CHAPTER ONE
AN OVERVIEW OF E-COMMERCE

1.1.Introduction to E-commerce

Businesses are developing and applying different technologies to increase their level of competitiveness and in their way to achieve their objectives. Among the different technologies, through which they do so, one is ways by which information, product, money and others transfer from one party to the other. Especially, the ways information is exchanged among businesses determine their competitiveness. Therefore, electronic business and electronic commerce are few among several.

Electronic business e-business is aimed at enhancing the competitiveness of an organization by deploying innovative information and communications technology throughout an organization and beyond, through links to partners and customers. It does not simply involve using technology to automate existing processes, but should also achieve process transformation by applying technology to help change these processes.

1.2.Origin of e-commerce

In the previous section we have known that, ecommerce or electronic commerce, is the buying and selling of products or services via the Internet. But for many Africans in general and Ethiopians in particular, ecommerce is not something we participate in on a daily life. However, it is becoming a recent phenomenon. In the westerns, ecommerce is widely used on a daily basis, like online bill payment or purchasing from an e-tailer and the likes.

Nowadays the thought of living without ecommerce seems unfathomable, complicated and inconveniences for the western world and to some extent in developing countries like ours. Actually, it wasn't until only a few decades ago that the idea of ecommerce had even appeared.

E-commerce actually began in the 1970s when larger corporations started creating private networks to share information with business partners and suppliers. This process, called Electronic Data Interchange (EDI), transmitted standardized data that streamlined the procurement process between businesses, so that paperwork and human intervention were nearly eliminated.

This day, it has continues to grow with new technologies, innovations, and thousands of businesses entering the online market each year. The convenience, safety, and user experience of ecommerce has improved exponentially since its inception in the 1970's.

Here under some of the important timeline for ecommerce are listed.

1960 – 1982: Paving the way for electric commerce was the development of the Electronic Data Interchange (EDI). EDI replaced traditional mailing and faxing of documents with a digital transfer of data from one computer to another.

1982 – 1990: It was apparent from the beginning that B2B online shopping would be commercially lucrative but B2C would not be successful until the later widespread use of PC's and the World Wide Web, also known as, the Internet. In 1982, France launched the precursor to the Internet called, Minitel. The online service used a Videotex terminal machine that was accessed through telephone lines. The Minitel was free to telephone subscribers and connected millions of users to a computing network.

90's To Present: In 1990 Tim Berners Lee, along with his friend Robert Cailliau, published a proposal to build a "Hypertext project" called, "World Wide Web." The inspiration for this project was modeled after the Dynatex SGML reader licensed by CERN.

That same year, Lee, using a NeXT computer created the first web server and wrote the first web browser. Shortly thereafter, he went on to debut the web on Aug. 6, 1991 as a publicly available service on the Internet. When Berner's Lee decided he would take on the task of marrying hypertext to the Internet, in doing that, the process led to him developing URL, HTML and HTTP.

When the National Science Foundation lifted its restrictions on commercial use of the NET in 1991, the Internet and online shopping saw remarkable growth. In September 1995, the NSF began charging a fee for registering domain names. 120,000 registered domain names were present at that time and within 3 years that number grew to beyond 2 million. By this time, NSF's role in the Internet came to an end and a lot of the oversight shifted to the commercial sector.

1.3.Definition of e-commerce

Electronic commerce (e-commerce) is often thought simply to refer to buying and selling using the Internet; people immediately think of consumer retail purchases from companies such as Amazon. But e-commerce involves much more than electronically mediated *financial* transactions between organizations and customers. E-commerce should be considered as *all* electronically mediated transactions between an organization and any third party it deals with. By this definition, non-financial transactions such as customer requests for further information would also be considered to be part of e-commerce. Kalakota and Whinston (1997) refer to a range of different perspectives for e-commerce:

1. *A communications perspective* – the delivery of information, products or services or payment by electronic means.
2. *A business process perspective* – the application of technology towards the automation of business transactions and workflows.
3. *A service perspective* – enabling cost cutting at the same time as increasing the speed and quality of service delivery.

