

**APPRAISAL OF THE TECHNOLOGY OF ELECTRONIC  
COMMERCE  
(AN INTERNET SERVICE ALTERNATIVE)**

**BY**

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Diploma in Computer Science.*

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## CERTIFICATION

This is to certify that the project titled “Appraisal of Electronic Commerce: Internet Service Alternative” has met the requirement for the award of a postgraduate diploma in computer science.

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## **DEDICATION**

Dedicated to God Almighty, my darling Oluranti and the entire Anusie family for having so much confidence in me and all my friends for their well wishes.

## **ACKNOWLEDGEMENT**

I wish to acknowledge the effort of all my Lecturers at the Federal University of Technology, Minna for their sincere effort in adding to my knowledge in Computer Science and information Technology at its highest level.

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## ABSTRACT

*This project provides adequate information on Electronics Commerce as a Global market place. It discusses and describes the importance of Electronic Mail, electronic payment and security issues concerning electronic transfer.*

# CHAPTER ONE

## INTRODUCTION

### 1.1 INTRODUCTION

The importance of commerce to a country cannot be over emphasized. Commerce is the heart of a nation. It is in view of the vital economic role that commerce plays in a nation's economy that brought about its being conceptualized as the heart of a nation. This is actually to infer that a nation cannot exist a sound commercial base.

However, commerce is the buying and selling of goods and services. In modern usage domestic commerce is generally referred to as marketing, foreign commerce as international trade.

Man has engaged in trade or commerce throughout recorded history. Every aspect of modern marketing can be traced far back in history. The most important advances in marketing system however, have occurred in the United States in the past 150 years. The telegraph introduced in the 1840's, sped up the flow of product of order. Greatly aiding the marketing process. A further advance in communications came in the 1870's with the invention of the telephone. The increasing use of radio from the early 1920's and of television after World War II greatly increased the flow of information and advertising to the consuming public.

Since World War II, the computer has played as essential part in the development of marketing concept. The computer, since it can store vast quantities of information and can calculate and analyze the information quickly and accurately, simplifies routine operations and makes possible analysis that a company could not afford to do otherwise.

Mail order business became important in the latter half of the 19<sup>th</sup> century. Aids to selling such as advertising and sales promotions although not new developed and spread greatly beginning in the late 19<sup>th</sup> century and continues in the 20<sup>th</sup> century.

Recently, there has been a move- away from the traditional trading method to automated trading methods. Infact, with the advancement of computer microprocessor power and the tumbling of prices, electronic handling of commerce has been more and more available to people. The growth of the Internet has also made communication between two-computer systems easier.

Internet is a network of computer networks: a very wide collection of interconnected information resources. Satellites and digital communication make Internet access easier and quicker compared with the traditional telephone line access. Satellites have the unique advantages making it possible to transmit data from other location to an unlimited number of other locations anywhere or (or near) our planet.

The mainstream has moved beyond the experimental stages of the Internet. No longer is the goal merely to have a web presence. One of the first items on that “ more agenda” is to force the web to cost – justify itself, just like any other business ventures. If the side does nothing more than continue to offer static information, its ongoing presence will consume money. What does it answer in return? Increasingly, the answer is electronic commerce.

While intranets and network computing promise production efficiency and cost saving, the hottest Internet frontier is electronic commerce on the web, where money can be made and not just saved.

Electronics commerce can open up a new virtual sales channel to capture incremental revenue. It can also help to build stronger business – to –business relationships. For example, when two companies link securely over the Internet, business trans actions are smoother, reducing the risk and cost of maintaining that relationship for both partners.

Hence, “ E-commerce (electronic commerce) is the buying and selling of goods and services on the Internet especially the World Wide Web. In practice, this term and a new term,

“ E- business,” are often used interchangeably. For online retail selling, the term e- tailing is sometimes used.

## **1.2 AIM AND OBJECTIVES OF THE PROJECT.**

The aim of this project is to sensitize and create awareness on the transaction of business within the Internet not too known in this part of the world.

### **OBJECTIVES:**

The objectives of the project includes:

1. Education people on how the web can really serve a business purpose
2. Assisting people in feasibility study on how to make the web a place for shopping and making purchases.
3. Providing a quick- way to reach the right people in a company for immediate information.
4. Breaking long chains involved in business transactions
5. Avoiding bulkiness in paper transactions, as fewer documents will be involved.
6. Handling and transferring of cash electronically,
7. To aid economic and technological development.

## **1.3 SCOPE OF STUDY.**

This project is intended to give an overview of the most important concept in electronic commerce. The Internet and its connectivity, commerce, payments methods and security issues are discussed in this project. A website is developed to demonstrate how the Internet is being used as a sales outlet for electronic commerce.

## 1.4 DEFINITION OF KEY TERMS

**Access Provider:** company that sells Internet connection variously as Internet access or service provider (IAP's or ISP's).

**Browser: program:** such as Netscape or Internet explorer that allows you to download and display web documents.

**DNS:** domain name system, the system that locates the numerical IP address corresponding to a host name.

**Domain:** part of the DNS name that specifies details about the host, such as its location and whether it is part of a commercial (.com,) government (.gov) or educational (.edu) entity.

**Download:** retrieve a file from a host computer.

**E-mail address:** the unique private Internet address to which your mail is sent. Take the form username@host.

**Firewall:** network security use to restrict external traffic.

**FTP:** file transfer protocol, standard method of moving file across the Internet.

**Hackers:** someone who gets off on breaking through computer security and limitations.

**Homepage:** either the first page loaded by your browser at start up or the main web documents for a particular group, organization or person.

**Host:** computer that offers some sort of services to network users.

**IP:** Internet protocol, the most important protocol upon which the Internet is based. It defines how packets of data get from source to destination.

**Modem:** modulator/demodulator, devices that allow a computer to communicate with another over a standard telephone line, by converting the digital data into analogue signal and vice versa.

**Packet:** a unit of data. In data transfer, information is broken in packets, which when travel independently through the net. An Internet packet contains the source and destination address, an identifier and the data segment.

**Server:** computer that makes services available on a network.

**Surf:** to skip from page around the web by following links.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 INTERNET OVERVIEW

Whether it is for technical research, electronic mail, education or opening a new market are, the global Internet is one resource on must consider. Companies, school and individual worldwide are finding that conducting businesses is better, faster, and easier by using the Internet. Contrary to popular belief, the Internet is not a single huge network that agrees to abide by common rules.

Internet connections can be a simple as a terminals and modem at the site used to access a “ shell” account on the Internet service provider (ISP) or as complex as a complete secure system that allows every PC on the network to have access to have access to World wide web. The world wide web is today’s easiest way to use the Internet one can even setup shop marketing services and product on the Internet. Selecting the proper of software can connect one; services and hard ware may include any combination of a router, modem, DSU, firewall, server, workstation or simply a PC.

