

Exploring the Utilization of Internet Technology for Creating a New Industrial Order

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ABSTRACT

The pace of change in our 21st-century world, where digital technology is transforming services and businesses, has been breakneck, transforming the global economy from its traditional model to digital. The continued growth and relevance of the digital economy have been aided by the growing interconnectedness of people, organizations and machines resulting from the Internet, mobile technology and the Internet of things (IoT). The Internet has transformed the mode of communication within and outside the organization, means of trading and sourcing for patronage, quality of goods and services, size and management of competition and production efficiency. The Internet has enabled e-commerce, allowing small and big companies to sell to consumers worldwide.

A significant area of disruption that the digital economy has imposed is in the realm of our perception of reality with the undermining of our conventional notions of business structure, firms interaction and means of delivery of goods, services and information to consumers. Companies are now successfully re-imagining their industries' traditional boundaries and value propositions. For instance, Uber owns no vehicles, yet it is the world's largest taxi company; Facebook creates no content yet is the world's most popular media owner; Alibaba keeps no inventory yet is the most valuable retailer, and Airbnb owns no real estate yet is the world largest accommodation provider.

This paper explores how internet technology's use for business creates a new industrial order, discusses the digital economy, and provides an understanding of the characteristics of electronic commerce (e-commerce). The particular focus shall be on B2B e-commerce accounting for 94 per cent of global e-commerce, collaborative commerce, e-marketplaces and e-supply chain.

CHAPTER ONE INTRODUCTION

The world has not been the same since 1991 when Tim Berners-Lee, a Swiss programmer, introduced the World Wide Web, which became today's Internet. The Internet continues to attract a critical mass of people with the introduction of cheaper and more reliable Internet-enabled devices like smartphones. To provide a better perspective, internet users in 2004 were between 700 million and 950 million, with about 500 million being frequent users (Holzwarth, Janiszewski & Neumann, 2006).

Today, Internet users totalled 5.03 billion people (63.1% of the global population) and continue to grow with data from 12 months to July 2022, indicating an increase of 180 million. With the continued reach and expansion of the Internet, social media adoption continues to increase, with global users reaching 4.7 billion in July 2022 (59 per cent of the global population and 94 per cent of internet users) and continuing to grow by 227 million over the past 12 months. The global internet user spends an average of almost 7 hours online daily.

The business world has never been the same since the US Congress in 1992 approved the use of the Internet for commercial purposes allowing businesses to create their own websites and giving birth to the world of e-commerce. Businesses now have a global audience for their goods and services and no longer have to rely solely on the patronage of their local customer base for survival. The Internet has enabled remote and hybrid work allowing employees to access office equipment online to work from the comfort of their homes. This saved many companies from going under during the COVID-19 pandemic and reduced overhead costs.

The Internet has transformed the mode of communication within and outside the organization, means of trading and sourcing for patronage, quality of goods and services, size and management of competition and production efficiency. The Internet has forever changed the face of business communication with employees, customers, suppliers, and partners with communication tools such as email, instant messaging and messaging apps like WhatsApp and Messenger.

Since the Internet has enabled the global market, competition is no longer local. Thus, businesses are now more sensitive to the needs of their customers, using different means to know what they want and how they want it delivered. The deployment of digital advertisement, especially with the introduction of avatar technology, has unrecognizably transformed advertising, attracting more customers from other parts of the world. Businesses are building an online presence and reaching millions of potential customers by building websites and employing online demand-generation tactics such as ads display, content syndication, search engine optimization and pay-per-click advertising (Rigdon, 2022). The Internet has made collaboration with other businesses and partners, such as on projects and sharing of knowledge, simple.

The Internet has facilitated (1) the digitalization of information, enabling collation, display, storage, and provision of easy access to information, (2) automation of business and (3) the development of cloud computing, software as a service (SaaS), and more that have enabled the processing and storing of data in large proportions reducing the cost of infrastructure to companies (Rigdon, 2022). The Internet has enabled e-commerce, allowing small and big companies to sell to consumers worldwide. The intersection of e-commerce and social media has given rise to what is known as conversational commerce, where "businesses can turn conversations into sales by accessing customers on their favourite social media channels and deliver frictionless, multichannel shopping experiences with a personal touch (Rigdon, 2022)

This paper attempts to explore how the utilization of internet technology for business is creating a new industrial order, discuss the digital economy, and provide an understanding of the characteristics of electronic commerce (e-commerce). The particular focus shall be on B2B e-commerce accounting for 94 per cent of global e-commerce, collaborative commerce, e-marketplaces and e-supply chain.

CHAPTER TWO

INTERNET AND DIGITAL ECONOMY

The pace of change in our 21st-century world, where digital technology is transforming services and businesses, has been breakneck, transforming the global economy from its traditional model to digital. Deloitte (2022) described the digital economy as economic activity derived from billions of daily online connections among people, businesses, devices, data, and processes. The continued growth and relevance of the digital economy have been aided by the growing interconnectedness of people, organizations and machines resulting from the Internet, mobile technology and the Internet of things (IoT).

A significant area of disruption that the digital economy has foisted is in the realm of our perception of reality with the undermining of our conventional notions of business structure, firms interaction and means of delivery of goods, services and information to consumers. Companies are now successfully re-imagining their industries' traditional boundaries and value propositions. For example, Uber owns no vehicles, yet it is the world's largest taxi company, Facebook creates no content yet is the world's most popular media owner, Alibaba keeps no inventory yet is the most valuable retailer, and Airbnb owns no real estate yet is the world largest accommodation provider.

The Internet has come to stay; firms or industries have no choice but to deploy internet technology if they want to be competitive or survive. The Internet has created new industries, such as online auctions and digital marketplaces. However, the reconfiguration of existing industries that had been bogged down by the high costs of communication, information collection, or transaction completion has been the major area of impact of the Internet (Porter, 2001). Even though distance learning pre-dated the Internet, the adoption of the Internet has dramatically expanded distance learning. Similarly, catalogue retailers using toll-free numbers and automated fulfilment centres have long existed; the Internet has enabled the product ordering process to be efficient.

In terms of industry competitiveness, Internet technology has been observed to enable companies to establish strategic positioning by (1) boosting the buyer's bargaining power by providing the buyer with easy access to information about products and services, (2) reducing barriers to market entry by mitigating the need for such things as an established sales force or access to existing channels, (3) creates new substitutes by enabling new approaches to meet needs and performing functions and (4) intensify rivalry among competitors since the open system created makes it difficult for companies to maintain proprietary offerings (Porter, 2001).

The digitization of everything is creating new intelligent digital networks that fundamentally change how commerce is managed, optimized, shared, and deployed. Familiar digital economy innovations include digital banking, e-commerce, virtual education, smartphone apps and collaboration platforms. The three distinguishing features of the digital economy, according to Thomas Mesenbourg, US economist and statistician, are infrastructure - software, hardware and other technological resource and specialist human talent, e-business- computer applications, online tools and digital platforms needed to carry out business process and e-commerce describing online sales of good and services (Santander,2022).