4. *An online perspective* – the buying and selling of products and information online.

The UK government also used a broad definition when explaining the scope of e-commerce to industry: *'E-commerce is the exchange of information across electronic networks, at any stage in the supply chain, whether within an organization, between businesses, between businesses and consumers, or between the public and private sector, whether paid or unpaid.* (Cabinet Office, 1999).

E-Commerce can also be defined as the facilitation of commercial transactions electronically, using technology such as electronic data interchange (EDI) and electronic funds transfer (EFT). In this type of online commercial transaction, the seller can communicate with the buyer without having a face to face interaction.

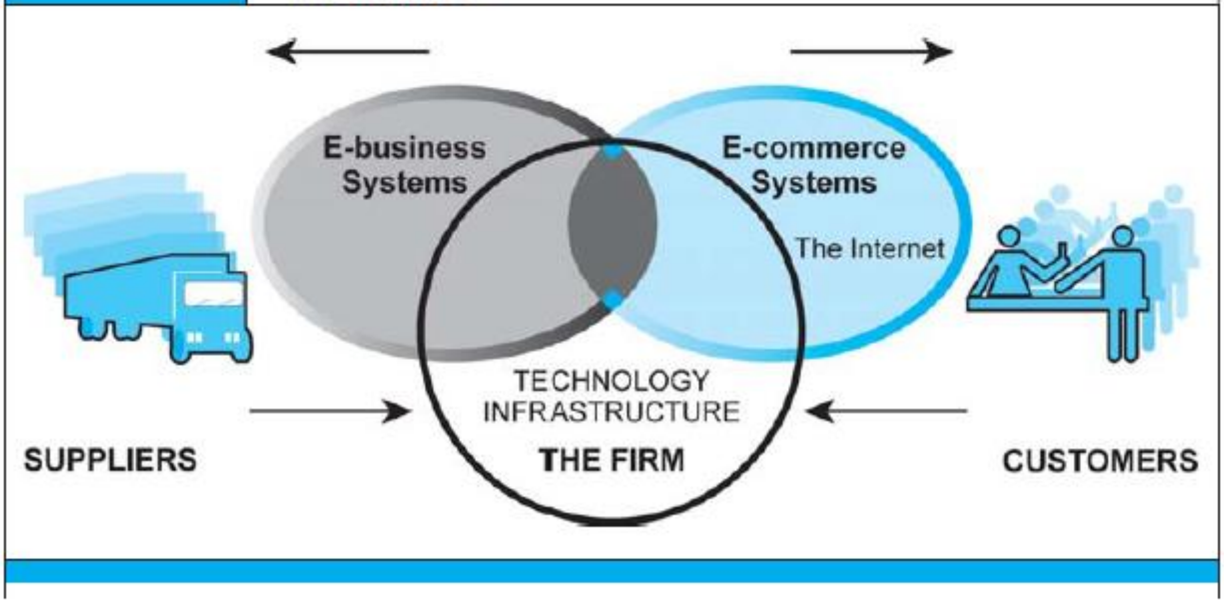
These definitions show that electronic commerce is not solely restricted to the actual buying and selling of products, but also includes pre-sale and post-sale activities across the supply chain. E-commerce is facilitated by a range of digital technologies that enable electronic communications. These technologies include Internet communications through web sites and e-mail as well as other digital media such as wireless or mobile and media for delivering digital television such as cable and satellite.

1.4.E-business vs. e-commerce

The rapid advancement of technology and its application to business has been accompanied by a range of new terminology and jargon. The use of the term 'electronic commerce' has been supplemented by additional terms such as e-business and e-marketing, and more specialist terms such as e-CRM, e-tail and e-procurement.