One may already have a LAN; can be connected to allow access to the Internet for your whole office. Either an Internet service provider (ISP) or commercial information services such as American online or CompuServe provide the most common services. The may go by names such as ftp, telnet, www, and archive, gophers, Netnews, Usenet, shell accounts or the web.

#### 2.2 HISTORIES AND DEVELOPMENT OF THE INTERNET

The Internet began in 1969 as an experiment in computer networking funded in by the united state government at the department of defense advance research project agency (ARPA). The Internet was designed to enable computer systems of different manufacturers in different locations share data. The resultant network was called ARPANET.

The Internet was born out of an effort to connect together a US defense department network called the ARPANET and various other radio and satellite network. The ARPANET was an experimental network designed to support military research in particular, research about how to build networks that could within partial outages (as bomb attacks) and still functions.

At about the same time as the Internet was coming into being, Ethernet local area networks (LAN's) were developed. LAN technology matured quietly until roughly 1983 when desktop workstations became available and local networks exploded. Most of these workstations came with Berkeley UNIX, which included IP networking software. This created a new demand rather than connecting to single large time-sharing computer per site, organization wanted to connect their entire local network to the ARPANET. This will allow all the computers on the LAN to access ARPANET facilities. At about the same time, many companies and other organizations started building networks using the same communication protocols as the ARPANET namely IP, and its relatives. It became obvious that if these networks could talk together, users on one network could communicate with those of another, everyone would benefit.

In response the NSF decided to build its own network based on the ARPANET IP technology. It connected the centers with 56,000 bits per second telephone lines. It was obvious, however that if they try to connect every university to a supercomputing center, the maintenance cost will be sky high, one line per campus with a supercomputing center at the hub, like spokes on a bike wheel, adds up to a country, schools will be connected to there nearest neighbor. Each chain was connected to a supercomputer could eventually communicate with any other by forwarding the conversation through its neighbor.

The Internet and transmission control protocols were initially developed in 1973 by American computer scientist Vintocerf as part of a project sponsored by United States department of

defense advanced research project agency (ARPA) and directed by American engineer Robert Kahn. The Internet began as a computer network of ARPA that linked computer networks at several universities and research laboratories in the United States. The World Wide Web was developed in 1989 by English computer scientist Timothy Burners-lee for the European organization for nuclear research (CERN).

IT shall be noted that along the line, the US defense communication agency (DCA) mandated the use of TCP/IP for all host connected the network. The protocol suite has now been accepted as the standard for Internet connectivity. The TCP/IP standard for computer networking has become a global use.

### **2.3 WHAT IS INTERNET?**

There exist various ways of disseminating information and almost all of them need a kind of networking system to function well. A typical example of such system is what is known as a multi- user system. The electronic mail is another way of transferring information.

The world has witnessed today the most advance type of networking system known as the INTERNET an acronym for international networking system. This is actually a kind of global networking system and it is fast turning the world into a global village. The Internet links one any where in the world from a computer and one can learn anything you want to and one can also become knowledgeable in such field as agriculture, health and banking.

The Internet is a global computer network made up of smaller networks that are linked together by the international telephone system, it allows the connection of computers to the network from any location in the world. It doesn't matter whether the computer type is a PC, a Macintosh, a mainframe or a UNIX workstation; if one is connected to the Internet one can communicate with any other Internet – connected computer in the world. The Internet isn't merely a tangle mass of

computer and cables; it is a fast growing community with 40 million inhabitants with information, ideas and advice on just about any subject under the sun.

Internet is in fact the interconnection of computer networks that enable connected machines to communicate directly. The term popular refers to a global interconnection of government, education and business computer networks that are available to the public. There are smaller Internets, usually for the private use of a single organization called INTRANET.

An intranet is a network that uses Internet technology to facilitate effective Internet operations and communication in an enclosed private environment.

Internet technology is a primitive precursor of the information superhighway, a theoretical goal of computer communication to provide school, libraries, business and homes universal access to qualify information that will educate, inform and entertain.

Internet is quite close though not entirely analogous to many systems that we are already used to. Consider the worldwide network of telephones, such that voices could be transmitted across the globe instantaneously.

For the Internet, substitute the telephone handset with a working PC that is equip with a functional modem. Internet as an information superhighway therefore comprises the infrastructure for sharing information just as road allows travel through different areas of a country so the Internet allows information to flow through many interconnected computer network. As messages travel, each network that is reached contains information that assists in connecting to the adjacent network. The final destination may be in a different city or country worldwide.

Internet makes things happen and change the pace of research and development fast. Records from different part of the world indicate brilliant manifestation on Internet potentials.

### **2.3.1 INTERNET CONNECTION POSSIBILITIES.**

There are many options for being connected to the Internet. These are dedicated access, SLIP and PPP, ISDN and dial up access. The choice available depends on telecommunication infrastructure, in respective locality worldwide.

#### ***Dedicated Access***

Dedicated access offers the most flexible connection. Each is a full-fledged Internet member capable of performing any network function. However, since a dedicated connection is costly, it is most appropriate for a group setting and impractical for home users.

#### ***SLIP and PPP***

SLIP stand for serial line Internet protocol and PPP stands for point-to-point protocol.

SLIP and PPP are appropriate for connecting a home computer to a larger local network, which is in turn connected to the Internet to a service provide who can give you full Internet accesses. They aren't appropriate for connecting a medium sized or large network to the Internet; they can talk fast enough to support many users at once. Therefore if any one has a medium or large network, it's best to look " real" dedicated access

#### ***ISDN ACCESS.***

ISDN stand for integrated services digital network. It means using a digital telephone line between your home or office and the telephones companies switching office (or central office). The big advantage of ISDN is that it provides vast high-speed access at relatively low cost. One ISDN channel includes 256 or 64 KB digital channels.

#### ***Dial up Access:***

Using a modem to send data via the telephone network is just like making an ordinary telephone call. It's a straightforward dial link that you pay for when on settle you telephone bill. It is an

easy way to get network access, then using your home computer you login to this remote system, and do your network there. Timesharing access is almost (but not quite) as good as having you own connecting, and is considerable easier to set-up.

### **2.3.2 GETTING CONNECTED.**

Being connected to the Internet is quite easy really. The following are the requirement:

#### **1) A Computer:**

This is normally a personal computer (PC) running any version of windows but may be a Macintosh or compatible or any other type of workstation. For windows based PC to operate an E-mail account a 386-processor 4MB memory and 10MB free disk space is recommended. If any one intending to access online services a minimum of 486 processor, 8Mb memory and 20MB free disk space is suggested.

#### **2) A telephone line:**

Any standard NITEL telephone lines are satisfactory provided the signal is clear without cross talk or noise. International direct dialing (IDD) may not be required if there is a dial up access possible through service provider.