The increasing number of people using the Internet, the growth of social networking and the formation of virtual communities and groups present an ample opportunity for businesses to establish a relationship and build trust with target markets to facilitate the marketing of products and services. A virtual community is organized around a "common interest, idea, task, or goal and its members interact across time, geographic, and organizational boundaries to develop personal relationships." (Turban et al., 2012, p.77). Many online business startups, despite best efforts, have floundered, while some have had varying successes, the primary factor being the poor number of site visitors to online retail stores that make a purchase (low shopper conversion rate). Success in e-commerce depends mainly on drawing a critical mass of people to the e-store and convincing them to purchase.

➤ *Digital Technologies*

The advent of digital technologies has ushered in a new era of entrepreneurship (Nambisan, 2017), refashioned the traditional approach to entrepreneurial pursuit and brought about the re-imagination of business creation and conduct (Kraus, Palmer et al., 2019). Digital technologies are transforming the nature of entrepreneurial processes, activities, and how entrepreneurship is pursued (Nambisan, 2017). Digital technologies have been observed to facilitate the quick formation of product ideas and business models, enactment, modification and re-enactment in repeated cycles of experimentation and implementation and have the potential for rapid scalability (Reuschke & Mason, 2020).

According to Sussan & Acs (2017), the emergence of digital technologies has enabled offline businesses to be shifted online, new digital products and services to be created, and new opportunities in the marketplace to be exploited. Also, it has enabled the combination of manufacturing and services to develop hybrid solutions that comprise tangible and intangible components (Laudien & Pesch, 2019). Digital technologies have facilitated the emergence of digital infrastructures such as online payment systems, crowdfunding, digital maker spaces and social media platforms (Reuschke & Mason, 2020). Digital technologies have demonstrated the capacity to connect a critical mass of people of different shades and widely dispersed geography at decreasing costs, enabling new business models to be fashioned. The business models formed could be user-intensive and offer free content, attracting paid and unpaid customers, as in Spotify or sharing based on unused tangible assets like Uber and Airbnb.

The implementation of digital technologies enables firms to overcome geographical constraints on business activity, enabling the disentanglement of the causal link between human activity and services (Laudien & Pesch, 2019) and aiding small firms' quest to internationalize their operations (Pergevova et al., 2019). There is a shifting of entrepreneurial activity online, leading to the reduction of resource barriers to entrepreneurship. Thus, digitalization has a democratizing effect, opening up entrepreneurship to socially-marginalized people.

CHAPTER THREE

ELECTRONIC COMMERCE

No doubt, the ubiquity and adoption of the Internet and mobile technologies have led to the creation of global markets for buying and selling goods and services using different combinations of physical and virtual networks for the offering, creation and delivery of value (Kunesova & Micik, 2015; Lucia-Palacios et al., 2014). The conduct of trading, making orders, making and receiving payments, collecting market information, and marketing and promotional activities using an electronic platform is known as electronic commerce or e-commerce.

In retail, an increasingly more significant share of consumption is taking place on digital marketplaces connecting more suppliers who do not typically interact with consumers –manufacturers, wholesalers and distributors – directly with end customers (Hänninen & Smedlund, 2018). Popular marketplaces include Amazon.com in the US, Alibaba Group's platforms Tmall and Taobao in China, and Rakuten Ichiba in Japan.

Global e-commerce has recorded exponential growth since it was birthed in 1995, with internet capability, bringing about a massive transformation in business firms, markets and consumer behaviour as well as growth in the global economy (Landon & Traver, 2017). In the last two decades, e-commerce has assumed greater significance transforming lives and existing industries and even facilitating the creation of hitherto non-existent industries. These have resulted in dramatic growth and global acceptance. The prognosis is that e-commerce will continue to grow at double-digit rates in the next five years and retain its position as the fastest-growing form of Commerce. In identical way automobiles, aeroplanes, and electronics defined the twentieth century, e-commerce of all kinds will define the twenty-first century.

The global retail e-commerce sales in 2022 are approximated to be US\$5.5 trillion, representing 20.3% of the total global retail sales and have been projected to grow by 50% over the next four years to reach US\$7.4 trillion by 2025 (Bernhardt, 2022). With online sales of US\$2.8 trillion in 2021, China is the world's top e-commerce market, trailed by the US, and together has a combined sales total of US\$3.6 trillion, 73% of the global retail e-commerce sales. This is understandable, considering that more than half of the world's top e-commerce companies come from China or the US. The pervasiveness of technology in consumers' lives is the primary force propelling e-commerce growth. A report revealed that online shoppers grew by 10% globally in 2022 to reach 3.78 billion, and almost 60% of these shoppers made purchases via mobile devices.

The world is racing towards an e-commerce economy and society, and this is being driven by established companies such as Sales Force, Tradekey and IBM and online firms such as Alibaba, Amazon, Google and Shopify (Landon & Traver, 2017). The traditional forms of retail e-commerce and services have proven to be more resilient and flexible than traditional retail channels when facing economic recession. Digital companies such as Facebook, Tumblr, YouTube, Twitter, Pinterest, and Uber have enjoyed explosive growth in the last seven years. Profitability, sustainability, the efficiency of operations, innovativeness and powerful global branding, are the defining characteristics of the firms. To be profitable, the survivors of the first era of e-commerce, including Amazon, Booking Holdings, Shutterfly, eBay and Coupons.com, had to evolve their business models, integrate their online and offline operations and change their revenue models.

The introduction of the Internet and eCommerce has given profitability hope to micro and small-scale businesses who hitherto were constrained by barriers of economies of scale and minimum economic size of operations hence the democratizing effect alluded to above. New market opportunities with no geographical constraints have been created by digital stores like Magento and Shopify and marketplaces like Amazon, Alibaba, eBay and Etsy, empowering businesses, particularly micro-enterprises, to showcase their products and direct customers to their e-commerce sites (Church & Oakley, 2018).

The power of social media has heavily propelled the growth of e-commerce with the new trading opportunities it offers as it directs and convinces the critical mass of people it draws into virtual communities and groups to digital stores to make a purchase. So also is an innovative online payment system such as Paypal and card schemes which continues to offer easy-to-use, safe options and dropshipping, enabling merchants to sell products without seeing or handling them (Reuschke & Mason, 2020).

E-commerce is primarily driven by Internet technology and would have been virtually non-existent without the Internet. The developments in digital security, online payment systems, revolutionary marketing strategies and advertisement, including the use of an avatar, data analytics, media distribution, business-to-business trade and retail commerce, have all been driven by internet technology.

