

# **E-COMMERCE VERSUS TRADITIONAL COMMERCE: A SOCIO- LEGAL ANALYSIS**

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NATIONAL LAW UNIVERSITY AND JUDICIAL ACADEMY, ASSAM  
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**CERTIFICATE**

This is to certify that **BIKRAM SINGH HANSE** has completed his/her dissertation titled **“E-COMMERCE VERSUS TRADITIONAL COMMERCE: A SOCIO-LEGAL ANALYSIS”** under my supervision for the award of the degree of **MASTER OF LAWS/ ONE YEAR LL.M DEGREE PROGRAMME** of National Law University and Judicial Academy, Assam.

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**DECLARATION**

**I, BIKRAM SINGH HANSE**, do hereby declare that the dissertation titled “**E-COMMERCE VERSUS TRADITIONAL COMMERCE: A SOCIO-LEGAL ANALYSIS**” submitted by me for the award of the degree of MASTER OF LAWS/ ONE YEAR LL.M. DEGREE PROGRAMME of National Law University and Judicial Academy, Assam is a bonafide work and has not been submitted, either in part or full anywhere else for any purpose, academic or otherwise.

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## **LIST OF CASES**

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- Amazon Seller Services Pvt Ltd vs Modicare Ltd & Ors on 31 January, 2020.
- Discussion On The Information Technology Bill, 1999. (Not ... on 15 May, 2000.
- Punjab National Bank vs Ashish Kumar Aged 32 Years on 23 October, 2013
- Unknown vs The Hon'ble High Court At Calcutta ... on 2 April, 2015
- Bhim Sen Garg vs State Of Rajasthan and Others. on 13 June, 2006 (2006 CriLJ 3643)
- Syed Asifuddin And Ors. vs The State Of Andhra Pradesh (2005)
- Poona Auto Anillaries Pvt. Ltd., Pune Versus Punjab National Bank, HO New Delhi & Others
- Avnish Bajaj vs State, famously known as Bazee.com case (2005)
- Dr. L. Prakash vs State Of Tamil Nadu (2002)
- Sreekanth C.Nair vs Licensee/Developer (2008) [Blocking of Website]

## **LIST OF ACRONYMS AND ABBREVIATIONS**

|            |                                      |
|------------|--------------------------------------|
| AIR        | All India Reporter                   |
| BPO        | Business Process Outsourcing         |
| BIN        | Bank Information Number              |
| IRC        | Internet Relay Chat                  |
| IT Act     | Information and Technology Act, 2000 |
| IPC        | Indian Penal Code                    |
| KPO        | Knowledge Process Outsourcing        |
| M.commerce | Mobile Commerce                      |
| v.         | Versus                               |

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## CHAPTER I

### INTRODUCTION

E-commerce has brought a huge change in the trading sector world widely. In recent years, though the E-commerce sector has brought magnificent growth, but it is accompanied by several challenges. The historical meaning of E-commerce is nothing but the paperless business transaction or when the product is sold or bought or the services carried solely through electronic medium, then business transaction carried out is known as E-commerce. “E-commerce is the sales or purchase of products or services, made for the purpose of receiving or placing orders by specifically following methods over computer network as defined by *The Organization for Economic Cooperation and Development* (OECD)”<sup>1</sup>.

The reason E-commerce appearing in all spheres of business and customer service is due to the growth of internet users, where it makes more convenient for commercial transaction rather than non E-commerce. This brings the popularity and acceptance world widely. With the help of internet, the retailers can sell their products or services directly to the consumer and the payment are made through electronic transaction by fund transfer through debit card, credit card or net banking, etc. The ease and convenience in doing business enables E-commerce markets, whole trade and commercial transaction to grow rapidly, while replacing the non-E-commerce transaction in many sectors. “The E-commerce market and its commercial transaction is increasing in demand as well as growing rapidly due to the convenience and ease of doing in business. As E-commerce is appearing in all sectors, the dependency on information and communication technology too took place”<sup>2</sup>. This resulted the formation of Cyber Law or Information Technology Law as a new branch of Jurisprudence to regulate law. While, the United Nations adopted Model of Law for the first time, which later adopted by the United Nations General Assembly. This law or the Model of Law aims to bring a uniform law in E-commerce and to bring the rights and liabilities under the same roof with that of paper-based transactions. “In

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<sup>1</sup> UNCTAD.ORG, [https://unctad.org/system/files/non-official-document/dtl\\_eWeek2017p29\\_VincenzoSpiezen.pdf](https://unctad.org/system/files/non-official-document/dtl_eWeek2017p29_VincenzoSpiezen.pdf), last visited Jan.10, 2021.

<sup>2</sup> Rajendra Madhukar Sarode, “Future of E-commerce in India Challenges & Opportunities” 1(12) IJAR 646 (2015).

India, the Information and Technology Act, 2000 came into existence as India was the abhorrer to the Model of Law and subsequently the Information Act was amended in accordance to the UNCITRAL Law on E-Signatures and came into existence as Information and Technology (Amendment) Act, 2008”<sup>3</sup>.

In India, the E-commerce revolution has started to begin and surrounds a wider range of goods and services just a few years from now on the basis of pan India. E-commerce attracts thousands of entrepreneurs every year and such number leads to ten thousands annually. “As the country like India possess a huge potential for E-commerce with the middle class having more than 288 millions shows E-commerce strengths. But the crimes which indulge in cyber space as well as the legal and regulatory challenges hinder the growth of the electronic commerce in India”<sup>4</sup>. The hurdles that developing economies like India face is due to the different economic as well as the technological set up, the implementation of such high end legislation makes it difficult to imitate or fully adopt it as prescribed in the Model Law. Also, even if it does enact the law, it becomes more difficult to enforce in Indian scenario. The present scenario seeks more regulations for making E-commerce transaction fairer and secured. This paper tries to examine the present laws and regulations concerned with E-commerce and also tries to examine the hurdles and in tackling the cyber crime under the present legal system. The paper also tries to examine whether the present legal system helping in curving cyber crimes and securing its economy. The paper also tries to examine the present legal system dealing the E-commerce and tries to suggest some measures for the better tomorrow or just, fair and consumer-friendly E-commerce.

### **1.1 Aims and Objectives**

- To understand the importance of E-commerce as well as Traditional Commerce and uncover the problems associated with both types of Commerce.
- To understand the circumstances leading towards the cyber crime in the E-commerce field.

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<sup>3</sup> Raj, Aijaj & Rahman, Wazida. (2016). E-commerce Laws and Regulations in India: Issues and Challenges. 1. 44-51.

<sup>4</sup> Supra Note 3

- To assess the impact of Information and Technology Act, Indian Penal Code, The Patent Act, Indian Contract Act, etc in E-commerce regime.
- To critically analyse the business regulations and its crime preventions measure adopted by the Government.

## **1.2 Hypothesis**

This study is designed to assess the current trends in business transaction i.e, E-commerce transactions which is efficient and generates more employment opportunity however, it creates the possibilities of cyber crime in this field.

## **1.3 Methodology**

The methodology that the researcher adopted while conducting the study of an “E-commerce Versus Traditional Commerce A Socio-legal Analysis” is doctrinal. The researcher has carried the research by relying upon Books, Journal, and news article as secondary source. Both domestic legislation and international legislation on commercial law has been relied on, as the primary and secondary sources for the purpose of the research. And Harvard Bluebook 20<sup>th</sup> Edition has been used for citation in this paper.

## **1.4 Research Questions**

The Researchers tries to assess and analyse the matter pertaining to the following questions.

- What are the prospects and pitfall of E-commerce business and traditional business?
- What are the key factors that motivated the growth of E-commerce in India?
- What are the little mechanism available to curve criminal activity in the E-commerce?
- What are the impacts of cyber crime on the E-commerce in particular and economy of the nation in general?

## 1.5 Definitions and Key Terminologies

In modern world, the questions about E-commerce usually centered around because it enables and considered as the best way to execute business online. Whereas, the traditional way of executing business has its own benefits on certain situations.

**1.5.1 E-commerce:** E-commerce or Electronic Commerce means buying and selling of goods, products, or services over the internet. E-commerce is also known as electronic commerce or internet commerce. “These services provided online over the internet network. Transaction of money, funds, and data are also considered as E-commerce. These business transactions can be done in four ways:

- Business to Business (B2B),
- Business to Customer (B2C),
- Customer to Customer (C2C),
- Customer to Business (C2B).

The standard definition of E-commerce is a commercial transaction which is happened over the internet. Online stores like Amazon, Flipkart, Shopify, Myntra, Ebay, Quikr, Olx are examples of E-commerce websites”<sup>5</sup>. “By 2020, global retail E-commerce can reach up to \$27 Trillion. E-commerce is a popular term for electronic commerce or even internet commerce. The name is self-explanatory; it is the meeting of buyers and sellers on the internet. This involves the transaction of goods and services, the transfer of funds and the exchange of data. So when we log into your Amazon and purchase a book, this is a classic example of an E-commerce transaction. Here we interact with the seller (Amazon), exchange data in form of pictures, text, address for delivery etc. and then we make the payment. As of now, E-commerce is one of the fastest growing industries in the global economy. As per one estimate, it grows nearly 23% every year. And it is projected to be a \$27 trillion industry by the end of this decade.”<sup>6</sup>

## 1.5.2 Network Marketing

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<sup>5</sup> Investopedia.com, Business-to-Business (B2B) Definition (investopedia.com), last visited 25<sup>th</sup> March, 2021

<sup>6</sup> Toppr.com, <https://www.toppr.com/guides/business-environment/emerging-trends-in-business/electronic-commerce/>, last visited 14<sup>th</sup> Jan. 2021

The Emerging trends in E-commerce have changed the scenario of the way of conducting business in today's world. "These new modes of marketing help companies attract a large number of customers. They even reduce expenses that companies incur in traditional modes of marketing. One such revolutionary trend is network marketing. Network marketing is basically a medium of marketing that manufacturers use to expand their sales. Manufacturers use them when they have to deal with several distributors to push out their products. Sometimes, these distributors might have sub-distributors. As a result, this leads to a network of distributors that operate at various levels of the distribution chain. Manufacturers use this vast network of distributors to market their products to customers at various levels. This enables them to reach out to even more customers indirectly"<sup>7</sup>. These distributors therefore perform as an independent representative of the company. As a result, on traditional methods the buys and sell goods with lesser spending of money.

### **1.5.3 Franchising**

Franchising is a process or way where franchisor (one party) permits or give the rights and authorities to franchisee (another party). "Franchising is a well-known marketing strategy for business expansion. A contractual agreement takes place between Franchisor and Franchisee. Franchisor authorizes franchisee to sell their products, goods, services and give rights to use their trademark and brand name. And these franchisee acts like a dealer. In return, the franchisee pays a one-time fee or commission to franchisor and some share of revenue. Some advantages to franchisees are they do not have to spend money on training employees, they get to learn about business techniques. Franchising is basically a right which manufacturers or businesses give to others. This right allows the beneficiaries to sell the products or services of these manufacturers or parent businesses. These rights could even be in terms of access to intellectual property rights. The individual or business that grants the right to the franchise is called the franchisor, while the beneficiary of the right is called the franchise"<sup>8</sup>. "Under a franchise, the two parties generally enter into a Franchise Agreement. This agreement allows the franchise to use the franchisor's brand name and sell its products or services. In return, the franchisee pays a fee to the franchisor. The

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<sup>7</sup> Hubspot.com, <https://blog.hubspot.com/marketing/marketing-trends>, last visited 18<sup>th</sup> Jan. 2021

<sup>8</sup> Investopedia, <https://www.investopedia.com/terms/f/franchise.asp>, last visited 18<sup>th</sup> Jan, 2021.

franchisee may sell these products and services by operating as a branch of the parent company. It may even use franchising rights by selling these products under its own business venture. The franchisor may grant franchising rights to one or several individuals or firms. Consequently, if just one person gets these rights, he becomes the exclusive seller of the franchisor's products in a specific market or geographical limit. In return, the franchisor supplies its products, services, technological know-how, brand name and trade secrets to the franchise. It even provides training and assistance in some cases"<sup>9</sup>.

#### **1.5.4 Business Process Outsourcing (BPO)**

Business Process Outsourcing, which alternately called as BPO, is "the business strategy where one company hires another company to perform a certain task for them, i.e. they outsource a certain job". "It is one of the biggest service industries in our global economy. In fact, in India, the BPO sector has seen tremendous growth since the early 2000. Say for example a manufacturing company will outsource their supply chain management to another company who specializes in supply chain management. So it essentially entails outsourcing one or more non-core business activities or processes to an external service provider. So there are two parties involved, the client company (the outsourced) and the external service provider or the vendor (the outsourcer) One point to note that only non-core activities are usually outsourced. The companies do not part with their core competencies, they maintain all their focus on these like manufacturing, marketing etc. However non-core services like after sales service, customer relations, supply chain management, real-time accounting etc. can be outsourced to BPOs"<sup>10</sup>.

The advantages of a Business Product Outsourcing are discussed hereunder.

***Flexibility:*** "Outsourcing non-core activities to a BPO allows a company to be far more flexible. Firstly, the company does not have to invest in additionally fixed assets and can

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<sup>9</sup> Economicsdiscussions.net,  
<https://www.economicsdiscussion.net/management/franchising/franchising/32463>, 18<sup>th</sup> Jan, 2021.

<sup>10</sup> Supra Note 5.

convert them to variable costs. It also increases flexibility in resource management of the client company and helps in adapting to changes in the environment much faster”<sup>11</sup>.

**Cost Effective:** “Outsourcing some of the business processes and activities can be very cost effective for the client company. They save on investing in fixed assets and fixed costs. And they can redirect these funds for their core activities. Also outsourcing to developing countries proves to be very cost saving for these companies. For example, if any large MNC was to outsource their IT services to India, they would save an average of 30% of the company’s expenses”<sup>12</sup>. And many more like, speed, skilled manpower, etc.

