

CHAPTER I

INTRODUCTION

1.1 Background of the study

1.1.1 E-Commerce

Electronic Commerce (E-Commerce) is an outcome of E-business. It is the conducting of any businesses, communication and transactions over networks and through computers using any applications that rely on the internet, such as email, instant messaging, shopping carts, web services etc. Specifically, ecommerce is the buying and selling of goods and services, and the transfer of funds, through digital communications. Ecommerce is every form of electronic business connection where people involved exchange information electronically and not physically.

E-Commerce is a dynamic set of technologies, applications and business processes that link enterprises, consumers and communities through electronic transactions and the electronic exchange of goods, services and information. It encompasses many activities including electronic trading of goods and services, online delivery of digital content, electronic fund transfers, electronic share trading, electronic bills of lading, commercial auctions, collaborative design and engineering, online sourcing, public procurement, direct consumer marketing and after sales service. It involves both products (Consumer goods, specialized medical equipment) and services (information services, financial and legal services); traditional activities (healthcare, education) and new activities (virtual malls).

Initially emerging from the Electronic Data Interchange (EDI) e-commerce has gone through several major steps to get to its current point. Through these steps there has been an emergence of several subsets of e-commerce and new technologies. As a result of these changes and the growth of electronic commerce benefits and detriments have been brought to society that can be generalized to all the subsets of e-commerce. Looking at economic, privacy and social aspects of society we can see there are issues facing electronic commerce development. It is also possible to see there are some industries that e-commerce has had a greater impact on, such as the culture and information industry. Overall, e-Commerce can be a benefit to society especially if businesses adapt to their customers worries such as privacy concerns. As these problems begin to be solved and technology improves e-Commerce will provide individuals with more choice and add further depth to the economy.

There have been several key steps in the history of e-Commerce. The first step came from the development of the Electronic Data Interchange (EDI). EDI is a set of standards developed in the 1960's to exchange business information and do electronic transactions. At first there were several different EDI formats that business could use, so companies still might not be able to interact with each other. However, in 1984 the ASC X 12 standards became stable and reliable in transferring large amounts of transactions. The next major step occurred in 1992 when the Mosaic web-browser was made available, it was the first 'point and click' browser. The Mosaic browser was quickly adapted into a downloadable browser, Netscape, which allowed easier access to e-Commerce. The

development of DSL was another key moment in the development to of e-Commerce. DSL allowed quicker access and a persistent connection to the Internet. Christmas of 1998 was another major step in the development of e-Commerce. AOL had sales of 1.2 billion over the 10 week holiday season from online sales. The development of Red Hat Linux was also another major step in e-Commerce growth. Linux gave users another choice in a platform other than Windows that was reliable and open-source. Microsoft faced with this competition needed to invest more in many things including e-Commerce.

Napster was an online application used to share music files for free. This application was yet another major step in e-Commerce. Many consumers used the site and were dictating what they wanted from the industry. A major merger, in early 2000, between AOL and Time Warner was another major push for e-Commerce. The merger, worth \$350 million, brought together a major online company with a traditional company. In February 2000 hackers attacked some major players of e-Commerce, including Yahoo, eBay and Amazon. In light of these attacks the need for improved security came to the forefront in the development of e-Commerce.

It is predicted that that revenues, up until 2006, will grow 40% to 50% yearly. Expectations of higher prices as well as larger profits for e-Commerce business are also present. Also, we will see a larger presence by experienced traditional companies, such as Wal-Mart, on the Internet. It is believed companies in general will take this mixed strategy of having stores online and offline in order to be successful. It can be seen that there will be a large growth in Business-to-Consumer (B2C) e-Commerce, which online

businesses is selling to individuals. However, even though B2C e-Commerce may be the most recognizable there are different varieties.

Today the largest electronic commerce is Business-to-Business (B2B). Businesses involved in B2B sell their goods to other businesses. In 2001, this form of e-Commerce had around \$700 billion in transactions. Other varieties growing today include Consumer-to-Consumer (C2C) where consumers sell to each other, for example through auction sites. Peer-to-Peer (P2P) is another form of e-commerce that allows users to share resources and files directly.

1.2. Statement of the problem

Nepal is a least developed country. The situation of information and communication technologies is still a child. The use of internet and computer applications for the daily life such as e-governance, e-education, e-library as well as e-commerce for all the Nepalese people is a dream.

Use of computer application in daily life for purchasing and selling the goods is not an easy task. Most of the business houses in Nepal are provided their goods and services from their office rather than internet. There are some business and institution who are provided their information from their websites. Information download features are also available. Such examples are Thamel.com, Muncha.com, Omni group etc.

The Nepalese customer to purchase the goods and services provided by the business through computer has suffering from the electricity as well. Even as the e-commerce sector has succeeded in surging ahead in terms of business scope and market share, many consumers still seem worry about the process, owing to frauds and fraudulent deals that take place. Perhaps the most widely reported e-commerce fraud scheme today is the so-called phishing scheme.

The researcher has got the information throughout the internet about the company like Muncha House, Thamel.com (TDC), and Omni-Group. The commencement of e-Commerce in Nepal is more than a decade but the pace of the development has been slow. These business houses except Omni-group, are giving their services to serve the Nepalese people in sending gifts such as flower bouquets, cake, chocolate, watches, sweets, saries etc from abroad, booking order in the condition for payment on delivery and export of handicraft but Omni group is dealing with IT business only and want to bring their IT product online in near future.

In the context Nepalese business as Muncha House, TDC , they are applying e-Commerce system and Omni –group want to enter in ecommerce system in future so that such system can be accessed via online throughout the world. The person who uses the computer can login to the business houses and take the facility provided by the business through the Internet by their home, cybercafe or offices too.

1. How effectively are ecommerce systems used in Nepali market?
2. Which vertical dominates ecommerce application?

3. Has financial institution played any role to facilitate the operation and promotion of ecommerce application in Nepal?
4. Is government body facilitating Nepali citizens with ecommerce application?
5. Is ecommerce application developed in local Nepali market well tested against various flaws that could raise security threats to the ecommerce sites and application?
6. Is security technology used to protect customer information by ecommerce application satisfactory?

1.3. Objectives of the study

- ❑ To examine the existing system of e-Commerce in the Nepalese market
- ❑ To evaluate the influential facto of e-commerce in the Nepalese market.
- ❑ To evaluate the strength, weakness, opportunities and threats relating to ecommerce.
- ❑ To suggest measure to improve the IT policy regarding Ecommerce.

1.4. Significance of the study

E-Commerce is not different from commerce, therefore shop and internet should build on each other, and the answer is not internet or shop, but the combination of internet and shop.

Developing country firms that want to stay competitive must adapt. They need to know which applications will boost visibility, improve efficiency or enhance products. The

challenges are great, especially in countries that are slow to develop an e-culture. Putting “e” to work doesn’t happen automatically, countries need to manage the process.

1. The study is about the ecommerce provides opportunities & threats relating to it. It becomes a mile stone to implement ecommerce successfully.
2. The source of the study is a new concept and student will take the benefits from finding for further study in this topic.
3. Nepalese people are still not aware about the online transactions. This study will help them to get the concept of online services available to them.
4. The findings drawn from this study has significance to all the business houses who want to explore his/her traditional information management practices and who want to enter or expand their e-Commerce operation.

1.5. Limitation of the study

This research is conducted for partial fulfillment of MBS degree. The research/thesis has to be prepared within limited time constraint and resources. Thus, the study will have certain limitations which will be as follows:

1. The researcher have limited the study to view the above stated research objectives by studying the e-Commerce organization of Nepal namely Muncha House and Thamel.com and also Omni group who want to enter online business.
2. The study is fully depends on the information available in the internet since there are not any formal books available in the subject area.
3. The study is only based on company perspective and no attention was given to the customer.

4. Non availability of the data about the system due to the privacy thus thorough analysis cannot be done.
5. The primary data are used for the facts collection only. The data were picked up for the year 2007-2008

1.6. Organization of the study

The study is organized into several chapters; each chapter gives significant descriptive information on Development of E-commerce. With objective to make the study methodical and simpler to understand, it is planned in the following chapters:

- Chapter I Introduction

This chapter includes background of the study, focus of the study, statement of the problem, objectives, significance and limitation of the study.

- Chapter II Review of Literature

This chapter includes reviews of previous writings and studies relevant to the topic being selected. Different sources, references, books and dissertation are consulted for literature reviews.

- Chapter III Research Methodology

This chapter describes the type of research design used in research. It includes the scope of research, different tool,

techniques and procedure used for collecting, for presenting and for analyzing the data.

□ Chapter IV

Sources of information and data presentation

This is the very important chapter of the thesis where the research presents its collected data in different forms through examination and analysis. Finally, research findings are presented interpreting the results obtained from analysis.

□ Chapter V

Major Findings, Conclusion & Recommendations

In this chapter researcher can express researcher's conclusions about how well research able to solve the problem and how well the purpose of the study has been accomplished. This is the chapter where researcher made recommendations based on the interpretation of findings.

CHAPTER II

REVIEW OF LITERATURE

Literature Review is a way to discover what other research in the area of this problem has uncovered, is a way to avoid investigating problems that have already been definitely answered.

The Review of Literature is divided into 2 parts:

1. Conceptual Framework
2. Review of Related Studies

2.1 Conceptual Review

MIS

The concept of MIS has evolved over a period of time comprising many different facets of the organizational functions. MIS is a necessity of all the organizations. The initial concept of MIS was to process data from the organization and presents it in the form of reports at regular intervals. The system was largely capable of handling the data from collection to processing. It was more impersonal, requiring each individual to pick and choose the processed data and use it for his requirements. This concept was further modified when a distinction was made between data and information. The information is a product of an analysis of data. This concept is similar to a raw material and the finished product. What are needed is an information and not a mass of data. However, the data can be analyzed in a number of ways, producing different shades and specifications of the information as a product. It was, therefore demanded that the system concept should be an individual-oriented, as each individual may have a different orientation towards the

information. This concept was further modified, that the system should present information in such a form and format that it creates an impact on its user, provoking a decision, an action or an investigation. It was later realized that even though such an impact was a welcome modification, some sort of selective approach was necessary in the analysis and reporting. Hence, the concept of exception reporting was necessary in the analysis and reporting. Hence, the concept of exception reporting was imbibed in MIS. The norm for an exception was necessary to evolve in the organization. The concept remained valid till and to the extent that the norm for an exception remained true and effective. Since the environment turns competitive and is ever changing, fixation of the norm for an exception becomes a futile exercise at least for the people in the higher echelons of the organization. The concept was then evolved that the system should be capable of handling a need based exception reporting. This need maybe either of an individual or a group of people. This called for keeping all data together in such a form that it can be accessed by anybody and can be processed to suit his needs. The concept is that the data is one but it can be viewed by different individual in different ways. This gave rise to the concept of DATABASE, and the MIS based on the DATABASE proved much more effective. (Jawadekar, 2002: 1)

Over a period of time, when these conceptual developments were taking place, the concept of the end user computing using multiple databases emerged. This concept brought a fundamental change in MIS. The change was decentralization of the system and the user of the information becoming independent of computer professionals. When this becomes a reality, the concept of MIS changed to a decision making system. The job in a computer department is to manage the information resource and leave the task of

information processing to the user. The concept of MIS in today's world is a system which handles the databases, provides computing facilities to the end user and gives a variety of decision making tools to the user of the system.

The concept of MIS gives high regard to the individual and his ability to use the information. An MIS gives information through data analysis. While analyzing the data, it relies on many academic disciplines. These include the theories, principles and concepts from the Management Science, Management Accounting, Operations Research, Organizational Behaviour, Engineering, Computer Science, Psychology and Human Behaviour, making the MIS more effective and useful. These academic disciplines are used in designing the MIS, evolving the decision support tools for modeling and decision-making.

The fundamental of MIS is the principles of management and its practices. MIS uses the concept of management control in its design and relies heavily on the fact that the decision maker or the manager is a human being and is a human processor of information.

A Management Information System can be evolved for a specific objective if it is evolved after systematic planning and design. It calls for an analysis of a business, a management views and policies, organization culture and the management style. The information should be generated in this setting and must be useful in managing the business. This is possible only when it is conceptualized as a system with an appropriate design. The MIS, therefore, relies heavily on the systems theory. The systems theory

offers solutions to handle the complex situations of the input and output flows. It uses theories of communication which helps to evolve a system design capable of handling data inputs, process and outputs with the least possible noise or distortion in transmitting the information from a source to a destination. It uses the principles of System Design, viz., an open system or a closed system. An open system of the MIS offers an ability of continuous adjustment or correction in the system in line with the environmental changes in which the MIS operations. Such a design helps to keep the MIS tuned with the business management needs of the organization.

The concept therefore is a blend of principles, theories and practices of the Management, Information, and System giving rise to single product known as Management Information System (MIS). The conceptual view of the MIS is shown as a pyramid in Fig.