It is important to make a working distinction between e-commerce and e-business because they refer to different phenomena. E-commerce is not "anything digital" that a firm does. For purposes of this text, we will use the term e-business to refer primarily to the digital enabling of transactions and processes within a firm, involving information systems under the control of the firm. For the most part, in our view, e-business does not include commercial transactions involving an exchange of value across organizational boundaries. For example, a company's online inventory control mechanisms are a component of e-business, but such internal processes do not directly generate revenue for the firm from outside businesses or consumers, as e-commerce, by definition, does. It is true, however, that a firm's e-business infrastructure provides support for online e-commerce exchanges; the same infrastructure and skill sets are involved in both e-business and e-commerce. E-commerce and e-business systems blur together at the business firm boundary, at the point where internal business systems link up with suppliers or customers, for instance (see Figure 1.1). E-business applications turn into e-commerce precisely when an exchange of value occurs.

FIGURE 1.1 THE DIFFERENCE BETWEEN E-COMMERCE AND E-BUSINESS



E-commerce primarily involves transactions that cross firm boundaries. E-business primarily involves the application of digital technologies to business processes within the firm.

1.5.Unique features of Electronic Commerce

E-Commerce is a conveniently concise term, but one that is many-faceted and quite complex when you begin to dig deeper. E-Commerce has eight unique features that give it its "Wow" factor. Here under are lists of eight unique features of e-commerce technology that both challenge traditional business thinking and explain why we have so much interest in e-commerce. These unique dimensions of e-commerce technologies suggest many new possibilities for marketing and selling—a powerful set of interactive, personalized, and rich messages are available for delivery to segmented, targeted audiences. E-commerce technologies make it possible for merchants to know much more about consumers and to be able to use this information more effectively than was ever true in the past.

a. **Ubiquity**: The traditional business market is a physical place, access to treatment by means of document circulation and where one can't visit several places at a time. For example, clothes and shoes are usually directed to encourage customers to go somewhere to buy. E-commerce is ***ubiquitous*** meaning that it can be everywhere. Internet or web technology is available everywhere at work, at home, and elsewhere via mobile devises anytime and so shopping can happen anywhere.

Ubiquity lowers transaction costs and reduces cognitive energy (mental effort needed to complete a task) for the consumer/buyer. Consider the mental effort needed to buy your book online vs. hunting for it at various book stores.

b. **Global Reach:** E-commerce technologies enable a business to conduct commercial transactions cross cultural and national boundaries -easily reach across geographic boundaries. While e-commerce can reach across geographic boundaries, can it reach across demographic boundaries? It is accessed by any one from any demographic group; age, income, race, gender, religion, etc. There is one demographic boundary that technology can reach. Luckily, business doesn't have an interest in reaching this group. Easy to understand how this feature can benefit business and consumers.

c. **Universal Standards:** There is one set of technology standards, namely Internet standards. There is one set of technical media standards across the globe.

d. **Richness**: Video, audio, and text messages are possible. Video, audio, and text marketing messages are integrated into a single marketing message and consuming experience.

e. **Interactivity**: The technology works through interaction with the user. Consumers are engaged in a dialog that dynamically adjusts the experience to the individual, and makes the consumer a co-participant in the process of delivering goods to the market.

f. **Information density**: The technology reduces information costs and raises quality. Information processing, storage, and communication costs drop dramatically, while currency, accuracy, and timeliness improve greatly. Information becomes plentiful, cheap, and accurate.

g. **Personalization/Customization:** The technology allows personalized messages to be delivered to individuals as well as groups. Personalization of marketing messages and customization of products and services are based on individual characteristics.

h. **Social technology**: User content generation and social networking. New Internet social and business models enable user content creation and distribution, and support social networks.

1.6.Comparison of traditional commerce and e-commerce

Traditional Commerce or Commerce is a part of business, which encompasses all those activities that facilitate exchange. Two kinds of activities are included in commerce, i.e. trade and auxiliaries to trade. The term trade refers to the buying and selling of goods and services for cash or kind and auxiliaries to trade, implies all those activities like banking, insurance, transportation, advertisement, insurance, packaging, and so on, that helps in the successful completion of exchange between parties.

In finer terms, commerce encompasses all those activities that simplify the exchange of goods and services, from manufacturer to the final consumer. When the goods are produced, it does not reach to the customer directly rather it has to pass from various activities, which are included under commerce. Its main function is to satisfy the wants of consumers by making goods available to them, at the right time and place.