However, there are certain general demerits of using a BPO for a non-core activities. The company can take steps to eliminate most of these disadvantages. For example, Different Time Zone, Loss of Control, etc

### **1.5.5 Aggregator**

In this digital age, there are numbers of websites and an infinite flow of information on the internet. “So an aggregator provides the services of collecting and compiling similar and important information on one website. Accordingly, there are various types of aggregators – news aggregators, service aggregators, video aggregators etc. The term finds its origin in the word aggregate, meaning to combine, amalgamate or bundle up together. So an aggregator is a website or application that amalgamates homogeneous information or content from the internet. This makes it easier for the end user to navigate and find the required information from the web. We are currently seeing a big boom in the world of digital marketing. All the big companies and brands of the world have their own website. They also use social media (Twitter, Instagram etc) for advertising and promotions. They have online brochures and inquiry forms. So a potential customer or internet user has to browse through many pages and information to fulfill his purpose. And this is where aggregators step in. Let us take a brief look at some of the types of

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<sup>11</sup> CFI, <https://corporatefinanceinstitute.com/resources/knowledge/strategy/business-process-outsourcing-bpo/>, last visited 18<sup>th</sup> Jan, 2021.

<sup>12</sup> Supra Note 10.



aggregators we usually find in the digital space. The classification is done on the basis of the information they collect”<sup>13</sup>.

- “Service Aggregators: Service aggregators provide homogeneous services on their website. They aggregate the service providers on their website and allow the customer/user to avail such services from their website or their application.
- A classic example of service aggregators is Uber or Ola. These provide on-call taxi services to its customers. So through their website/app, they connect the riders and the taxi drivers.
- Social Aggregators: These websites collect information and data from various social media websites like Twitter, Facebook etc. They then display this information as a live feed on their website, what we call a live event wall.
- News Aggregators: As the name suggests, these websites compile information from newspapers, e-paper, blogs, videos etc. to one location for easy viewing. Visiting various websites and sources to view content can get time-consuming and tiring.
- Video Aggregators: It is said that if one was to watch all the video content available on YouTube it would take 60,000 years! That is the sheer amount of video content available on the net. So video aggregators take similar videos (of same/similar subjects) and compile it on their website. One such example is the Daily Tube.
- Shopping Aggregators: These are very helpful to customers shopping online. There are so many websites and options available for online shopping these days. These shopping aggregators help combine all these options and information and one place, so the user does not have to visit every single website”<sup>14</sup>.

**1.5.6 Knowledge Process Outsourcing (KPO):** “Knowledge Process Outsourcing (KPO) means information related business task or knowledge-based processes such as research, analysis, consultancy or any other high-level task are outsourced i.e. done by the workers

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<sup>13</sup> Supra Note 5.

<sup>14</sup> Supra Note 10.

of another company or allocated to the subsidiary of the same organization. These subsidiaries can be in different countries or geographical location. This is done in order to save resources and costs”<sup>15</sup>. “KPO firms can take decisions of businesses on the behalf of the parent companies. KPO is nothing but the subset of Business Process Outsourcing (BPO). Cost-effectiveness, access to the best talent, focus, better utilization of the resources are the advantages of Knowledge Process Outsourcing (KPO). Knowledge Process Outsourcing (KPO) is when difficult, high-level tasks get outsourced by a company to a vendor. So the activities which the company will be outsourcing are core activities. They require skills, technical knowledge, and expertise. So a company outsources these tasks to another company (vendor) or a subsidiary company located in the same country or sometimes offshores for cost purposes”<sup>16</sup>. “As we know, BPO services are also the outsourcing of activities, but non-core activities. So a KPO will be a subset of a BPO. However, KPO involves more core activities with specialized and technical work. The company outsources to KPO’s for their skilled labor and subject expertise, not to lower their work burden. It is also an opportunity to lower costs because, in developing countries like India, skilled and educated labor is a lot cheaper”. “So a KPO is like an umbrella, it covers a variety of activities. So there are many types of KPO’s like market research, legal discovery, financial research, pharma and biotech, data analytics, creative design, technical content writing etc. As it happens India is one of the leading providers of many of these KPO services, especially in the technical and scientific fields. It is currently a \$14 billion industry in India”<sup>17</sup>. For example companies providing such KPO services in India are Wipro, TCS, WNS Global, Aditya Birla Minacs etc.

Advantages of KPO are discussed below:

***Cost-effectiveness:*** “One of the biggest advantages of a KPO is obviously the cost advantage. The company does not have to set up any infrastructure or bear any operational or running costs. And it gets effective, expertizes services at a fraction of the cost.

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<sup>15</sup> Technology Q&A, [https://www.hcltech.com/technology-qa/what-is-knowledge-process-outsourcing-kpo#:~:text=Knowledge%20Process%20Outsourcing%20\(KPO\)%20is,delivering%20objective%20insights%20into%20businesses](https://www.hcltech.com/technology-qa/what-is-knowledge-process-outsourcing-kpo#:~:text=Knowledge%20Process%20Outsourcing%20(KPO)%20is,delivering%20objective%20insights%20into%20businesses). last visited 25<sup>th</sup> May, 2021.

<sup>16</sup> Supra Note 5.

<sup>17</sup> Digital, <https://digitalblogstars.blogspot.com/2020/01/knowledge-process-outsourcing-kpo.html>, last visited 30<sup>th</sup> Jan, 2021.

***Access to the best talent:*** KPO's provide the company with the best, most knowledgeable and skilled professionals available in the global talent pool. And if the KPO is in a developing country like India or Philippines then the cost of such talent is also relatively low.

***Focus:*** Outsourcing some of the processes, allows the company to focus on its core functions. The KPO handles the peripheral functions, and the company can better focus on its core functions and improve their efficiency and results.

***Better Utilization of Resources:*** If the company outsources the process that is not at the core of their business strategy, it can use the resources it saves in better places. Say a company outsources its supply chain management. Then the resources it saves on this can be utilized to streamline the manufacturing process, R&D activities, better marketing etc"<sup>18</sup>. "KPO's can have certain disadvantages in spite of all their benefits. Some such demerits are, Lack of confidentiality, Risk of leaking of sensitive data and private financial information, The possibility of hidden costs (especially in offshore outsourcing)"<sup>19</sup>.

**1.5.7 Digital Economy:** Digital economy is a collective term for all commercial transactions that occur on the internet. "It is also known as the Web Economy or the Internet Economy. With the advent of technology and the process of globalization, the digital and traditional economies are merging into one. Let us learn more about this concept of digital economy. Digital economy is defined as an economy that focuses on digital technologies, i.e. it is based on digital and computing technologies. It essentially covers all business, economic, social, cultural etc. activities that are supported by the web and other digital communication technologies. The term was first coined in a book 'The Digital Economy: Promise and Peril in the Age of Networked Intelligence' by author Don Tapscott in 1995. There are three main components of this economy, namely, e-business, e-business infrastructure, E-commerce. In the last 15 years, we have seen the tremendous growth of digital platforms and their influence on our lives"<sup>20</sup>.

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<sup>18</sup> Supra Note 10.

<sup>19</sup> Supra Note 5.

<sup>20</sup> Kim, Tai-Yoo & Kim, Eungdo & Hwang, Junseok. (2014). The Faster-Accelerating Digital Economy. 10.1007/978-3-642-40826-7\_5.

”Now consumers are influenced by things they see on social media (Facebook, Twitter, Instagram) and other such popular websites (youtube etc). So this economy is a way to exploit this opportunity. Now it is integrated into every aspect of the user’s life – healthcare, education, banking, entertainment etc”<sup>21</sup>.

- Merits of Digital Economy are discussed below:

“Digital economy has given rise to many new trends and start-up ideas. Almost all of the biggest companies in the world (Google, Apple, Microsoft, Amazon) are from the digital world. Let us look at some important merits of the digital economy.

**Internet:** If we think about it, most of our daily work can today be done on the internet. The massive growth of technology and the internet that began in the USA is now a worldwide network. So there is a dramatic rise in the investment on all things related – hardware, technological research, software, services, digital communication etc. And so this economy has ensured that the internet is here to stay and so are web-based businesses”<sup>22</sup>.

**Rise in E-commerce:** “The businesses that adapted and adopted the internet and embraced online business in the last decade have flourished. The digital economy has pushed the E-commerce sector into overdrive. Not just direct selling but buying, distribution, marketing, creating, selling has all become easier due to the digital economy.

**Digital Goods and Services:** Gone are the days of Movie DVD and Music CD’s or records. Now, these goods are available to us digitally. There is no need for any tangible products anymore. Same is true for services like banking, insurance etc. There is no need to visit your bank if we can do every transaction online. So certain goods and services have been completely digitized in this digital economy.

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<sup>21</sup> Advocatespedia,  
[https://advocatespedia.com/DIGITAL\\_ECONOMY\\_AND\\_DATA\\_LOCALISATION](https://advocatespedia.com/DIGITAL_ECONOMY_AND_DATA_LOCALISATION), last visited,  
25<sup>TH</sup> April, 2021.

<sup>22</sup> Supra Note 10.

**Transparency:** Most transactions and their payment in the digital economy happen online. Cash transactions are becoming rare. This helps reduce the black money and corruption in the market and make the economy more transparent. In fact, during the demonetization, the government made a push for online transactions to promote the web economy”<sup>23</sup>.

- Demerits of Digital Economy can be discussed as below.

**Loss in Employment:** “The more we depend on technology, the less we depend on human resources. The advancement of the digital economy may lead to the loss of many jobs. As the processes get more automated, the requirement for human resources reduces. Take the example of online banking itself.

**Lack of Experts:** Digital economy requires complex processes and technologies. To build the platforms and their upkeep require experts and trained professionals. These are not readily available, especially in rural and semi-rural areas.

**Heavy Investment:** Digital economy requires a strong infrastructure, high functioning Internet, strong mobile networks and telecommunication. All of this is a time consuming and investment heavy process”<sup>24</sup>. In a developing country like ours, development of the infrastructure and network is a very slow, tedious and costly process.

**1.5.8 M-Commerce:** Mobile commerce also known as m-commerce is actually just a kind of E-commerce. “The term itself was coined in 1997 by Kevin Duffy. It is essentially a way of carrying thousands and millions of retail shops in your pocket. Let us study a bit more about mobile commerce. Very simply put M-commerce entails the E-commerce transactions done with a mobile phone. So M-commerce is the use of mobile phones to conduct any type of business transaction. It takes the help of the E-commerce background and WAP technology. The use of wireless technology (WAP) to conduct sales of goods, provide services, make payments and

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<sup>23</sup> Topper.com, <https://www.toppr.com/guides/business-environment/emerging-trends-in-business/digital-economy/>, last visited, 25 April, 2021

<sup>24</sup> Supra Note 21.

other financial transactions, the exchange of information etc. is the basis of mobile commerce. M-commerce is actually a rapidly growing sector of E-commerce. Nearly 70% of the online transactions that occur in India happen from mobile phones. Globally it is a 700 billion dollar industry. M-commerce is about exploiting new opportunities made available to us thanks to E-commerce. So it involves the advent of new technologies, services, business models and marketing strategies. It differentiates itself in many ways from E-commerce. This is because mobile phones have very different characteristics than desktop computers”<sup>25</sup>. And it provides many opportunities for business to exploit.

### **Applications of M-commerce**

Other than the straightforward m-commerce transactions of buying and selling of goods and services, they have so many applications. Let us take a look at a few examples, Mobile Banking, Mobile Ticketing and Booking, E-bills, Auctions, etc.

**(A) Advantages of M-commerce:** “It provides a very convenient and easy to use the system to conduct business transactions. Mobile commerce has a very wide reach. A huge part of the world’s population has a mobile phone in their pocket. So the sheer size of the market is tremendous. M-commerce also helps businesses target customers according to their location, service provider, the type of device they use and various other criteria. This can be a good marketing tool. The costs of the company also reduced. This is due to the streamlined processes, now transaction cost, low carrying cost and low order processing cost as well.

**(B) Disadvantages of M-commerce:** The existing technology to set up an m-commerce business is very expensive. It has great start-up costs and many complications arise. In developing countries, the networks and service providers are not reliable. It is not most suitable for data transfer. Then there is the issue of security. There are many concerns about the safety of the

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<sup>25</sup> Supra Note 5.

customer's private information. And the possibility of a data leak is very daunting"<sup>26</sup>.

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<sup>26</sup> Supra Note 10.

## CHAPTER II

### E-COMMERCE v. TRADITIONAL COMMERCE

As the internet is growing to a great extent, almost every companies are trying to attract buyers in the internet platform by selling product to the consumer. The E-commerce has grown to such an extent that it has attracted almost every citizens of India. “The main reason is because of availability of different products, discount, less time and effort consuming, reaching to large number of people in lesser amount of time. According to a statement by Amrish Rau, CEO of PayU India, around 40 per cent of COD was driven by black money according to a study done two years ago. Demonetization cracked down the whip on black money forcing people to go digital. In fact, the first 2 months after Demonetization did see a decline in E-commerce growth in India as there was a reduction in sales. The cash crunch and cap on ATM withdrawal limits affected the buying capacity of majority of consumers, especially customers in tier-2 and tier-3 cities who are used to the payment mode of COD. Some of the online retailers had to temporarily suspend their COD payment option”<sup>27</sup>. “Redseer Management, a research and advisory firm, projected in August 2016 that the E-commerce industry in India would see a growth of \$79.41 billion by 2020. But Demonetization managed to upset the numbers and the growth for 2020 is currently pegged at \$47.45 billion. Paytm, one among the biggest players in the mobile wallet space revealed that it served 45 million customers within 3 weeks after Demonetization. Transactions via RuPay cards have also increased suggesting that more JanDhan account holders have started using debit cards for online transactions”<sup>28</sup>. “We saw an initial decline in transactions for the 1st 10 days of Demonetization, however the transactions started getting back to normal from 1st week of December”.