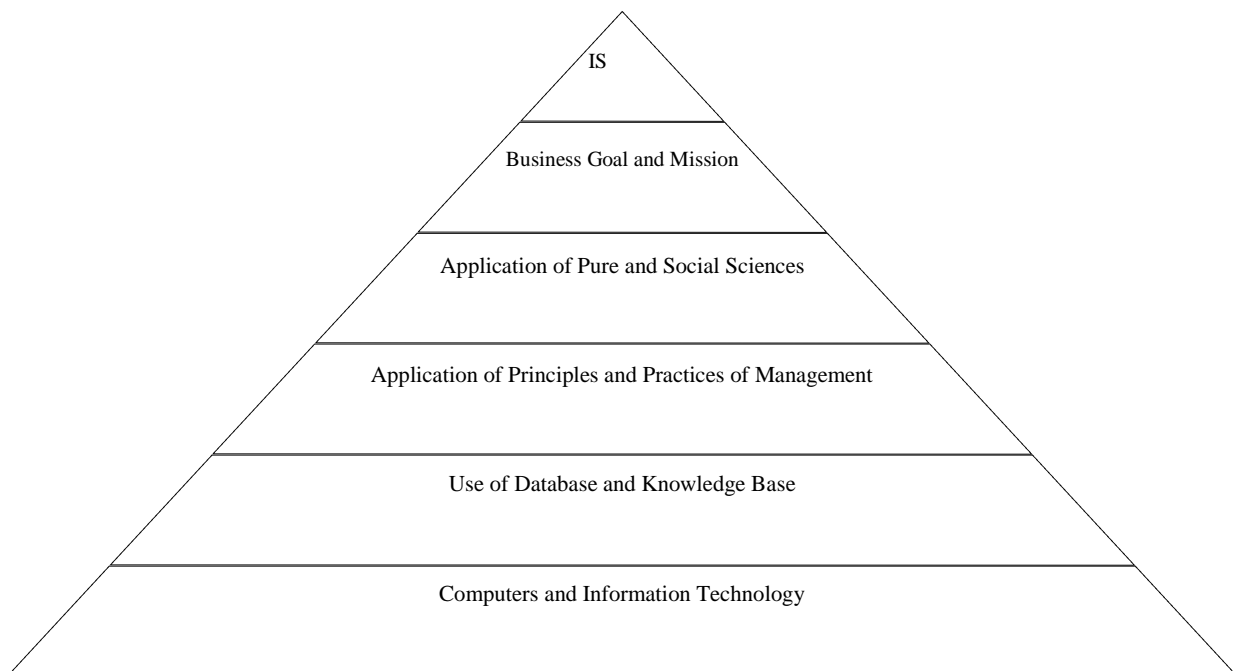


Figure No. 1: Conceptual view of an MIS

Source: (Jawadekar, second edition: 5)

The physical view of the MIS can be seen as an assembly of several subsystems based on the databases in the organization. These subsystems range from data collection, transaction processing and validating, processing, analyzing and storing the information in databases. The subsystems could be at a functional level or a corporate level. The information is evolved through them for a functional or a departmental management and it provides the information for the management of business at the corporate level. The physical view of the MIS can be shown as in Fig

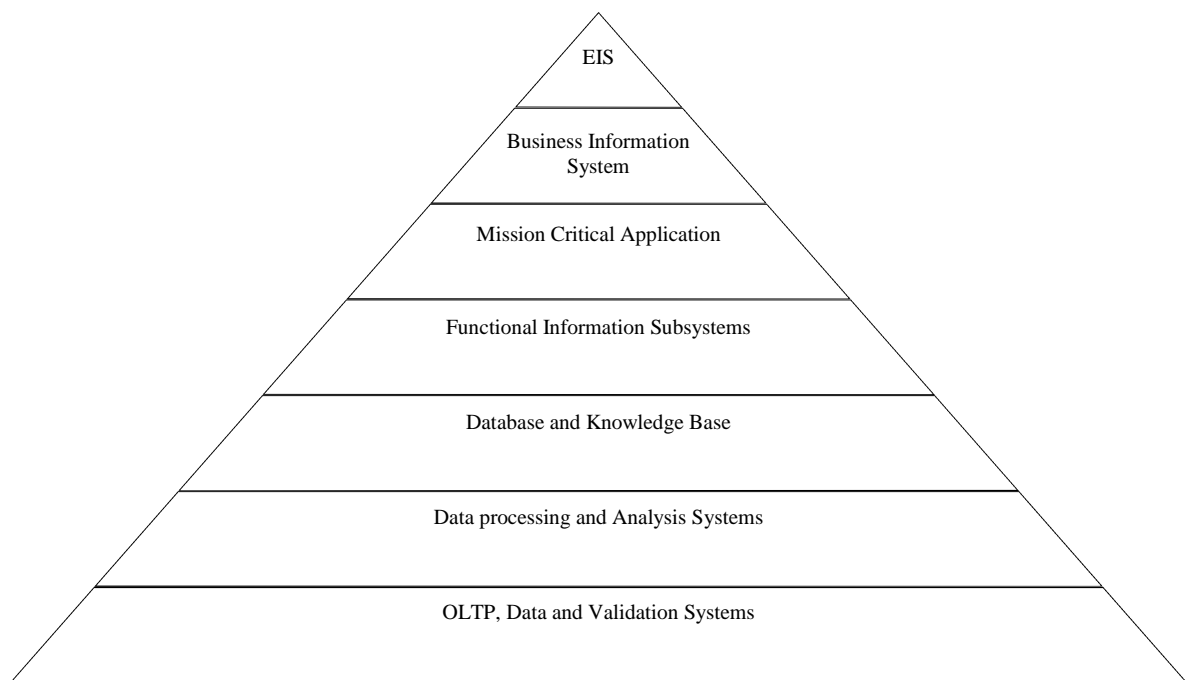


Figure No. 2: Physical view of an MIS

Source: (Jawadekar, second edition: 5)

The MIS is a product of multi-disciplinary approach to the business management. It is a product which needs to be kept under a constant review and modification to meet the

corporate needs of the information. It is a prescribed product design for the organization. The MIS is for the people in the organization. Since the people in two different organizations are different, the design of MIS would also differ. The MIS model may be the same but it differs greatly in the contents.

The MIS, therefore, is a dynamic concept subject to change, time and again, with a change in the business management process. It continuously interacts with the internal and the external environment of the business and provides a corrective mechanism in the system so that the changed needs of information are met with effectively. The MIS, therefore is a dynamic design, the primary objective of which is to provide the information for decision making and it is developed considering the organizational fabric, giving due regard to the people in the organization, the management functions and the managerial control.

The MIS model of the organization changes over a time as the business passes through several phases of developmental growth cycle. It supports the management of the business in each phase by giving the information which is crucial in that phase. Every business has critical success factors in each phase of growth cycle and the MIS model gives more information on the critical success factors for decision making.

MIS: A support to the management

The management process is executed through a variety of decisions taken at each step of planning, organizing, staffing, directing, coordinating and control. If the management is able to spell out the decisions required to be taken the MIS can be designed suitably.

The objective of MIS is to provide information for decision support in the process of management. It should help in such a way that the business goals are achieved in the most efficient manner. Since the decision making is not restricted to a particular level, the MIS is expected to support all the levels of the management in conducting the business operations. Unless the MIS becomes a management aid, it is not useful to the organization.

Management and Management Information Systems

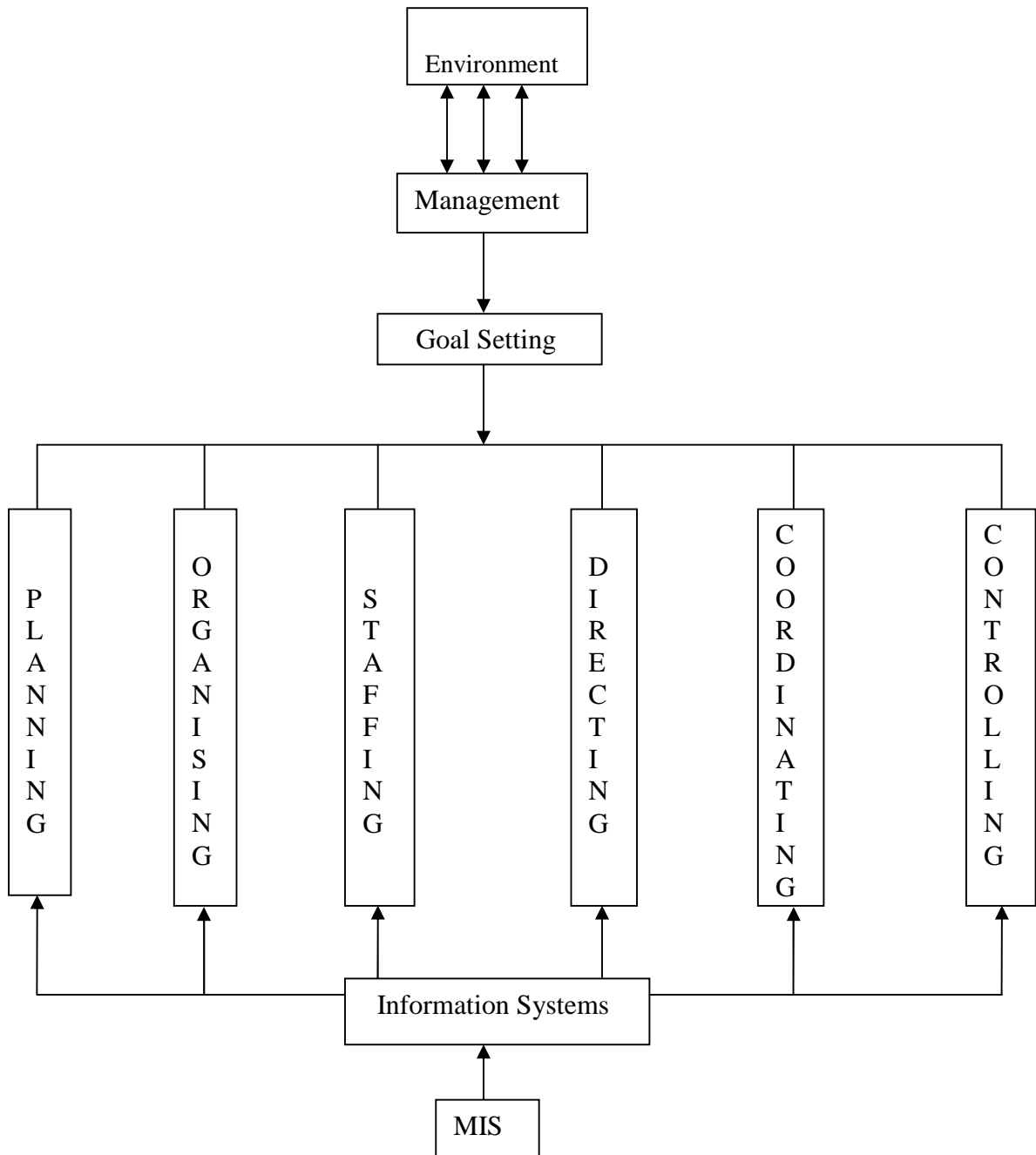


Figure No. 3: MIS Support to Management process

Source: (Jawadekar, second edition: 24)

Definition of E-Commerce

Ecommerce or electronic commerce is an outcome of eBusiness. It refers more specifically to the commercial transactions involved in selling and buying goods and services electronically. Online systems are commonly used within ecommerce, and transactions can be conducted using any of the applications that rely on the internet, such as email, instant messaging, shopping carts, web services etc. (Adhikari, first edition:12)

Most people have an understanding of commerce based on the experience of shoppers and buyers, and they bring this experience with them when they start shopping online. In order to meet the user's needs, then we must understand the typical user's experience of traditional commerce.

Most commerce with commerce sites are due to misunderstanding on the part of the site creators about how users understand the structure and element of typical commerce transactions.

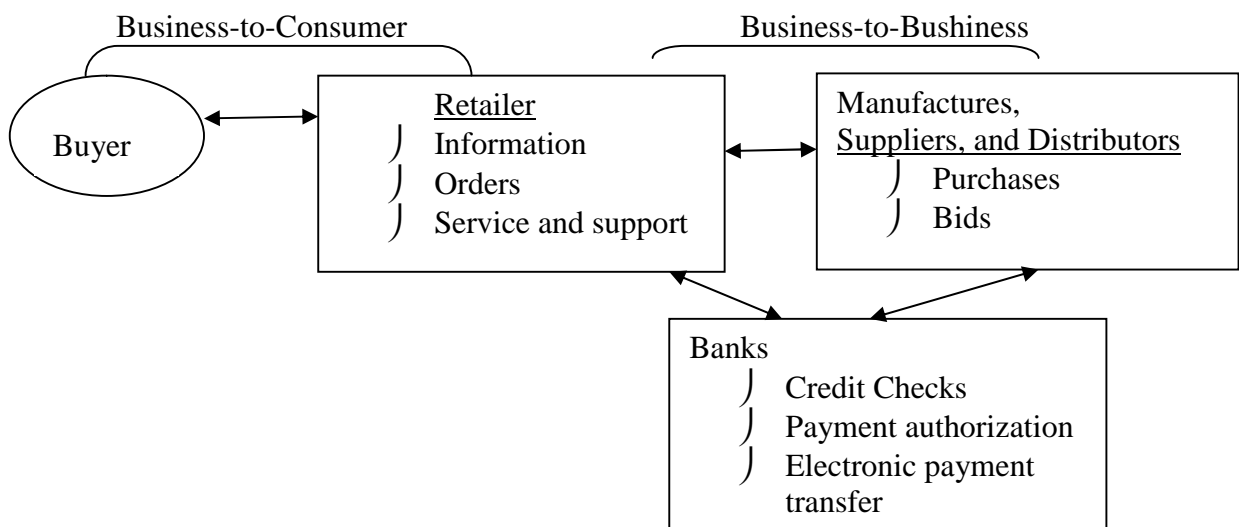


Figure No. 4: Structure and element of typical Ecommerce transaction

Source: (Adhikari, first edition: 14)

Commerce is a communicative transaction between two parties playing very familiar roles: buyer and seller. For commerce to occur, somebody must do selling, and somebody must do the buying, and these two some bodies must share a basic understanding of how the transaction generally supposed to flow. Ecommerce web sites can't simply make products available to be bought; these sites must hold up their part of role-playing the commerce transaction.