#### **3) A Modem:**

This device is typed on a personal computer to signals that can be transmitted through standard telephone lines or data lines. One of the most important features of a modem is its band rate speed at which the information travels through it. If advance Internet functions are anticipated, a Modem supporting higher transmission speed is recommended. (The speed is between 14,000bps and 28,800bps).

4) **A hard drive:**

A hard drive on which to store file of information is also essential. Hard drive is always a premium. It is likely that the more interesting file on the Internet will be a larger or more complex once.

5) **An Internet software package or suite of programs:**

Software programs permits computer to send data across a modem. This allows the user to send E-mail, browse the web, read news groups and transfer files.

6) **An electronic account:**

An account will give an address on the Internet, storage space on the server, software to run on the computer as well as the local access number one needs to get to the Internet. It is necessary to obtain an electronic account with one of the service providing Internet access.

## **2.4 INTERNET: HISTORICAL DEVELOPMENT**

The Internet is growing at a fantastic rate, but the growth comprises its reliability as it enhances business connection to customers and client. The number of users connected to the Internet doubles every year. In 1994 the number of the connected users was 3 million, in 1995 the number was approximately 6.6million, and in 1996 the number had again double from the previous year at about 12.8 million. The Internet society anticipates there is to be over 100,000000 Internet host by the year 2000 which will interconnect 20,000 different networks in more than hundred countries.

Despite its evolution, the network itself was initially to be it was commonly understood that any portion could disappear at any moment. It was solely the responsibility of the user and their technical infrastructure to address network liability issues. Since the network which eventually

combine to form the Internet were designed and managed by scientist and computer specialist, its inherent volatility were well known and understood; the protocol offered no guarantee as to the delivering of messages send or transactions undertaken. However, when the Internet went public in 1995 this apparent volatility was nor clearly communicated and hence forgotten by the user community at large.

In 1995, the Internet class of user, individual and businesses were basically non – technical by nature. The Internet is seen as a way to obtain or promote information to a globally accessible network using a computer and a telephone connection. This individual and businesses were familiar with computers and telephone networks and considered very reliable. However, the growing Internet infrastructure was unprepared for the phenomenal grow rate experienced and thus became less reliable.

The backbone of the Internet relies on electronic devices to route information along the path that it travels from sending nodes to receiving nodes. If these devices fail, the Internet will endeavor to re route the information along another path. However, it was also known that this would fail from time to time. ISP's unprepared for growth like AOL often caused users hours before being able to connect; connection the network access provider (NAP): the entities who actually connects to the Internet, were often overloaded and so volumes of information were dropped causing loss or delay in transaction or information transfer.

The Internet is technically capable of growing almost infinitely. The major constrictor of grow will be how the users community will deal with securing intellectual proper right, the security of transactions and other sociological issues.

## 2.5 DEVELOPMENT OF ELECTRONIC COMMERCE.

Electronic commerce is where websites were two years ago. At that time companies were debating on the merits of publishing plain -old static marketing information on the web. Today, a web present is given for many companies, but the merits of electronics commerce are still under scrutiny. According to industry experts this reluctance is beginning to fade and electronics commerce is on its way becoming an acceptable means of transacting business (Bort 1997).

### E-COMMERCE POISED FOR DRAMATIC GROWTH.

(The Internet commerce software market is expected to hit 3.2 billion dollar in the year 2000)

Range of companies	1996	1997	1998	1999	2000
Small company (20 to 99 employees)	.9	1	7	55	102
Mid size company (100 to 199employee)	9	16	32	287	1,648
Large companies (1,000 + employees)	13	36	188	706	1,449
<b>TOTAL MARKET</b>	23	53	227	1,047	3,200

**Source: forester research inc. Cambridge, Mass.**

Infact, by the year 2000 forester research inc predicts that the amount of money companies spend electrifying their sales will turn the Internet commerce software market a gargantuan 3.2 billion dollar revenue producer, compared with a mere 22.4 million dollar in 1996. Its also a tremendous

opportunity for VAR's (value-added resellers) as many of these companies will be hiring expert to implement electronic commerce sites. Web sales of product and services are expected to account for 1.5 trillion dollar worldwide through the year 2002, according to the 1997 real number net profit report by ActibMedia inc., an Internet commerce research firm.

Without doubts online E-commerce is a gathering wave, (Gilstar, 1997). New York based Jupiter communications, in a recent report that pointed out that some 3.5 billion dollar went into some kind of network assisted transaction in 1996; the firm projects that that amount will rise to 14 billion dollar by the year 2000. Much of today's net dollar is going into advertising. Jupiter sees web advertising passing the 5 billion dollar mark by the year 2000, passing radio adverting in process. With huge growth possible in consumer spending the total number of advertising revenue are however, still forecast to large behind TV and Newspaper; 36.3 billion dollar were spent on television advertising in 1996; dollar 11 billion went into print venues. And interesting picture should start to emerge shortly after the turn of century as higher bandwidth data pipes help the Internet merge with broadcast television. In such a world companies will have to target their advertisement in both directions, some analyst forecast that an even greater boom would occur as businesses setup electronic shop between themselves and their business partners. (Kern, 1997). An Allen (1997) says the Internet is where 90% of business commerce will take place by the year 2000.

The Internet, the worldwide web, HTML JAVA, and net browser have all begun to shapen a new model for the way business is done in America and around the globe. The number of potential customer and customer dollars continues to draw more and more businesses to the Internet and electronic commerce as a way to transact daily business, (kennedy, 1998).

Financial service organizations have to invest in E- business as an act of fate with a view that it is going to have a massive impact on the industry. It is said that a lot is going to happen over the next twelve month and no one wants to be left behind (Hislop, 2000). The survey indicated the speed and size of the rush online meant many financial service organization were losing touch with their customer database.

Meaningful, Studies and research findings have shown that Internet and electronic commerce will transform traditional business, the global market and consumer life. These studies have been vindicated by the statistical profile of Internet users worldwide. The profile shows that an overwhelming majority of the net users are on the average “ wealthy, educated, young, urban and male”. This is a vivid representation of core business (market) around the world.

The Internet has therefore become the ultimate platform and lifeline for business continuity, social economic development, sustainable growth and global competitiveness. Indeed, it is more than revalidate the concept of advertising for business development and continuity.

## **2.6 THE OPERATION OF E- COMMERCE IN SOME COUNTRIES.**

During the past ten years the Internet has grown from roughly 100,000 to more than 15, 000,000 host worldwide. The Internet has become a huge enterprise and some countries have adopted the use of the Internet for business transactions. Such countries include Malaysia, Singapore, Indonesia, Philippines. Canada and the United States of America however have tapped into the technology.