#### 2.1 Advantages of Traditional Commerce:

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<sup>27</sup> Dinesh Chand Gupta, Prof. Meenakshi Bindal, Naman Agarwal, Kratika Khandelwal, *Traditional Commerce v/s E-commerce and Impact of Demonetization on E-commerce*, ISSN, 136, 136-142 (2018).

<sup>28</sup> Supra Note 5.



Traditional commerce means the practice of doing business within a single industry and in some cases, within a specific geographical area. “Traditional commerce relies on operating business hours during a specific period of time and requires housing inventory or occupying a retail store. Traditional commerce often relies on face to face interaction with consumers and thrives based on word of mouth, networking and customer referrals for new and repeat business”<sup>29</sup>.

1. **Easy availability of products**-All the required products which are important for daily routine can easily be obtained from the nearby stores and can be purchased easily.
2. **Easy to approach**- Less complications are concerned with traditional market. All that is to be done by the buyer is to visit the store of choice with a mode of payment.
3. **Personal contact**- Personal relationship increases as there is direct interaction between the customer and the retailer.
4. **Preferable option for backward area**- Due to unavailability of modern technology in backward areas; people who live there choose to buy products in traditional way.
5. **Regional products**- Popular products of a particular area are easily available in traditional market.
6. **Visibility of products**- Consumers can actually touch and see the products they have chosen to buy until they are fully satisfied about the quality and quantity as well.
7. **Credit availability**-Since personal relationship and trust is usually built between consumer and retailer; it is possible to buy products on credit in case of shortage of money.

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<sup>29</sup> Mononita Rathore, What is a traditional commerce?, safejob, <https://community.safejob.in/question/what-is-traditional-commerce-5e9d622a181e080963ac6b36>, , last visited 14<sup>th</sup> March, 2021

8. **Suitable for every social structure-** Anyone, educated, undereducated or uneducated, can start business in a traditional market.

9. **Perishable goods-**Goods which are consumed in a shorter period of time (milk, fruits, vegetables, sweets) are available in traditional market.

## 2.2 Disadvantages of Traditional Commerce

The traditional commerce is where all three components delivery, payment and consumption are physical. In contrast, these components are all digital at the core of electronic commerce, where not only production, but also delivery, payment, and consumption (reading online or processing by a computer program) occur online.

1. **“Limited geographical area-** Due to complex structure of cities, there is limited space provided for market activities.

2. **Less variety of products-** As most of the retailers only sell popular or more marginal products, it is difficult to obtain different variety of products”<sup>30</sup>.

3. **Time consuming and exhausting process-**A lot of time and effort is required for actually going to the market and buying products which makes the purchase a time consuming and exhausting process.

4. **Time bounded-** A considerable amount of time is required in order to buy products, so time management becomes a rather important aspect to bring traditional market under consideration for the purchase.

5. **Higher cost-** As a hierarchy is involved in traditional market, the cost of products is increased.

6. **Weather dependent-** The buying and selling of products depend on the weather, so market activities are difficult to execute in extreme weather.

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<sup>30</sup> Supra Note 28

**7. Lack of global product-** Since retailers sell biased products, global products are difficult to obtain in traditional market.

**8. Limited mode of payment-** Most of the retailers prefer cash over any other modes of payment. So, options for payment are limited for the consumer.

**9. More corruption-** Most of the retailers sell their products without generating proper bills and they do not pay any tax on the product which ultimately increases corruption. This brings reduction in the economic development.

**2.3 Basic Concept of E-commerce** – “Electronic commerce (E-commerce) is the marketing, buying and selling of merchandise or services over the Internet. It envelops the whole extent of online item and administration deals all the way. Internet business devices incorporate PC stages, applications, arrangements, servers and different programming positions produced by web based business specialist co-ops and obtained by shippers to increment online deals. Electronic commerce commonly known as e-commerce is trading in products or services using computer networks such as the internet. E-commerce draws on technologies such as mobile commerce, electronic fund transfer, supply chain management, internet marketing, online transaction processing, EDI, inventory management system and automated data collection systems. The business model of the conventional retailers and e-commerce providers differ significantly. The essence of e-retailing is in its ability to transcend physical boundaries and reach customers in a manner different from the traditional retail stores to their very door steps. The growing e-commerce in India has its greater impact on the traditional retailers. To stay in the game, they have been working on their internet strategie”<sup>31</sup>.

Commerce facilitates the growth of online business. “It is categorized as Online marketing, Online advertising, Online sales, Product delivery, Product service, Online billing, Online payment”<sup>32</sup>.

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<sup>31</sup> Techopedia.com, <https://www.techopedia.com/definitions/351/electronic-commerce-E-commerce> , last visited 14<sup>th</sup> March, 2021 14th March,2021.

<sup>32</sup> Supra Note 21

## 2.4 Emergence of E-commerce

The internet has amplified the convenience and the ultimate power of buyers, suppliers and intermediaries by reducing the cost of finding other cost which usually incurred in non E-commerce. Also, the act of giving information regarding products or other details through E-commerce enables more firms to offer reserve goods and services.

As the needs of customers and business aims are achieved efficiently, the electronic form of commerce has grown to the global level. The advantages of E-commerce are the sole reason to reach to the global level, as it can increase sales and decrease costs. Both the goods manufacturer and internet based-companies are transforming their systems into electronic medium which reduces costs and attracts customers as well. It is expected that E-commerce will be a mighty mechanism through which technology changes will be impacted. It not only impacts the commercial competition but also allows the consumer to shop around the world. It reduces the effort which normally puts by a company in non E-commerce. Through electronic communication, it provides citations and availability of products and others detailing the products in E-commerce. Also, it reduces the tax to retailers. Hence, E-commerce offers lower prices without cutting profit. These advantages made evidently the E-commerce to grow rapidly for its convenient and ease in doing business<sup>33</sup>.

## 2.5 E-Commerce and its Advantages:

The growing use of digital processes for business-to-business transactions and consumer marketing is, which shows that electronic commerce dominates the traditional market. For example, setting up a web store, content digitization, electronic payments, online marketing, and so on.

1. **“Lower cost-** Products can be ordered at any place which reduce the transportation cost. For selling purpose, renting or buying a shop is not a necessity. It can be done from one’s home only.

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<sup>33</sup> .Ms. Ahilasha Sharma, Ms. Kamini Singh, Ms. Ankita Sharma, The Emergence of E-commerce In India, 3 CKPIM Business Review. 1, 2-3(2015).

2. **Less time consuming**-With the help of E-commerce, all products are available at one place and in just a few clicks which saves a lot of time of the consumer.
3. **Suitable for startup**-To start a business, loads of investment is needed but in E-commerce, less amount of money is required which is suitable for every class of society.
4. **No geographical restrictions**- There is a free entry and exits. Restriction in E-commerce is less as compare to other.
5. **24x7 product availability**- No specific time period is defined in E-commerce. Services are usually available at any time that pleases the consumer.
6. **Variety of option for similar product**-due to increase in the competition in the market every product has a similar substitute product. Which is not possible for the seller to keep all of them, but with the help of E-commerce many competitor sales their product at one place which increase the variety of the product.
7. **Delivery at door step**- The ordered products are delivered at the consumer's house.
8. **More discount**- Due to reduction in intermediates, the cost of products also reduces which help the producer to sell their products at a lower cost by providing higher discount.
9. **Easy to advertise**-with the help of internet producer can easily promote their product on internet by providing all the information of the product. All the information is available regarding the product so customer can easily find their product, which help the consumer to increase the satisfaction.
10. **Employment opportunities**- From the starting point (placing the order) to the ending point (delivery of the product), a lot of manpower is needed. E-commerce helps to reducing unemployment.

11. **Less corruption**-In E-commerce, chances of corruption is nearly nil. All the purchases done, comes with proper bills and the suitable taxes are paid, hence developing the economy.

12. **E-payment options**-A variety of modes of payment is available for the consumer making the purchase more consumer-friendly.

13. **Return and replacement policy**- Better return and replacement policies are available for the consumer. If the consumer is not satisfied with the product which is delivered, they can return or replace the product within a certain time period”<sup>34</sup>.

14. **Product description**-for buying any product there is a requirement of information regarding the product and their substitute product which help the consumer to find the best suitable product for them. E-commerce help to supply the information regarding the product.

15. **Systematic process**-The processes involved in E-commerce are quite systematic from placing the order till the delivery.

## 2.6 Disadvantages of E-commerce

1. **“Less visualization**-Since the products being purchased are seen on just a screen and not in reality, the consumer is usually in doubt about the product.

2. **Harder to deliver to backward areas**- Delivery of products in rural areas is comparatively more difficult than it is in urban areas since the routes are not proper.

3. **Unavailability of regional products**- Many regional products are not available at commercial E-commerce.

4. **Security and privacy breach**- For online transfer of money, customers have to fill many debit card and credit card details and there is always a risk of information to be leaked.

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<sup>34</sup> Supra Note 27.

5. **Impersonal contact-** There is lack of personal contact between seller and buyer, because many people do not buy product without any personal contact between seller and buyer.

6. **Additional cost of delivery** – Most of the times, seller charges additional cost for the delivery of the product which increase the cost of the product”<sup>35</sup>.

**2.7 Future of E-commerce-** Right from taking cab to buying almost every materials to procuring service online, we have seen how cheaper connectivity and growing penetration of smartphones can transform businesses and lives. “India is one of the quickest developing web based business markets around the world, with a great many new web clients exploiting shabby portable associations with send versatile messages, watch online recordings, utilize portable administrations, and obviously, to shop. Starting at 2015, just 26 percent of the nearby populace was utilizing the web; right around ten times the group of onlookers measure from 10 years earlier. As indicated by late statistical surveying, cell phone web client infiltration in India is anticipated to achieve 37.36 percent of the populace in 2021, speaking to a tremendous potential as far as computerized and versatile purchaser group of onlookers. Add up to web crowds in India are evaluated to outperform 635 million online clients in 2021”<sup>36</sup>. “There is about 61.66% of people who prefer E-commerce over traditional market because of the following reasons:

- Overcome Geographical Limitations
- Gain New Customers with Search Engine
- Visibility Lower Costs
- Locate the Product Quicker
- Eliminates Travel Time and Cost
- Provide Comparison Shopping
- Enable Deals, Bargains, Coupons, and Group
- Buying Provide Abundant Information
- Create Targeted Communication

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<sup>35</sup> Supra Note 28

<sup>36</sup> Supra Note 17.

- Remain Open All the Time

Nearly 57% of the people think that E-commerce will grow in upcoming year, because increase the growth of internet will definitely increase the E-commerce, and only 13% people think that E-commerce will decrease, and 30% of people are not sure about the growth”<sup>37</sup>.

## **2.8 E-commerce, Employment Generator**

“E-commerce – contributes in generating employment and improving socio-economic environment. Like any industry which is spurred by evolution, the direct impact of the E-commerce growth has been on the creation of employment opportunities across the value chain. Apart from the direct employment contribution that has been made by the e-tail players, what is noteworthy is the indirect/adjacent employment generated in the allied industries like logistics, warehousing, IT/ ITeS, sellers and SMEs, and other support industries (like payment solutions, marketers, and advertisers)”<sup>38</sup>.

“E-tail led employment to grow at 58% CAGR E-tail and the allied sectors, like logistics, warehousing, IT/ ITeS, expected to create direct employment for around 1.45 million of workforce by 2021, a significant jump from the 23,500 jobs which existed in 2012. Employability for people with basic/no formal qualification. Majority of the e-tail logistics workforce engaged in providing last mile connectivity, providing employment opportunities to people across tier II, tier III towns with no formal degrees. This is helping create an environment of more inclusive and balanced growth. E-tail logistics and warehousing leading the employment generation The overall e-tail logistics and warehousing sector to directly employ more than 1 million people by 2021, becoming the largest contributor in terms of employment opportunities created by e-tail. E-tail expected to emerge as a destination for highly-skilled technology jobs employing nearly 0.3 million people by 2021”<sup>39</sup>. Besides technology, the regular corporate functions like HR, finance & accounts, administration etc. to add nearly 0.1 million workforce by 2021.

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<sup>37</sup> Supra Note 5.

<sup>38</sup> Assets.kpmg, Impact of E-commerce on employment in India (assets.kpmg) , last visited 15<sup>th</sup> March, 2021.

<sup>39</sup> Assets.kpmg, Impact of E-commerce on employment in India (assets.kpmg) , last visited 15<sup>th</sup> March, 2021.



Empowering women, “E-commerce is providing opportunity to women to become independent entrepreneur and enabling them to perform both the roles of a homemaker and a career women. Recently launched online portal, named Mahila-e-Haat, is expected to benefit around 10,000 self-help groups and 1.25 lakh women . Reaching interiors of the nation As part of the signed Memorandum of Understanding (MoUs), the Ministry of Communications and Information Technology plans to connect E-commerce companies with its 130,000 common service centres (CSCs) to potentially create 300,000 employment opportunities. Change agent for sellers, craftsmen, and artisans from smaller towns Encouraged by enhanced customer reach, higher profits, and improved employment opportunities, 70% of the online sellers are expected to come from tier –II, tier III by 2018-19<sup>40</sup> . Online trading platforms also providing fresh lease of life to artists and craftsmen engaged in traditional art forms. “Push for entrepreneurship, startup ecosystem is attracting young entrepreneurs with 73% of the startup founders are less than 35 years old, and 9% are women. About 63% of the E-commerce ventures have been started by first time entrepreneurs”<sup>41</sup>.