Ecommerce websites must pay attention to how they communicate to user. Ecommerce sites play their role of seller by trying to broadcast two messages to potential buyers: "buy from us" and "trust us". The impact of explicit messages, though, is often corrupted by contradictory or distracting message4s implicit in the site's implementation of navigation flow, page layout, visual continuity, and information space.

E-Commerce market in Nepal

Before any country lunges forward to invest in ecommerce the government should realize that while doing so such investments must be done while keeping its goals and the current situation in mind. In a developed nation, ecommerce might be viewed as a means to increased industrial productivity. While this is important everywhere, a developing nation might be more concerned with stemming population flight from rural to urban areas by increasing village productivity to the point where it affords two rather than one meal per day and providing access to news, entertainment, and education. Thus, in the context of Nepal the government must consider the goals of increased social and

geographic equity and rural employment along with the desire to generate hard currency profits. (Press et al, 2000)

There are many ways to categorize ecommerce. Rather than attempt a single, orthogonal taxonomy, ecommerce should be viewed as a whole in several, overlapping ways, discussing information products, electronic markets, vertical industry portals, extranets, business-consumer enterprises, and ecommerce involving government.

Information products

Information products are unique in that selection, transaction, payment and fulfillment may be completed electronically without involving a brick and mortar store or infrastructure for warehousing and delivery. Information products would seem attractive in a developing nation like Nepal, where roads, transport, post and delivery facilities are poor.

In considering information products for export, one should ask what is uniquely Nepalese. What news, literature, music, images, and video content would have a market? Who would be the audience? Nepalese expatriates? English and Hindi speaking Indians? Buddhists? An ecommerce presence could perhaps evolve out of a government sponsored Nepalese culture site on the Internet. (Goodman et al, 2000)

There would also be a domestic market for information products if there were infrastructure in place to deliver them. Information products involving credit, education, news, health, entertainment, and personal communication can be sold in rural and in urban areas if people have access to the Internet at home, work, school or in a telecenter.

Funds transfer is another information service. The Internet is increasingly used by expatriates in developed nations to maintain contact with each other and with their

families. Expatriates often send funds home, and a trustworthy mechanism for electronic funds transfer should be provided. The same service is needed to support export business. This should not be seen as a profit opportunity for the government, but as a method of getting hard currency and enhancing quality of life.

Vertical portals

But more comprehensive would be something on the lines of what Nepal is renowned for. Its mountains and its tourism, that accounts for about 20% of the National GNP. The tourism and trekking industry is a candidate for a vertical portal. A vertical portal is a website or service that offers a broad array of resources and services, such as emails, forums, search engines and on-line shopping malls. A comprehensive web site providing for selection of transportation to and within Nepal, accommodations, guides, etc. The site would provide descriptions, search and selection tools, and links to competing companies in each of these areas, necessitating the participation of representatives of several industries. As with most ecommerce, the Web site would be only the tip of the iceberg. Payment and fulfillment must also be provided for. Credit cards are the most common payment mechanism for consumer goods on the Internet today, and a means of accepting credit card payment would be necessary. The one great hurdle is that the banking and legal system which must provide for electronic payment which must be available and reliable are not. This hurdle has to be crossed by establishing a safe way for online payments. Similarly, systems for international travel, visa and immigration matters, local transportation, and housing would all have to be integrated. (UNCTAD, 2002) (Press et al, 2000)

For example, Hotels in Nepal predominantly get reservations through their contacts in various other countries and through various travel agencies. Even five star hotels account for most of their guests through this measure. Even though most bookings are done via travel agents, the increase in internet bookings has encouraging hotels to make more attractive websites and offer more features and facilities to potential guests. Hotels have realized that with the use of websites they can reach more customers as more and more visitors now use the internet to find information and package deals on their own rather than depend on set tours designed by travel agencies.

But the main problem hotels have to deal with is being able to reach the people searching for information so that they can quickly find the hotel's website. Hotels cannot be searched easily and due to the poor banking system hotels cannot process credit cards thereby depending solely on the online forms submitted by the guests. There are web portals available that enable simple searches for customers but the most service they can provide is the names of hotels and trekking agencies. (Paul Kuruz, 2001)

These so called web portals do not have the power and the infrastructure to provide advanced services such as search for room availabilities and provide a selection of tours based on the data put in by the customer. However, one thing to note is that along with the infrastructure and skills to enable such a system, organization and association is equally important. Most leading hotels and trekking agencies are reluctant to be members of such an association because this would potentially harm their business since other less luxurious but comparable in quality and lower in price hotels can provide cheaper rates.

Another example of an existing vertical portal is of the Handicraft Association of Nepal (HAN). HAN has the beginning of a vertical portal at www.nepalhandicraft.com.np. This

site has links to twelve member home pages and an email ombudsman service to match suppliers with foreign distributors, but the site is disappointing. The most important feature to a prospective retailer is the ombudsman service, which, inexcusably, leads to a broken link. There is very little background information, and what is there is graphically unattractive and the text is in poor English. Like a consumer oriented travel portal, such a site must be comprehensive. It should provide extensive background material on products, terms, customs procedures, shipping and warehousing options, sales volumes, etc. As with other products and markets, a vertical portal could serve the region, not just Nepal. For example, one could focus on Thangka painting (traditional Tibetan religious paintings), and provide a comprehensive portal for organizations producing them throughout the world.

Electronic market

The Internet merely enables or facilitates ecommerce; the key is management, marketing and human capital. The market is very competitive and crowded, making differentiation difficult. Thus, remaining focused on your on core competency and developing well planned business models and their effective execution becomes crucial. For example, Nepal may have expertise in systems for electrical power generation and distribution since they have extensive hydroelectric capacity and are a power exporter.

Electronic markets have flourished on the Internet, and can take several forms. Electronic auctions were devised for consumer transactions but they are increasingly used by business when companies have surplus items to liquidate. The tender model, in which a consumer requests bids for a good or service is common practice with government

procurement, and has also been used on the Internet. Other sites allow buyers to make offers for goods and services. (Press et al, 2000)

Electronic markets are well suited to homogeneous, fungible commodities, several of which come to mind in the Nepalese context: electric power, agricultural inputs, products, and transportation, and handicraft raw materials. Nepal has knowledge of energy markets because of its hydroelectric power industry. We are seeing the emergence of electronic markets for energy, for example, Altranet, <http://www.altranet.com/>, in developed nations today, and Forrester Research predicts that 17% of US electricity will be traded online by 2004 (Kafka et al, 2000)

Is there a place for an international electronic market for energy in the region? Or, more generically, how can the Internet be used in service of the region's energy suppliers?

Perhaps electronic markets could play a role in rural agriculture by lowering the cost of seed and fertilizer, helping farmers find the best prices for their goods, and finding cheap, reliable transportation to market. An early study along these lines in Pondicherry, India, found that information about something as mundane as bus schedules and the availability of space on a bus can be quite valuable in the rural economy (Press, 1999).

Once the demand is created supply will be necessitated. Thus, companies will jump in to fill in the void market of overnight delivery in order to facilitate the demand on online customers outside the capital city of Kathmandu.

Handicrafts are also significant in Nepal's rural economy, employing an estimated 300,000 people throughout the country (Shahi and Kachhipati, 1999). In urban areas, people usually work full time in handicrafts, whereas it is typically a subsidiary occupation in rural areas. While the contribution of handicraft exports to GDP is only .89

percent (1996/7), it has grown steadily from .08 percent in 1986/7, and handicrafts accounted for 4.17 percent of exports in 1996/7. Might electronic markets for handicraft raw materials and products increase efficiency? As with electric power, these markets could serve the entire region, not only Nepal.

Extranets

Electronic marketplaces and vertical portals are open, hoping to attract all buyers and sellers, but the Internet is also used to create closed “extranets” to facilitate communication and cooperation between relatively stable business partners.

For example, the handicraft industry involves raw material producers, individual artisans, producer and craft-based organizations, marketing and fair-trade organizations, commercial buyers and importers, government customs and export regulators, retail outlets, and warehousing and transportation at every step in the process. Simply connecting the appropriate people in each of these organizations with email would no doubt increase production and logistic efficiency. Going a step further and providing them with websites for querying inventory status, ordering, scheduling, tracking shipments, etc. would provide still greater returns. (UNCTAD, 2002) (Goodman et al, 2000)

Business to Consumer

The domestic consumer market is limited by the number of Internet users in Nepal and their concentration in Kathmandu. It will be some time before the domestic consumer market is large enough to support business to consumer (B2C) e-commerce; however,

entrepreneurs like Mercantile are already considering entry. Their task will be simplified by most delivery being in Kathmandu and other urban areas.

Direct Internet sales to export customers are difficult because of logistical problems with rapid, reliable delivery; however, the inefficiencies and markups in the current distribution channels make direct marketing an attractive goal.

Direct marketing to consumers would entail a web site, and it should be complete and professional, enabling the consumer to select or design order, pay for and track delivery of an item. Timely delivery to customers would entail warehousing and fulfillment centers in target market areas such as North America, Europe and Australia.

Government cooperation in streamlining export procedures and lowering duties would also be necessary. But there is still the strategic problem of handling channel conflicts.

If direct sales are significant, they will weaken and antagonize current distribution and retail partners. Logistics and channel conflicts are formidable hurdles, but the cost of the current distribution system might provide sufficient incentive to overcome them.

It should be noted that a valuable byproduct of all forms of e-commerce, especially business to consumer, is the opportunity for establishing and maintaining a customer relationship. We see firms in developed nations literally paying people to become customers on the theory that it is important to build a brand presence and that it is cheaper to keep an old customer than to attract a new one in a mature market. (Goodman et al, 2000) (Minges, 2002)

The passage of the Electronic Transactions Act needs to be quickly followed by the development of an online payment system in the absence of an electronic fund transfer

systems and credit cards. It will take many years for B2C e-commerce to develop into an important economic activity. In a meanwhile, there are numerous business websites where customers can place orders but make payments offline by bank drafts and other conventional forms of fund transfer. The sites <http://munchahouse.com.np> and <http://www.acp.org.np> are examples of those operating this hybrid form of e-commerce. There are also websites offering full-fledged e-commerce, but they tend to be hosted by service providers located outside Nepal. Examples include <http://Dhukuti.com>, <http://eshopNepal.net> and <http://nepalshop.com>.

The Rural-Urban Partnership Program (<http://www.rupp.org.np>) runs a B2B website (<http://b2b.com.np>) to promote business transactions among entrepreneurs. The program also aims to establish regional linkages among 12 partner municipalities in the country.

Among the niche products and services that Nepal could market via e-commerce to consumers overseas are handicrafts, pashmina fabric, readymade garments, carpets, herbal products, spices, hotel and tourism services, and software development and IT-enabled services.

Opportunity of E-Commerce

A secure ecommerce website can provide businesses with powerful competitive advantages, including increased online retail sales, as well as streamlined application processes for products such as insurance, mortgages or credit cards. E-commerce credit card sales can be especially lucrative: according to independent analysts, cash transactions on the internet will reach \$9billion in 2000 and \$30billion in 2005

By offering products and services on the Web, businesses can gain unique benefits:

1. **New customer:** Anyone with an internet connection is a potential customer: millions around the world are already using the internet for business transactions. Web storefronts are open 24hours a day and require no investments in brick and mortar.
2. **Cost-effective delivery channel:** Many product and services, such as software or information, can be distributed directly to customers via the Web, enhancing the customer experience and increasing profitability by eliminating the shipping and overhead costs associated with order fulfillment.
3. **Streamlined enrolment:** Paper-based enrolment workflows are fraught with delays. Applications for insurance, a mortgage or a credit card, for example, can be held up in the post. Once received application information must be entered into computer systems manually a labour-intensive process that can introduce errors. By accepting applications via a secure website businesses can speed application processing, reduce processing costs and improve customer service.
4. **Better marketing through better customer knowledge:** Establishing a storefront on the web positions enterprises for one –to-one marketing the ability to customize products and services to individual customers rather than large market segments. The Web facilitates one-to-one marketing by enabling businesses to capture information about demographics, personal buying habits and preferences.

By analyzing this information, enterprises can target merchandise and promotions for maximum impact, tailor Web pages to specific consumers and conduct effective, tightly focused marketing campaigns.

No business can afford to ignore this opportunity. But businesses also cannot ignore the potential pitfalls. Before entering the fiercely competitive e-commerce arena, businesses must carefully assess and address the accompanying risks.

Risk and Challenges of E-Commerce Trust

To succeed in the competitive e-commerce marketplace, businesses must become fully aware of Internet security threats, take advantage of the technology that overcomes them and win customer trust. Eighty-five percent of web users surveyed reported that a lack of security made them uncomfortable sending credit card number over the Internet. The merchants who can win the confidence of these customers will gain their loyalty- and enormous opportunity for expanding market share.

In person-to-person transactions, security is based on physical cues. Consumers accept the risks of using credit cards in places like department stores because they can see and touch the merchandise and make judgments about the store. On the Internet, without those physical cues, it is much more difficult to assess the safety of a business. Also, serious security threats have emerged. By becoming aware of the risks Internet –based transactions, businesses can acquire technology solutions that overcome those risks.

1. **Spoofing:** The low cost of website creation and the ease of copying existing pages makes it all too easy to create illegitimate sites that appear to be published by established organizations. In fact, con artists have illegally obtained credit card numbers by setting up professional looking storefronts that mimic legitimate businesses.
2. **Unauthorized disclosure** – When transaction information is transmitted “in the clear,” hackers can intercept the transmissions to obtain customers’ sensitive information.
3. **Unauthorized action:** A competitor or disgruntled customer can alter a website so that it refuses service to potential clients or malfunctions.
4. **Eavesdropping:** The private content of a transaction, if unprotected can be intercepted en route over the Internet
5. **Data alteration:** The content of a transaction can be not only intercepted, but also altered on route, either maliciously or accidentally. User names, credit card numbers and dollar amounts sent “in the clear” are all vulnerable to such alteration

Goals of Implementing an E-Commerce Trust Infrastructure

To take advantage of the opportunities of e-commerce and avoid risks of communicating and transacting business online, every business must address practical problems and questions involving privacy, security and overall confidence in the underlying features of the system. Such concerns include:

“How can I be certain that my customers’ credit card information is not accessible to online eavesdroppers when they enter into a secure transaction on the Web?”

