic impact of e-commerce on retail shops:

Nature of shops surveyed: A total of ten shops were surveyed. Out of this, 2 shops are restaurants and two are bakeries. The remaining shops consist of one fast food restaurant, one coffee café, one super market, one fish outlet, one medical shop and one electric shop.

Effect of Covid on Online Sales: Of the 10 shops surveyed, 5 shops accounting for 50 percent have experienced an increase in online sales after the advent of covid while the remaining 50 percent are of the opinion that their online sales are same as that before covid. It is to be noted that no one has admitted that covid negatively impacted their online sales.

Though there is a general view that covid positively affected online sales, only half of the shops have experienced a marked increase in online sales after the covid pandemic.

Presence of own website and registration with online platforms: Majority of the retail shops have their own online websites. According to the survey of 10 retail shops, half of the shops use Swiggy as a platform to sell their products. Twenty percent have their own online shopping platforms, 10 percent have registered with DTDC, a courier service provider. One shop, though not registered with any outside platforms, do have home delivery service and one shop has not responded to the query.

Impact on online sales on overall returns: Of the ten retail shops surveyed, a large majority of 80 percent think online sales have increased their overall returns but the rest 20 percent don’t see any change in their returns due to online sales. Thus, the overall return has increased through online sales.

Benefits from incorporating e-commerce into retail business: The surveyed shops were asked to rate the benefits in scale with a minimum score of 1 to a maximum score of 5. On summing up the scores

thus obtained, the option “increased sales” got a total score of 37, improved customer satisfaction and enhanced brand visibility scored the maximum of 39 points each and improved efficiency got a total of 36 points. It is found from the study that the most obvious benefits of incorporating e-commerce into retail business are improved customer satisfaction and enhanced brand visibility. Increased sales is the next ranked benefit. Improved efficiency is ranked the least. Majority of retailers experienced benefits of improved customer satisfaction and enhanced brand visibility because of incorporating e-commerce into their retail business.

The impact of e-commerce on delivery persons:

To study about the impact of e-commerce on delivery persons, ten Swiggy delivery persons are surveyed. All the delivery persons surveyed belong to the age group of 18 to 26 years.

Working hours: Among the 10 respondents, the majority reported working for 4-5 hours per day, with 7 individuals, representing 70% of the total responses, falling within this category. Additionally, 1 respondent each reported working for 2-3 hours (10%), 3-4 hours (10%), and 5-6 hours (10%) per day.

Daily remuneration: The majority of respondents earn within the wage range of 350-400, constituting 40% of the total responses. This is followed by the 450-500 wage range, with 30% of respondents falling within this category. The 400-450 wage range accounts for 20% of respondents, while only 10% reported earnings above 500 as their daily wage.

Thus, the survey reveals that most respondents earn a daily wage between 350-400, with the 450-500 range following closely. However, few participants reported wages exceeding 500.

Level of Job Satisfaction: The level of satisfaction regarding salary, working condition, customer behaviour, extra benefits and working time of the 10 delivery persons are enquired. Three options of ‘very satisfied’, ‘satisfied’ and ‘dissatisfied’ are given. Those who are very satisfied gets the highest score of 3. Those who are satisfied get the score of 2 and those who are dissatisfied get the least score of 1.

Regarding level of salary: Only one respondent is very satisfied. Six respondents are satisfied and three respondents are dissatisfied. Multiplying the score with corresponding number of respondents and then summing, we get the total score as 18.

Regarding the working condition: No one is very satisfied. Eight respondents are satisfied but two respondents are dissatisfied. Multiplying the score with corresponding number of respondents and then summing, we get the total score as 18.

Regarding customer behaviour: In fact, three respondents are very satisfied, six respondents are satisfied and one respondent is dissatisfied. Multiplying the score with corresponding number of respondents and then summing, we get the total score as 22.

Regarding extra benefits: No respondent is very satisfied, 9 respondents are satisfied but one respondent is dissatisfied. Multiplying the score with corresponding number of respondents and then summing, we get the total score as 19.

Regarding working time: No one is very satisfied, 8 respondents are satisfied but 2 respondents are dissatisfied. Multiplying the score with corresponding number of respondents and then summing, we get the total score as 18. Thus, the level of job satisfaction regarding customer behaviour is ranked the highest.

Whether Tips received or not: Among the 10 respondents, 6 individuals reported receiving tips, representing 60 per cent of the total responses. In contrast, 4 respondents indicated that they do not receive tips, accounting for 40 per cent of the total. The data suggests that a majority of the surveyed sample population receives tips in their current employment, with 60 per cent of respondents reporting this as an additional income. However, a significant portion (40 per cent) indicated that they do not receive tips.

Challenges involved in the work: A total of 40 percent of respondents stated that mileage was a major challenge, 20 percent indicated the management of time as a challenge, 30 percent reported job stress, and one respondent stated that he did not encounter any challenges. Thus, it is obvious that mileage was a concern for the majority of respondents.

Whether this job is a primary source or secondary source of income: The majority of respondents (70 per cent) percent depend on this job as their primary source of income. This suggests that for a significant portion of the surveyed population, their employment is crucial for meeting their financial needs. On the other hand, 30 per cent of respondents reported that their job serves as a secondary source of income, indicating that they have other primary sources of income, such as investments, rental income, or a primary job. Thus, for majority of respondents, this job is their primary source of income.

FINDINGS AND SUGGESTIONS

- *Huge growth prospects:* At the global level and so also in India as well in Kerala State the prospects of e-commerce and other ICT-based businesses are beyond doubt.
- *Quick refund policy for online customers:* In case of complaints about the ordered products, if online sellers could take quick refund action without much delay it could enhance the authenticity and trustworthiness of E-commerce platforms in general.
- *Adequate maintenance fund for delivery persons:* Most of the delivery persons surveyed faced mileage issues and had to bear the maintenance costs of their vehicles themselves. If companies could provide adequate maintenance funds and incentives the delivery persons could perform a much more efficient and satisfactory work.
- *Efficient utilization of social media by retail shops:* if the retail shops utilized the social media more efficiently, they could attain a wider market for the products.
- *Focus on delivery logistics:* Since the retail shops have concerns about delivery logistics, focusing in this area particularly will improve their sales prospects to a larger extent.

CONCLUSION

The future is not a blank page, but neither is it an open book. The internet is becoming the largest advertising machine for goods and services targeted for every conceivable human desire and need. Further production and consumption always entail more material and energy usage, which are often translated into environmental degradation. (Sui & Rejeski, 2002). With a rapidly growing internet penetration e-commerce offers an attractive option for the retailers to expand. (Puthiran, 2016) By becoming e-commerce enabled, businesses now have access to people all around the world. In effect all e-commerce businesses have become virtual multinational corporations. (Shahjee, 2016). This in turn makes the internet economy, a double-edged sword. (Tiwari & Singh, 2011). E-commerce has significantly altered the traditional business landscape, providing opportunities for entrepreneurs, businesses, and consumers alike. Moving forward, policymakers, individual consumers, businesses and other community stakeholders must work together to foster an enabling environment maximizing the socio-economic benefits of e-commerce for all stakeholders.

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