➤ *E-Commerce Concerns*

E-commerce, as well as the online industry, has rapidly grown in a few years such that regulators and governments are playing catch up to understand and put in place regulations to protect the populace primarily. The borderless nature of the Internet, which has fueled the growth of e-commerce, has challenged the concepts of privacy, intellectual property, and even national sovereignty and governance. Digital companies such as Google, Facebook, Amazon, and various advertising networks maintain profiles on millions of shoppers and consumers worldwide (Landon & Traver, 2017). Some companies like Facebook have been

penalized for trading consumer information violating their privacy. The growth of the Internet has also coincided with the increase in intellectual property rights violations with the proliferation of illegally copied music, videos and books denying owners the benefits of their creative works. An unresolved issue is where e-commerce companies should pay taxes, considering that their market is global and the juridical coverage in the countries they operate. Consequently, e-commerce and social media companies face increasing investigation, litigation and legislation.

➤ *The Rise of on-Demand Service*

A new business model capable of taking e-commerce to a whole new level has emerged where using smartphones, those that want a service can be connected with those that have the resources to provide that service on an e-commerce platform. This on-demand business model, pioneered by Uber, a taxi-hailing company, provides customers and drivers with a compelling value proposition. Riders no more have to stand on a street waving frantically, competing with others and not even knowing when to expect an available cab. Customers can simply sign up on the Uber app for free, request and pay cheaper for a ride using a smartphone and credit card and get picked up within a few minutes (Laudon & Traver (2017).

Owners of vehicles can put their automobile that is mostly parked and a driver with available time to good use and get paid by simply signing on the Uber app. Uber's value proposition for the drivers is that they can decide their work hours, work when they like and use their cars to generate revenue. Uber's business model uniquely differs from traditional retail e-commerce because Uber does not sell goods, own no taxis and does not have employees but instead calls its drivers "independent contractors." It has only created a smartphone-based platform that connects people who want a service—like a taxi—to find a provider with the resources. Uber's taxi-hailing app service has gained traction worldwide, giving rise to competitors such as Lyft in the United States, GrabTaxi in Southeast Asia, and Cabify in Spain and Latin America. China has its own cab-hailing services, Kuaidi Dache and Didi Dache, and there is a bevy of smaller players like Sidecar, Via, Tripda, and Shuddle.

This On-demand service business model has enjoyed a boom, with firms collecting over \$26 billion in venture capital funding from 2010-2015, which made it the trendy business model in e-commerce for 2015. Uber's revenue grew twenty-five-fold between 2014 and 2015, up from \$400 million to \$10 billion, with a profit of \$2 billion (Laudon & Traver, 2017). The revenue of \$400million earned in 2014 is four times more than that earned in 2013. Other pioneers of on-demand service e-commerce model that has disrupted several major industries include Lyft (a taxi-hailing service), Airbnb (rooms rental service), Washio (laundry service), Heal (doctor home visitations), BloomThat (flower delivery service), Handy and Homejoy (part-time household help service) and Instacart (grocery shopping service) (Laudon & Traver, 2017).

➤ *E-Commerce Business Types*

Jain, Malviya and Arya (2021) identified mainly six basic types of electronic commerce as explained below:

• *Business-to-Business (B2B):*

Participants are businesses and organizations that use an electronic platform to facilitate product and service transfers. B2B e-Commerce accounts for 94% of e-Commerce. Google, GE and Intel are leading examples.

• *Business-to-Consumer (B2C):*

This is the retail shopping section of e-commerce where businesses sell products of all kinds, including computers, foods, electronics, and books, to individual shoppers online. Amazon, Alibaba and Shopify are leading examples of this business model. Shoppers typically have more knowledge about products.

• *Consumer-to-consumer (C2C):*

This is the e-Commerce model where consumers sell goods or services directly to another consumer in an electronic marketplace. The marketplace serves as an intermediary to enable trade. eBay, Craigslist and Amazon Marketplace are notable examples.

• *Consumer-to-business (C2B):*

This model describes the sale of products or services by individuals in the electronic marketplace to firms or individuals inviting sellers to make a tender for products or services they need. The model reverses the usual exchange context and is widely used in crowdsourcing-based companies. Booking Holdings is a well-known C2B transactions organizer and online marketing websites such as Google AdSense, Commission Junction, and Amazon that allow the display of contextual ads, promotional banners, or any other advert on their sites.

• *Business-to-Administration (B2A):*

This portion comprises all internet transactions between companies and the government. This covers various diverse programs, notably in taxation, social care, healthcare, legal documentation and records, etc (Jain, Malviya and Arya, 2021). This service mode has been extended significantly in recent years by spending on e-government.

- *Consumer-to-administration (C2A):*

This model describes all electronic purchases between governments and individuals and includes:

- ✓ Education – dissemination of information, distance learning, payments etc.
- ✓ Social Security – information distribution, making payments, etc.
- ✓ Taxes – filing tax returns, payments, etc.
- ✓ Health – booking appointments, information about illnesses, payment of health services, etc

- *E-Commerce Benefits*

The most significant advantage from the consumer viewpoint is that it improves dramatically, saves lots of time, and is convenient to access everywhere in the world. (Jain, Malviya and Arya, 2021).The buyer can review product information and easily enter the e-market available 24/7 from anywhere at any time in comfort. The customer is free to place the order at any time. If the operation is unsatisfactory, switching to other companies is easy and cheap. Consumers can access the global marketplace and conveniently purchase needed products unavailable at the local or national market. A consumer can leverage feedback on products provided by previous purchasers to make buying decisions.

Increased sales and significant reduction of running costs through the Internet are the key advantages of e-commerce from sellers' point of view (Jain, Malviya and Arya, 2021). With increased sales, sellers can generate more revenue. The seller can develop and improve the relationship with the customer and the supplier and consequently improve customer loyalty and retention. The 24/7 availability of the e-shop and streamlined sales process helps to speed up the selling process. There is better communication with both internal and external stakeholders. Satisfactory service will promote the image of the company and brand.

CHAPTER FOUR

B2B ELECTRONIC COMMERCE

Business-to-Business (B2B) e-commerce refers to transactions between business entities conducted electronically over the 'internet, extranets, intranet or private networks' (Turban et al., 2012; p.147). Such transactions could be for either profit or non-profit and between private or public organizations, with the overriding objective being the automation of trading, communication and cooperation in the electronic marketplaces to reduce business operating costs, enhance transaction efficiency and secure competitive advantage. The global business-to-business e-commerce market size was valued at USD 6.9 trillion in 2021, projected to expand to USD 33.3 trillion by 2030 at a compounded annual growth rate (CAGR) of 19.7% from 2022 to 2030 (Grand Review Research, 2022).

These B2B e-Commerce systems include but are not limited to e-procurement, Customer Relationship Management, accounting, billing, supply chain management, human resources, and manufacturing (Medjahed et al., 2003). All these systems have allowed the public and private sectors to use the internet as a delivery mechanism for transactions such as financial transfers, auctions, delivery of products or services, and online exchange (Chong, Shafaghi & Tan 2011).