“How can I pressure customers who come to my site that they are doing business with me, not with a fake set up to steal their credit card numbers?”

“Once I’ve found a way to authoritatively identify my business to customers and protect private customer information on the Web, what’s the best way to let customers know about it, so that they can confidently transact business with me?”

“When customers feel confident enough to buy something from me online, how can I enable them to pay me easily using their credit cards or other payment methods?”

“How can I verify that customer credit card information is valid?”

“What do I do with payment information once customers send it to me?”

The process of addressing these general security questions determines the fundamental goals of establishing an e-commerce trust infrastructure;

1. Authentication: Customer must be able to assure themselves that they are in fact doing business and sending private information with a real entity-not a “spoof” site masquerading as a legitimate bank or e-store.

2. Confidentiality: Sensitive Internet communications and transactions, such as the transmission of credit card information, must be kept private
3. Data Integrity: Communications must be protected from undetectable alteration by third parties in transmission on the internet
4. No repudiation: It should not be possible for a sender to reasonably claim that he or she did not send a secured communication or did not make an online purchase

Building an infrastructure for trusted E-Commerce

The solution for meeting each of the goals above includes two essential components;

1. Digital certificates for Web servers, to provide authentication, privacy and data integrity through encryption.
2. A secure online payment management system, to allow e-commerce websites to securely and automatically accept, process and manage payments online

Together, these technologies form the essential infrastructure for any business that wants to take full advantage of the Internet.

Is the internet economy synonymous with E-Commerce and E-Business?

The Internet economy is a broader concept than e-commerce and e-business. It includes e-commerce and e-business.

The CREC (Center for Research and Electronic Commerce) at the University of Texas has developed a conceptual framework for how the Internet economy works. The framework shows four layers of the Internet economy-the three mentioned above and a fourth called intermediaries.

Internet Economy Layer	Layer1. Internet Infrastructure: Companies that provides the enabling hardware, software and networking equipment for internet and for the WWW.	Layer 2 Internet Application infrastructure: Companies that make software product that facilitate web transaction; companies that provide web development design and consulting services	Layer 3 Internet intermediaries: companies that link ecommerce buyer and sellers; companies that provide web content; companies that provide market place in which ecommerce transaction can occur.	Layer 4: Internet commerce: Companies that sells product or services directly to consumer or businesses.
Type of companies	Network hardworking Software companies line acceleration Hardware manufacturers PC and server manufactures Internet backbone providers Internet Service Providers(ISPs), Security vendors fiber optics Makers	Internet Commerce, Application Web Development Software Internet Consultant Online Training Search Engine Software Web Enabled Databases Multimedia Application	Market Makers in Vertical industries Online Travel Agents Online Brokerage Contents Aggregators Online Advertisers InternetAd Brokers Portals/content Providers	E-Tailers online entertainment and professional services Manufactures Selling online Airlines Selling Online ticket Fee-Subscription - Based companies
Examples	Cisco, AOL,AT & T, Qwest	Adobe Microsoft IBM Oracle	e-STEEL Travelocity e-Trade Yahoo ZDNet	Amazon.com Dell

Table No. 1: Internet Economy Conceptual Frame

Source: <http://www.internetindicators.com>

Traditional distribution Vs E-Commerce distribution

What are the difference between traditional distribution facilities and those that serve online shoppers? Both of these types of facilities have the same objective: to get the right product to the right customer at the right time. And both operate out of the same kind of real estate: warehouses typically located near major transportation arteries. But they aren't as similar as they appear –or as some online marketers might assume. In fact, one can safely say they're as different as night and day.

Knowing the key differences between the two facilities could have some headaches for manufacturers purchasing or establishing an online fulfillment effort. More important it could prevent the loss of thousands of customers. Here are some differences

Higher order volume, lower order quantity:

Many traditional distribution facilities are designed to fill orders in large volume configurations. They may handle hundreds or even thousands of orders per day. But these orders are typically quite large, and most move via full truckload (FTL) OR less than truckload(LTL)

By contrast, as ecommerce fulfillment center may process tens or thousands of orders a day- orders that may be only a hundredth the size of their traditional counterpart. Instead of shipping 100 turn up to a single Gap store in Atlanta, the facility may send turn up to 100 different customers throughout the country, all via small package delivery.

As a result, manufacturers must lay out and equip e-commerce fulfillment centers differently, with more pick-to light system. Automation like this doesn't come cheap, which is why companies can expect to pay three to five times as much per square foot for an e-commerce fulfillment center.

More products

A virtual store can do many things a real store can't –including carrying a larger array of products. Sea Tec Sky Mall, for example, offers 10,000 items on its Web site versus 2000 items in its real shop catalogues.

This type of inventory presents an incredible challenge for online fulfillment centers. Among other things, they must have more storage areas, pick lines, and people to manage this variety-not to mention more space. They also must be more systems intensive, because the more individual products you have, the more difficult it is to maintain accurate inventory data –and to avoid the most dreaded of e-commerce blunders the back order

More people

Traditional distribution facilities to fill orders typically assign approximately one-quarter to one third of their labor force to this activity. By contrast, 75 percent to 90 percent of employees involve to pick and customization of demand at e-commerce fulfillment centers

The human resources function at an ecommerce fulfillment center is especially critical. Not only will such a center probably have to hire and maintain more employees, it will

need to manage them more efficiently to inspire order-perfect performance. Accommodating this additional staff becomes a critical design issue because the facility will need larger break rooms, more restrooms, and additional parking spaces than normally found in a traditional distribution center.

Sending Product Packaging

When the term "wrap" is used at a traditional distribution center, it typically refers to encasing a pallet in plastic wrapping for protective purposes.

E-Commerce fulfillment centers must be small –package experts, which means they need areas dedicated to boxing materials and providing extra touches such as gift –wrapping. They must also be more adept at dealings with small package carriers, whether they use an expedited company or a parcel consolidator

Fulfillment centers may make the sale

Perhaps the most important difference of all is the critical role ecommerce fulfillment centers play in making the sale. Online customer satisfaction levels are declining, and customers' biggest complaints are product fulfillment. One research finds that customers eventually cancelled more than 50 percent of orders for back ordered items

For an online sales effort to be a success, companies must pay as much attention to their e-commerce fulfillment design as their Website design. Not only will their fulfillment deliver the goods; it could deliver a future sale

Electronic payment system

The World Wide Web has potential to become a highly efficient electronic marketplace, for goods and services, and there is a need for a cash payment system that is scalable, anonymous and secure. When payments are effected electronically, there is always a risk that organizations may resort to gathering information relating individuals with the amounts that they have spent locations involved and types of good purchased. Misuse of such information can give rise to serious breaches of personal privacy. If a payment system for the WWW is to receive wide spread support, it must offer its users some form or protection against the gathering of such information. The most effective method of achieving this is to implement a form of electronic cash, where the coins' being spent cannot be linked with their owner. This gives rise to a secondary problem in that since the coin is an electronic quality that is easily duplicated, such a payment system must guard against the coin being spent more than once (double spending). furthermore, it should not be possible for an attacker to bypass the system or to falsely obtain monetary value from it.

Therefore new methods of payment are needed to meet the emerging demands of e-commerce. These neo-payment instruments must be secure, have a low processing costs, and be accepted widely as global currency tender. The various issues need to be addressed for such wide acceptance are summarize below;

-) Form and characteristics of payments instruments such as eCash, eChecks, Credit/Debit Card.
-) Financial risk management
 - o Privacy

- Fraud
 - Mistakes
 - Bank failures
-) Security features
- Authentication
 - Privacy
 - Anonymity
-) Electronic payment Business Process liking consumers and organization

Digital Payment requirement

For any digital payment system to succeed, the following criteria ought to be satisfied

Criteria	Need for the criteria
Acceptability	Payment infrastructure needs to be widely accepted
Anonymity	Identity of the customers should be protected
Convertibility	Digital Money should be able to be converted to any type of fund
Efficiency	Cost per transaction should be near zero
Flexibility	Several method of payment should be supported
Integration	Interfaces should be created to support the existing system
Scalability	Infrastructure should not breakdown if new customers and merchants join
Reliability	Should avoid single point of failure
Security	Should allow financial transactions over open networks.
Usability	Payment should be as easy as in the real world

Types of electronic payments system

Online payments can broadly divided into three main categories as shown :

-) Banking and Financial Payment –B2B marketplaces.
 - Large-scale or wholesale payment
 - Small-scale or retail payment(ATM)
 - Home-banking(Bill Payment)

-) Retailing Payment
 - Credit card (VISA/MasterCard)
 - Private label credit/debit card
 - Charge card (American Express)

-) On-line e-Commerce Payment
 - Token based payment

- eCash (Digicash)
- eCheque (Netcheques)
- Smart Card or debit cards (Mondex electronic currency card)
 - Credit card based payment system
 - Encrypted credit-cards
 - Third party authorization numbers(eg First-Virtual)

E-payments systems are proliferating in banking, retail, health care, online markets, and even in government in fact, anywhere money needs to change hands organizations are motivated by the need to deliver products and services more cost effectively and to

improve a higher quality of service to customers. Research into e-payments systems for consumers can be traced back to the 1940s and the first applications, credit cards, appeared soon after. In the early 1970s and the emerging electronic payment technology was labeled electronic funds transfer (EFT).EFT is defined as

Any transfer of fund initiated through an electronic terminal telephonic instruments or computer or magnetic tape so as to order instruct or authorize a financial institution to debit/credit an account

EFT utilizes computer and telecommunication components both to supply and to transfer money or financial assets. Transfer is information based an intangible.

Digital token based e-payments system

Electronic ‘token’ are designed as electronic analogs of various forms of payment backed by a BANK or financial institution. Simply, stated electronic tokens are equivalent to cash that is backed by a bank

- Three types of electronic token
 - Cash or real time: transaction are settled with the exchange of electronic currency Ex : eCash
 - Debit or prepaid: Pay in advance for the privilege pf getting information. Ex : Smart cards, ewallet

- Credit or post-paid: Server authenticate the customers and verified with the bank that funds are adequate before purchase. Ex ; credit card, e Checks

Properties of Paper Money

- Negotiable : can be traded
- Act as Legal tender : payee is obliged to take it
- Bearer instrument : possession is a prima-facie proof of ownership
- Can be held without bank account
- No risk on the part of the Acceptor

Digital Signature

Signature describes the authenticity of a document. As we move into a digital millennium we can now add a new kind of signature to the list. In fact, digital signatures are even more distinctive than a traditional handwritten signature, but we have to use public-key encryption to make a digital signature unique and forgery-resistant. Encryption is not only important for maintaining privacy online- it is also the only way to know for sure just who is on the receiving end or your outgoing communications and who is behind each incoming communication online, so digital signatures are important to everyone who intends to conduct business online.

Intellectual property rights:

Everything in cyberspace is composed of bits, the binary code that is the foundation of computing. It makes digital works – images, music video, software, and written compositions—perfectly reproducible by the creator of the work and anybody else who possesses it. Not just once, but an infinite number of times. There is no degradation factor that limits the value of derivative copies. On the web, a copy is the original.

The binary reality of the web poses interesting questions regarding the nature of intellectual property and how to protect it. One of the virtues of the web is its reach: the ability to widely distribute digital works less expensively and faster than ever before. There is great value in being able to communicate to millions of people. So much so, the web is bursting with content that is given away freely. The downside is the lack of physical control creators are able to exert on the subsequent dissemination and use of their work. When everything we create is reducible to ones and zeroes, technically there is no impediment to making copies.

Traditionally, there are three means of legal protection for intellectual property: patent, trademark and copyright. With each mechanism, the web presents its own unique challenge, not the least of which is the facts that nations differ in their approach to intellectual property law.

Mistaking the free distribution of content with the placement of intellectual property in the public domain is common among web users. A web page is not public domain

material. Property holders can distribute their works freely while retaining their right of control over that work – that is their copyright.

To make matters worse, what is allowed under copyright law with respect to digital works is not always clear. Although there are provisions for the “fair use” of copyrighted materials, the law has evolved under a technological regime that rests on the physical reproduction of the work (i.e. print publishing, photocopying, audio tape and vinyl Disc recordings, videos, and films). But the web opens many new questions of what is legal, appropriate, and fair to copyright owners and consumers. The same can be said with respect to trademark and patent law.

Here are a few of the areas where e-commerce businesses are struggling to understand how intellectual property rights will be handled under international law

-) When is a hyperlink from one site to web pages within another site illegal?
-) When is a business method patentable?
-) When is a domain name a trademark infringement?
-) When is a met tag a trademark infringement?
-) What is your reputation someone else’s property?
-) When is sharing information a crime?

With each of these questions, it is not entirely clear what’s fair under the law and what’s not. Ultimately, it will be up to the judicial system to sort it out.

As the internet continues its remarkable expansion, its capacity to disseminate information, knowledge and content has thrust the intellectual property system to the center of the debate over the future shape of the online world. In this new and rapidly changing environment, information and knowledge are increasingly the source of value; hence the intellectual property system- the body of law protecting creations of the mind – is crucial in maintaining a stable and equitable foundation for the development of the digital society.