“Hiring activities in the country grew by nearly 10% in 2015, and most of the recruitment surveys have highlighted an optimistic hiring outlook by the Indian companies for 2016. This push is expected to come mainly from the E-commerce sector, with almost all recruitment agencies highlighting aggressive hiring by E-commerce companies and reinforcing the sector’s role in leading the employment creation”<sup>42</sup>. While the sentiments are positive, for an industry increasingly in a state of positive flux, it is challenging to put an absolute number around the impact it is creating on employment. “According to Assocham, E-commerce currently employs 0.35 million people and is expected to create anywhere between 0.5 million-0.8 million employment opportunities by 2018-19 with e-tail alone creating 0.25 million jobs in 2016.”<sup>43</sup> “Talking specifically of the e-tail ecosystem, expectation is that the industry will contribute to 1.45 million of employment in 2021, a significant jump

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<sup>40</sup> India today, India launches E-commerce portal Mahila e-Haat on International Women's Day: All you need to know - Education Today News (indiatoday.in), last visited 15<sup>th</sup> March, 2021.

<sup>41</sup> Mukund Mohan, The Goodness from the E-commerce bubble in India, The Goodness from the E-commerce Bubble in India - Inc42 Media, last visited 10<sup>th</sup> April, 2021.

<sup>42</sup> The Economic Times, [http://articles.economictimes.indiatimes.com/2015-12-13/news/69006471\\_1\\_hiring-activities-job-market-antal-global](http://articles.economictimes.indiatimes.com/2015-12-13/news/69006471_1_hiring-activities-job-market-antal-global), last visited 10<sup>th</sup> April, 2021

<sup>43</sup> Assocham, <http://www.assocham.org/upload/news/1454763363.pdf>, last visited 10<sup>th</sup> April, 2021.

from the 23,500 jobs which existed in 2012.”<sup>44</sup> This includes the employment created in the key allied sectors like logistics, warehousing, and IT.

E-commerce companies – hiring big and the best E-commerce companies are adding significant employee strength to support the growth that they are witnessing. “Two of the leading e-tail players have increased their combined workforce from less than 10 to 40,000+ employees, within 6-9 years of inception. Global E-commerce players entering the Indian market have also expanded their workforce to make the most out of the industry growth. The organizations are predominantly hiring in technology profiles considered core to E-commerce companies 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. It is not surprising to see that E-commerce companies have managed to attract the best engineering and management brains, and are also heading to Silicon Valley in search to hire the top tech talent. The e-tail market is expected to emerge as a destination for highly-skilled technology jobs employing nearly 0.3 million people by 2021. Besides technology, the regular corporate functions like HR, finance & accounts, administration, customer care, vendor management, merchandising, etc. are expected to add nearly 0.1 million employees to the workforce by 2021.”<sup>45</sup> “With E-commerce companies creating new age employment opportunities, there has been a paradigm shift in employee expectations. E-commerce companies provide aggressive career paths, multitude of opportunities, and skillset growth, which inclines the employment seeker towards the dynamic and challenging work environment.

A catalyst to facilitate entrepreneurship, the thriving startup culture in the country has been enriched by E-commerce creating enabling conditions for entrepreneurship across the value chain. It is creating opportunities for entrepreneurs to become ‘service providers’ to the larger e-tailing industry by venturing into logistics, technology, services, marketing to provide customized solution”<sup>46</sup>. “E-commerce has also given a boost to the cause of freelancers. E-commerce freelancers like developers, designers, content writers, models, consultants are earning more than USD 10/hour. The estimated monthly salary of such freelancers is more than the

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<sup>44</sup> Technopak Report: E-tailing in India, Unlocking the potential, The Need for India to Analyze E-tailing on its Own Merit, last visited May 2013

<sup>45</sup> Supra Note 15.

<sup>46</sup> Supra Note 38.

salary of permanent employees (of the same age bracket) in most other industries. It is estimated that by 2021, startups, small enterprises, and freelancers in India will have the potential to earn ~USD 7.5 billion annually by providing services to e-tail businesses”<sup>47</sup>. “India is the 3rd largest startup hub globally with more than 4,200 tech and digital start-ups, over USD 5 billion investments by 2015 and more than 80,000 employment generated by startups ecosystem in 2015.”<sup>48</sup>

“With innovation, omnichannel experience, mobile commerce, deep customer insight analytics, and security becoming core to success, the E-commerce industry is offering attractive avenues for IT companies to develop E-commerce centric products and services. This is creating abundant demand for IT and ITeS professionals - ranging from high end skills like product development, architecture, analytics, data mining, and user interface design to customary skill sets around managing delivery infrastructure and call center operations. The e-tail companies initially outsourced basic processes such as back office, customer experience, and support. However, the trends are changing now as:

- Outsourcing opportunities are evolving around end to end customer lifecycle management, analytics, and social media communication, besides back office operations.
- Enormous opportunities are emerging with outsourcing of processes in seller experience management and marketing like onboarding, quality check, MRP check, and content, image, and pricing management.
- The focus is moving from elementary skills of call handling to niche skills like fraud management, and analytics
- Organizations are using innovative labor flexibility model, like staffing mix of part time, contractual, and flexi employees, to cater to the sporadic peak in operations. During the last decade, E-commerce has emerged as a game changer for sellers across the world. Web-enabled sellers and merchants, in general, claim higher profits, enhanced customer reach, and improved employment opportunities. It is helping sellers, merchants, and SMEs to tap new markets, both domestic and international, which were not fully explored earlier due to middlemen and complex trade structures.

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<sup>47</sup> Supra Note 15.

<sup>48</sup> Supra Note 8.

As Business to Customer (B2C) E-commerce stabilizes and saturates, the next wave of E-commerce growth will come from Business to Business (B2B) and Consumer to Consumer (C2C) E-commerce models. It is estimated that E-commerce B2B segment will grow 2.5 times from INR 19 trillion in 2015 to INR 45 trillion in 2020.”<sup>49</sup> “The B2B players serving the domestic market are also gaining share in international market. Since the products are sourced from the local manufacturers, this segment is creating a significant impact on the number of people employed to support its growth. On the other hand, C2C model is gaining traction as a low cost, convenient model where buyers can directly connect with sellers and do without a middleman. Many of the online players are entering and expanding in categories like classified, auctions, housing etc., providing platform to enable C2C transactions and interactions and in turn creating employment opportunity. With around 10% of C2C market being captured currently, the opportunity for this segment and related job market to grow is immense. The Small Scale Industries (SSI) contributes to about 40% of the country’s industrial output and 35% of direct exports. There are around 400 SSI clusters that have been in existence for decades and some even for centuries, and there are approximately 2000 rural and artisan based clusters. As geographical boundaries disappear in the virtual marketplace, SMEs are selling 24x7 across the world without any time zone restrictions, and that too with limited investment. Keeping the mentioned factors in mind, SMEs and MSMEs will have a significantly higher share in employment generation.

In addition to E-commerce companies and allied industries, like logistics, which employ a majority of the E-commerce ecosystem workforce, the contribution made by other players like payment wallets and marketers, is also noteworthy. The payment wallet segment in India was worth USD 3.2 billion in 2015<sup>46</sup>. With 135 million users, the value of India’s mobile wallet transactions will reach USD 11.5 billion in 2020. This segment’s growth is positively impacting manpower requirements. The growth of this segment is further pushed by the announcement of 11 payment bank licenses by the Reserve Bank of India (RBI). This will accelerate further penetration of online payment option users, positively impacting demand of workforce in payment wallet and associated companies. It is expected that more than 1,500 middle and senior level jobs, with salaries going up to INR 1.50 crore, will be

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<sup>49</sup>Businessstandard.com [http://www.business-standard.com/article/companies/b2b-E-commerce-to-touch-rs-45-lakh-cr-by-2020-in-india-115090400770\\_1.html](http://www.business-standard.com/article/companies/b2b-E-commerce-to-touch-rs-45-lakh-cr-by-2020-in-india-115090400770_1.html)

up for grabs. E-commerce players are spending heavily on advertising and marketing, be it TV (biggest share), print, or the digital channel, to gain maximum market share of the 1.32 billion Indian population. And, with the next wave of expansion expected to come from non-urban areas, the focus on advertising will only get strengthened. This increased focus has a ripple effect on the growth of manpower deployed (from marketing agencies to freelancers) and the trend is only expected to accelerate in future. E-commerce has also uplifted other downstream industries like real estate, services (e.g. housekeeping, catering, and security), and transportation (e.g. cab services, and flight services) etc. There has been an increase in demand from small towns and rural India in the last couple of years, primarily due to growing smartphone penetration and high aspiration levels. A leading E-commerce player, for example, gets more than 70% of its orders from beyond the top eight metros. The E-commerce model has opened up diverse employment opportunities in tier II, tier III, and rural segments. With ~66 % of the population living in rural areas, employment creation will experience a multifold impact when the industry gathers serious momentum in rural parts of the country. The leading E-commerce players have signed Memorandum of Understanding (MoUs) with the government to enable reach in the far-flung areas. In terms of infrastructure support, the Ministry of Communications and Information Technology plans to connect E-commerce companies with its 130,000 common service centers (CSCs) in villages. This initiative has the potential to create 300,000 employment opportunities with the development of entrepreneurs, and ancillary industries such as handicrafts and textiles.”<sup>50</sup> Further, “the recent announcement of 100% foreign direct investment in trading of food products, including through E-commerce companies, is expected to provide fresh impetus to 'farm to folk' linkage for farmers and food processing sector. This will allow E-commerce players to bring investment and advancement in post-harvest infrastructure, and a direct reach to farmers to enable them to sell directly to consumers. This will have a significant impact on providing employment opportunity to farmers; transfer of technology and modern agricultural practices; enhancing export opportunities; and providing them remunerative prices for their produce hence enhancing their income.

The E-commerce industry is making an important contribution in the direction of gender equality, by providing women with increasing opportunities to become part

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<sup>50</sup> [www.businessstoday.in](http://www.businessstoday.in) , <http://www.businessstoday.in/magazine/cover-story/E-commerce-online-classified-market-olx-india-vs-quickr/story/218863.html>, last visited 29<sup>th</sup> March, 2021

of the growing bandwagon. The nature of employment for women is increasingly changing in more ways than one: Thousands of women are gaining financial independence by selling products across categories, such as fashion apparel, home furnishing, jewelry, handicrafts, and health care. Women are becoming independent sellers, and eventually employers. Women are able to work from home, which is enabling them to simultaneously meet the demands of the home and their career. The term 'brain drain' was coined to highlight the emigration of educated and intellectuals from India. However, in recent times, several young professionals, especially executives who are in their 30s have returned to India. One of the key reasons for the return is the growth of E-commerce along with the startup story, aided by Exciting opportunities, Competitive remuneration and Encouraging government policies. In India, demand for technology and engineering talent among startups has increased by more than 50% in recent times resulting in brain gain. Another interesting phenomenon observed is that many of those returning are venturing into their own startups, thereby creating further employment opportunities. Uplifting social enterprises: Empowering the people with disabilities. The E-commerce industry is providing employment opportunities for people with diverse backgrounds and age groups. It is also proving to be a gateway for many disabled people to engage in society, hence creating balanced growth in the true sense. Mirakle Couriers is one such existing example, which is a courier service in and around the city of Mumbai employing deaf people who constitute 99% of the total staff.”<sup>51</sup> The organization has ventured into E-commerce deliveries and is looking at this space as a new growth area. “It has won many esteemed awards like Helen Keller Award for being a role model employer for people with disabilities and the National Award for the empowerment of people with disabilities by the Indian Government. The industry has a potential to offer multiple roles to people with disabilities e.g. a courier delivery enterprise where delivery boys barely need to interact with customers, or online selling where restricted movement is not a hindrance.

With India facing a skilled workforce crunch (present skilled workforce in India is only 2%, it is crucial to cater to the rising demand of skilled workforce by the E-commerce industry. E-tail will generate requirement for the workforce in large numbers and will prompt the development of e-tail focused curriculums and courses.

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<sup>51</sup> Supra Note 15

For example, to create an E-commerce website, people with an understanding of different technology platforms, programming language skills, and software like web analytics, statistical analysis, and Business Intelligence (BI) etc. are required. As the E-commerce industry grows, the demand for skills would also increase. With accelerated expansion and more organized approach towards some of the allied industries, the demand for trained employees with specific skill set is expected to increase further. KPMG in India has analyzed the level of formal skill training required for various players in the E-commerce ecosystem and the employment potential likely to be generated by these players with the relevant skill set. The result of the analysis is depicted in the figure below. With India facing a skilled workforce crunch (present skilled workforce in India is only 2%, it is crucial to cater to the rising demand of skilled workforce by the E-commerce industry. E-tail will generate requirement for the workforce in large numbers and will prompt the development of e-tail focused curriculums and courses. For example, to create an E-commerce website, people with an understanding of different technology platforms, programming language skills, and software like web analytics, statistical analysis, and Business Intelligence (BI) etc. are required. As the E-commerce industry grows, the demand for skills would also increase. With accelerated expansion and more organized approach towards some of the allied industries, the demand for trained employees with specific skill set is expected to increase further. KPMG in India has analyzed the level of formal skill training required for various players in the E-commerce ecosystem and the employment potential likely to be generated by these players with the relevant skill set.”<sup>52</sup> The result of the analysis is depicted in the figure below.

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<sup>52</sup> Supra Note 16.

### CHAPTER III

#### CYBER CRIME AND ITS BASIC CONCEPT

Cybercrime is a crime that requires a computer and an internet medium. Such crime is committed by using computer device and sometimes it threatens an individual, company, and the nation's security and finance sector.