E-Commerce, whereas, refers to the exchange of goods and services, funds or information, between businesses and consumers using the electronic network, i.e. internet or online social network. E-Commerce means trading and providing assistance to trading activities, through the use of the electronic medium, i.e. all the activities like purchasing, selling, ordering and paying are performed over the internet.

Key Differences between Traditional Commerce and e-Commerce

The following points are noteworthy so far as the difference between traditional commerce and e-commerce is concerned:

1. A part of business, that focuses on the exchange of products and services, and includes all those activities which encourage exchange, in some way or the other, is called traditional commerce. E-Commerce means carrying out commercial transactions or exchange of information, electronically on the internet.
2. In traditional commerce, the transactions are processed manually whereas, in the case of e-commerce, there is automatic processing of transactions.
3. In traditional commerce, the exchange of goods and services, for money can take place, only during working hours. On the other hand, in e-commerce, the buying and selling of goods can occur anytime.
4. One of the major drawbacks of e-commerce is that the customers cannot physically inspect the goods before purchase, however, if customers do not like the goods after delivery they can return it within the stipulated time. Conversely, in traditional commerce physical inspection of goods is possible.
5. In traditional commerce, the interaction between buyers and sellers is direct, i.e. face to face. As against this, there is indirect customer interaction, in the case of e-commerce, because it may be possible that the customer is miles away from where they place an order for the purchase of goods.
6. The scope of business in traditional commerce is limited to a particular area, i.e. the reach of business is limited to the nearby places where it operates. On the contrary, the business has worldwide reach in case of e-commerce, due to its ease of access.
7. As there is no fixed platform for information exchange in traditional commerce, the business has to rely on the intermediaries for information fully. Unlike e-Commerce, wherein there is a universal platform for information exchange, i.e. electronic communication channel, which lessen the dependency on persons for information.

8. Traditional commerce is concerned with the supply side. In contrast, the resource focus of e-commerce is the demand side.
9. In traditional commerce, the business relationship is vertical or linear, while in the case of e-commerce there is directness in command leading to a horizontal business relationship.
10. In traditional commerce, due to standardization, there is mass/one way marketing. However, customization exists in e-commerce leading to one to one marketing.
11. Payment for transactions can be done by paying cash, cheque or via credit card. On the other hand, payment in e-commerce transactions can be done through online payment modes like credit card, fund transfer, etc.
12. The delivery of goods is immediate in traditional commerce but in the case of e-commerce, the goods are delivered at the customer's place, after some time, usually within a week.

Comparison Chart

BASIS FOR COMPARISON	TRADITIONAL COMMERCE	E-COMMERCE
Meaning	Traditional commerce is a branch of business which focuses on the exchange of products and services, and includes all those activities which encourages exchange, in some way or the other.	E-Commerce means carrying out commercial transactions or exchange of information, electronically on the internet.
Processing of Transactions	Manual	Automatic
Accessibility	Limited Time	24×7×365
Physical inspection	Goods can be inspected physically before purchase.	Goods cannot be inspected physically before purchase.
Customer interaction	Face-to-face	Screen-to-face
Scope of business	Limited to particular area.	Worldwide reach
Information	No uniform platform for exchange of	Provides a uniform platform

BASIS FOR COMPARISON	TRADITIONAL COMMERCE	E-COMMERCE
exchange	information.	for information exchange.
Resource focus	Supply side	Demand side
Business Relationship	Linear	End-to-end
Marketing	One way marketing	One-to-one marketing
Payment	Cash, cheque, credit card, etc.	Credit card, fund transfer etc.
Delivery of goods	Instantly	Takes time

Therefore, with the above discussion, it is quite clear that both the methods have their advantages and disadvantages. E-Commerce is just like the traditional commerce, i.e. when you log in to the website, you enter into the e-world for shopping, wherein you choose a category, specifications and you get the desired results. E-Commerce is not suitable for perishable goods and also for high-value items, while traditional commerce is not suitable for purchasing software or music.