Intellectual property rights (IPR) refers to the legal rights which results from the intellectual activity (creations of the mind) in the industrial, scientific, literary and artistic fields.

Rights relating to

-) Literary, artistic and scientific works,
-) Performances of performing artists, phonograms, and broadcasts
-) Inventions in all fields of human endeavor,
-) Scientific discoveries,
-) Industrial designs
-) Trademarks, service marks, and commercial names and designations
-) Protection against unfair competition
-) And all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields.

Patent

A patent for an invention is the grant of a property right to the inventor, issued by the patent and trademark office. The term of a new patent is time bound (20 years from the date on which the application for the patent was filed in the United States) and it has to be renewed after expire.

The right conferred by the patent grant is “the right to exclude others from making, using, offering for sale, or selling” the invention or “importing” the invention. What is granted is not the right to make, use, offer for sale, sell or import, but the right to exclude others from making, using, offering for sale, selling or importing the invention.

Trademark

A trademark is distinctive sign (Word, name, symbol or device) which is used in trade with goods to indicate the source of the goods and to distinguish them from the goods of others. A service mark is the same as a trademark except that it identifies and distinguishes the source of a service rather than a product. The terms “trademark” and “mark” are commonly used to refer to both trademarks and service marks.

Trademark rights may be used to prevent others from using a confusingly similar mark, but not to prevent others from making the same goods or from selling the same goods or services under a clearly different mark.

Its origin dates back to ancient times, when craftsmen reproduced their signatures, or “marks” on their artistic or utilitarian products. Over the years these marks evolved into today’s system of trademark registration and protection. The system helps consumers identify and purchase a product or service because its nature and quality, indicated by its unique trademark, meets their needs.

2.2 Review of related studies

The development of Information Technology has become the most easily accessible medium to gain information in any subject matter. During the research period, the researcher studied many books, articles, visited many more websites and search engines.

2.2.1 Review of Journals and Articles:

1. One article published in 1st October, 2007 by Bibek Subedi and Manish Bikram Shah titled Ecommerce Suffers in Legal Vacuum has conducted as follows:

He illustrated that it has been over half a decade of the commencement of e-commerce in Nepal. But the pace of its development has been slow. The entrepreneurs involved in it say it is still in developing phase.

E-commerce is used worldwide for communications, research, networking, marketing, sales, purchasing, financial management and interacting with government. However, in Nepal its use has been limited to sending gifts from abroad. Almost all the entrepreneurs involved in this business blame the scanty infrastructure as the hindrance.

His findings are as follows

- ❑ Low internet quality is affecting the Nepali business negatively.
- ❑ Nepali e-commerce entrepreneurs still tend to run their business on instinct and experience and the reason for the same is lack of appropriate business knowledge and technical skills. This is because most of the people operating e-commerce are from IT background with little or no exposure on business.
- ❑ Only the Nepali e-commerce operators have been surviving that are innovative.
- ❑ Nepali banks too should take initiatives to facilitate ecommerce in Nepal.

He has illustrated that the lack of e-commerce regulation as a major problem for this business in Nepal. Because of this lack of regulatory regime, payment gateway is not available “Nepali banks cannot open merchant account in dollar unless you have dollar income source. Due to absence of ecommerce law in Nepal, entrepreneur cannot show their ecommerce site as the dollar income source. So, to open a merchant account by showing ecommerce site, one must go abroad. But if the entrepreneur does not have proper contacts there, he/she is unable to open a merchant account even there. This makes it very difficult to run an ecommerce business.

2. In a classic article “Management Misinformation System” by Russell L. Ackoff (1967: Vol. 14, No. 4) explores five assumptions commonly made by designers of management information systems. It is argued that these are not justified in many (if not most) cases and hence lead to major deficiencies in the resulting systems. These assumptions are:

- the critical deficiency under which most managers operate is the lack of relevant information,
- the manager needs the information he wants,
- if a manager has the information he needs his decision making will improve,
- better communication between managers improves organizational performance, and
- a manager does not have to understand how his information system works, only how to use it.

Refuting these myths, Ackoff proposes the filtration and condensation of information systems; promotes a macro view of the decision process; places emphasis on the goal of organizational performance above interdepartmental communication; and urges managers' control of the system, rather than the reverse.

The growing preoccupation of operations researchers and management scientists with management information systems (MIS's) is apparent. In fact, for some the design of such systems has almost become synonymous with operations research or management science. Enthusiasm for such systems is understandable: it involves the researcher in a romantic relationship with the most glamorous nevertheless; some of the excesses to which it has led are not excusable.

Contrary to the impression produced by the growing literature, few computerized management information systems have been put into operation. Of those it is seen that

have been implemented, most have not matched expectations and some have been outright failures. Ackoff believes that these near- and far-misses could have been avoided if certain false (and usually implicit) assumptions on which many such systems have been erected had not been made.

In sum, Ackoff states that management information systems must be designed to be flexible and adaptive, and their design must be strongly influenced by the managers who will be using them.

2.2.2 Review of thesis

The following researcher's studies were reviewed to carry out the recent study.

Acharya ,Ishwor (2002) carried out study on "Implementation of MIS in RNAC – A Case study in Marketing Department." Overview of his study is as under:–

The specific objectives of his study are:

- ❑ To present and analyze existing IS of Marketing Department of RNAC.
- ❑ To examine the flow of information to co-ordinate and communicate different divisions and units of Marketing Information.

Data was collected from both primary and secondary sources. Observation, questionnaire, interview were the tools used to collect data from the primary source while data of different departments of RNAC, Journals, Newsletters were the secondary sources of information. Tables & Figures, System Approach, Data Flow Diagram, Flow

chart were used to present the data in the study and percentage is used to analyze the data.

His research findings are:

- ❑ The information system in Marketing Department is based on traditional paper-based information and manual filing system. Manual flow of documents except computerized Reservation System of International Flight Ticket through ABACUS and other CRS software.
- ❑ Lack of capable manpower and IT experts to handle sophisticated information technology to maintain proper information system within the department.
- ❑ Centralization of authority, manual flow of documents and unnecessary political pressure generally creates obstacle to perform marketing activities smoothly.
- ❑ Micro computers in each division are not utilized. They are used only to keep records to some extent and used to type material whenever needed in order to submit the report to the departmental director and CEO.
- ❑ Information does not flow systematically due to the absence of Network-Based Computerized Information System to co-ordinate and communicate with different divisions and units of the Marketing Department.
- ❑ MIR unit of Marketing Department generally accumulates the information from different divisions and compiles them in a given format and prints out to submit the weekly and monthly information report.
- ❑ Traditional paper-based information system creates delay in making decisions. It should be eliminated through computerized information system.

The basic conclusions drawn from this study are:

- The implementation of MIS is necessary for the effectiveness of the department.
- The complex organizational structure and multidivisional structure of the marketing department is ambiguous, it is necessary to make it clear.
- The department needs Network based computerized information system to eliminate the drawback generated by paper based information system and traditional way of centralizing the information and authority.

The shortcomings of this research are that the research focus on infrastructure development and implementation of network based computerized information system. But as other research it also failed to consider feasibility analysis, proper system design as well as most importantly behavior and cultural factors of organization for successful implementation of MIS.

Thapa, Devendra (2003) carried out study on "Future Prospective on Online Banking in Nepal." Overview of his study is as under:–

The specific objectives of this research are:

- To find out opportunities of the online banking in the context of Nepalese commercial bank.
- To find out the security threats on online banking system.
- To find out the advantages of online banking to the Nepalese people.

The study was descriptive as well as analytical one. So, analysis of this study was primarily based on primary data and secondly on secondary data. The secondary data had been taken from published and unpublished books, internet sites, and reports of commercial banks. For the purpose of the study, population had been defined in terms of commercial banks within Pokhara Sub-Metropolitan Corporation. Total population had been taken as sample. Data were presented in tabular form, simple bar diagram and pie chart. The analysis of data had been done through various ways like percentage, average etc.

His research findings are:

- Only 5% are satisfied with the traditional banking system. Rests of the 95% respondents want immediate technical improvement in their service system.
- As per survey result 5% feels that the behavior of the staffs are not proper while 93% think that the main problem faced by the traditional banking system is the time factor.
- Only 50% of the respondents have practically used the online services. According to the response given by the customers related with the banking sector 99% of them are fully aware about the online banking services like ATM, ABBS, and Tele Banking.
- SWIFT is the only service which is used by all the commercial Banks while Debit card facility is given by only one Bank till date. ABBS system is catching up fast, 9 out of 17 Banks are already using this service.

- 85% of the respondent wanted to make their fund transfer online, so that they can save their time and cost, while 5% prefer Account opening and 5% focused on loan processing services. Only 5% of the respondents show interest in online bill payment.
- It indicates that 80% think due to the lack of computer knowledge it will be quite difficult to implement full fledged online banking in Nepal. As per the result 15% of the respondents are susceptible about the security of the online services.

The conclusions drawn from this research are:

- The main aim of introducing online banking is to make the transactions smooth and easier.
- Regarding implementation, research indicates that due to lack of computer knowledge it will be quite difficult to implement full fledged online banking in Nepal.
- Security is the most important technical as well as social problem which may create some obstacle in the successful implementation of the online transactions. As per the research customers are susceptible about the security of the online services.

The limitation of this research is that though the research has give idea about the security threat in online business but is not able to highlight what kinds of online threat and fraud the online business users could have from scamsters like there are mainly two mechanism of online fraud—pharming and phishing. The research is also unable to tell how users could stay safe from online security threats.

Bhattari, Ajit P. (2003) carried out the study on "Performance of Management Information System in Kumari Bank." Overview of his study is as under:–

The specific objectives of his research are:

- ❑ To identify factors affecting performance of MIS.
- ❑ To examine the existing situation of software personnel of the bank.
- ❑ To study the relation of training of end-users in the bank for improvement of performance of MIS.

The researcher had used exploratory research design to find out the effects of various factors in the utilization of MIS. The study was conducted on the basis of primary data which was collected through observation, direct communication with respondents and by questionnaire method. In this research, for sample, 20 persons were selected on the basis of their being Supervisors and above and it is believed that it represents the view of Kumari Bank Ltd. as a whole for this research purpose. And data collected from Primary sources were displayed in table format and the data had been analyzed using percentage method.

His major research findings are:

- ❑ Majority of the users consider MIS to be important and that it helps in decision making.
- ❑ Use of MIS is directed more towards extraction of current information rather than historical information.

- Further improvement in utilization of MIS needs better communication and training between various stakeholders.
- There is ample room to increase the use of MIS.
- The factors, which will improve the utilization of MIS, are “Good communication channel”, “Training to end user” and “Training to software personnel.”

The conclusion of this study is as under:

- The management of any organization should be actually aware of the various factors which affect the performance of MIS and take corrective actions as and when required.
- Training of Software personnel, training to end-users and good communication channels has a direct bearing on the performance of MIS.

The shortcomings of this research is that the research failed to give proper guidelines for training and does not show any cultural and behavior consideration for better utilization and performance of MIS.

Adhikari, Bimal Prasad (2005) carried out study on “Information Technology in Security Management”. Overview of his study is as under

The specific objectives of this research are

- Identify various reasons behind the conflicts and terrorism.
- Study the existing status of IT applications in security management in Nepal.
- Identify basic information required for security management purpose

- Develop MIS and DSS information system Models and architectures for the security Management information system
- Survey for appreciation of proposed information system

The researcher has conducted on the basis of primary data which was collected from the direct observation , direct communication with the respondents like senior officer of police departments. Further the researcher has made a survey with some personnel and some general publics. Survey response is widely used and findings are basically based on the decision making principles, interaction with security personnel in security management

His major research findings are:

- Analyze the root causes of why these conflict are taking place
- Police department and Royal Nepal Army use little information technology in their security management process
- Immense need of information in support of security management.
- Personnel information system integrated with geographic address will not only serve as a good security management information base data but also serve in several other conflict management issues.
- MIS and DSS will not only help the security management department but also help to manage overall management issues from the root causes of origin terrorism or conflicts.

The conclusion of this study is as under:

- ❑ Root causes of terrorism are economic reasons, socio-cultural reasons, the system of education and psychological reasons.
- ❑ Personal identification number system associated with GIS and applied in the overall management of the national issues will help to make system transparent and efficient.
- ❑ Security management is widely appreciated in the entire related sector.
- ❑ System plays vital role if there a lack of professional technical management

Adhikari study can be useful to address social security base eservices management issues.

Adhikari has done his research and finding in how Security Department (Nepal Police and Nepal Army) can benefit Information and Technology which assures the security of Nepalese Citizens. His idea revolves in integrating GIS system and MIS system to leverage National Security Standard. This thesis opposes the ecommerce thesis as it does not speak about financial or price value of the project. In contrast, E-Commerce development focuses on how Nepali market and Nepali people are adapting ecommerce.

Bhatta, Guna Raj (2006) carried out the study on “Egovernance, A Case Study on Cottage and small industries office”. Overview of his study is as under:-

The specific objectives of this research are:

- ❑ To examine the existing e-Governance System of Cottage and Small Industry Office
- ❑ To evaluate Strengths, Weakness, Opportunities and Threats (SWOT) relating to e-Governance.

- To recommend the new e-Governance system in CSIO Kathmandu

The researcher analyses and investigates the present status of e-Governance of the concerned office, the information flow, the management hierarchy of the office, the existing Data Flow Diagram of the office are presented and also the researcher has used different analytical tools such as DFDs, E-R Diagrams and tried to make the system more rigid, analytical than existing system.