There are many confidentiality and privacy concerns surrounding cybercrime and when it is obstructed there occurs a crime. Tempering of confidentiality and privacy are done both by governmental and non-state actors lawfully and unlawfully respectively. "There are many privacy concerns surrounding cybercrime when sensitive information is intercepted and leaked to the public, legally or otherwise. Some of that information may include data about military deployments, internal government communications, and even private data about high-value individuals. Cybercrime is not confined to individuals alone. Internationally, both governmental and non-state actors engage in cybercrimes, including espionage, financial theft, and other cross-border crimes. Cybercrimes crossing international borders and involving the actions of at least one nation-state is sometimes referred to as cyberwarfare"<sup>53</sup>. Also, cyber crime involving or crossing one nation is called as cyber warfare.

In the year 2014, about \$445 billion annual economy was damage due to such activities as the McAfee Report. In the US, more than one billion dollar was damaged in the year 2012 on online and debit card fraud. And around six hundred billion dollar or one percent of the global GDP is lost every year as according to the McAfee Report<sup>54</sup>. On the other, hand India witnesses a damage of 1.25 lakh Crore Rupees alone in the year 2019.<sup>55</sup> "Cybercrime is growing and current technical models to tackle cybercrime are inefficient in stemming the increase in cybercrime. This serves to indicate that further preventive strategies are required in order to reduce cybercrime. Just as it is important to understand the characteristics of the criminals in order to

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<sup>53</sup> Jahankhani, Hamid & Al-Nemrat, A. & Hosseinian-Far, Amin. (2014). Cyber Crime Classification and Characteristics. 10.1016/B978-0-12-800743-3.00012-8. last visited 21 March, 2021

<sup>54</sup> McAfee.com, <https://www.mcafee.com/enterprise/en-us/assets/reports/restricted/rp-economic-impact-cybercrime.pdf> last visited 12<sup>th</sup> Jan, 2021

<sup>55</sup> Financialexpress.com, <https://www.financialexpress.com/industry/technology/cyber-crimes-in-india-caused-rs-1-25-lakh-crore-loss-in-2019-official/2110242>, last visited Jan.11, 2021



understand the motivations behind the crime and subsequently develop and deploy crime prevention strategies, it is also important to understand victims, i.e., the characteristics of the users of computer systems in order to understand the way these users fall victim to cybercrime. The term “cybercrime” has been used to describe a number of different concepts of varying levels of specificity. Occasionally, and at its absolute broadest, the term has been used to refer to any type of illegal activities which results in a pecuniary loss. This includes violent crimes against a person or their property such as armed robbery, vandalism, or blackmail. At its next broadest, the term has been used to refer only to nonviolent crimes that result in a pecuniary loss. This would include crimes where a financial loss was an unintended consequence of the perpetrator’s actions, or where there was no intent by the perpetrator to realize a financial gain for himself or a related party. For example, when a perpetrator hacks into a bank’s computer and either accidentally or intentionally deletes an unrelated depositor’s account records”<sup>56</sup>.

“Cybercrime is defined as crimes committed on the internet using the computer as either a tool or a targeted victim. It is very difficult to classify crimes in general into distinct groups as many crimes evolve on a daily basis. Even in the real world, crimes like rape, murder or theft need not necessarily be separate. However, all cybercrimes involve both the computer and the person behind it as victims, it just depends on which of the two is the main target. Hence, the computer will be looked at as either a target or tool for simplicity’s sake. For example, hacking involves attacking the computer’s information and other resources. It is important to take note that overlapping occurs in many cases and it is impossible to have a perfect classification system.

- Computer as a tool: When the individual is the main target of Cybercrime, the computer can be considered as the tool rather than the target. These crimes generally involve less technical expertise as the damage done manifests itself in the real world. Human weaknesses are generally exploited. The damage dealt is largely psychological and intangible, making legal action against the variants more difficult. These are the crimes which have existed for centuries in the offline. Scams, theft, and the likes have existed even before the

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<sup>56</sup> Jahankhani, Hamid & Al-Nemrat, A. & Hosseinian-Far, Amin. (2014). Cyber Crime Classification and Characteristics. 10.1016/B978-0-12-800743-3.00012-8. last visited 21 March, 2021

development in high-tech equipment. The same criminal has simply been given a tool which increases his potential pool of victims and makes him all the harder to trace and apprehend.

Computer as a target: These crimes are committed by a selected group of criminals. Unlike crimes using the computer as a tool, these crimes require the technical knowledge of the perpetrators. These crimes are relatively new, having been in existence for only as long as computers have - which explains how unprepared society and the world in general is towards combating these crimes. There are numerous crimes of this nature committed daily on the internet. But it is worth knowing that Africans and indeed Nigerians are yet to develop their technical knowledge to accommodate and perpetrate this kind of crime.”<sup>57</sup>.

Ever since the introduction of cyber laws in India, “the Information Technology Act (IT Act) 2000 covers different types of crimes under cyber law in India. The following types of cybercrimes are covered under the IT Act 2000.

- **Identity theft** – Identity theft is defined as theft of personnel information of an individual to avail financial services or steal the financial assets themselves.
- **Cyberterrorism** – Cyberterrorism is committed with the purpose of causing grievous harm or extortion of any kind subjected towards a person, groups of individuals, or governments.
- **Cyberbullying** – Cyberbullying is the act of intimidating, harassment, defaming, or any other form of mental degradation through the use of electronic means or modes such as social media.
- **Hacking** – Access of information through fraudulent or unethical means is known as hacking. This is the most common form of cybercrime known to the general public.
- **Defamation** – While every individual has his or her right to speech on internet platforms as well, but if their statements cross a line and harm the reputation of any individual or organization, then they can be charged with the Defamation Law.

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<sup>57</sup> Aghatise, Joseph. (2006). Cybercrime Definition. Cyber Crime. last visited 25<sup>th</sup> March, 2021.

- **Trade Secrets** – Internet organization spends a lot of their time and money in developing software, applications, and tools and rely on Cyber Laws to protect their data and trade secrets against theft; doing which is a punishable offense.
- **Freedom of Speech** – When it comes to the internet, there is a very thin line between freedom of speech and being a cyber-offender. As freedom of speech enables individuals to speak their mind, cyber law refrains obscenity and crassness over the web.
- **Harassment and Stalking** – Harassment and stalking are prohibited over internet platforms as well. Cyber laws protect the victims and prosecute the offender against this offense.

IT Act, 2000 went through amendments under the Indian Penal Code in the year 2008. These were made in light of the laws on cybercrime – IT Act, 2000 by way of the IT Act, 2008. They were enforced at the beginning of 2009 to strengthen the cybersecurity laws.”<sup>58</sup>

### 3.1 Forms of Cyber Crime

As for the commission of a cyber crime, computer is used as a tool to harm others. It is categorized into two forms:

- The Computer as a tool for target, e.g. cracking, putting virus and spam mails, etc.
- The Computer as a weapon, such commission of crime take place in global crimes, e.g. copyright, patent infringement, Credit card frauds, etc. Moreover it is categorized into different kinds which are as follows:

**(A) Unauthorized Access:** When one enters unlawfully into the rightful owner of the computer over internet medium and modify data and other confidentiality of the rightful owner than such commission of crime is called as unauthorized access.

**(B) Hacking & Cracking:** Every act of committing or unlawfully entering the rightful owner’s computer is regarded as hacking. Here the hackers put own made program and attack the target computer and most often such act is

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<sup>58</sup> Supra Note 40

committed to siphon monetary and credit card information and other confidential data. While, Crackers put self-made program and alter or modify data which damage the system by inserting viruses or worms. Such act sometimes control over websites which is generally known as web hijacking.

**(C) Cyber Fraud:** As people found out the alternative from tradition to electronic way of marketing which is fast and convenient, for cyber crime, it is an open opportunity to commit online frauds which is becoming out of control. In cyber fraud, the crime is committed by putting spoofing websites and email security alerts, virus hoax emails and lottery frauds where people with low awareness put their details into spoofing alert and siphon out every detail of such individuals.

**(D) Cyber Theft:** Stealing personal data or monetary over the internet medium for its illegal use.

**(E) Cyber Terrorism:** Such activity is conducted mostly on government or big industry who produces power, control traffic and internet, etc by putting Trojan horse, virus and logical bombs. Modern terrorist often opt for such commission because it is not expensive as traditional terrorist methods. Also, it can be operated in remote areas. It can adversely affect larger population.

**(F) Cyber Pornography:** The act of showing sexual act to cause sexual excitement by putting in internet websites is termed as cyber pornography. World widely it has crossed more than 420 million individual pornographic websites in the present day. In such act, the internet is being abusively used to spread such illegal or child related pornography, children or teenagers are the common prey to such websites.

**(G) Defamation:** Defamation occurred when one's right to his good name or reputation is intentional infringe by another person. In cyberspace defamation occurs with the help of computer device and internet medium to spoilt the ones dignity by putting defamatory statement in internet media. Such publication in internet webpage is also called as cyber smearing.

- (H) Cyber Stalking:** Repeatedly threatening or harassing by a person to another person in internet medium is regarded as cyber stalking. Cyber stalking are committed in several ways such as telephonically harassment, following victims in different social media websites and harassing, leaving written messages or objects, etc.
- (I) E-mail related crimes:** Email spoofing is regarded as one kind of the email related crime. Here the emails are sent imitating the rightful source, but it is actually from another source. Another kind of crime is email spamming where emails are sent to a numerous number of people and find targets.
- (J) Internet Relay Chat (IRC):** Such protocol is used for text messaging or synchronous conferencing. This type of protocol is made for a larger number of discussion in one particular platform it is also called as channels. Cyber criminals take such advantage and exploit their discussions.
- (K) Forgery:** The criminal who indulge in duplicating currency notes, postage, revenue stamps, and documents by using computers and other electronic to scan such material is said to be forged. Also any person who entertains such acts to the other individual is considered forgery.
- (L) IPR violations:** Reputed companies register their domain names and protected by ICANN and under trademark laws. IPR violations include copyright infringement, trademark violations, software piracy, patent violations, etc.
- (M) E-commerce frauds:** In E-commerce frauds, criminals often use false claims to put in for investments or loans or forged trade to obtain securities. In such case, the victim never gets delivered the offer from such claimant. Criminals portray certain false or misrepresent products through an internet which never exist with the lure of getting abnormally high profits.
- (N) Sales of illegal articles:** Many emails are sent offering illegal product of sale, e.g. sales of narcotics, weapons and wildlife, etc. Such offering or information are often posted on websites, auction website, etc by simply using internet medium.
- (O) Online gambling:** Online Gambling is offered on numbers of websites which usually hosted in abroad server and many of them are for money laundering.

**(P) Breach of Privacy and Confidentiality:** When information's regarding ones sexual preference, financial status, etc are disclosed or circulated in internet medium without any authorization than such activity is regarded as the breach of privacy. In addition to that when useful business information is circulated or discloses which may cause effect for the business and the person then the activity committed is called as confidentiality. In general an agreement is made to keep the secrecy among the parties, but it is seen that mostly the employee themselves disclose such valuable information for monetary gain. Social engineering techniques are used to acquire such confidential information<sup>59</sup>.

### **3.2 Incidents of Cyber Crime which impacts economy**

With E-commerce occupying the space of the 'new way of doing business', different business activities that is dependent upon the use of electronic media or the internet becomes a doorway for the cyber-criminals to take up illegal activities. The companies that are heading towards and taking up online businesses are hopeful about the potential growth that online business carries but are also aware about the risks of cyber-crime and security that comes along with it. As E-commerce industry is different than the traditional business mode in terms of its functions and operations, the challenges that arises is also unique in nature, as there is a total lack or partial lack of physical presence which expand the probability of crime of fraud and cyber-crime to take place. The reasons for the ungovernable cyber frauds in India's E-commerce scenario cannot be attributed to just one or few reasons. The trends of cybercrime will multiply since more commercial activities are moving online, as a result world wide organisations and consumers gather as a hub on internet. The risks of intellectual property theft gets higher which contributes to replication of products with the help of technology, causing great loss to parent companies as such replication reduces the return rate on novel innovation or creativity. In order tackle the challenges that cyber-crime places the government need to take necessary action and initiative, without which the E-commerce business will be affected badly. "Every year cyber-crime causes damage of around 400 billion dollar globally. Such cost of cybercrime impacts the economy health. First Time buyers: In India e-retailing is in its initial stage. New

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<sup>59</sup> Kejal Vadza, Cyber Crime \$ its Categories, 5 ResearchGate.1,1-5(2011)

customers are joining the voyage continuously also the new retailers are coming up. Both have less knowledge and awareness so they are always easy prey of the cyber attackers. Low online / debit-credit card payment options: In India people are less accessible to the online banking option forced retailers to move towards the CoD option more. Physical collection of payment increased the chances of criminal activities. Wrong delivery address is such problem which cause the huge loss to the e-tailers is more prominent in the CoD options. Incidents across the world have been worried all about the security of information, data and money on cyber space. Ashley Madison case is such example of security of personal information. 'Ashley- the dating website' was hacked by Impact Team. Hackers claims to hacked data of over 37 million user including their credit card numbers. (Desk, 2015) Bank security systems are also on the target of cyber criminals. Kotak Mahindra bank in 2015 reports fraud of Rs. 2.82 cr. In 1730 transactions in 7 countries with the 580 cards which have been never issued. All cards were fabricated using BIN (Bank Information Number) (Narayan, 2015) Cyber cheaters are using website similar to the bank, financial institutions etc. to hook up the people. In September 2015 Nagpur Police caught up owner of a cyber café, who used to demand money from the loan seekers as processing fee through the fake websites of the bank and financial institutions. (Sharma, 2015) Some cases are associated with the E-commerce in which retailers of electronic shopping websites are shipping the wrong, false products to the customers, as the payment is done before the delivery of product and customer can-not predict that seller is genuine or not. HUL has confirmed the fake product (Lakme Eyeconic eyeliner) sale on the E-commerce giant Flipkart by various sellers (Julka, 2015). This types of frauds are indirectly linked with the cyber-crimes as online mode are used to trap the victims. Even the sellers are indulged in the crime activities. Reports says that the vendors are making order themselves and then replaced the order on arrival and complaint against the faulty products. E-commerce companies collect the returned product (which are actually changed by such fake buyers) and return their money. Amazon and flipkart both have reported such cases. (Shenoy, 2015)."<sup>60</sup>

### **3.3 Cyber Crime and Laws dealing with it**

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<sup>60</sup> Munjal, Sourabh & A., Anooja. (2016). Cyber Crimes Threat for the E-commerce. SSRN Electronic Journal. 10.2139/ssrn.2767443.