1.7.Advantages and disadvantage of e-commerce

Advantages Some advantages that can be achieved from e-commerce include:

1. **Being able to conduct business 24x7x365:** E-commerce systems can operate all day every day. Your physical storefront does not need to be open in order for customers and suppliers to be doing business with you electronically.
2. **Access the global marketplace**: The Internet spans the world, and it is possible to do business with any business or person who is connected to the Internet. Simple local businesses such as specialist record stores are able to market and sell their offerings internationally using e-commerce. This global opportunity is assisted by the fact that, unlike traditional communications methods, users are not charged according to the distance over which they are communicating.
3. **Speed:** Electronic communications allow messages to traverse the world almost instantaneously. There is no need to wait weeks for a catalogue to arrive by post: that communications delay is not a part of the Internet / e-commerce world.

4. **Market space:** The market in which web-based businesses operate is the global market. It may not be evident to them, but many businesses are already facing international competition from web-enabled businesses.
5. **Opportunity to reduce costs:** The Internet makes it very easy to 'shop around' for products and services that may be cheaper or more effective than we might otherwise settle for. It is sometimes possible to, through some online research, identify original manufacturers for some goods - thereby bypassing wholesalers and achieving a cheaper price.
6. **Computer platform-independent:** 'Many, if not most, computers have the ability to communicate via the Internet independent of operating systems and hardware. Customers are not limited by existing hardware systems' (Gascoyne & Ozcubukcu, 1997:87).
7. **Efficient applications development environment: -** 'In many respects, applications can be more efficiently developed and distributed because the can be built without regard to the customer's or the business partner's technology platform. Application updates do not have to be manually installed on computers. Rather, Internet-related technologies provide this capability inherently through automatic deployment of software updates' (Gascoyne & Ozcubukcu, 1997:87).
8. **Allowing customer self-service and 'customer outsourcing':** People can interact with businesses at any hour of the day that it is convenient to them, and because these interactions are initiated by customers, the customers also provide a lot of the data for the transaction that may otherwise need to be entered by business staff. This means that some of the work and costs are effectively shifted to customers; this is referred to as 'customer outsourcing'**.**
9. **Stepping beyond borders to a global view:** Using aspects of e-commerce technology can mean your business can source and use products and services provided by other businesses in other countries. This seems obvious enough to say, but people do not always consider the implications of e-commerce. For example, in many ways it can be easier and cheaper to host and operate some e-commerce activities outside Australia.

Further, because many e-commerce transactions involve credit cards, many businesses in Australia need to make arrangements for accepting online payments. However a number of major Australian banks have tended to be unhelpful laggards on this front, charging a lot of money and making it difficult to establish these arrangements - particularly for smaller businesses and/or businesses that don't fit into a traditional-economy understanding of business.

In some cases, therefore, it can be easier and cheaper to set up arrangements which bypass this aspect of the Australian banking system. Admittedly, this can create some grey areas for legal and taxation purposes, but these can be dealt with. And yes these circumstances do have implications for Australia's national competitiveness and the competitiveness of our industries and businesses.

As a further thought, many businesses find it easier to buy and sell in U.S. dollars: it is effectively the major currency of the Internet. In this context, global online customers can find the concept of peculiar and unfamiliar currencies disconcerting. Some businesses find they can achieve higher prices online and in US dollars than they would achieve selling locally or nationally. Given that banks often charge fees for converting currencies, this is another reason to investigate all of your (national and international) options for accepting and making online payments.

E-commerce disadvantages and constraints

Some **disadvantages** and constraints of e-commerce include the following.