His research findings are:

- CSIO, Kathmandu is using its Online Governance System (OGS) as a first governance system in Nepal, which can be a model for the other government offices.
- Cottage and Small Industries Office, Tripureshwor Kathmandu is using its OGS as well as manual system. The necessary documents can be attached and the total information can send in easy way
- The Online Governance System of CSIO can serve the concerned publics from any part of the world. The necessary document can be attached and the total information sends in easy way.
- Nepali Unicode Support is necessary to fill up the form. The total front end application is designed in Nepali language Unicode.
- E-Governance system of CSIO is using Linux server and Firebird as a database server.

- There is no special MIS and IT department or section. The OGS system is handled by external hired staffs from Yomari Inc. The Office is totally depend on to Yomari for any technical work, advice etc.

The conclusion of this study is as under:

- IT experts are necessary for the smooth operation of OGS. Competent human resources are lacking in the government organizations even in the CSIO
- Online verification of documents is not yet initiated in Nepal. Such type of problem is also faced by CSIO. Laws relating to digitally verification system are launched but not in practice.
- The infrastructure is only city based. The rural people do not have accessibility internet and email.

Bhatta on online governance system (OGS) has put some spotlight on how the eGovernance is being used by CSIO. The thesis states eGovernance system was developed by Nepali Software Company Yomari, but does not discuss about Software security testing against the general SQL and web attacks like SQL Injection and Cross Site Scripting. The eGovernance Application is locally hosted on CSIO premises and the application is running in Linux Operating system and Sun Micro System Firebird as Database server. The thesis did not include what server security protection measures were taken to keep eGovernance System Secure from external and internal attackers and intrusive activities. Since, CSIO had no its IT officer, the regular updates for system and server patching was not done.

Neupane, Manoj (2008) carried out the study on “Project Management Information System in Nepal water for Health” Overview of his study is as under:-

The specific objectives of this research are:

- ❑ To examine and analyze the existing project management information system in NEWAH
- ❑ To develop and design the effective management information system to meet the multi door requirements
- ❑ To compare the existing system with new project management information system in term time reduction after the intervention of new model of project management information system.

The researcher has conducted on the basis of primary data which was collected from questionnaire, direct observation and interview and also on the basis of secondary data as collected from magazines, books, broacher, NEWAH annual reports, PMIS booklets and websites. The different data analysis tools were used such as such as DFDs, E-R Diagrams were used to present the data in the study and hypothesis testing were used to analyze the data.

His research findings are:

- ❑ Effective information system has become the basic need for every organization
- ❑ NEWAH is depends upon various donors for its fund so it has to prepare various kind of donor as per their own requirements

- Each kind of donor has own kind of format for the proposal and project completion reports
- Lack of effective use of computer base information system. It uses word processing and spreadsheet for data processing and documentation.
- The separate PASF and separate PCR have to be prepared for each project

The conclusion of this study is as under:

- PMIS helps in decision making process, project monitoring, control, project evaluation and analysis.
- Hypothesis result indicate that new model of PMIS heavily reduce the time for the preparation of PASF and PCR which is the core function of project
- New PMIS software has been developed to overcome the demerits of the project.

The shortcomings of this research are that the research focuses on existing system and software development. The study was mainly based on the data provide by the NEWAH. The conclusion and recommendation made this study cannot be fruitful to the project.

Research Gap

The study researcher has carried out has tried out to eliminate most of the drawbacks that were found in earlier researches. Research has tried his best to avoid ambiguous data collection method and major anomalies in the research. For making the research more specific and appropriate the researcher is trying to research the following:

- ❑ How are Nepali citizens benefited with ecommerce applications?
- ❑ How frequently does a Nepali visit ecommerce applications?
- ❑ How ecommerce applications are evolving in Nepal?
- ❑ Who are the key Nepali Companies contributing in ecommerce application development?
- ❑ Is ecommerce application well tested prior to going to production network?
- ❑ What are the common tests done during ecommerce application development practiced in Nepali market?
- ❑ What programming languages are used for development of ecommerce application in Nepal?
- ❑ What Server Operating System Platform do the Software Companies recommend for the ecommerce application developed?
- ❑ In current market scenario who are the key users of ecommerce application in Nepal
- ❑ What measure is taken to protect ecommerce Application Server from any kind of attack?
- ❑ How can we assure that the ecommerce sites are safe to use and provide our credentials?

CHAPTER III

RESEARCH METHODOLOGY

In this chapter research methodology is presented for achieving the predetermined objectives which is already stated. The research methodology adopted in this chapter followed some limited but crucial steps aim to achieve the objectives of the research.

3.1 Research design

This research is basically focused on a E commerce use in Muncha house, Thamel.com and Omni Group. This research work is a type of survey study which was generally conducted to assess the opinions, behaviors, or characteristics of a given population towards the awareness and the utilization of E-Commerce application and to describe the situation and events occurring at the time of study. Hence, the type of research design followed was Descriptive and Analytical.

3.1.1 Population and sample

For data collection, Judgmental Sampling technique was used. Hence, the population of the research could not be specifically predicted beforehand. However, the researcher has selected Electronic Division of Muncha.com, Thamel.com, Omni Group as a sub-group which represented the whole population of managers and IT professional. Data were collected from a quite number of people as much as possible so purpose of the study can be generalized from the selected group. The selected group was sample units/respondents out of a population and they were believed to be true representative of the population.

3.2 Sources of data

As data were collected through direct communication and observation, the source of data was users, managers and system specialists working in a organization of Muncha.com, Thamel.com and Omni Group as well as reports and documents as per the requirement of analysis of system were used.

3.2.1 Primary data

The study was conducted on the basis of primary data, which was collected mainly through direct communication and observation to person or department who may concern. Research also used 60 respondents for facts collection in order to get opinion of ecommerce and its problems and advice for improvement in existing system.

Management	Respondent sample	Population Sample
Top Level	16	25
Middle Level	20	40
Lower Level	24	35
Total	60	100

Table No. 2: Population and Sample of the organization

3.2.2 Secondary data

Moreover, secondary data were used in supplement to primary data wherever it seems necessary. These data were divided into two parts. In first part, the internal secondary data were collected from materials like booklets, bulletins and various other reports of the company from the internet. Similarly, in second part the external secondary data were

collected from essential books, articles and magazines related to MIS through various sources like libraries.

3.3 Analytical tools and technology

a) Data Collection Techniques

In view of requirement of the data, data are collected through direct communication with concerned persons, questionnaires, websites and relevant reports.

b) Tools Used

The study is descriptive and no complicated statistical tools were used. To present or describe the structure of System followed by the company (Electronic) more clearly, different conceptual, logical and graphical model of the system like dataflow diagram, were used wherever it seems applicable. Also, for presentation and analysis of data (different figures, charts) more clearly, questionnaires were distributed among the companies. After presenting and analyzing the data, major findings, conclusions and recommendations were drawn.

Data Flow Diagram

Data Flow Diagramming is a means of representing the business processes in a system, at any level of detail, with a graphic network of symbols. The purpose of data flow diagrams is to provide a bridge between users and systems developers. The diagrams are:

-) graphical, eliminating thousands of words;

-) logical representations, modeling WHAT a system does, rather than physical models showing HOW it does it;
-) hierarchical, showing systems at any level of detail
-) jargon-less, allowing user understanding and reviewing
-) decomposable – break down into smaller and smaller detail

The goal of data flow diagramming is to have a commonly understood model of a system. The diagrams are the basis of structured systems analysis. Data flow diagrams are supported by other techniques of structured systems analysis such as data structure diagrams, data dictionaries, and procedure-representing techniques such as decision tables, data dictionaries, and structured English.

Data flow diagrams have the objective of avoiding the cost of:

- User/ developer misunderstanding of a system, resulting in a need to redo the system or in not using the system.
- Having to start documentation from scratch when the physical system changes since the logical system, WHAT gets done, often remains the same when technology changes.
- Systems inefficiencies because a system gets "computerized" before it gets "systematized".
- Being unable to evaluate system project boundaries or degree of automation, resulting in a project of inappropriate scope.

Data Flow Diagrams are composed of the four basic symbols shown below.



External Entity

The External Entity symbol represents sources of data to the system or destinations of data from the system.



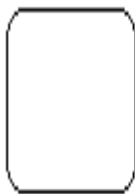
Data Flow

The Data Flow symbol represents movement of data.



Data Store

The Data Store symbol represents data that is not moving (delayed data at rest).



Process

The Process symbol represents an activity that transforms or manipulates the data (combines, reorders, converts, etc.).

reorders, converts, etc.).

Entity-Relationship Diagram:

An entity relationship diagram is a graphical representation of an organization's data storage requirements. Entity relationship diagrams are abstractions of the real world which simplify the problem to be solved while retaining its essential features.

Entity relationship diagrams are used to:

-) identify the data that must be captured, stored and retrieved in order to support the business activities performed by an organization; and

-) identify the data required to derive and report on the performance measures that an organization should be monitoring.

Entity relationship diagrams have three different components:

1. *Entity*: These are the people, places, things, events and concepts of interest to an organization. In short, anything which an organization needs to store data about. Entities are represented on the diagram by labeled boxes.



Entities represent collections of things. For example, an EMPLOYEE entity might represent a collection of all the employees that work for an organization. Individual members (employees) of the collection are called occurrences of the EMPLOYEE entity. Because the available space for naming the entity is restricted to the size of the box, Entities should always have detailed descriptions. These detailed descriptions are usually short paragraphs of text describing the entity in more detail but for some important entities, a lengthy description may be required.

2. *Attributes*: Entities are further described by their attributes (sometimes called data elements). These are the smallest units of data that can be described in a meaningful manner. For example, an EMPLOYEE entity may have the following Attributes:

Employee
Employee Number
Surname
Given Name
Date of Birth
Telephone Number
Department

3. *Relationship*: Frequently, a meaningful relationship exists between two different types of entity.

For example: EMPLOYEES work in a DEPARTMENT

LAWYERS advise CLIENTs

EQUIPMENT is allocated to PROJECTs

TRUCK is a type of VEHICLE

There are potentially three types of relationship which can exist between two different entities:

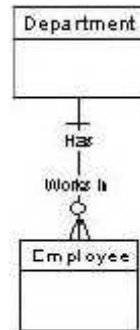
- i. One-to-One Relationships
- ii. One-to-Many Relationships
- iii. Many-to-Many Relationships

i. One-to-one Relationship: This type of relationship takes place when a single occurrence of an entity is related to just one occurrence of a second entity. For example, a ROOF covers one BUILDING; a BUILDING is covered by one ROOF.

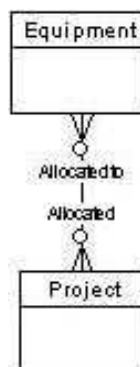
A One-to-One relationship is shown on the diagram by a line connecting the two Entities.



ii. One-to-many Relationship: This type of relationship takes place when a single occurrence of an entity is related to many occurrences of a second entity. For example, An EMPLOYEE works in one DEPARTMENT; a DEPARTMENT has many EMPLOYEEs. A One-to-Many relationship is shown on the diagram by a line connecting the two entities with a crows feet symbol denoting the "many" end of the relationship.



iii. Many-to-many Relationship: This type of relationship takes place when many occurrences of an entity are related to many occurrences of a second entity. For example, EQUIPMENT is allocated to many PROJECTs; A PROJECT is allocated many items of EQUIPMENT. A Many-to-Many relationship is shown on the diagram by a line connecting the two entities with a crow foot at each end of the line.



Any system can be represented at any level of detail by these four symbols.

3.3.1 Questionnaire Sample

See Questionnaire sample is in Appendix

CHAPTER IV

DATA PRESENTATION AND SOURCES OF INFORMATION

4.1 Organizational Structure

The organization structure is the backbone for system analysis and designing new system. The organization provides different types of services to the public through online. The organization structures are presented below:

Omni Group

Omni Group is parent organization dealing with various products and distribution throughout the world, having its' headquarter in Singapore. Omni Group has multiple companies each specializing in particular field.

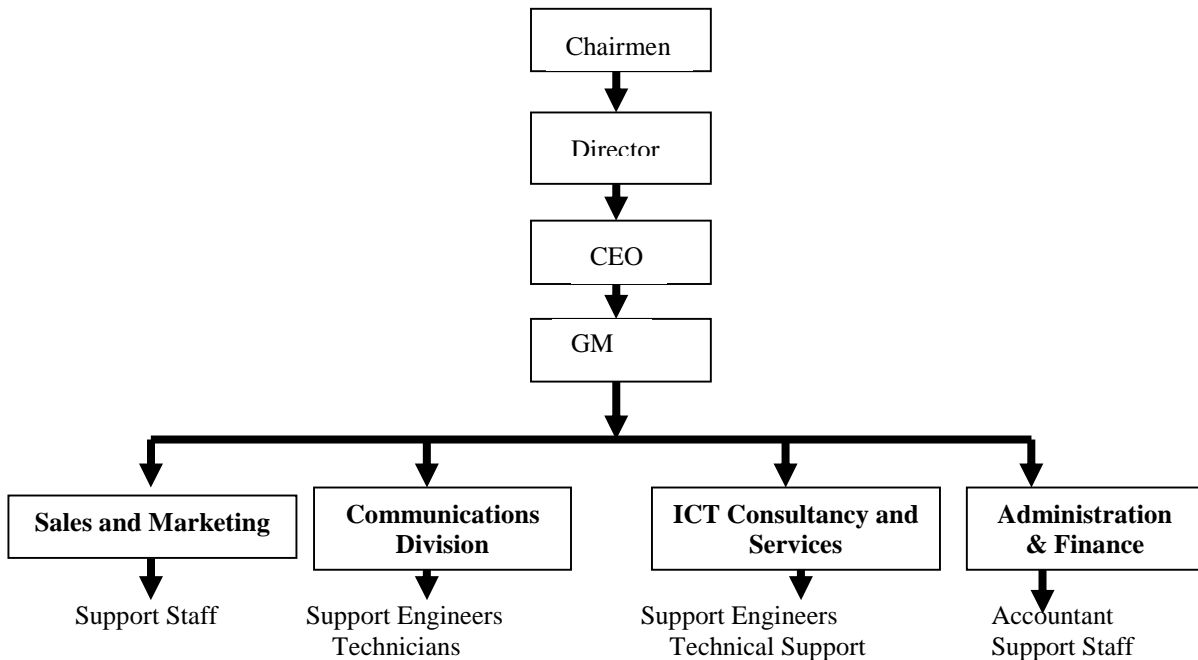


Figure No. 5: Organizational structure of Omni Group

Muncha House

www.muncha.com is a modeled after a regular departmental store “Muncha house”

Muncha House originated at Balkumari, Ason and went by the name Moti Man Ratna Man back then. It was only after the shop moved to New Road in the 1930s that it came to be known by the name of Muncha House, a name it has retained to this day Muncha House is one of the oldest and leading departmental stores in Nepal, located in New Road, the heart of the capital.