Cyber-crime, in simple terms can be understood as an illegal act wherein the computer is operated tool to target. Activities that are criminal in nature, such as hacking, fraud, forgery, harassment, etc with the help of the computer network are also considered as Cyber Crimes under IT Act, 2000(Amended 2008). Cyber-crime can be seen as a complex entity mainly because of the ignorance/ unawareness of consumers, weak IT infrastructure, unsecure networks, etc. In India, Cyber Crimes are registered under the following acts<sup>61</sup>.

#### **Under IT Act:**

- section 65, whoever intentionally tries to tamper computer layout and programs.
- Section 66(1) Causing damage to computer data.
- Section 66 (2). Whoever tries to enter the other rightful owner computer to cause damage
- Section 67. Obscent publication in the computer network
- Section 68. The Certifying Authority may cease activities if it does not comply.
- Section 70.Un-authorised access/attempt to access to protected computer system.
- Section 71. Misrepresentation of Digital Signature /Certificate
- Section 73. Issuing fake Digital Signature Certificate
- Section 74.Fraud Digital Signature Certificate
- Section 72. Breach of confidentiality/privacy
- Others

#### **Cases under the IPC :**

- Section 167, 172, 173, 175 include Offences by/against Public Servant
- Section 193.False electronic evidence
- Section 204,477.Destruction of electronic evidence
- Section 463, 465, 466, 468, 469, 471, 474, 476, 477A Forgery

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<sup>61</sup> Munjal, Sourabh & A., Anooja. (2016). Cyber Crimes Threat for the E-commerce. SSRN Electronic Journal. 10.2139/ssrn.2767443 .



- Section 405, 406, 408, 409 Criminal Breach of Trust
- Section 482, 183, 483, 484, 485 Counterfeiting Property Mark
- Section 489 Tampering
- Section 489A to 489E Counterfeiting Currency / Stamps,

In cyber-crimes, the computer is usually used as a weapon by the perpetrators (Cyber Terrorism, Credit / debit card frauds, EFT frauds, Pornography) and the computer is also not free from attack (Cracking, Hacking, spoofing, stealing, etc.) of criminals.

Cyber laws can be understood as the legal issues which are associated with the use of communication technology, in particular "cyberspace or internet." Cyber laws are the amalgamation of different legal spheres, privacy, patent right, copyright, etc. Cyber law exists in order to protect and safeguard to consumers/users from online theft, anti-social elements on the internet, a threat to communal peace & illegal human activity over the internet.

The risk of cyber-crimes has expanded with the increase of mass usage of smart-phones, tablets and other electronic gadgets. Such increase in the accessibility and usage of electronic devices has paved way for the E-commerce transactions to grow, leading to the higher risk of cyber-crimes occurrence. Unfortunately, India is a cyber criminal's hub for stealing, spam, cracking, spoofing, and other online frauds because of the vast customer base, dearth of awareness or ignorance and less strict rules in comparison to other countries.

#### **Total No of Cases Registered Under Cyber Crime (IT Act & IPC Section)**

|         | 2011 | 2012 | 2013 | 2014 |
|---------|------|------|------|------|
| IT ACT  | 1791 | 2876 | 4356 | 7201 |
| IPC ACT | 446  | 549  | 1203 | 2421 |

Source: [www.data.gov.in](http://www.data.gov.in)

To reduce the occurrence of cyber-crimes, the government of India along with the legal authorities of the country, different departments and RBI has framed the IT & IPC Act. But with the availability and usage of various electronic platforms, not adhering to the laws, and the most common factor "unawareness", has worsen the

Indian scenario. India's dream to become one of the largest manufacturer and market in the world can face a set-back due to the security crises in the E-commerce realm that is there in the country.

### **Cyber Case / Crime Registered Under IT Act**

| SL.No | Year  | 2011 | 2012 | 2013 | 2014 |
|-------|---|------|------|------|------|
| 1     | Altering computer data  | 94   | 161  | 137  | 89   |
| 2     | Computer Related offence (Hacking with computer system)<br>Loss/damage to computer resource/utility & Hacking ) | 983  | 1875 | 2516 | 5553 |
| 3     | Obscene publication/transmission in electronic form   | 496  | 589  | 1203 | 758  |
| 4     | Failure Of compliance/orders of certifying authority  | 6    | 6    | 13   | 3    |
| 5     | Failure To assist in decrypting the information intercepted by govt. agency                                     | 3    | 3    | 6    | 3    |
| 6     | Unauthorized accessing to the rightful owner computer   | 5    | 3    | 27   | 0    |
| 7     | Issuing fake digital signature  | 6    | 6    | 12   | 5    |
| 8     | Forgery   | 3    | 1    | 4    | 0    |
| 9     | Fraud digital signature certificate   | 12   | 10   | 71   | 3    |
| 10    | Breach of confidentiality/privacy   | 26   | 46   | 93   | 18   |
| 11    | Other   | 157  | 176  | 274  | 796  |
|       | Total   | 1791 | 2876 | 4356 | 7201 |

Source: <https://data.gov.in>

The increase in cyber crimes in the last few years has been alarming and it is need of the hour to make provisions to control the outbreak of the crimes<sup>62</sup>. There is a need for the prevalence of stronger laws and creates awareness in people for the proper use of technology in order to prevent technology abusive activities that can result in being responsible for unlawful cyber activities.

### **3.3.1 Crimes under Intellectual property law:**

With the growth in the use of internet these days the cyber crimes are also growing. “Cyber theft of Intellectual Property(IP) is one of them. Cyber theft of IP means stealing of copyrights, trade secrets, patents etc., using internet and computers.

Copyrights and trade secrets are the two forms of IP that is frequently stolen. For example, stealing of software, a unique recipe of a well-known dish, business strategies etc. Generally, the stolen material is sold to the rivals or others for further sale of the product. This may result in the huge loss to the company who originally created it.

Earlier, a lot of physical labour, time and money was spent to steal a trade secret or make a pirated version of anything. The original copies had to be physically stolen which used to take lot of time and money. But in the present scenario these works can be done easily sitting at one place without shedding too much time and money on it without leaving any proof of it.

One of the major cyber theft of IP faced by India is piracy. These days one can get pirated version of movies, software etc. The piracy results in a huge loss of revenue to the copyright holder. It is difficult to find the cyber thieves and punish them because everything they do is over internet, so they erase the data immediately and disappear within fraction of a second. The country has started taking strict measures to curb this offence. Telangana Intellectual Property Crime Unit (TIPCU) is one of the first unit that has been launched to deal with the IP crime”<sup>63</sup>.

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<sup>62</sup> Munjal, Sourabh & A., Anooja. (2016). Cyber Crimes Threat for the E-commerce. SSRN Electronic Journal. 10.2139/ssrn.2767443.

<sup>63</sup> M.Sai Krupa, Cyber theft of Intellectual Property, <https://www.mondaq.com/india/trademark/682548/cyber-theft-of-intellectual-property>, 29<sup>th</sup> March, 2021.

### 3.4 Laws regulating E-commerce under Indian Contract Act.

The fundamental requirements of a paper-based contract applies the same to the e-contracts, the ways to conclude the e-contract is also borrowed from the Indian Contract Law and are same to the paper-based contracts.

- **Contract Formation through Electronic Communications:** By exchange of text documents via e-communications contracts are formed over e-mail. In this process both offers and acceptance appears, as a result it can be exchange and settled.
- **By Acceptance of Orders Placed on E-commerce Websites:** Through websites when product are purchased, the goods are also offered through websites. Here, the consumer placed an order by completing and transmitting the order form on the website. The merchandise may either be physically delivered (like clothes et cetera) or delivered electronically (like e-tickets et cetera).
- **Online Agreements:** Users may sometime be required to accept an online agreement in order to get the services while installing or signing up on a website.
- **Electronic Data Interchange:** “This refers to contracts used in trade transactions which enable the transfer of data from one computer to another so as to make each transaction a trading cycle processed with no paperwork at all. The data here is formatted and implemented directly by the receiving computer. EDI is used to transmit standard purchase orders, acceptances, invoices and other records. As a consequence, it reduces paperwork and reduces the possibilities of human error. In this type of contract, the exchange of information and completion of the contract is between two computers as opposed to a computer and an individual”<sup>64</sup>.
- **Through Electronic Agents:** “Computer users can now instruct their computers to carry out transactions robotically. Electronic agents are programmed with the authority of both the purchaser and the supplier. These

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<sup>64</sup> Legalbites.in, <https://www.legalbites.in/E-commerce-e-contract/>, last visited 19<sup>th</sup> May, 2021.

electronic agents usually exhibit characteristics which are very close to human characteristics and can assist human beings with routine tasks”<sup>65</sup>.

### 3.4.1 Types of E-contracts

**Click-wrap agreements:** “In a click-wrap agreement, the user indicates his consent by clicking on either ‘I Agree’ or ‘I Disagree’ on the website. Essentially, a party goes through the terms and conditions provided in a particular website or programme and has to resort to a click-wrap agreement so as to move forward with consent. Click-through agreements are predominantly found as part of the installation process of various software packages. Upon installation, a pop window with the terms of license opens up for the user to read. The user can then either agree or disagree with the terms and conditions provided. If he chooses to disagree with the terms, the process of installation is terminated. These click-wrap agreements may either be ‘type and click’ or ‘icon clicking’ based on the website”<sup>66</sup>.

**Shrink-wrap agreements:** These type of agreements derive their name from the shrink-wrap packaging that usually covers the goods to be purchased. This is usually seen in the case of CDs. The required terms and conditions of accessing the particular software are printed on the shrink-wrap cover of the CD and vendee essentially tears the wrap to gain access to the CD. The packaging thus contains a notice that by tearing open the shrink-wrap, the user assents to the software terms that are enclosed.

**Browse-wrap Agreements:** “Browse-wrap contracts essentially have a terms and conditions hyperlink somewhere on the web page that proposes to sell goods or services. According to these terms, using the site to buy the goods or services is enough to constitute acceptance of the conditions laid within. Thus, these agreements are usually found only when the user bothers to look around and search for a small

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<sup>65</sup> Cyber Laws in India, IT Security of IIBF, TaxMann Publishers, last visited 19<sup>th</sup> May, 2021.

<sup>66</sup> Daisy Roy, All that you must know about E-Contracts, IPleaders Blog, 2019, last visited 25<sup>th</sup> May, 2021

asterisk or hyperlink. As a result of this, critics do contend that browse-wrap terms are not enforceable because they don't satisfy the basic elements of a contract"<sup>67</sup>.

Fundamentally, "there exists no real problem as to whether or not any of the general contractual principles apply to e-contracts as they apply to paper-based ones. These principles of contract law continue to prevail even in contracts made on the internet. However, not all of the principles apply in the same manner to e-contracts as they do to traditional paper-based and oral contracts. Just like with regular contracts, the internet merchants too have to be cautious as to how they present an advertisement since this determines whether the advertisement will be construed as an invitation to treat or a unilateral contract. Thus, an ambiguous language may result in unintentionally establishing contractual liability to a wide range of purchases than what resources may permit. While the ease inconvenience is high with regards to e-contracts, the occurrence of mistakes due to human error or programming of software errors is inevitable. The question lies as to who bears the risk of such mistakes. This is crucial in understanding an issue since errors may be magnified or may be harder to detect and eventually have substantial financial consequences"<sup>68</sup>. Thus, the Court needs to adopt a judicious and pragmatic stance in resolving issues that require them to allocate risk to parties involved.

### **3.5 Impact of cyber crime in E-commerce**

The E-commerce market and its commercial transaction is increasing in demand as well as growing rapidly due to the convenience and ease of doing in business. "As E-commerce is appearing in all sectors, the dependency on information and communication technology too took place"<sup>69</sup>. This resulted the formation of Cyber Law or Information Technology Law as a new branch of Jurisprudence to regulate law. While, the United Nations adopted Model of Law for the first time, which later adopted by the United Nations General Assembly. This law or the Model of Law aims to bring a uniform law in E-commerce and to bring the rights and liabilities under the

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<sup>67</sup> Supra Note 36.

<sup>68</sup> Supra Note 38.

<sup>69</sup> Rajendra Madhukar Sarode, "Future of E-commerce in India Challenges & Opportunities" 1(12) IJAR 646 (2015).

same roof with that of paper-based transactions. In India, the Information and Technology Act, 2000 came into existence as India was the abhorrer to the Model of Law and subsequently the Information Act was amended in accordance to the UNCITRAL Law on E-Signatures and came into existence as Information and Technology (Amendment) Act, 2008<sup>70</sup>.

As the country like India possess a huge potential for E-commerce with the middle class having more than 288 millions shows E-commerce strengths. But the crime which indulge in cyber space as well as the legal and regulatory challenges hinder the growth of the electronic commerce in India<sup>71</sup>. The hurdles that developing economies like India face is due to the different economic as well as the technological set up, the implementation of such high end legislation makes it difficult to imitate or fully adopt it as prescribed in the Model Law. Also, even if it does enact the law, it becomes more difficult to enforce in Indian scenario. The present scenario seeks more regulations for making E-commerce transaction fairer and secured.