1. **Time for delivery of physical products:** It is possible to visit a local music store and walk out with a compact disc or a bookstore and leave with a book. E-commerce is often used to buy goods that are not available locally from businesses all over the world, meaning that physical goods need to be delivered, which takes time and costs money. In some cases there are ways around this, for example, with electronic files of the music or books being accessed across the Internet, but then these are not physical goods.
2. **Physical product, supplier & delivery uncertainty:** When you walk out of a shop with an item, it's yours. You have it; you know what it is, where it is and how it looks. In some respects e-commerce purchases are made on trust. This is because, firstly, not having had physical access to the product, a purchase is made on an expectation of what that product is and its condition. Secondly, because supplying businesses can be conducted across the world, it can be uncertain whether or not they are legitimate businesses and are not just going to take your money. It's pretty hard to knock on their door to complain or seek legal recourse! Thirdly, even if the item is sent, it is easy to start wondering whether or not it will ever arrive.
3. **Perishable goods:** Forget about ordering a single gelato ice cream from a shop in Rome! Though specialized or refrigerated transport can be used, goods bought and sold via the Internet tend to be durable and non-perishable: they need to survive the trip from the supplier to the purchasing business or consumer. This shifts the bias for perishable and/or non-durable goods back towards traditional supply chain arrangements, or towards relatively more local e-commerce-based purchases, sales and distribution. In contrast, durable goods can be traded from almost anyone to almost anyone else, sparking competition for lower prices. In some cases this leads to **disintermediation** in which intermediary people and businesses are bypassed by consumers and by other businesses that are seeking to purchase more directly from manufacturers.
4. **Limited and selected sensory information:** The Internet is an effective conduit for visual and auditory information: seeing pictures, hearing sounds and reading text. However it does not allow full scope for our senses: we can see pictures of the flowers, but not smell their

fragrance; we can see pictures of a hammer, but not feel its weight or balance. Further, when we pick up and inspect something, we choose what we look at and how we look at it. This is not the case on the Internet. If we were looking at buying a car on the Internet, we would see the pictures the seller had chosen for us to see but not the things we might look for if we were able to see it in person. And, taking into account our other senses, we can't test the car to hear the sound of the engine as it changes gears or sense the smell and feel of the leather seats. There are many ways in which the Internet does not convey the richness of experiences of the world. This lack of sensory information means that people are often much more comfortable buying via the Internet generic goods - things that they have seen or experienced before and about which there is little ambiguity, rather than unique or complex things.

5. **Returning goods**: Returning goods online can be an area of difficulty. The uncertainties surrounding the initial payment and delivery of goods can be exacerbated in this process. Will the goods get back to their source? Who pays for the return postage? Will the refund be paid? Will I be left with nothing? How long will it take? Contrast this with the offline experience of returning goods to a shop.
6. **Privacy, security, payment, identity, and contract:** Many issues arise - privacy of information, security of that information and payment details, whether or not payment details (eg credit card details) will be misused, identity theft, contract, and, whether we have one or not, what laws and legal jurisdiction apply.
7. **Defined services & the unexpected:** E-commerce is an effective means for managing the transaction of known and established services, that is, things that are every day. It is not suitable for dealing with the new or unexpected. For example, a transport company used to dealing with simple packages being asked if it can transport a hippopotamus, or a customer asking for a book order to be wrapped in blue and white polka dot paper with a bow. Such requests need human intervention to investigate and resolve.
8. **Personal service:** Although some human interaction can be facilitated via the web, e-commerce cannot provide the richness of interaction provided by personal service.
   For most businesses, e-commerce methods provide the equivalent of an information-rich counter attendant rather than a salesperson. This also means that feedback about how people react to product and service offerings also tends to be more granular or perhaps lost using e-commerce approaches. If your only feedback is that people are (or are not) buying your products or services online, this is inadequate for evaluating how to change or improve your e-commerce strategies and/or product and service offerings.

9. **Size and number of transactions:** E-commerce is most often conducted using credit card facilities for payments, and as a result very small and very large transactions tend not to be conducted online. The size of transactions is also impacted by the economics of transporting physical goods. For example, any benefits or conveniences of buying a box of pens online from a US-based business tend to be eclipsed by the cost of having to pay for them to be delivered to you in Australia. The delivery costs also mean that buying individual items from

a range of different overseas businesses is significantly more expensive than buying all of the goods from one overseas business because the goods can be packaged and shipped together.