Notable industries consuming business-to-business e-commerce are: manufacturing, covering over 28.8% of the global market share, professional & business services ,with 21.2% of the share, finance, insurance, leasing, retail, and real estate, with 17.8%, mining comprises 5.6% of the market, and wholesale trade covers 5.2% of the global market cap (Zion Market Research, 2022). Some major players operating in the B2B e-commerce market include Amazon.com Inc., eBay Inc., Flipkart.com., IndiaMART InterMESH Ltd, DIYTrade.com, ChinaAseanTrade.com, eworldtrade.com, Flexfire LEDs, KellySearch.com, and KOMPASS. The lockdowns and closure of physical stores occasioned by the COVID-19 pandemic increased online orders, positively impacted B2B e-commerce and created avenues for market growth.

It is simple for major corporations to sell products to customers purchasing in bulk, but it is a nightmare to deal with sales to several retail customers. Thus, they seek 'middlemen' that will buy products in large volumes and sell to retailers and consumers. In a conventional trading arrangement, these 'middlemen' are referred to as brokers, retailers or intermediaries. An online intermediary can be best described as an electronic intermediation model where buyers and sellers are provided with e-marketplaces (alternatively called a hub or exchange) for trading or information exchange.

These intermediaries are responsible for verifying suppliers' quality through managing relationships and providing incentives for good performance. In addition, intermediaries provide three other types of services. First, they provide critical information about demand, supply, prices, and trading requirements. Second, they connect buyers and sellers; thirdly, they offer value-added services such as logistics, bonds, payment facilitation, consulting, or connecting with a business partner (Turban et al., 2015).

➤ *Differences between B2B Online and Conventional Commerce Intermediaries*

There are notable differences between a conventional commerce intermediary and an online or e-Commerce intermediary. The differences are best seen in the multiple roles of e-commerce intermediaries, from facilitating at a fee the interaction of many buyers and suppliers for bidding, communication, advertising, transacting and procurement to acting as unbiased intermediaries. Conventional intermediaries, however, facilitate the interaction of buyer and seller, playing the role of active middleman and earning income from the spread of the prices of goods sold and services consumed.

Unlike conventional commerce intermediaries with limited product collections and geographical reach catering mainly to the local environment, the e-commerce intermediary has a vibrant collection of efficiently catalogued products and a global reach cutting across cultures and different political and financial environments. Thus, an e-commerce intermediary must be able to create a secure and trusted platform for interaction between partners who may not even know themselves.

The role of B2B e-Commerce intermediary also includes enabling both the buyers and sellers to choose the option that facilitate the creation of a holistic system that meets the prerequisite needs of multiple enterprises to ensure an easy and consistent flow of goods and services. The e-Commerce intermediary ensures the integrity of the exchange platform and that the product quality satisfies the agreed requirement, organizes the logistics that ensure timely delivery and ensures the correct value is created for all for business continuity. The conventional commerce intermediary avoids such a high responsibility, essentially acting as the broker or wholesaler, selling to business or retail, and putting a markup on price to generate income.

➤ *B2B e-Commerce Intermediaries, Hubs, Exchanges or e-marketplaces*

A presumption in e-commerce is that the disintermediation of intermediaries is imperative to improve transaction efficiency and lower cost, but that appears to have failed with the active roles being played by intermediaries in the B2B e-commerce model. In B2B e-commerce, intermediaries are electronic middlemen that bring together the buyers and sellers in an electronic marketplace for trade (Kourgiantakis & Petrakis, 2007). A B2B electronic marketplace consists of a website platform acting as an

intermediary to facilitate the interaction of many buyers and suppliers for bidding, communication, advertising, transacting and procurement.

Intermediary facilitates the movement of goods or provision of services along the value chain that links the purchaser and buyer to co-create value. Intermediaries will continue to be seen as a veritable partner in B2B e-commerce as long as they can create value in the process of intermediation between the purchaser and buyer to lower cost, enhance efficiency, and engender trust in the system and among partners. The insinuation of intermediaries into the buyer-seller value creation process undertaking aggregation of the relevant buyer, seller and product information and connection of buyers and sellers for trading has afforded businesses to focus on areas of competencies (Chircu & Kauffman, 2000). It has also ensured a reduction in the supply chain, enabling a business to do more in a shorter period and facilitates leveraging of product and process expertise to provide the right market information, engenders trust in the e-marketplace and enhances seamless transactions.

➤ *Intermediation Platform Types*

Intermediaries can move goods or provide services along the value chain linking the seller and the buyer in a value creation process (Lusch, Vargo & O'Brien, 2007). The intermediation is facilitated through two hubs, exchanges or marketplaces, namely, vertical and horizontal (Humphreys, McIvor & Cadden, 2006; Turban et al., 2012).

➤ *Vertical Exchange*

The vertical exchange focuses on one industry or segment of an industry providing content specific to the value system of buyers and sellers in that industry (Afuah & Tucci, 2001). The industries where this could be located include electronics, cars, hospital supplies, chemicals or steel. A good example is *esteel.com* which acts as an intermediary between steel makers and customers, and *VerticalNet*, which provides intermediaries for many industries, including electronics, telecommunications, and utilities (Humphreys, McIvor & Cadden, 2006).

➤ *Horizontal Exchange*

The horizontal exchange focuses on products or services such as office supplies, computers or travel services whose usage permeate industries like *iMark.com*. Some popular intermediaries that sell in the B2B horizontal e-market include *W.W. Grainger*, *Best Buy*, *Avnet*, *Amazon* and *SAM's Club* (Turban et al., 2012).

➤ *Role of Intermediaries in B2B e-Commerce*

The process of intermediation is one in which a company acts as "the agent of an individual or another firm (a buyer or seller), leverages its middleman position to encourage communication with other agents in the marketplace that will lead to transactions and exchanges that create economic and/or social value" (Perset, 2010; p.15). Such value will manifest in the ability to lower manufacturers' sales concerns by aggregating buyers, the product information and linking buyers and sellers, thus allowing manufacturers to focus on areas of competence. Intermediaries should have sufficient expertise in products and processes to provide correct market information and reduce the supply chain. In B2B e-commerce, companies that wish to sell are brought together into the e-marketplaces with companies that wish to buy in a two-sided trading market explained below to create value.

➤ *Sell-side intermediaries*

A sell-side market intermediary is an intermediary that purchases goods and services from one or several manufacturers, aggregates goods bought into a single catalogue and then sells in the e-marketplaces to businesses and direct consumers. A distinctive feature of Sell-Side intermediaries is that there is one seller to many buyers as is obtainable in an auction or pure pay e-store like *Amazon*. An example of a sell-side intermediary is *W.W. Grainger* which, through its website, *grainger.com*, offers 900,000 brand-name products sourced from 3000 suppliers and is meeting the purchase needs of *Goodrich Corporation* (Turban et al., 2012).

➤ *Buy-side intermediaries*

A buy-side market intermediary is a business acting on behalf of buying party or self that purchases goods or services electronically and then sells to a single buyer. One distinctive feature of Buy-Side intermediaries is that there is one buyer and many sellers, as we have in an e-tendering process where companies are invited to bid for the right to procure goods or offer services. Intermediaries can extend group purchasing by matching similar orders with other businesses and negotiating more excellent discounts. To effectively run their businesses, Organizations need to buy items critical to their end-product or auxiliary items, such as office supplies and maintenance.