### **2.6.1 ELECTRONIC COMMERCE IN CANADA.**

Founded in early 1993, E-commerce is one of Canada's most experienced firms offering website and Internet application development and messaging / work flow systems. Leading Corporation such as federal express Canada, famous player limited Inc limited. Toronto dominion bank, mc graw hills and Rogers communication are among its Canadian business 500-type client. Recently, commerce designed and developed what is perhaps the largest website in Canada for SEDAR (system for electronic document analyst and retrieval) at [www.sedar.com](http://www.sedar.com). Currently, over 100,000 documents are in the database. Hundreds of documents names are updated daily with no manual administration. More than 8,000 companies and mutual fund profile are accessible through the website. With its four core areas of expertise- software programming, system integration, publishing and creative design delivers functional long-term solutions.

### **2.6.2 SINGAPORE AS A CENTER FOR ELECTRONIC COMMERCE.**

Singapore is a center for international commerce activity, building on its strength at an international trading hub and its business competitiveness. Singapore has the necessary infrastructures to support an international transaction hub. It is well connected with Internet links to the major regional cities. A good set of E-commerce services is available, including online payment services, security services and bureau services.

The legal foundation for electronic commerce is also in place. Electronics records can be used evidence in court. Contract formed electronically and electronic signatures are recognized.

Singapore has an IT 9 (information technology) literate and Internet savvy population. Some 41% homes have PC's and there are about 470,000 Internet users (15%) of the population. the work force includes 31000 IT professional with seven tertiary institution offering it studies and six

research and development centers. Businesses are highly computerized due a 17 years history of computerization of the public and private sector. More recently, the Singapore ONE initiative has also brought a variety of multimedia and interactive services on the Internet.

The government is committed to make Singapore a competitive place for international electronic commerce. A master plan has been formed to deliver this vision. Business is to invite to consider Singapore as three places for business for international transaction. Schemes have been designed to make this an attractive proposition.

#### *Laws:*

The electronics transaction act was enacted in July 1998 to provide the foundation for electronic record, contracts and digital signatures. Intellectual properties rights laws now comparative with intentional levels.

The master plan has a 5- point strategy:

- To jumpstart Singapore as E-commerce hub
- To expediate industry adoption of E-commerce, and
- To build an intentionally linked infrastructure to support businesses with global reach.
- To harmonize cross – borders law and policy to allow parties to trade confidently and finally to promote global usage.

#### *Connectivity*

The Singapore Telecom Internet exchange (STIX) is the Asian Internet hub, connecting more than 15 countries in Asian Pacific Rim. STIX has a total of 34mbps in link to the Asian pacific

region the USA and the European Internet backbone. In addition STIX has a direct connection (2Mbps) to the European Internet backbone and operates two T3 (45 Mbps) direct connections to the US Internet backbone.

The Internet service providers also have dedicated oversea links, for example pacific Internet's holding (AIH) connect to USA via Japan for a total of about 4.0mbps and cyber way has a 128kbps linked to the us via Japan.

### **2.6.3 NIGERIA'S PARTICIPATION IN ELECTRONIC COMMERCE**

A full-blown electronic commerce website for Nigerian business concerns and corporate organizations flags of September 1 1999 is likely to be an answer to the Internet revolution that is creeping throughout the world says Aragbe-Akpore (1999).

The website designed and built by Solix Technologies limited an information technology provider is likened to the Cairo, Egypt-based pharaoh. Com. and perhaps second only to the E-commerce site in Johannesburg, South Africa.

The Solix E-trade site has pages for real estate business, automobiles, hospitals and health care clubs, banks and financial institutions, airlines and flights among others.

The website will offer Nigerians both at home and abroad, including foreigner the opportunity to browse the Internet to do the following and check for:

- Local listings of flights and make reservations for those flights, local and international
- Hotel listings in different cities in Abuja, Lagos, Port Harcourt, Enugu, Warri, Kano, Kaduna and made reservations in those hotels
- Browse for automobiles available in the local market and make inquiries as to cost and how they can be obtained.

- Get up to minute news on the local secure.
- Peruse different real estate properties that are available in different metropolitan areas including major cities
- Peruse different educational institutions, primary, secondary and tertiary and make enquiries or reservations and others

Solix will work in collaboration with cross cultures, an Atlanta, Georgia, United States based company to enable Nigerians, particularly those in Diaspora to check and select different African news and dishes for preparation. The E-commerce site will give a checklist of events on a weekly basis in different cities. Companies will also have the opportunities to advertise their products offering to the world at different sites. Solix also plans real time online banking support for the banks that are interested. It has developed websites for various retailers, which it plans to integrate into the E-commerce mould for transaction purposes.

The sites will continuously be upgraded and this will go inline with the corporate policy of being in touch and providing the latest technology to clients. Clients will have value for their money. The company's effort is a monumental task, which has taken a lot of man- hours of programming and creative design.

Nigeria's ever competitive, are ready for the future; E-commerce will increase the efficiency of business in the country, and grant many the opportunity to really realize the enormous potential of the Internet.

## **2.7 OVERVIEW OF ELECTRONIC COMMERCE**

Business is one of the numerous practical applications on the Internet. To many people, the Internet means business. Electronic commerce takes care of the following activities when conducting business on the net: order – taking, handling cash transactions, collecting demographics, providing customers business transaction, handling business to business transactions.

Full E-commerce sites have interactive forms that allow online transactions. For example online shopping enables shoppers to purchase items immediately.

Customer support allows the company interactivity online. This can assist with order entry and tracking. To assist with customer support, a frequently asked question (FAQ) list can be created. In this list are answers to questions asked by the customers, in a simple and attractive format. Users can often solve problems on their own after accessing the FAQ list. To be useful the FAQ, third FAQ list has to be updated regularly. The Internet has also brought about ways to do international business. The net allows a company in Ghana to provide services for customers in USA, e.g. software development.

### *Shopping mall*

The mall houses dozens of stores that sell everything: clothes, personal goods furniture, computer- related goods and services. Every shop on the mall has a home page, which is often a web version of the print brochure. This web page is created and housed by the mall operator.

### *Payment*

Online payment on the net is through the use of credit cards (online or offline), digital cash, or by the traditional means of a check. Digital cash is a new concept, which is gradually gaining

grounds. It is alternative to enter credit cards on the Internet. It is essentially a system by which online shoppers swap real money for Internet “ money”

## CHAPTER THREE.

### COMMERCE

#### 3.1 TRADES AND COMMERCE

The exchange of goods and services to satisfy the needs of consumers is known as commerce. “Trade “ usually refers to the exchange of a particular product. The word “commerce “ covers all aspect of trading. In many countries there is a department of government that is responsible for seeing that trade goes smoothly.

Not every country, nor even every region in a country, has the same kind of productive resources. This country can become prosperous only by specializing and trading. By trading with one another, the different areas can use their resources to the best advantage. But people have preference in what they buy. They buy what they want and can pay for. This is called consumer demand. The struggle to remain productive causes people to seek more efficient ways of using resources through specialization, trade and technology. Concentrating on producing a few things means a greater output of goods. This can be exchanged for different goods produced in other areas. An exporter is a person who sells a product from one country to a buyer in another country. The buyer is called an importer. The importer, in turn, sells to a wholesaler. The wholesaler specializes in selling a particular kind of goods to customers. All these people – exporter, importer and wholesaler, and retailer are engaged in trade and commerce.