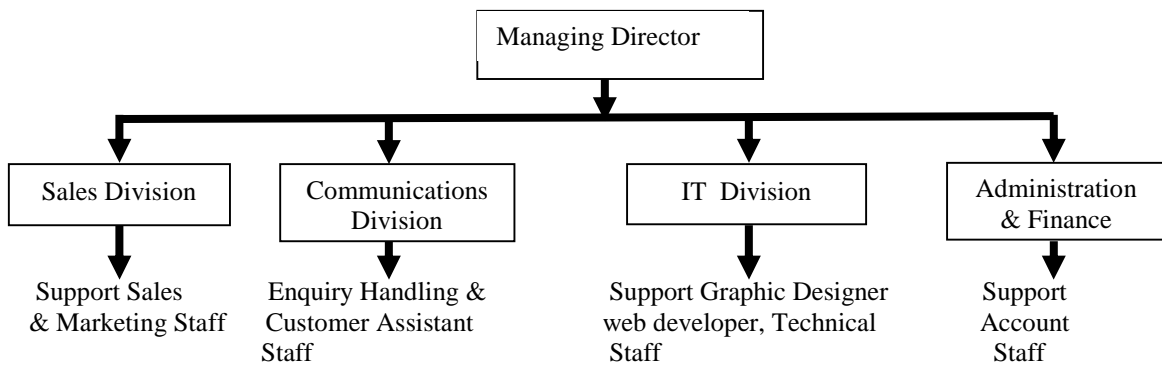


Figure No. 6: Organizational structure of Muncha.com

Thamel.com

Thamel.com (TDC) was founded in early 1999 with an initial investment of USD \$25,000. Named after the tourist and commerce hub of Kathmandu2, the site was initially set up to be the first comprehensive online directory of local Nepalese businesses.

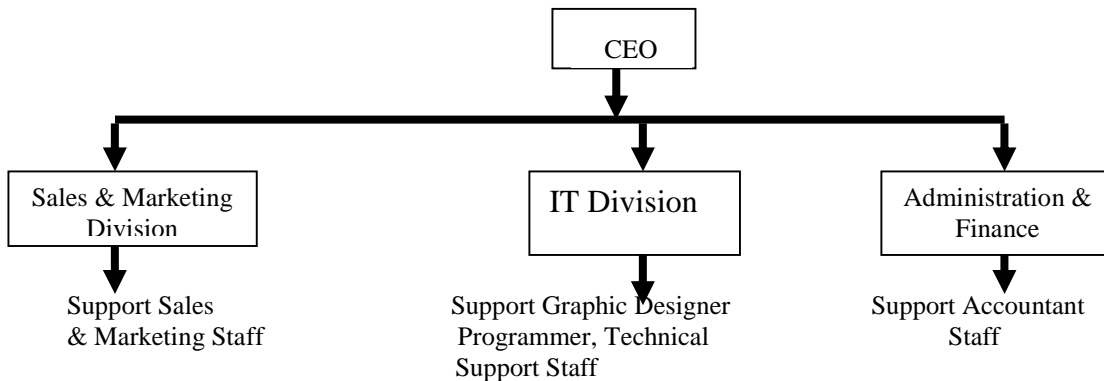


Figure No. 7: Organizational structure of Thamel.com

4.2 Sources of information

We live in an information age. The quantity of information available is so staggering that we cannot know everything about a subject. And there's the problem of trying to decide which studies have produced reliable results. Similarly, for information on other topics, there's not only a huge quantity out there but a very uneven level of quality. We don't want to rely on the news in the headlines of sensational tabloids near supermarket checkout counters, and it's just as hard to know how much to accept of what's in all the books, magazines, pamphlets, newspapers, journals, brochures, web sites, and various media reports that are available.

Evaluating sources is an important skill we need all the time. It's been called an art as well as work-much of which is detective work. We have to decide where to look, what clues to search for, and what to accept. We may be overwhelmed with too much information or too little. When writing research papers, we will also be evaluating sources as you search for information. We will need to make decision about search for, where to look, and once you've found material on your topic, whether to use it your paper.

The following are the main sources of information that the researcher have followed during the research period

1. Official Website of Omni group, Mucha.com and Thamel.com
2. Direct observation at these business houses
3. Questionnaires were distributed to the company's employees.
4. Interview to the personnel of these business houses

The above illustrated are the information the researcher have used for analysis. Form the another point of view, the information needed by the staffs as per management hierarchy can be shown in figure. The below figure represents the information needed for the staffs as per management Hierarchy.

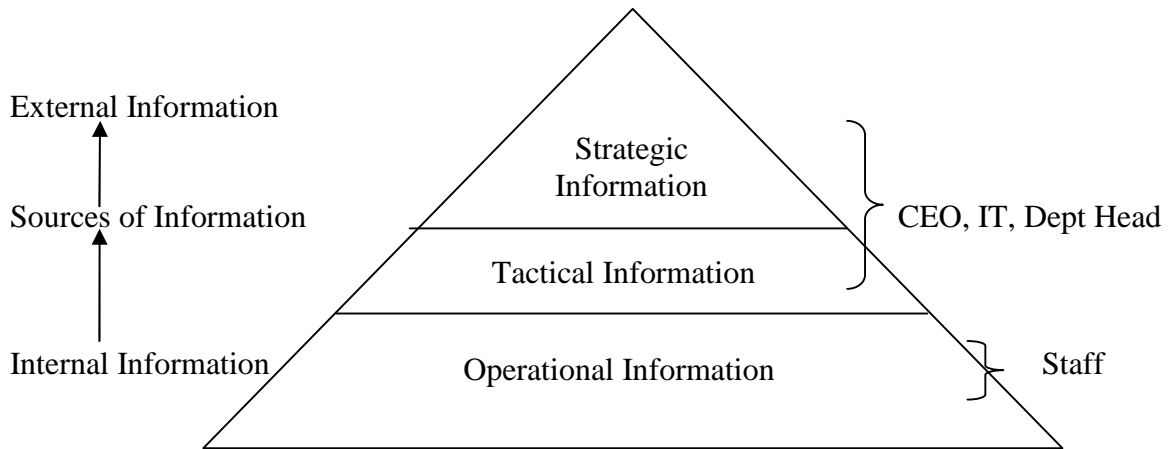


Figure No. 8: Information Needed for the Omni, Muncha, TDC Staffs

4.3 Data Flow Diagram of Existing System

The data flow diagram (DFD) the flow of data within the system of the organization. The goal of data flow diagramming is to have a commonly understood model of a system. The diagrams are the basis of structured systems analysis. Data flow diagrams are supported by other techniques of structured systems analysis such as data structure diagrams, data dictionaries, and procedure-representing techniques such as decision tables, data dictionaries, and structured English. The information flow is presented below using such DFD.

4.3.1 The context level and zero level data flow diagram of the online system of Omni group is as follows:

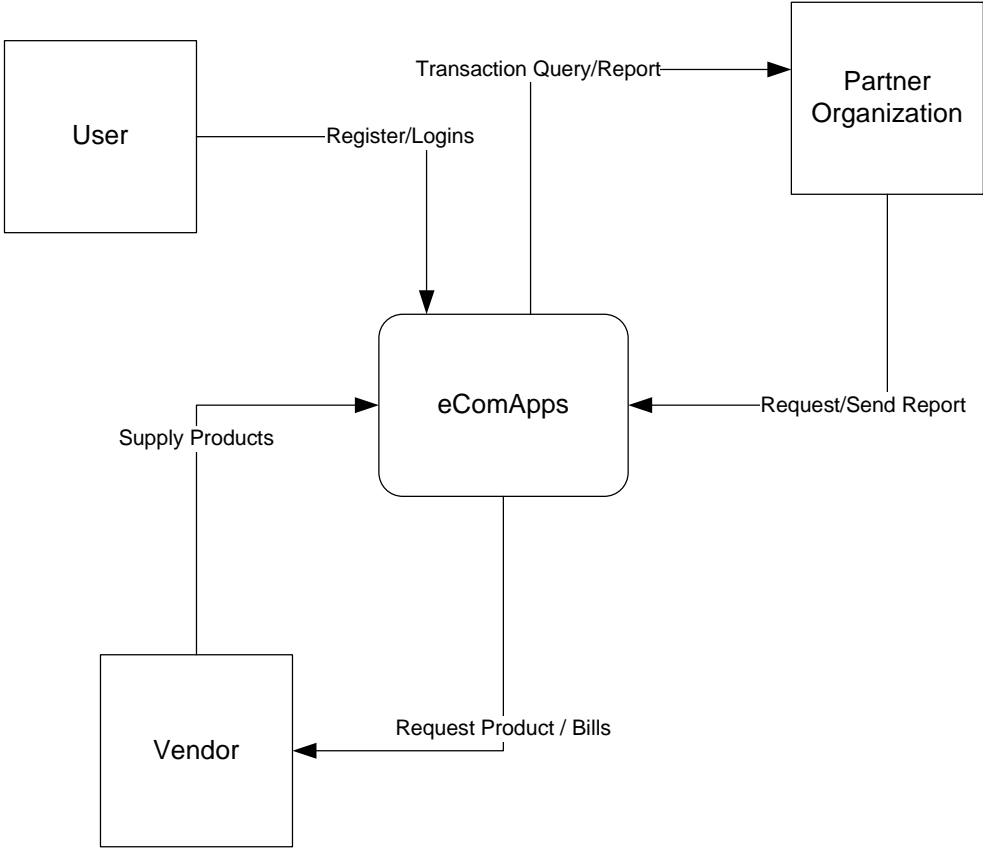


Figure No. 9: Context level DFD of Omni group

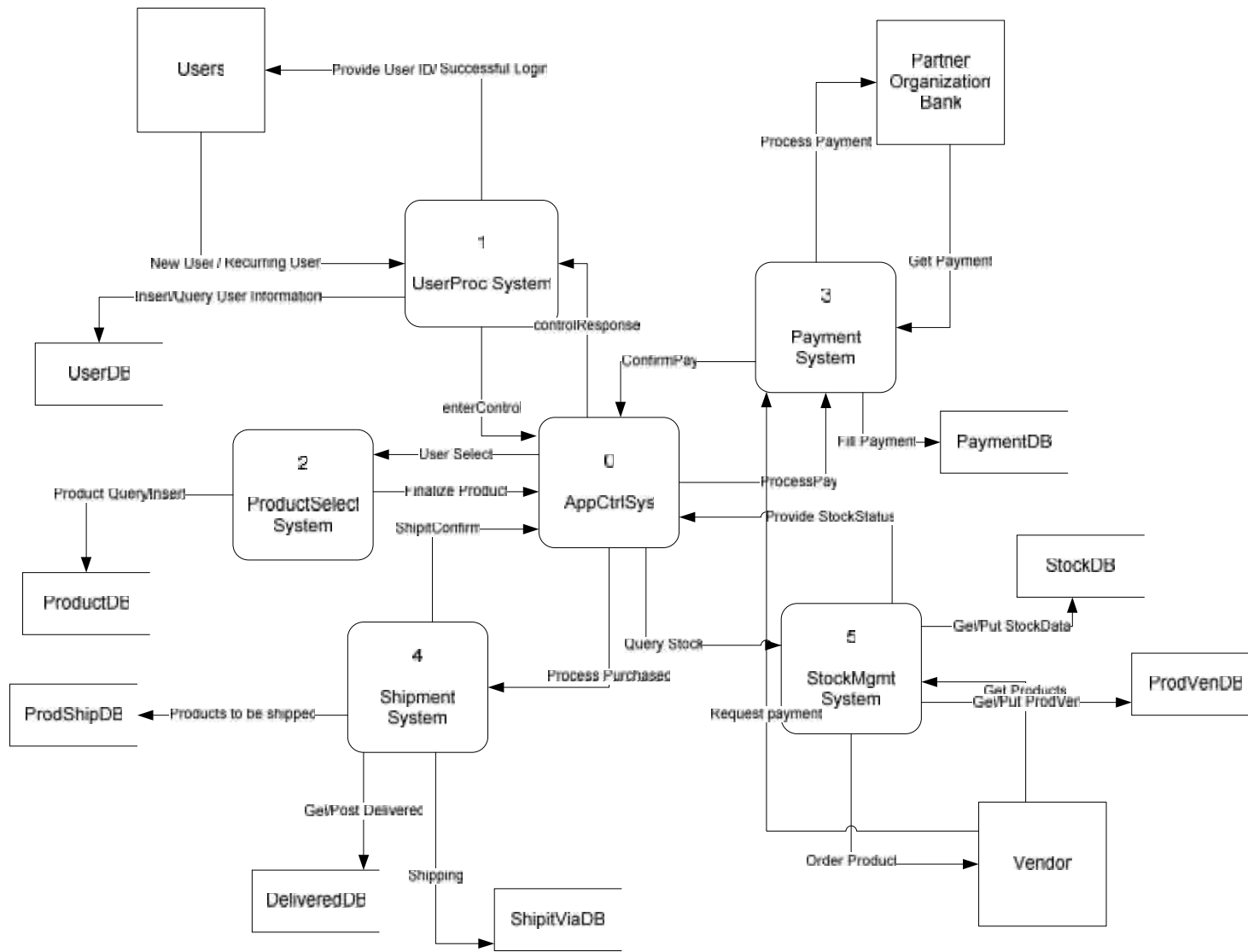


Figure No. 10: Zero level DFD of Omni Group

The application is installed on Hardened Linux Operating System (RedHat Enterprise Linux or CentOS 5 Enterprise Linux). All the unnecessary services are killed. AppCtrlSys runs as main application on top of linux kernel. The core engine of the application is AppCtrlSys. This core engines communicate with other engine or processes to execute the task. The system has each dedicated engine to process a task which will be controlled and correlated by the core application engine AppCtrlSys. Since AppCtrlSys is main engine in the application, it doesn't directly access data (read or write) from the databases; It coordinates the data access mechanism to be intact among all the processes.