Auctions can also be used by buyers, with Request for Quotes (RFQ) and Reverse Auctions inviting suppliers to bid for work or contracts online, thus driving down prices. An example of the buy-side intermediary is the *North Carolina e-procurement portal* which requires businesses to register on its portal and publish their products and prices. Various government offices go to the portal to select products needed and issue purchase orders (McIvor & Humphreys, 2004).

Sell-Side and Buy-Side intermediaries are company-centric electronic markets in which the seller and the buyer respectively have absolute control of the e-marketplaces, which are privately hosted mainly on companies' websites or sometimes by a third

party. The two intermediaries are distinguished by the activities they carry out. While the role of the buy-side intermediary is to attract sellers that ultimately sell to a single buyer, i.e. many-to-one, the role of the sell-side intermediary is to attract buyers that purchase from a single seller and sell to many buyers, one-to-many.

➤ *B2B Exchanges*

B2B exchanges enable businesses to locate products or suppliers across geographical boundaries and thus enhance business performance by providing a safe and secured digital transaction service. It also serves to maintain exchange policies and infrastructure. The ubiquity and affordability of B2B e-commerce on the web have led to the capturing of 94% of today's electronic commerce (Turban et al., 2012). B2B e-commerce utilizes technology that can provide facilities such as "web-based interfaces, integration with supplier catalogues and internal information systems, and built-in business transaction rules based on purchase limits or negotiated contracts" (Humphreys, McIvor & Cadden, 2006; 135). The success of B2B e-commerce depends very much on the seamless integration of the exchange on the one hand and the buyers' and sellers' front and back office systems on the other. However, the integration success is being hampered by challenges with integrating the systems at both the buyer's and supplier's end.

➤ *Integration issues in B2B Exchanges*

B2B integration or B2Bi is about creating a secured communication channel and data exchange between suppliers and buyers. This has revolutionized the way business is conducted across the buyer, supplier and partner's value chain; a tightly integrated partnership will lead to increased growth and enhanced competitive advantage. B2Bi could be very daunting, especially for organizations with hundreds of trading partners worldwide, because of the difficulty in managing several business processes. Now with the advent of technology revolutions, the challenges have even increased as different incompatible technologies are now being used to make electronic information exchange more difficult.

Electronic Data Interchange (EDI), which focuses on interoperability at the communication and content layers, may be challenged due to the absence of negotiation and agreement on document format standards (Medjahed et al., 2003). In some cases, this integration may have issues achieving seamless external communication, in which case connectivity is not achieved in the creation of linkage between the website and suppliers or buyers due to incompatibility of system configuration and applications. It could also be that there are no direct application integration standards and shared procedures thus, each client is left to act with differing procedures.

Integration in B2B may be hindered by the lack of heterogeneity among the business partners. Increased connectivity and data complexity have created the need to access data across multiple systems. Recognizing that applications use varying data structures such as XML, correct integration solutions should be such that permit a firm and its partners to use any blend of 'applications and file formats, protocols and XML standards to transmit transactions and support web services' (Medjahed et al., 2003; p.62). Security is a major concern; therefore, assurances of the safety of transactions would be required by partners for B2B e-commerce to thrive. Because of the unlimited geographical spread and the huge number of partners, interactions among partners are based on limited trust. A solution would be to ensure that the exchange supports common "authentication, integrity in communication, authorization, confidentiality and non-repudiation."

Achieving seamless B2B integration of the exchange and the partners is essential for creating and boosting the efficiency of the virtual trading platform. Efforts should thus be made to promote understanding among partners to stimulate collaboration and cost efficiency.

CHAPTER FIVE

COLLABORATIVE COMMERCE

In a globally connected world facilitated by the Internet, organizations sharing common goals with customers must collaborate, share information, tighten relationships and jointly contribute to value creation. Sharing information with partners has become mandatory in today's business world. For example, a firm must share information about the manufacturing process, production needs and demand forecasts with suppliers. The same applies to the complex retailing environment with thousands of products and maybe as many suppliers. A high level of collaboration between all participants is required to optimally manage stocks, preventing overstock and stock-outs and, eventually, ensuring mutual profitability.

Collaboration between organizations across similar or interdependent industries has become commonplace. Many organizations are leveraging the internet to synchronize operations with suppliers, customers and partners and integrate the development of new products, management and distribution of inventory, manufacture of goods, marketing and sales (Nervewire, 2002). The above is described as Collaborative Commerce. Collaborative Commerce is defined as the application of information technology to accomplish a closer integration and better management of business relationships among parties, comprising employees, partners and customers (Bond et al., 1999; Turban & King, 2003). Collaboration can be realized through e-chat rooms, video/audio conferencing, e-Supply chains, and e-customer ordering/tracking.

The term Collaborative Commerce (C-Commerce) was first coined by the Gartner Group in 1999 and conceptualized as a new form of a business model enabled and leveraged by the Internet and integration technologies (Bond et al., 1999). C-Commerce is a business strategy firms deploy to stay fiercely competitive and aligned with their key partners, which ensures operations and supply chain management is aligned with the information systems of its business partners. C-Commerce has thus become one of the most important business strategies in electronic world governed by fierce global competition (Yang et al., 2014).

Collaborative Commerce (C-Commerce) deals with exchanging information that pervades all collaborative activities in a community of participants (Holsapple & Singh, 2000). It is the 'collaborative and fluid interaction of a community of personnel, business partners, and customers that is joined together by Internet, component and integration technologies, resulting in agile but highly integrated 'virtual' multi-company enterprises' (GartnerGroup, 1999). The collaboration aims to synchronize business-to-business and business-to-consumer trading partners using collaborative tools, components, and integration technologies.

In today's business world, collaboration has evolved beyond buying and selling to planning, designing, developing, communicating, discovering information, researching and providing services among organizations (Li & Du, 2005). The level of c-commerce in a company is a function of the level of integration which could be grouped into minimal, moderate, high and very high integration. The higher the collaboration, the higher the level of integration. C-Commerce involves trading and exchanging proprietary information; thus, such information must be well secured. Companies need to leverage new technologies to increase their collaboration with customers, suppliers and business partners, and the consensus on every company's list is first to leverage security tools.

Any organization seeking to thrive in this highly dynamic business environment must improve its internal processes so that information, communication and knowledge are appropriately harnessed and disseminated as quickly as possible. While e-commerce focuses on cost reduction, c-commerce provides new revenue opportunities by enabling manufacturers to bring innovative products to market faster than the competition (Carroll, 2001). Collaboration between the supply chain members through a c-commerce platform has enhanced competitiveness and profitability (Yang et al., 2014).