There is a second group of persons engaged in trade and commerce. These are the people who provide such services as transportation, insurance and advertising. Railroads, ships, and trucks are some means of transporting goods needed to carry on trade and commerce.

But it is always possible that a ship may sink or a warehouse may catch fire. To protect themselves against such a loss, ship owners, exporters, importers and wholesaler can buy

insurance from an insurance company. Finally, consumers do not know what kind of goods are available or how much they cost unless they are told. Keeping consumers informed about the entire latest product is the job of the advertising.

Without money, specialization may be difficult. Money acts a common medium of exchange. All of us accept money to buy the things we want. This system is called a monetary economy. In a monetary economy, there must be institutions to keep money circulating, to take care of savings, and to lend money when it is needed for starting new businesses.

Between the persons who produce the goods and the consumers who buy the goods are a host of others- exporters, importer, wholesalers and retailers and so on. Each one plays an important part in the chain of trade and commerce.

### **3.1.1 INTERNATIONAL TRADE.**

“ Foreign Trade” means commercial exchange between residents of different sovereign political units. It becomes clearly distinguished from local or domestic trade only as nations emerge and begin to formulate national commercial policies, then it becomes “ international”.

International trade is the exchange of goods and services among countries. Inmost cases the countries do not trade the actual goods and services. Rather, they use the income-received form the sales of their product to buy the needs of their countries.

#### *Balance of payments*

The record of all of a country’s transactions with other countries is called the balance of payments. The difference between what a country export and what it imports is a given year is called balance of trade. If the monetary value of its export is greater than the cost of its import, if

a country pays more for its import than it receives for its export, it has a deficit. A country must borrow or otherwise make up the difference in its balance of payments, tariffs and other trade barriers.

Government sometimes set up barriers to international trade. One of these is import duty, a tax on foreign goods that makes them more expensive to buy. All of one's country's import duties are known as its tariff. Some countries also charge a duty on goods that are exported. Import and export duties are sometimes called custom duties. A country may also place a quota on other countries products. A quota limits the quantity of a particular product that can be brought into a country in one year. Trade barrier to trade to protect their own industries, particularly if they are new and as yet unable to compete with foreign industries.

### **3.1.2 LOCAL TRADE**

This is exchanging, buying and selling of goods and services within a country. Local trade is also known as home –trade, internal trade or domestic trade.

In modern usage, domestic commerce is generally refers to as marketing. Marketing, in a free economy, refers to the business activities that bring about a flow of goods and services from consumers. Wholesalers and retailers are mostly involved in domestic trade.

### **3.2 TECHNOLOGICAL DEVELOPMENT IN COMMERCE.**

Business is fueling an unprecedented expansion in the Net; in fact, this technology has become the fastest growing communication tool in history, eclipsing the rate achieved by the telephone, radio, and television. For the next few years, however, the population explosion online will continue to sap network bandwidth, causing slowdown that frustrate all but the most committed user. Service provider will soon have to adapt to the changing scale of the market.

### **3.2.1 TELECOMMUNICATION**

This is communication over long distance. Usually telecommunication means communication by means of electrical or electronics method and is used as a collective term for communication by radio, telegraphs, telephone, television and facsimile.

The term has come to be used more and more and more frequently in discussion of modern communication as it has become increasingly difficult because of the technological developments, to draw clear distinction between radio, telegraphy, telephone, television and facsimile.

#### *Telegraphy*

A form of communication by electronics or electrical means involving transmission over long distance of graphic or coded materials. The message may be transmitted over wires or cables or by radio or by a combination of these methods.

For many years the most important use of telegraphy was in the transmission of telegrams, one-way message sent from one party to another through commercial or public telegraph offices. Telegrams remain important, but much telegraphic communication today is by means of leased or privately owned teletypewriters that permit two-way communication. In addition to sending personal or business messages, telegraph is used to transmit news, stories and facsimile photographs, stock market quotations, money orders, and police and fire alarm.

### *Telephone*

An instrument that transmit and receive sound (especially human speech) over wire or cable by means of electronic current. Most telephone systems, however, consist of a number of telephones linked to a switching center that can connect any two (or more) or more of he telephone. In most countries the telephone networks are owned and operated by government.

The telephone has long been the primary method use by customers and employees to access-to-access information and make inquires in most organization.

### *Television*

This is a form of communication in which still or moving visual image are transmitted from one point to another. The word means, “ vision at a distance”. Television is also a highly important advertising medium.

### *Radio*

The transmission and reception of signals of electromagnetic waves without connecting wire. In voice radio, the form used for commercial broadcasting, the signal represents voices, music, or other sounds of varying frequencies. In television, the signal represents picture as well as sound.

### *Fax (facsimile)*

Sometimes called “telecopying”, a fax is the telephonic transmission of scanned-in printed material (text or image), usually to a telephone number associated with a printer or other output device. The original document is scanned with a fax machine, which treat the content as a single fixed image, converting it into a bitmap. In this digital form, the information is transmitted as signals through the telephone system. The receiving fax machine reconverts the coded image and prints a paper copy of the document.

A more efficient way of sending documents that requires modification is through E-mail. E-mail files are already ASCII text so they can be edited immediately in any text editor or word processor.

### **3.2.1 ELECTRONIC MAIL**

Electronic mail refers to messages that are transmitted from computer to computer over ordinary telephone lines under the direction of an intermediate service. This service is a “host” computer that receives messages, holds them and also sends them to proper destination. With this system, it is necessary for the sender and receiver of a message to be connected simultaneously.

This is the most basic and popular service on the Internet. E-mail can be used to send urgent personal or business data, across the world in seconds.

### **3.2.3 TECHNOLOGIES USED IN E- COMMERCE**

#### **VAN (Value Added Network)**

A specialized common carrier, such as a Value-Added Network (VAN), may not use the transmission facilities of a common carrier, but in such case it “add value” to the transmission service. The value added over the above standard service of the common carrier may include electronic mail, data encryption/decryption, and access to the commercial database and code conversion for communication between incompatible computers. The basic communication service provided by the VAN also may be less expensive than the same service from a common carrier.

VANs provide a wide range of services: audit tracking, reliability, archiving and so on. VANs may become the E-mail foundation for a new security infrastructure within which, for example, digital certification services might be provided

### **EDI (Electronic Data Interchange)**

EDI is the exchange of business data using an understood data format. It predates today's Internet. EDI involves data exchange among parties that know each other well and make arrangements for one to one (or point to point) connection, usually dial up. It is a standard format for transferring business document, such as invoices, purchase orders and quotation, among application and devices by modem or electronic mail, used by large corporations.