### **3.6 The Rise of Digitalization and its Challenges**

“As of June 2020 India has an internet user of about 696.77 million”<sup>72</sup>. Though India ranked second in the world largest internet user, it lacks E-commerce penetration as compared to the US, UK and France. But one can observe the rapid growth E-commerce participation gradually. Cash on delivery is considered to be the most preferred way of a transaction in India which has its disadvantages though. According to Google India, it has about 330 million online shoppers in 2020 and it keeps on increasing.

Key factors for the growth of E-commerce are:

- A large number of population uses broadband.
- Burgeoning 3G and 4G users.

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<sup>70</sup> Raj, Aijaj & Rahman, Wazida. (2016). E-commerce Laws and Regulations in India: Issues and Challenges. 1. 44-51.

<sup>71</sup> Supra Note 21.

<sup>72</sup> Statistic.com, <https://www.statista.com/statistics/255146/number-of-internet-users-in-india> last visited Jan.10, 2021.

- Enormous numbers of Smartphone users, which put India in the second largest Smartphone's users.
- The availability of world wide product range.
- Increased usage of consumer to consumer business, where consumers buy and sell used products.
- The growth of million dollars newly established business like Myntra.com, Jabong.com etc<sup>73</sup>.

In India, the retail market reached more than \$900 billion in 2018 at 13% CAGR and it is expected to reach above \$1 trillion by 2020<sup>74</sup>.

### 3.7 Challenges

Many researchers have tried to define the term E-commerce in many forms. According to the OECD version of definition<sup>75</sup>, the buying or selling of certain goods and services over the internet medium by following certain methods of receiving or placing orders. Generally, ordering of products are conducted over internet medium, but the delivery of goods and payment of the products are made through the traditional way.

Such businesses are carried over between households, government, individuals, private organisations, etc. An E-commerce transaction starts as soon as one orders or interchange data electronically over the web. While placing order over telephonically or manual emailing are excluded from the purview of E-commerce<sup>76</sup>. The challenges most often faced in E-commerce are due to the following reasons:

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<sup>73</sup> Rajendra Madhukar Sarode, "Future of E-commerce in India Challenges & Opportunities" 1(12) IJAR 646 (2015)

<sup>74</sup> IBEF, <https://www.ibef.org/industry/retail-india.aspx>, last visited JAN. 10, 2021

<sup>75</sup> OECD.org, <https://stats.oecd.org/glossary/detail.asp?ID=4721> , last visited Jan. 10, 2021

<sup>76</sup> Supra note 1.



- In the consumer to consumer business transactions, trust has to be build among the two parties, otherwise there lacks rules and regulation to make a successful transaction<sup>77</sup>.
- In E-commerce willingness to adopt certain technologies for smooth running of business in every level is needed<sup>78</sup>.
- For the interest of consumers as well as retailers, E-commerce security or cyber security has to be tightened and has to comply certain dimensions like integrity, a non-repudiation, authentication, confidentiality, privacy and availability<sup>79</sup>.

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<sup>77</sup> H. S. Yoon and L. G. Occeña, "Influencing factors of trust in consumer-to-consumer electronic commerce with gender and age," *International Journal of Information Management*, vol. 35, pp. 352-363, 2015

<sup>78</sup> S. Kurnia, J. Choudrie, R. M. Mahbubur, and B. Alzougool, "E-commerce technology adoption: A Malaysian grocery SME retail sector study," *Journal of Business Research*, vol. 68, pp. 1906-1918, 2015

<sup>79</sup> H. Matbouli and Q. Gao, "An overview on web security threats and impact to E-commerce success," in *Information Technology and e-Services (ICITeS)*, 2012 International Conference on, 2012, pp. 1-6

## CHAPTER IV

### MEASURES TO TACKLE CYBER CRIME IN E-COMMERCE

There is a need for cooperation among organizations and internet users alike to control the rise of cyber-crimes. The government has a heavy role to play in providing safety, protection and the technical support that is needed to prevent the attack of cyber criminals. It is not the sole responsibility of the government to prevent cyber-crimes, but the responsibility also lies with the user of an internet to be cautious and aware of the happenings in the digital world. So in order to fight effectively, it becomes the mutual responsibility of the government, internet users and other stakeholders involved to cooperate amongst each other.

#### **4.1 Certain ways to curb cyber crime**

**Updating the computer OS:** The software of a computer should be regularly updated which can help in continuously monitoring the flaws in the existing software.

**Use of Antivirus:** Cyber-attacks can be prevented to some extent with the help of a good antivirus, it helps in blocking the malwares that can be used by cyber criminals in stealing data or information from a PC. But, to secure its reliability, the antivirus should be updated regularly.

**Using Secured Networks:** The public internet connection or Wi-Fi connection are unguarded and therefore exposed to possible intrusion from cyber-criminals. Therefore, it is always better or safer to use a secured internet connection.

**Trusted shopping sites:** Online shopping has dominated the shopping scenes, particularly in India today. This has yielded everyday the number of new online shopping sites, both small and large business alike. Cyber-criminals may create similar shopping websites with attractive and appealing visuals and try to steal bank related information and other information of the user. In order to save oneself from fraud websites, one must only make use of trusted online shopping sites.

**The same password should not be repeated at different sites:** The reason behind is a threat from hackers, it may access to the other website that the victim has created.

Though it's hard to remember all passwords but it adds a shield for security reasons. Therefore, different password to be used for different websites.

**Bank details should not save on websites:** Debit card details or bank account details should not be saved on the e-shopping websites. Hackers usually break the security chain of the servers of the e-shopping websites and retrieve all the details of the bank. Therefore, for a safety purpose it is always better to enter card number on every transaction on online websites.

**The award or lottery promising emails should not be opened:** In computer network, the criminals often send several people a trap or promising lottery or award, in the process they ask for certain information, for example, personal details, bank details, etc through which access to their computer and steal all the information. Sometime they ask some money to deposit for participation in such trap or fake promising lottery or award.

**The Password should not be shared:** Password should be kept confidentially. Also it should not be saved on the computer and websites as well. Password should be changed frequently. A single password for a long time should never practice.

**Awareness by Organizations, Govt. Bank and IT:** Every Bank should develop their own IT cell to handle all the pros and cons of the technology and keep secured their banking system.

**E-commerce Websites:** E-Shopping websites should check or verify the sellers before putting them on their shopping websites. The product delivering to the customer should always cross check for the interest of consumers. Though rules and regulations are adopted, but there lack its enforcement to tackle cybercrime.

**4.2 Government initiatives:** Whereas, Central Government has taken steps to spread awareness about cyber crimes, issue of alerts/advisories, capacity building/training of law enforcement personnel/ prosecutors/ judicial officers, improving cyber forensics facilities etc. to prevent such crimes and to speed up investigation. "The Government has launched the online cybercrime reporting portal, [www.cybercrime.gov.in](http://www.cybercrime.gov.in) to enable complainants to report complaints pertaining to Child Pornography/Child Sexual Abuse Material, rape/gang rape imageries or sexually explicit content. The

Central Government has rolled out a scheme for establishment of Indian Cyber Crime Coordination Centre (I4C) to handle issues related to cybercrime in the country in a comprehensive and coordinated manner.

‘Police’ and ‘Public Order’ are State subjects as per the Constitution of India. States/UTs are primarily responsible for prevention, detection, investigation and prosecution of crimes through their law enforcement machinery. The Law Enforcement Agencies take legal action as per provisions of law against the cyber crime offenders.

Further, Government has taken several steps to prevent and mitigate cyber security incidents. These include:

- (i) Establishment of National Critical Information Infrastructure Protection Centre (NCIIPC) for protection of critical information infrastructure in the country.
- (ii) All organizations providing digital services have been mandated to report cyber security incidents to CERT-In expeditiously.
- (iii) Cyber Swachhta Kendra (Botnet Cleaning and Malware Analysis Centre) has been launched for providing detection of malicious programmes and free tools to remove such programmes.
- (iv) Issue of alerts and advisories regarding cyber threats and counter-measures by CERT-In.
- (v) Issue of guidelines for Chief Information Security Officers (CISOs) regarding their key roles and responsibilities for securing applications / infrastructure and compliance.
- (vi) Provision for audit of the government websites and applications prior to their hosting, and thereafter at regular intervals.
- (vii) Empanelment of security auditing organizations to support and audit implementation of Information Security Best Practices.
- (viii) Formulation of Crisis Management Plan for countering cyber attacks and cyber terrorism.
- (ix) Conducting cyber security mock drills and exercises regularly to enable assessment of cyber security posture and preparedness of organizations in Government and critical sectors.

- (x) Conducting regular training programmes for network / system administrators and Chief Information Security Officers (CISOs) of Government and critical sector organisations regarding securing the IT infrastructure and mitigating cyber attacks”<sup>80</sup>.

The emergence of the World Wide Web (WWW) has enabled E-commerce to grow to a greater extent and therefore, it has become an essential and a vital constituent of business and its operations. With such advancement in business, it has become the main medium for trade and industry in any country and the world at large. Due to this expeditious growth in E-commerce industry, many computers related programmers and its security experts have developed certain application that provides safe and enhance electronic transaction through internet. “Smith (2009) indicated that the current revolution that has overtaken the world or business has become successful as a result of the incorporation of ICT in almost every facet of business transactions and its operations”<sup>81</sup>. It has strengthen the correlation between firms and clients. The use of ICT brings faster growth in productivity and also promotes customer involvement. Moreover, it promotes for expeditious growth of goods and services in larger quantities, as well as reducing charges with better benefits. Unlike brick and mortar business where there is physical contact among the owner and consumer, E-commerce is solely dependent on internet where the meeting of the owner and the consumer is not necessary.

“Payment is done directly into the business owners account or through a third party payment system in this regard the customer is made to declare his/her confidential bank details to enable the other party get the money and then send whatever has been bought through a delivery service. There is virtually no physical encounter between the parties”<sup>82</sup>. “Despite the successes ecommerce is experiencing in the e- world, there remain an issue of security which most often is to the detriment of the online shopper and consequently the business owners as well. The upsurges in cyber-crime by unknown assailant who usually take the advantage the internet offers and in anonymity perpetrate heinous crime under the notion that they cannot be seen, most

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<sup>80</sup> PIB.GOV.IN, <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1579226>, last visited 25th April, 2021

<sup>81</sup> Smith, Katherine. (2009). *Worldwide Growth of E-Commerce. E-Business* (March). 29-34. 10.1201/9781439809426-c4.

<sup>82</sup> Razorpay, <https://razorpay.com/blog/payment-gateway-101/>, last visited 26<sup>th</sup> May 2021.

crimes are perpetrated with this belief system”<sup>83</sup>. “There are various crimes that are committed via the internet and its related technologies from denial of services, identity theft, Privacy violation and intrusion as well as industrial and financial espionage. Perpetrators of these crimes do it for various reasons with the underlining fact of illegally making money for themselves among other reason”<sup>84</sup>. “There are various factors that has propelled the security threat being experienced in recent times. However one irrefutable reason is the advancement in hacking tools. Hackers now capitalizes on the growth of technology to develop sophisticated applications to commit various crimes”<sup>85</sup>.

“While most normal firms have established procedures for solving the common problems that comes with doing business, many online merchants and their customers do not possess the experience and technical know-how and usually not sure how to best find solutions to the critical and technical issues involved in cyber-crime detection. For this reason, there is the need for pragmatic steps to establish policies and technical know-how to combat this risk associated with online business and e-commerce at large. This goes a long way to save the business from embarrassment, loss of finances, legal challenges among other”<sup>86</sup>.

“The researcher investigated the measures that are undertaken to detect and prevent cyber-attack with digital forensic tools with regards to assisting customers to reduce exposure to fraudulent transactions, thereby minimizing fraud-related business losses. By employing advanced modern ICT tool such as digital forensics by a firm which have the necessary mechanisms to investigate, curb cyber-crime and uncover perpetrators stand the chance of curbing e-crime. In the bid of most businesses ensuring security in their own prowess have set-up these systems that underpin the immediate first hand security in a respective organization: (a.) Setting up Clear Policies (b) Resolving disagreements (c) Systems that protect customers debit or credit card and /or any other medium used in making payment online (d) How to use

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<sup>83</sup> Israel D. Fianyi, “Curbing cyber-crime and Enhancing e-commerce security with Digital Forensics”, 12 JCS, 78, 79-82 (2015)

<sup>84</sup> UNODC, <https://www.unodc.org/e4j/en/cybercrime/module-2/key-issues/computer-related-offences.html>, last visited 29<sup>th</sup> May 2021.

<sup>85</sup> UTICA EDU, <https://programs.online.utica.edu/articles/ten-ways-evolving-technology-affects-cybersecurity-0321>

<sup>86</sup> Harvard Business Review, <https://hbr.org/2007/02/understanding-customer-experience>, last visited 30 May 2021

digital forensics and related tools to detect and prevent cyber fraud (e) Examine the pay flow fraud prevention services”<sup>87</sup>

### **4.3 E-commerce and E-Risk**

“Risk is an eminent constituent of any business operation in any part of the world, e-commerce in this respect is not immune to risk associated with the internet and its related platforms, which most researchers call e-risk denoting the uncertainty of transacting business online. Especially in recent revolution of mobile commerce which has enabled businesses to rapidly expand. Some of the risk that are associated with ecommerce includes but not limited to, stolen Credit card number, personality theft, stolen Social Security Numbers, and sometimes goods bought and paid for never arrives. All these eminent issues and more are rampant because there is no physical encounter between the buyer and the seller basically, electronic mediums as mentioned earlier are employed”<sup>88</sup>.