It is essential to understand that Collaborative Commerce is more than a transaction exchange. It is an *intellectual-capital exchange* that facilitates the delivery of virtual enterprise (Carroll, 2001). Collaborative relationships involve knowledge sharing, knowledge creation and knowledge usage across organizations that are jointly working together to perform several activities like research, designing, production, marketing, and logistics (Chang & Wang, 2011) that require computer-based technology to support the processes of collaboration. To reach the next competitive plateau, companies would have to deploy new collaborative platforms and strategies and automate business processes to facilitate the exchange of intellectual capital.

Collaborative Commerce incorporates technologies and business practices that enable a business to cultivate a stronger relationship with partners through the integration of processes. It is different from e-commerce, which essentially is the interaction of products, information and services over electronic marketplaces due to its expanded scope that includes sharing of information, integration between businesses and establishment of extended mutually beneficial value chains (Lee, Pak, & Lee, 2003). C-commerce integrates knowledge management, e-commerce and collaboration tools and methodologies and is designed to conduct transactions and collaborative activities within and across organizations (Nervewire, 2002).

C-Commerce is a set of techniques that enable companies to maintain better relationships with their supply chain partners through automation of their cross-enterprise process logic, rules, heuristic and workflow (Li & Du, 2005). C-Commerce is thus a departure from transaction to relationship focus among members of the supply chain arising from improved communication, enhanced flow of information and new openness between partners. Having common operations to ensure seamless processing and information exchange is the primary goal of c-commerce, and achieving this will depend majorly on the integration between organization components and across organizations (Chang & Wang, 2011).

➤ *Technology Enablement*

Information exchange between participatory systems will present a challenge in effectively managing information traversing between all systems (Chong et al., 2010). If integration between different portals is done, a business unit, for example, can track materials required for manufacturing and the current status and location. Such integration will contribute efficiently to the reduction of cycle time. A well-designed system should thus detect performance data throughout the acquisition order lifecycle and provide feedback to all participating parties, allowing them to correct any deviation (Harris, 2013).

These systems are made up of electronic tools, starting with email and wikis and ending with powerful collaboration platforms such as SharePoint, Salesforce, Oracle and SAP ERPs (Turban et al., 2015). Technologies such as security tools, design collaboration software and supply chain management systems have been noted to be critical to c-commerce. Nervewire (2002) observed that companies with low collaboration levels focus on installing technologies at the basic levels of collaborative commerce, such as email, fax and phone. However, as the level of collaboration increases, the preference for technologies like design collaboration software, portals and supply chain software also increases.

➤ *Corporate Portals*

A corporate portal is a gateway to a corporate website and other information sources that enables communication, collaboration, and access to company information (Turban et al., 2012). It enables businesses across the supply chain to access internally and externally stored information and provides users with a single entry point for personalized information for decision-making. A corporate portal enables electronic integration of business processes among supply chain members, which aids the realization of global customer service, cost reduction and response time improvement (Chang & Wang, 2011). It is mainly similar to public portals like yahoo, MSN and Google. However, unlike a public portal, corporate portal shares customized information with all the relevant parties depending on their level of access. The information and collaboration facilitated by the portal are exclusive to the organization.

A corporate portal is vertical, providing information on only one company and leverages, among others, the existing information systems, networks, servers, and applications to provide approved user access to corporate information irrespective of time and place (Yang, Yang, & Wu, 2005). It, therefore, presents users with a forum for effective collaboration and a shared community for interaction through the assemblage of content and services.

➤ *C-Commerce and Corporate Portal Relationships*

Collaborative commerce is an enabler and facilitator of closer collaboration and better business relationship management among value chain partners that are engaged in several joint activities through the aggregation of knowledge from various sources to provide an integrated view (Hartono & Holsapple, 2004; Li, Du, & Wong, 2007). The corporate portal is the platform for facilitating this collaboration. A corporate portal is a tool that enables the information to be easily accessed by partners.

➤ *Barriers to C-Commerce Growth*

As Turban and King (2012) discuss, there are barriers to overcome to create corporate portals to create C-Commerce within an e-market. Lack of trust has been noted as the most typical challenge to C-Commerce as other partners in the value chain are reluctant to share proprietary information because they are not confident that it will not be abused. The lack of harmonization of many firms' internal business processes and systems, critical to external integration, is a significant barrier to collaborative commerce. The level of collaborative commerce in a firm is directly proportional to the degree of internal integration.

Other barriers include poor standards, integration issues, inadequate technological capabilities and training, security and privacy issues, and the inability to identify return on investment on the infrastructure required to create a C-Commerce environment. Overcoming these barriers begins with securing the best enterprise software tools that can interact with the company and its business partners to create benefits for both parties. Understanding how these tools can positively impact information quality, perceived ease of use, service quality, consistency, social relevance, job relevance, and the intentions to use a C-Commerce portal needs to be considered (Shihab, Furqon & Hidayanto, 2015).

The notion of knowledge enrichment through the collaborative network of exchange as it relates to design and manufacturing will, without question, lead to financial gains (Jayaram & Pathak, 2013). However, Industry must be cautious to protect all parties interests, ensuring that niche trait, innovative strategies, and recognized competitive advantage is protected to build trust.

➤ *Benefits of Collaborative Commerce*

- C-Commerce can help firms manage change, make decisions, and act on those decisions with optimum speed.
- It improves product quality and efficiency by automating complex business processes and connecting centres of product knowledge to eliminate the confusion common in non-Internet systems.
- It results in faster time to market, time to volume, and time to productivity.
- In the supply chain context, the significant benefits of c-commerce are a competitive advantage, cost reductions, productivity improvements, better quality, increased revenue, faster movement of goods, and better customer retention (Turban et al., 2012).

The benefits to customers as a result of successful collaborations in the supply chain could be enhanced product and service quality and plausibility resulting from effective market research and demand forecasts performed hand-in-hand by supply chain participants.

➤ *Factors Enabling Collaborative vision of Commerce*

Li & Du (2005) listed the below factors as the enabler of the collaborative vision of commerce:

- *Better Relationship Management.*

Since there are multiple firms in a collaborative network, each firm should be capable of managing the resulting dynamic business relationship, specifically since the community formed is in the cyberspace marketplace.

- *Better Business Process Integration.*

The migration to collaborative commerce is comparable to changing the business relationship from independent units to mutually dependent ones. The success of seamless collaboration can therefore be achieved by harmonizing all the business processes in the network, making business operations efficient. Though the commitment may be risky, it is gratifying.

- *Better Knowledge And Information Sharing.*

Since the business processes are contributed over distributed and heterogeneous networks, it is vital to have a superior information infrastructure to allow the information and knowledge to be shared during the processes such as product development. Although sharing information is encouraged, it is not vital to understand that all companies have proprietary knowledge, which is not intended to be shared with collaborators, even in the closest relationships.

- *A Better Collaborative Culture.*

Collaborative commerce brings the most talented workers together to develop products to meet consumer demands. These workers come from different organizations and are influenced by different organizational cultures and encouraged by different incentive schemes. Therefore, the successful building of a collaborative atmosphere across organizations determines the success of collaborative commerce.