An EDI message contains a string of data elements, each of which represents a singular fact, such as price, product model number, and so forth. The entire string is called a data segment. One or more data segments framed by a header or trailer form a transaction which is the EDI unit of transaction set, which is the EdI unit of transmission (equivalent to a message). A transaction set often consists of what would usually be contained in a typical business document or form. The parties who exchange EDI transmissions are referred to as trading partners. EDI is a form of E-commerce, which also includes E-mail and fax.

### **WEB TECHNOLOGY.**

In the past, electronic commerce often meant expensive, complicated, and rigid EDI value added network (VAN) systems for business-to-business transactions. Today, however, E-commerce is moving beyond the EDI, VAN sphere by leveraging the Internet, either by using web technology or by extending EDI. Unless a company has a compelling reason to use EDI, web-based electronic commerce is usually a better choice.

Web technology and the Internet, is designed to augment an EDI. The web technology is used to transact business, make paperless purchase orders, invoices and payment transfers.

With the rise of the Internet and the widening use of corporate intranets, VARs who want to continue to depend on custom solutions for livelihoods need to learn to use new web- oriented tools to complement expertise with traditional and client/server ones. Much more than just creating homepages, web technology allows creating web-enabled, line- of- business application that sort that process transactions.

The future is certain to bring more collaborative computing. Technological achievements will continue with an increase in the use of push technology for software distribution services, an increase in the true electronic commerce apps and an emergence of web-enable devices such as pagers and cellular phones.

According to Mr. Holds of current Analysis, “he thinks that as with E-commerce in general, there will be a growing emphasis on business applications. He gives the example of someone in the building trade at a work site, with a web-enabled mobile phone, they might be enable to order two tons of bricks to be delivered from their main office”.

The web application will be integrated with inventory management software and show the bricks removed from the inventory and allocated to the work site.

### **3.3 INTERNET SERVICE PROVIDERR (ISP)**

An Internet service provider is an organization that has established the necessary physical connection and equipment to offer an Internet connection. The world of the Internet service provider is an interesting one because it includes both halves of the client-server pair. On the

other hand, clients (customers) of an ISP might dial into the ISP's machine (server) and access Internet services from there. On the other hand, users from across the Internet might wish to view the World Wide Web page of a merchant that is being hosted by you, the ISP.

The Internet as a whole can be divided into three main categories. The infrastructure, the content and E-commerce. Each category can further be broken into several sectors and sub-sectors.

The Internet service provider (ISP) is a sector under the infrastructure. The various services an ISP could offer could be broken down to the following key areas:

Access, web pages, other web server based and miscellaneous services. An ISP could specialize on just one of these services or could provide all services if it has the manpower to do so.

## CHAPTER FOUR.

### ELECTRONIC COMMERCE.

#### 4.1 INTERNET AS A MARKET PLACE.

The Internet might be more than a new market place and a new medium for exchanging money. As the world continues to get access, the web's advantage as a place for shopping and making purchases (including 24- hours availability, a global reach, the ability to interact and provide custom information and ordering, and its multimedia prospects) are expected to make it a multibillion dollar source of revenue for the world's businesses already report considerable success.

##### 4.1.1 SELLING ON THE INTERNET

###### **Marketing versus selling web sites**

Most companies with an Internet presence have straightforward *marketing sites*. The objective of the site is to supplement traditional marketing activities; perhaps give additional information, and generally promote the company. There is often a reluctance to give complete product detail because the objective is to induce visitors to call or write to the company for more information and thus establish contact.

A *selling site* is different. The objective is to close the sale electronically with payment (and sometimes delivery) made over the Internet. This type of site will be designed to include comprehensive product information, as visitors will be expected to make a purchasing decision on the information presented. Such a site generally has three sections:

1. *Marketing and value added information*: this is aimed at attracting customers, giving them a feel for the contents, and giving them confidence in the retailer.
2. *The catalogue*: detailed the information on product benefits, specification and pricing.
3. *Order processing*: this will include a method of specifying and payment for the order.

More advance systems may have a method for the customer to go back to the system to check progress and delivery of the order.

The true electronic site will have all the three components is some degree. Such sites may be stand alone, or may form part of a larger retailing site called a “shopping mall”

#### **4.1.2 SHOPPING MALL**

Internet shopping malls were set up early in the development of Internet commerce. A shopping mall has a standardized environment into which several merchant are held in a single website.

They offer advantages to a new on-line merchant:

- A standard environment for setting up the catalogue and arranging payment.
- Someone else is arranging for promotion of the mall as a whole.
- Payment processing has meant a trouble free credit card collection mechanism

However these benefits have not generally materialized. Malls work in the real world because there is something that attracts visitors, generally a large department store.

Once visitor arrive, park their cars and start shopping, it is convenient for them to shop at other merchants in that same locality. The Internet is not like that. It is easy to visit another shop anywhere in the world, as the “next” shop is a virtual mall. People searching for books are going to book sites if the browse, it is the list of matches to their requirements from a search engine, not an on-line shopping mall.

### **4.1.3 BUILDING THE BUSINESS**

It is not enough to simply set-up the catalogue and electronic commerce program. 'Build it and the will come' has never been the approach that works on the Internet. The site must be promoted both on the site and via traditional means.

The biggest single source of visitors is also the cheapest. Registering with a few major search engines will generate over half as much as 75% of potential total traffic of the merchant. Other techniques are:

- Negotiating links with other websites
- Traditional marketing
- Advertising on search engines and high traffic sites.
- Associate programs to sites which that refers visitors get a commission on sales.

Once the site is built and registered, look for ways of building business such as special offers. Visitors can be tracked through the site and offers customized of their interest. These techniques are in their infancy, but are being developed rapidly.

### **4.2 THE ON-LINE CATALOGUE**

The key to a good electronic commerce site is to provide an environment that makes it easy for the customer to navigate through the catalogue of products and ultimately make purchase.

#### **Navigation**

The customer must be able to find the product the need without going through endless level of indexes or menus. The visitors must be a able to get the products they need with very few clicks.80% of visitors to any site will take one look at the page the arrive on and leave. It has been estimated that one may lose 20% of visitors every time they are asked to link to a new page.

Good navigation is essential. The information must be comprehensive once the customer has located the product of interest. Pictures and diagrams are provided to help the customer understand what is being offered.

### **The Shopping Cart**

When the catalogue is small (say less than 20 items), a simple order form will often do the job. However, on larger sites the customer will flag products during his visit browsing session to be added to an electronic “shopping cart”. At any point, the customer can view the content of the cart, the cost and so on. This makes it easy for the customer to browse the site selecting products as they go on.

### **Check-out process**

When the shopping session is complete, the customer is presented with a list of the goods marked for purchase, the total cost, shipping, handling, tax etc. the customer can then add shipping instructions, name address and so on.