Systems Security threats have progressively increased from both outside and within corporate boundaries. “Internal security threat used to be the challenge of most corporate firms, these threats characteristically included employees within a company getting hold of company systems through loopholes in security and also having access to passwords they are not supposed to. There have been marginal changes from internal security threat to external threats due to the growth of the Internet and corporate extranets. Intruders from outside corporate boundaries now represent a growing concern.”<sup>89</sup>

“Since online activities have become imperative and indispensable to the daily lives of individuals and businesses, Security tools such as digital and computer forensic that are meant to investigate and ensure security on the web and its interrelated technology needs to be enhanced in its capability to withstand the growing security threat that confront E-commerce. The imposters in cyberspace look for opportunity to penetrate and abuse systems, these they do either for the fun or

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<sup>87</sup> Supra Note 75.

<sup>88</sup> Ciolan, I. M. *Defining cyber security as the security issue of the twenty first century. A constructivist approach.*, 12(1), 40 (2014)

<sup>89</sup> Supra Note 76.

selfish gains amidst other reasons. Once system is infiltrated, shams can possibly cause devastating problems such as deleting or altering information, illegally take valuable data as well as money in huge sums in that context”<sup>90</sup>.

“A research by Turban, King, Lee, Liang, and Turban (2015) categorized some of the reasons that makes e-commerce susceptible to risk and they include the following;

- (a) Old methods of solving e-business problems may not work due to changing environment.
- (b) The more an e-commerce company expands the higher the scope of risks.
- (c) System hackers will always devise new techniques and tools to attack system operations.
- (d) When a system is digitized, it creates exceptional challenges for digital information and online transactions.

E-commerce risk and security is somehow known to the prospective customers. The Internet though presents many opportunities to companies and individuals, the benefits cannot usually be compared to the degree of damage that results from security breaches. Hackers, phishing, identity theft, credit card details theft, viruses, malware, among others are major Security issues that confront and frighten individual customers and companies at any level of online related business or E-commerce. These challenges used to be often resolved by the use of Hardware's and software's techniques to guard against hackers and infectious viruses from their intranet. Security goes beyond Hardware and software systems; they only represent one layer of security. Security as it stand will continually be a concern for both big and small firms and the lack of it can be devastating to the business due to the cost of resolving security problems, the possibility of huge financial loses and eventually lose of customers”<sup>91</sup>.

“In contrast to traditional crimes where there are well established legal jurisdiction across all those crimes for prosecution, it is not the case with online crime that are perpetrated, there are some of the crimes that yet to be established as a crime in the legal environment. This differs from country to country and it makes it more

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<sup>90</sup> Ciolan, I. M. *Defining cyber security as the security issue of the twenty first century. A constructivist approach.*, 12(1), 40 (2014)

<sup>91</sup> Turban, E., King, D., Lee, J. K., Liang, T.-P., & Turban, D. C. . E-Commerce Security and Fraud Issues and Protections Electronic Commerce, 459-520 (2015)



challenging to subject some of these crimes committed via the World Wide Web to legal interpretation. For cyber related crime investigation to be successful with its corresponding collaring and prosecution an addendum should be made to the existing perceptions, legal barriers , and the procedures employed by law enforcement agencies to combat cyber-crime.

It is in this light that automated software's such as digital forensics which has seen revolution in recent years in crime investigative environment. Though it is been used its algorithms structures and capabilities have been undermined due to the fact that most law enforcement officers lack the expertise to digitally analyzed crimes committed in the this digitized world and as such present it in court as an evidence."<sup>92</sup>

#### **4.4 Digital Forensics**

“The evolution of Digital forensics which primarily focuses on extraction of data and analyzing crimes scenes and equipment after they have been committed and present them in court as an evidence, has in recent times become a necessary tools and software's applications in the fight against . Thus modern techniques of digital forensics , which can easily track a premeditated crime over the network by employing network security phenomenon to impede these possible crimes from occurring, can greatly be explored to help control the upsurge of e-commerce crime in recent times. Subsequently with digital forensics tools crimes could be detected and prevented before they are eventually committed.

When forensics is mentioned it usually brings to mind television and movie dramas, emphasizes on murder scenes or a procedure involving a specialist surgeon. Nevertheless, a growing concern of technology demands retrieving information from a computer system have given another phase to forensic sciences which takes into consideration all investigative analysis that has to do with technologies. contemporarily digital forensic analyst may work along with law enforcement

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<sup>92</sup> Surpra Note 77.

institutions; retrieving hidden information from a home computer system and office computer, mobiles phones and other digital gadget is very common now. These information may range from deleted files to existing documents stored on a hard drive, Network activities or other storage media and also encrypting files that may have been used in committing online related crimes”<sup>93</sup>.

#### **4.5 Constitution of Cybercrime**

There are various crimes that are carried out via the internet by reason of the following category:

- “Computer assisted crimes; this is where the computer is used as a tool to enhance a criminal activity and these activities are not exclusive to computers only, example will be child pornography, fraud, cyber bully etc.
- Computer Specific crimes; these crimes includes password attacking, server attacks, system hacking, denial of services, sniffers. These crimes are directed to the computers and available digital gadget, the network and the various systems on which data is stored.
- Computer incidental; The computer becomes supplementary to crime perpetration such client list on spreadsheets, drug traffickers and terrorist interchanging information on various apps on the computer such as Skype, Facebook and the like”<sup>94</sup>.

“The aftermath of a cyber-crime has varying effects usually in a passage of time. A typical example is about computer viruses which use to be seen as very dangerous and damaging to the any computer system that gets infected, in recent years it is not that dangerous as it used to be because stronger anti-viruses have come up to reduce the effects of damage they can cause to a system (Sommer & Paxson, 2010). In most of the cases carried out on cyber-crime, the person responsible is a hacker, or has relatively some computer expertise. Cyber-crime includes cyber-terrorism, electronic-theft, espionage, denial of service (DOS) credit card fraud, and phishing. Damages survived were closure of websites to stolen classified information (Broucek & Turner,

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<sup>93</sup> Supra Note 75.

<sup>94</sup> Avzu, K. *Forensic Science and How Criminals Hide their Crimes*. Forensic Science and How Criminals Hide their Crimes: (2014)

2004). Also there were legislations across the globe against computer virus proponent, it was seen as a criminal offence tantamount to prosecution, and this also assisted in reducing viral infections to systems. The sharing of information between local agencies, Federal states exposed possible virus attack a typical example is the collaboration that exist between the Federal Bureau of investigation and the secret service, Law enforcement agencies in in most developed countries (Hallahan, 2010). These collaborations when encouraged by sharing developed digital forensics tools and other system security applications meant to curb cybercrime will go a long way to enhance a degree of security in a respective system, eventually cyber terrorist will be brought to book”<sup>95</sup>.

#### **4.6 Supplementary Threats to Computer Security**

“Though unlawful access incapacitating a system has severe complications, they don’t constitute the main threat to computer security. There are basically five threats that undermines a digitized system (Hartono, Holsapple, Kim, Na, & Simpson, 2014): (a) natural catastrophes, (b) corrupt workforces, (c) unhappy workforces, (d) and inadvertent blunders and oversights.

Human errors constitute the major cause of the breaches that occur in computer security, inadvertent oversights and mistakes are very common in the implementation and operation process of a system .However if a system is well developed these continues errors will be reduced hence the need for an effective internal control measures (Ghobakhloo, Arias-Aranda, & Benitez-Amado, 2011).

According to surveys carried out, showed that systems development is very effective when users are part of the process, the system will not likely fail. The following steps by organizations are essential to effective computer security. Security policies and controls should be enforced and communicated constantly (McLeod & MacDonell, 2011).

(a) Controls and security techniques should be put in place to ensure access to users and traceable information system should be implemented

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<sup>95</sup> Hallahan, K. *Crises and risk in cyberspace. Handbook of risk and crisis communication*, 412-445. (2010)

(b) Users should be restricted to their area of jurisdiction only and not to other part of the system.

(c) Intermittent security training should be conducted.

(d) Some personnel should be made to be responsible for the security of the system in a liberated manner”<sup>96</sup>.

**4.7Network Forensic** Defensive measures are the ways to prevent cyber crime. “Nonetheless, irrespective of how many preventive measures are in place, except accurate and constant arranged procedures are maintained, other than that the system may either negligibly report cyber-crimes or excessively as a result giving false alarm, by a single interruption detection (Digital evidence, 2000). Interruption discovery methods include detection of anomaly in the system, tripwires, and configuration checking tools. This is possible by the use of forensic tools that solely investigate real-time online activity.

Network forensic is the branch of digital forensics that is characterized by capture, documenting and analyzing of activities that take place on a network for the purposes of identifying imposition and subjecting them to investigation. The concept of forensic is classified into two sections, one that enhances the security of the network and the other looks for anomalies on the network to establish evidence. There are so many tools that underpins these network forensics from TCPDump, Flow-tools, IOS NetFlow, TCPXtract , and Argus among others. These areas of digital forensic are some of the directions that security experts can employ to curb e-commerce crime. Where every transaction that is taking place over the network is being monitored and red flag raised over the slightest alarm of possible crime perpetration. These Prevention techniques may not really be without some form of imperfection, as such, ecommerce firms should establish measures for analysis and revitalization the system after cybercrime attack occurs. This will enable the firm to be guarded against subsequent infiltrations”<sup>97</sup>.

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<sup>96</sup> NCES, <https://nces.ed.gov/pubs98/safetech/chapter3.asp>, last visited 30<sup>th</sup> May 2021.

<sup>97</sup>Pilli, E. S., Joshi, R. C., & Niyogi, R. A framework for network forensic analysis. Paper presented at the Information and Communication Technologies, 2010

“Most e-business firms usually require competent and experienced computer security persons; thus, hiring outside experts, for example, forensic accountants, computer forensic professional. If negligence of a company’s computer security personnel caused a security breach or electronic crime, a professional from outside will still be needed and useful to examine the entire security of a company’s system. Though many law enforcement bodies do not have the requisite expertise to investigate some issues of cybercrime, periodic training would enable them to understand the concept of digital forensics, this facilitates smooth corroboration of cyber-crime evidence discovered by the forensic specialist.

Digital forensics is concerned about an investigation into anything that has technology connotation, just like forensic science, it subject systems and technologies to observation and investigate the technology against anything that may be of the interest of the investigator. Technology has advanced and computer programmers have applications that can track criminal irrespective of their location by making use of the GPS. If digital forensic is introduced into e-commerce at an advanced level, it will reduce if not totally eradicate cyber-crime. This implies that business owners can determine the location of a shopper or customer if the person happens to be a hacker he/she can easily be identified.

Authentication, authorization, and encryption are some basic security methodologies; the policy and privacy issues that governs e-commerce should be made available to prospective customers in various ways. It is imperative that e-commerce firms do not play on the ignorance on consumers in any given situation. The law should be reconsidered to accept the scientific and procedural discoveries of digital forensics in its attempt to detect and expose perpetrators of cyber-crime. Observation of ethics in the practice to unravel criminal activities over the internet is as equally important as catching the criminals. The court will usually accept digital forensic evidence in a typical cyber fraud case if the investigation and analysis was done within a generally accepted scientific parameters and ethical considerations not compromised”<sup>98</sup>.

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<sup>98</sup> Moore, R. “Cybercrime: Investigating hightechnology computer crime”, 250 (2010)

## CHAPTER V

### CONCLUSION

E-commerce will have great future in India. “With compare to traditional commerce, E-commerce is more preferable by customer. In some case future of E-commerce is not sure, but delivery time will defiantly improve in near future. From the inception of the internet and E-commerce, the possibility has become endless for both businesses and consumers. This will increase more profit for business man and increase choice for customer. Online shopping is a new experience and has greatly impacted the lives of consumers in its short time of existence. It is expected to grow constantly in years to come with advancements in technology. Online shopping has made consumers more effective and efficient in their shopping behavior and has driven businesses to a new level, forcing many to make the necessary adjustments and changes to reach the new market of knowledgeable consumers. Rapid growth of E-commerce has resulted in an electronic transformation in the global retail infrastructure. Internet has emerged as a cost-effective means of doing business”<sup>99</sup>. On the other hand, though Rules and regulations are adopted to regulate cyberspace but there lack its enforcement to tackle cybercrime in the competitive e commerce world. Government initiatives framing strong laws and regulation are the real need in the present scenario. Since it has spread to every corner of the world and has affected global business directly or indirectly. Government and organisations are giving many efforts to prevent consumer from cyber attacks and in developing free and fair E-commerce environment. Also, the consumer should be aware and follow all the provisions for preventing cyber crime.

**5.1 Findings:** In this study the researcher analysed and found that E-commerce having the access to one to one marketing, enable to grow to a greater extend. Also the services provided through online is found to be more easy and reliable. But the more the E-commerce transaction grow the more it will attract the criminals to commit crime through internet. Also it is found that due to certain numbers of criminals involve in cyber activity a nation has to incur huge loss in economy.

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<sup>99</sup> Supra Note 24.

**5.2 Suggestions:** E-commerce will have great future in India. “With compare to traditional commerce, ecommerce is more preferable by customer. In some case future of e-commerce is not certain, but delivery time will defiantly improve in near future. From the inception of the internet and ecommerce, the possibility has become endless for both businesses and consumers. This will increase more profit for business man and increase choice for customer. The present study has brought new dimensions and ideas to understand the online consumer behavior and increase the market potential of E-commerce transaction in India”<sup>100</sup>.

Online shopping one among E-commerce transaction is a new experience and has greatly impacted the lives of consumers in its short time of existence. “It is expected to grow constantly in years to come with advancements in technology. Online shopping has made consumers more effective and efficient in their shopping behavior and has driven businesses to a new level, forcing many to make the necessary adjustments and changes to reach the new market of knowledgeable consumers. Rapid growth of e-commerce has resulted in an Electronic (E)transformation in the global retail infrastructure. Internet has emerged as a cost-effective means of doing business”<sup>101</sup>.

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<sup>100</sup> Supra Note 26.

<sup>101</sup> Sura Note 73

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