In conclusion, an integrated and intelligent system supporting knowledge sharing and collaboration can help companies to distinguish themselves from their competitors. A firm must be willing to embrace change and seize the opportunities offered by collaborative commerce. Whether it be through interaction within collaboration hubs as demonstrated by such firms as Caterpillar; the use of vendor management inventory systems as employed by Walmart and key suppliers such as Procter and Gamble, or retail-supplier collaboration as demonstrated by Target and its supply chain; the benefits to be recognized though c-commerce are available for the taking. Firms like Dell, HP, and Cisco have transformed their value chains by developing sophisticated business models enabled by their strategic approach to collaborative commerce (Turban et al., 2012).

CHAPTER SIX E-COMMERCE PAYMENT

The growth of technology has facilitated innovations in payment services, which has propelled the rapid growth in e-commerce, leading to the creation of new payment methods. The electronic payment system (EPS) was introduced by Dennis Abrazhevich (2001) as a critical part of e-commerce and e-business since it was obvious that the traditional means of payment such as cash, cheque and POS were unsuitable over the Internet because they lacked the properties required of an effective EPS which Abrazhevich (2001) itemized as tabulated below.

Table 1 Properties Required of an Effective EPS

Anonymity,	Ease of use,	Security,	Trust
Efficiency,	Convertibility,	Reliability	

Other properties an effective EPS should possess, which were introduced later, include:

Table 2 Other Properties Required of an Effective EPS

Non-Repudiation,	Privacy,	Authentication,	Scalability
Integrity,	Confidentiality	Authorization	

The ubiquity of the Internet and the increasing availability of smart devices have led to the adoption of real-time electronic payments and the boom of e-commerce. Transactions that used to take extended periods are now being processed at the click of a button. E-payment is generally acknowledged as a vital component of e-commerce, without which e-commerce cannot be completed (Alzoubi et al., 2022).

Deloitte identified five common categories of payments that would be aided by real-time processing, as shown in the table below:

Table 3 Deloitte Identified Five Common Categories of Payments

Category of Payment	Descriptions	Size of Transactions	Key Considerations
1. Business to Business (B2B)	Supplier payments	low	
2. Business to Consumer (B2C)	<ul style="list-style-type: none"> • Legal Settlements • Insurance claims • Contingent Employee wages 	Medium to High	<ul style="list-style-type: none"> • Real-time authorization/clearing
3. Consumer to Business (C2B)	<ul style="list-style-type: none"> • Bill Pay • Hospital Co-pay • Pay at POS 	Low to Medium	<ul style="list-style-type: none"> • Intra-day availability of funds
4. Domestic Peer to Peer (P2P)	Repayment to Friends/Family	Low to High	<ul style="list-style-type: none"> • Intra-day interbank settlement
5. Cross Border Peer to Peer (P2P)	Remittance to Family/Friends	Medium to High	<ul style="list-style-type: none"> • Late-day interbank settlement

Source: Deloitte analysis

The rapid penetration of mobile phones and smartphones, together with the associated infrastructure, has created new access channels that permit the execution of traditional payments like transfer of credit and novel payment systems (Tucker et al., 2012). This payment system using mobile devices is now known as mobile payment and was described by Mazzanti (2017) as a business transaction successfully processed via a mobile device connected to a mobile network for economic value and transfer of funds in exchange for a good or service using the mobile phone for initiation and confirmation of the payment. Research and Markets, a research firm, estimated global mobile payments to be USD 4.23 trillion in 2022 and is expected to reach USD 15.75 trillion by 2027, growing at a CAGR of 30.07% (Research and Markets, 2022).

There are two mobile payment categories: proximity payments and remote payments. Proximity mobile payment (m-payment) is based on contactless near-field communications (NFC) and enables consumers to purchase goods and services directly at merchant locations by holding their mobile phones to a reader for the value of the purchase to be deducted from a pre-paid account, a mobile account, or a bank account. Remote m-payment describes when a mobile phone is used to process a transaction for a good or service either by allowing mobile subscribers to purchase such as an application, ringtone, or video through their phone or via SMS and billed it to their mobile account or pay directly through a mobile Web site using methods like PayPal, credit or debit cards.

The opportunities provided by e-commerce and consumers' growing expectation facilitate the evolution of several and varied payment methods, some of which are successful, while the rest fail to generate the needed critical mass. These payment methods

include debit and credit payment cards which account for payment for about 80% of B2C purchases, e-wallets, smart cards and Electronic Funds Transfer which is chiefly used to facilitate money transfers between bank accounts. The major payment card providers are Visa, MasterCard, Union Pay, and American Express. The exorbitant cost of transactions processed via payment cards, particularly for low-valued payments, has opened the door for new payment product innovations and created a market for e-micropayment. Some of the less costly e-payment options over the years that have been less successful include "Digital Cash, [PayMe.com](#), Flooz, Beenz, Wells Fargo's and eBay's Billpoint, and Yahoo! 's PayDirect" (Turban et al., 2012; p.517)

➤ *Social Network*

The entrance of social network giants like Facebook into e-commerce deepens the e-commerce penetration and enables the expansion of customer base, geographical reach and sales. Since 2007, Facebook has been processing payments for gamers and advertisers in the B2B business model, generating an operating income of \$6.225billion in 2015 alone. However, its introduction of a new feature in Messenger that enables members to send money to friends through their debit cards linked to their Facebook accounts might be the arrival of the future foretold (de Looper, 2015). The challenge for many companies whose viable payment methods failed is the inability to generate the needed critical mass for e-payment adoption. However, that cannot be a challenge for a successful social network company like Facebook, with a monthly average user size above 2.93 billion, average daily users of 1.968 billion, and 1.3 billion monthly membership average users of its Messenger, processing 100 billion messages daily. Facebook's introduction of a new feature in Messenger that permits members to send monies to friends using their debit cards connected to their Facebook accounts is a strong statement of intent by social networks for the mobile payment market.

➤ *Other Significant Players*

Before Facebook's announcement, Apple and Google had entered into mobile payment services with Apple Pay and Google Wallet, respectively. These applications use a smartphone to pay, leveraging contactless technology to communicate with wireless payment terminals similar to Visa payWave and MasterCard PayPass. The incursion of social networks into e-payment will assuredly catapult e-commerce to a new level, and the competitiveness will drive down the transaction charges, thus positioning e-commerce as a more attractive shopping platform.

CHAPTER SEVEN

ELECTRONIC SUPPLY CHAIN MANAGEMENT

The business value chain consists of the activities within the business component that facilitate the co-creation of values among partners. The process whereby materials, information, money and services are moved from the suppliers of raw materials through the production plant and warehouses to the end consumers is known as supply chain management (SCM). SCM could also be described as a process requiring the coordination of many activities so that the movement of goods and services from the supplier to the customer is efficiently and effectively carried out. Chaffey (2009) defined SCM as coordinating the organization's supply activities from its suppliers and partners to its customers. Originally, SCM was conceived as a means of reducing costs by identifying opportunities for process efficiency with the view to adding value to the ultimate consumer at the end of the supply chain.