The customer is usually given a range of payment options. The most common is to use credit card, and the customer enters the card number, name on the card and expiry date. At that stage the website switches to the secure mode and the technology normally used is called SSL (Secure Socket Layer). This means that all communication with the server is encrypted in such a way that eavesdroppers cannot steal the credit card information

### **4.3 PAYMENTS AND ORDER PROCESSING**

The most popular payment mechanism is payment by credit card, and clearly such payments must be secured. However, it is only a few sites that offer credit card payment over a secure link.

Other options are:

- Credit cards over insecure links
- Purchase order only
- Purchase contacted later by phone or post
- Purchaser prints form and faxes it

To avoid business risk or fraud, the merchant should offer fully functional catalogue site with a proper secure payment mechanism. This can be done very cost effectively.

#### **4.3.1 CREDIT CARD PROCESSING.**

The steps to the credit card processes are as follows:

##### **Authorization**

The merchant must first obtain authorization for the charge from the merchant's credit card processing. Authorization simply means that the card has not been stolen and there is sufficient credit on the card. It results in the consumer's credit limits; being temporarily reduced by the value of the transaction. There are two ways in which authorization may be obtained:

**Manual:** the merchant downloads details of the sale from the computer that is acting as the web server. The merchant then requests authorization using their normal method such as a point of sale (POS) terminal or PC program.

Automatic: the server software communicates directly with the credit card processing company's computer and arranges authorization online.

**Capture:**

The final stage is for the credit card to be debited. This can happen at the same time as authorization, provided that the merchant guarantees that the delivery will take place within a fixed time. Otherwise capture should take place when the goods are shipped.

**Charge back:**

This is sometime a further stage at which the customer is dissatisfied and arranges for the transaction to be canceled. Because many Internet sales are made to oversea customers, many banks perceive that there is an increased risk of charge backs.

**4.3.2 OTHER PAYMENTS METHODS**

*Fax*

Simply printing an order form and passing it to the merchant is feasible and reasonably secured.

*Telephone order*

Customers could be offered the option of calling in their order using the order as a prompt. The order form will be useful in confirming product codes and prices.

*Micro- payments*

Whereas credit cards are fine for significant purchases they are not efficient for the purchase of only a few pence (a micro-payment). There are systems, which operates like an electronic purse, which can be charged using traditional payments mechanisms. The purse can be depleted without

formality for these payments. Micro-payments systems are seen as a significant future development. These include smart cards, visa cash, cyber cash and e- cash.

#### Propriety payment systems

These were developed before secure server technology was widely available. They operate in different ways:

- Cyber cash uses an “electronic wallet” to hold credit cards details and to transmit them securely using their own encryption software.
- First virtual uses a system of E-mail messages to confirm the sales

#### *Electronic checks*

These are quite possible for the transfer of money electronically and are in use in the USA.

#### *Bankcards*

This is the type used in Nigeria. Afri-bank makes use of this form of payment.

#### *Purchase orders*

For business purchases a purchase order would be appropriate.

### **4.4 PLANNING**

Planning is an important part of business as it is with any business venture. Just in the real world, marketing on the Internet requires adequate planning in order to achieve the desired goals.

Marketing is marketing whether off-line or on-line, it takes effort, time and energy. There are three main stages to the process:

## 1. BUSINESS REQUIREMENTS

The merchant must understand the market and the business processes that need to be implemented. A project manager will be selected to ensure that the project disciplines are in place. The budget must be well planned.

## 2. TECHNICAL REQUIREMENTS.

All technical requirements that need to be satisfied must be identified. Short list of products and services must be drawn and budget refined.

## 3. SELECTION/PROCUREMENT

Finally, select the product and services to start the project. It may seem obvious but it is important to procure products and services only after the business and technical investigations have been completed. Businesses that start by (for example) selecting a software product or a service provider before the business requirements are clear are in danger of not meeting those requirements.

## **4.5 WORLD WIDE WEB AND WEBSITES.**

The web is a universe containing text, images, sound and video clips. Each page is linked to other pages. The web can also be used to retrieve files and documents from other types of Internet sites. The web is based on hypertext mark-up language (HTML).

The pages of the web cover a vast range of topics presented in an attractive, interesting and easily accessible form. The information is interactive, so navigating the web is similar to using a multimedia CD-ROM.

The World Wide Web displays content of the Internet in a magazine-like format. It is the most natural way of exploring the Internet. The home page is the entrance to the website. It tells the

reader what the organization does and what can be found on that website. A website is a collection of web pages.

#### **4.5.1 THE MOST IMPORTANT FACTORS OF MONEY PRODUCING WEBSITE**

To make money on the Internet certain factors have to be considered about building an on-line business:

##### **1) Focus On One Product Or Service.**

If there are 15 businesses all producing the much-needed streams of income, there is need to focus on one primary product first. Other thing could be mentioned, but the merchants must help customers focus on the primary product first, as soon as soon as the web site is visited. E-mail addresses of all customers could be kept so as to offer them special incentives to keep on purchasing other products as a latter date.

##### **2) Provide Quality Contents**

People on the Internet are out to get quality information about available products and service worldwide (most of which are free). On the web page, there should be at least one or two FREE reports, which are of extremely high quality. This report should have a bearing on product and services or customers will simply slip away and never return

3) **Focus On Benefits.** Internet users are people in a hurry; they could be tied down by irresistible offers by filling each page of the website with one benefit or the other during website design and implementation.

##### **4) Advertise To The Target Market**

Advertise to a very specific target market, it is easier to sell the one person who needs the product than one thousand people who are just browsing the Internet

### **5) Keep Graphics To A Minimum**

A site overloaded with fancy graphic is very counter- productive. The graphics will slow down the time it takes to load the website and web surfer being very impatient people will simply abandon any site that takes more than a few minutes to load.

### **6) Keep Web Page User- Friendly**

A very good way to avoid confusions to create navigation bottoms on the left of the web pages and text links throughout the body of the web pages. People can easily move from one part of the web page to the other. Every single page of the web site must link to the main page.

### **7) Ensure Customers Can Pay Online**

Accepting credit cards online will increase sales. Online virtual banks are springing up everywhere on the Internet.

#### **4.5.2 ADVERTISING WEBSITE.**

The first step to a successful site is to try and have as many visitors (web surfers) to the web site as possible. As the number of pages increase it becomes harder and harder to attract people to a specific site, so it is better to advertise on the pages on specific websites. Advert on other web sites are called BANNERS, and are usually small, but beautifully designed images that carry messages in a short but effective way the main way to make the site heavily visited is to offer free things on the site, this is to bring a lot of people to the site.

#### **4.5.3 MEASURING EFFECTIVENESS**

Lots of traffic does not necessarily indicate that the site is making desired impact. To measure effectiveness, there must be a demographic support. The reaction to demographic trends helps to improve the site. A Page counter indicates how many times a page is accessed. If displayed on the page, it tells the user how many people have visited the site before them.

#### **4.6 COST BENEFIT ANALYSIS.**

Most of the main processes handled by E-commerce systems today are purchase orders, transfer of payment, and invoices. Many companies that implement E-commerce systems will do away with paper purchase orders and invoices in the first place.