Companies' growing recognition that the flow of information and material along their supply chains efficiently is a source of competitive advantage and means of differentiation from peers. The introduction and mass adoption of the Internet has profoundly impacted organizations' supply chains. The digitalization of businesses leveraging the Internet has also led to the adoption of Internet technology to support SCM. Electronic Supply Chain Management (e-SCM) is thus the electronic management of the supply chain, usually through the web, and it enhances the effectiveness and efficiency of supply chain operations (Samaranayake, 2005). E-SCM involves using information technologies to improve the operations of supply chain activities and the management of supply chains. Apart from changes in technology, e-SCM includes changes in management policies, performance metrics, business processes, and organizational culture and structure across the supply chains. (Turban et al., 2012).

The activities and infrastructure of electronic supply chain management (e-SCM) include replenishment of the supply chain, monitoring and control of supply chain, collaborative planning, design and development of products, electronic logistics and B2B hubs usage. The infrastructure that supports e-SCM includes intranets for internal communication, extranets for external communication with partners, electronic data interchange (EDI), workflow systems and tools, and corporate portals. B2B's supply chain collaboration ecosystem includes manufacturers, retailers, and suppliers that exchange business information using the Internet and collaborate to forecast demand for their products, develop production schedules, and control inventory flow (Al-Bayati & Al-Rubaiee, 2011).

➤ *Reverse Logistics*

Much discussion on supply chain management has been on the flow of products from the source point to the consumers. An equally important study has emerged on the backward flow of purchased items from the customer back to the source points in what is termed "Reverse Logistics". Reverse logistics has been described as the movement of goods from a consumer to a producer in a channel of distribution (Murphy & Poist, 1988; p.12) or the movement of returns from customers to vendors (Turban et al., 2012; p.551) etc. Consumers return products purchased for several reasons including defectiveness, in-transit damages, impulse purchase, incorrect order fulfilments, product recalls, and suppliers may return unsold products to the manufacturer if a buyback policy exists.

Reverse logistics is critical in the retail industry as it plays an important role in generating a satisfying customer experience, buyer loyalty, repeat shopping and referrals, which inevitably affect profitability. Return policies influence the decision to shop online for most customers. Thus, reverse logistics is an inevitable reality in e-commerce, a 'need to have' rather than 'hope to have'. Reverse Logistics has gained global prominence, affects the corporate image of an entity and has become a source of competitive advantage. This, in a way, explains the rationale behind online retailers' willingness to offer a free return. It is important to note that competitive advantage can be secured through awareness of the financial and corporate risks of takebacks. Stakeholder value can be maximized from efforts in sustainability initiatives and takeback innovations.

CHAPTER EIGHT CONCLUSION

The Internet has and continues to revolutionize every industry, facilitate the creation of new industries and jobs, and improve the quality of life globally. Less than 3 billion people, mostly residing in Southern and Eastern Asia and Africa, are still without the Internet. As the internet availability gap is closed, more people will benefit from internet-enabled opportunities, and entrepreneurs and startups will secure opportunities and funding to grow locally and internationally. E-commerce will continue to record exponential growth in market size and demography, the gap in market size between e-commerce and traditional commerce will close, and in time more purchases will be made online than in stores. Innovation leaders and technology hubs will emerge and play a pivotal role in shaping the future of the Internet economy as internet growth shifts from historically strong digital economies in North America and Europe to emerging markets (Internet Society, 2017).

The future of e-commerce will be in the emergence of Omni-channel retailing, which, as the name implies, involves the use by retailers of several channels for shopping interaction. The channels may include "websites, physical stores, kiosks, direct mail and catalogues, call centres, social media, mobile devices, gaming consoles, televisions, networked appliances, home services, and more" (Rigby, 2011). Since consumers' behaviour will never be the same, different segments of consumers will value their shopping experiences differently. The future of e-commerce will be for retailers that can integrate different channels into a single unified Omni-channel.

A disruption in e-SCM likely to propel the future growth of e-commerce, particularly in logistics, would be the wholesale adoption of drones, and unmanned aerial vehicles, to speed up the process of delivering products. Using drones to deliver products will improve customers' experiences that will have products delivered faster and without hassle at their doorsteps or where the receiver is at any point in time in what is referred to as Pinpoint shipping. Introducing drones in e-commerce logistics will be a destructive innovation that will modify the products' supply chain, enhance logistics process efficiency and provide a competitive advantage, especially for giants like Amazon, eBay and Alibaba (Purkayastha, 2015). The snag in take-off in the US is the current legislation and safety concerns.

E-commerce is an evolving industry striving to meet the changing demands of buyers and sellers and is thus subject to the changing partners' behaviour. Competition in the next generation of e-commerce may be shaped by the ability to synthesize information. This is because many products are on offer with a desperate need for relevant information to aid quick decision-making. A disruption in future e-commerce experience may be introducing a conversational Artificial Intelligence agent and virtual support provider, Chatbots, redirecting prospective customers to the information of interest. A chatbot simulates human conversation through text messages, voice chats, or both and can be represented as a website bot, chatbot app, social media chatbot and voice assistant (Lastovetska, 2021). As observed in "Hipmunk", a travel search engine, it saves time and expenses through customer support automation 24/7 in the e-commerce space.

The revolutionary use of blockchain technology will propel the future growth of e-commerce. E-Commerce has unresolved limitations such as trust, unsatisfactory transaction speed, higher fees and policies and digital data ownership. Blockchain will help to build trust in online payment with its distributed ledger of all digital transactions, which is immediate and secure and offer a new payment option with cryptocurrency like Bitcoin. A major disruptive e-commerce innovation to be expected in the future will be the introduction of blockchain-driven Ecoinmerce, the world's first decentralized and tokenized e-commerce marketplace, which proposes to connect consumers and retailers unprecedentedly. When deployed, the ecoinmerce platform will enable users to buy as groups to secure higher discounts, auction goods to one another, feature daily deals at huge discounts and solve the problems mentioned above. The idea of transaction processing with digital assets removes third-party intermediaries. The information in blockchain is stored indefinitely, which helps to eliminate fraud and foster transparency. In addition, the transaction cost is significantly lower, and the processing speeds are faster.

The digital and physical worlds are converging, placing the world on the threshold of a technological paradigm shift (Internet Society, 2017). Expectedly, the existing economic structures and business models will continue to be disrupted to an extent the world may not comprehend today. The option to choose is gradually fading, and every component of society must adapt to this technological revolution's pace. The Internet remains one of the most impactful innovations ever, driving waves and waves of innovations in every sphere of our lives and indeed has enabled the creation of a new industrial order with the reconfiguration of existing businesses, creating an entirely new model of business and an entire digital economy. The digital economy will undoubtedly continue to be transformed, fueled by technological and business model innovations.

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