In addition, a paperless business transaction means far fewer errors because information no longer has to be re-keyed. The business benefit includes lower cost and flexible system, enabling closer and more efficient relationships with a wide range of suppliers, partners and customers.

It can substantially transform and improve productivity and maximize profitability. This can be achieved through the dynamics of lower productions, transactions, marketing and delivery cost.

It will facilitate access to market entry, improve customer service, and open up an array of potential source of global revenue.

## CHAPTER FIVE

### CONCLUSION

#### 5.1 SECURITY ISSUES

With the growth in use for the Internet for business transactions the need for confidentiality and positive identification of all parties involved is increasingly important.

There is a widely perceived risk attached to payment made via the Internet and this perception is in some circumstances justified. This is not like making a phone or sending a fax. The information sent from the customer to the web server may pass through many different stages before being delivered. The information is in digital form, and at any stage an unauthorized individual may scan every message looking for credit card number.

Security is undermined when some person(s) succeed in retrieving data without authorization. Security is also destroyed or altered data belonging to others belonging to others making retrieval of the original data impossible.

##### 5.1.1 DIGITAL SIGNATURES AND AUTENTICATION.

The simplest form of authentication is the password and user identification system that is used when one logon to the Internet using a service provider. The user ID is one that has been chosen by the services, the password is purely provided and known only to the user.

Moreover, password security isn't tied on the individual level. This being the case encryption is used to create a so-called digital signature that proves conclusively that the person is the person.

In the real world a person signature provides that guarantee, but forgery remains a possibility in the digital world when implemented, a digital signature is un-forgable. Making electronic standardizing such signature and the various ways of validating information that flow of them.

### **5.1.2 DIGITAL CERTIFICATES.**

There is need for a way of verifying not just a single person's identity, but the identity of the organization involved in a transaction. Digital certificates are ways of verifying the identity of both consumer and merchants. It is the certificate that ensures that a particular public key is associated with a genuine organization or a specific person. Digital signature is an individual identifier, whereas digital certificate make the entire transaction a trusted third party.

### **5.1.3 ENCCRYPTION**

The threat of sniffing is a very real one and can only be defended against by creating a situation where the data or information that travel over the Internet is unreadable. This is done through the use of encryption. If data is encrypted then any one looking at it will be unable to actually read it.

The most popular encryption technique is one that uses asymmetrical keys. In such a system a host system creates a public key and a private key. Any one wanting to communicate with the host simply encrypts the data using the public key. The data received by the host is then decrypted using the private key.

### **5.1.4 FIREWALLS**

An Internet firewall is a security mechanism that allows limited sites from the Internet, allowing approved traffic in and out according to a thought- out plan. This lets select the services appropriate to business links while debarring others, which may significant security holes. They can protect against unauthorized access, loss of service, sniffing and viruses. There are two basic types of firewalls available today, packet filter or application gateways.

- I. *Packet filtering*: making decision based on information contained in each network" packet". If the packets needs the security set forth by the business, then it will be sent on to its destination.

II. *Application gateways*: also known as proxy gateways, controls connections rather than individual packet. At that point where a connection is requested, the proxy for the given protocol will check the firewalls security policy and decide whether the connection will be allowed to takes place. If the connection is permitted, the application gateway or proxy server acts an intermediary for all transactions taking place. It protects direct connection to business computer systems (.connections through the application gateway or proxy server).

### **5.1.5 VIRUSES.**

Virus threats are also very real whenever files or E-mails are communicated via the Internet. It is important to comply some type of virus scanning and cleaning software on all network connected systems clients and servers alike, to reduce the threat to a virus attack. In addition, the virus software employed should be upgraded periodically. The software should be installed so as to automatically scan all files that have been received via E-mail on the Internet when opened to ensure proper protection.

### **5.1.6 SECURE SOCKET LAYER (SSL)**

Secure Socket Layer is another answer to the question of web security. SSL works by using a secure socket or path for transferring the information between the server and clients. The port used in this transaction is a protocol or instruction, which controls how communication is handled. SSL sits “ between” the web browser and the http program on the web server. First, SSL exchanges verification, then all information that flows in and out of this port is encrypted and is checked to see that the information has not been changed en-route again. This is not normally used for the transference of every page on the web server but is normally used when you are preparing to send sensitive information such as credit cards.

### **5.1.7 SECURE ELECTRONIC TRANSACTION (SET)**

The SET standard has been developed to protect payment instruction in transit. SET is a system for making payment secured over the Internet. Credit card issues and some major software and computer companies in the US developed it. It uses encryption to make the transaction secured and digital signatures to identify both merchants and buyers.

## **5.2 CONCLUSION**

Electronic commerce is a new form of marketing with a predicted exclusive growth over the very few years. The technology underlying the market is quite complex and becomes more so as new payment methods are web technologies come on stream. The marketing approach is also new and different. The key to success is to find innovative ways to use that technology to attract customers and build business.

The Internet provides a level of higher visibility in which to sell products. Distance is no longer an issue. The Internet provides a better outlet to garner business; it has streamlined business by increasing a level of communication and making information accessible instantaneously. Essentially, the Internet connects people to people and business-to-business while improved productivity.

### **5.3 RECOMMENDATIONS**

With the convergence of Internet over mobiles phones the prospects and capabilities of electronic commerce are greatly enhance. Internet currently has relatively low penetration level in Nigeria and electronic commerce is largely unheard of incidentally, these are commonplace issues in developed and developing economics. If the young ones in Nigeria must compete with their counterpart from other economics in the emerging global market place, then education must as soon as possible incorporate computer education, Internet appreciation, and electronics commerce.

The Internet allows individuals, businesses, organizations, and government to Internet and transacts business in an efficient and effective way. Now is a good time to enter this market at a relatively low cost, to learn how the market works and be ready to take advantage of new opportunities as the arrive.

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## Appendix

Finalizing your order

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Finalizing your order is easy

You can place your order online without transmitting your credit card over the Internet! However, You must first complete the online ordering forms.

**(1) What is your e-mail address?**

My E-mail address is:

Please check your e-mail address carefully!

**(2) What method of payment do you intend to use?**

Bank card

Check or Money order

**(3) Is this your first order from Godwin Vogue. Com?**

Yes/ No

**(4) Fill in the order form below to place an Order**

<b>Mr./ Miss/Mrs.</b>	<b>Initial</b>	<b>Surname</b>	<small>,Block capitals please)</small>
<input type="text"/>	<input type="text"/>	<input type="text"/>	
<b>Date of Birth</b>	<small>(Month)</small>	<small>(Date)</small>	<small>(year)</small>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>Address</b>			
<input type="text"/>			
<b>Telephone No.</b>	<input type="text"/>		

### 5. Place your Order

File://C:/Godwin/Finalizing Order.htm

9/18/01