UserProc System is an engine dedicated for user related operation. Any user validation, new user addition to system, deleting user, blocking user all are managed by UserProc System. It directly deals with a database UserDB. UserDB holds the user detail information and status of users, type of user etc. when a user logs in to the system and want to access or add product to the cart, the information is passed via main AppCtrlSys to ProductSelect and all related Process or System.

ProductSelect system is an engine that notifies about the available product for sale. The ProductSelect System communicates with StockMgmtSystem and gets the information about the available product, its quantity. When a product is sold or has been booked confirmed, the system asks the StockManagement Process to reduce the quantity from its database. Shipment Systems deals with how the shipment is done, there are various kind of shipment like using DHL, TNT, FedEx or Normal Post. Customer has choice to choose one and also which country they want that services. All the information and number of days required to be delivered are stored, what are current shipment, what are

pending shipment all information are processed by Shipment Engine. Payment System is linked with financial institution issue MasterCard, Visa, American Express. The Payment system communicates with Parent Card System organization regarding the payment. This all process are managed by AppCtrlSys so that any transaction does not create a fraud transaction.

And also for the cost effective and effective way of execution of the project the company will follow the waterfall lifecycle inside the Nepal. The business development team approaches the client for the proposal of project. Then the client will prepare the RPF (Request for Proposal). Then the proposal document will be prepared by OMNIGROUP. The proposal document will contain the execution model for the project, the cost and the estimation of each phase of the project, the duration and the number of resources required for the execution of the project. It also includes the technology involved, the mode of network interaction with the clients etc. This document will be sent to the client for the approval. Once the draft is approved, the project team is formed and the project will be kicked off. Along with this kick off, the support groups and roles of the members will be identified. Then the project team will interact with Onsite resources/ Client for the requirement gathering and Specification preparation. The type of the Specification prepared will depend upon the nature of the projects. The Specification is prepared based on the functionality and the program then the sample design and the prototype will be prepared and sent to the client for approval. Also the revised and accurate estimation of the project will be sent. After this, if any change in the requirement happens, the client should apply a Change Request (CR).

4.3.2 The current DFD and E-R diagram of the Muncha House is as follows:

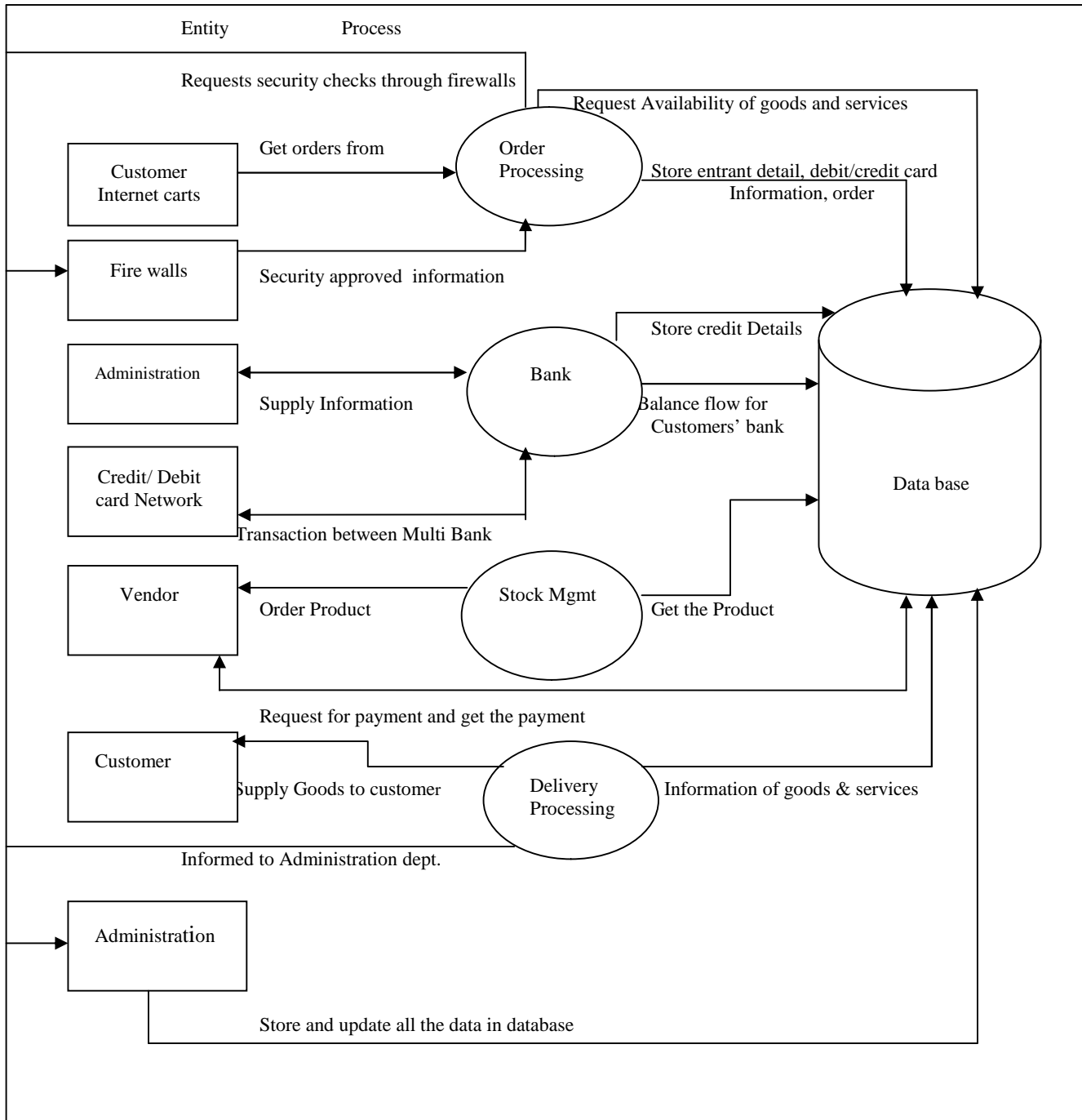


Figure No. 11: Current DFD of Muncha House

Customer information through internet cart can be high security belonging means and strong internet protocols. New user after registration goes to the ordering or selecting the goods and services and the demand of the good and services will store in the data base in the process the user also have to submit their credit card number. The process system will check its validity and balance amount. The information of the user's bank status will store in the main database. If administration needs extra information about the user and the product then it can directly retrieve it from the database. If the information about the product is not available then the administration inform the vendor to provide the detail information and update the product as the user demanded. Last but not least is delivery phase. In this phase a accredited department checks the administration obligations for quick delivery, retrieve some relevant data, take order to delivery, receipt the payment and instantly the product will be serve to the customer outside and inside the Nepal and information will be send the database.

In the following E-R diagram there are five major entities which shows the relationship between those department and all the department have their own attributes like customer department has name, address, product name, telephone number, credit/debit card no. Likewise Administration department has Product name, Bank details, Product Information and so on.

Vendor	
Issue date	Date/Time
Order size	Number
Product Name	Text

Administration	
Product Name	Text
Bank Details	Text
Product Information	Text

Recipient Customer	
Name	Text
Address	Text
Delivery cost	Currency

Customer	
Name	Text
Address	Text
Product Name	Text
Credit/Debit No	Number
Telephone No	Number

Credit Card Network	
Issue & expiry date	Date/Time
Balance	Currency
Bank Details	Text

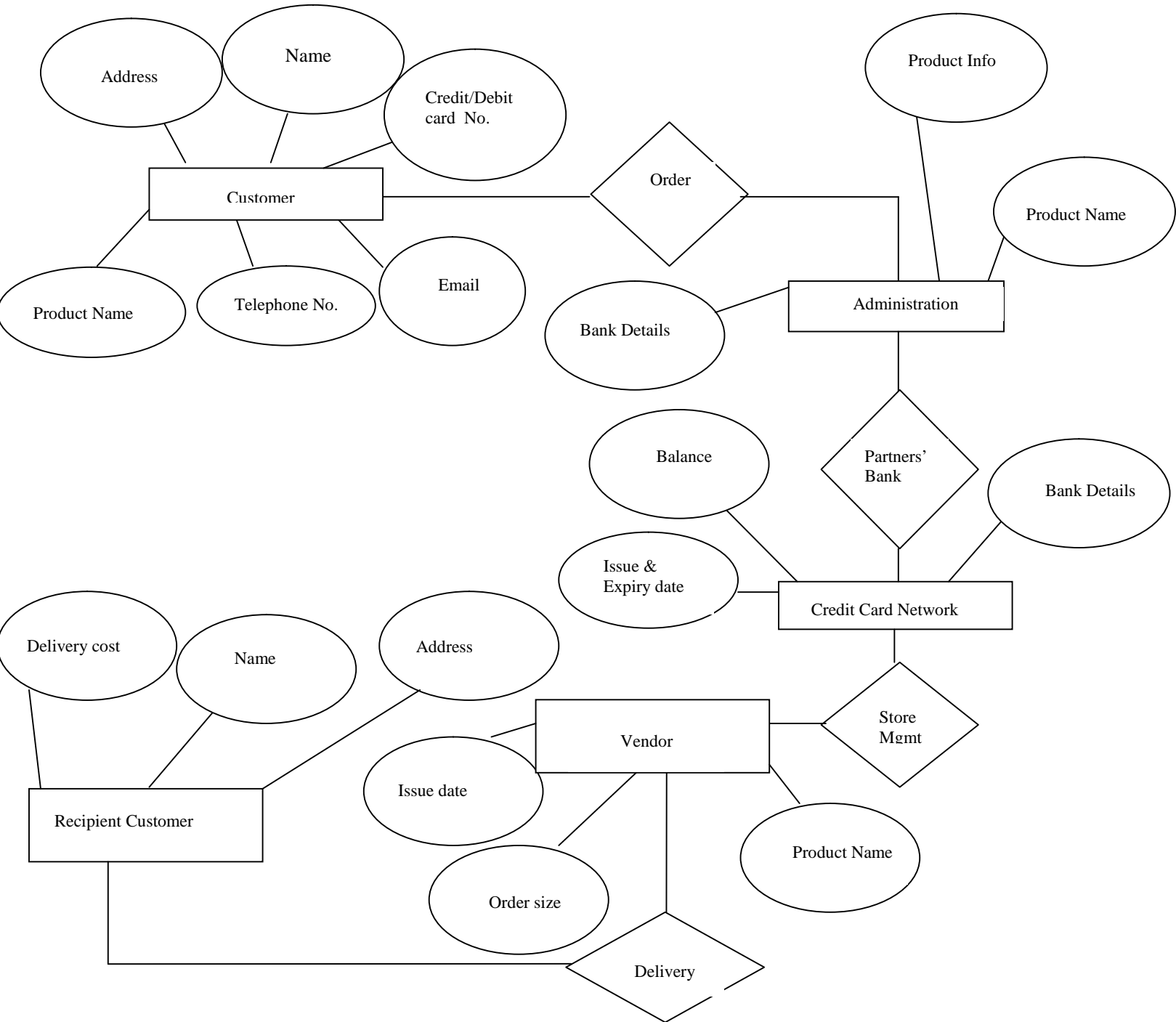


Figure No. 12: E-R Diagram of Muncha House

4.4 Analysis of the Existing Technology :

Omni Group has been using IBM x3650 Xeon Processor based server with hardware RAID Level 10 with 4 SAS 15K RPM Hard disks. 2GB of IBM DRAM is installed for performance. The Server Operating System used for online application is CentOS(Linux Server Operating System). The application is based on MySQL database and PHP as web programming language. The Kernel of operating system has been harden using Bastille-Linux and only services like HTTP, SSL HTTP are opened for online uses and services like SSH and Secure FTP are opened for internal staffs managing the server. The Server is protected using Cisco ASA5510 Firewall and AIP-SSM IPS to check the threats from outside users and internal users. In addition, applications like McAfee HIPS, McAfee Virus Scan, McAfee Anti-root kit is installed in server to add layer of security in the Application Server as last line of defense. For the online payment certification EMC RSA SSL certificate is used and is regularly tested against attack using McAfee service “McAfee Secure” and has its logo as a symbol of trust for online users.

Muncha.com has been using .Net and ASP IS server and there server is hosted in U.S Recently they are working with the application based on SQL and Win 2000 and the web server they are using IIS (Internet Information server).

Most of ecommerce applications are based on Linux Environment. Online banking systems used by Banks using Finacle Core 7 as banking application uses application developed in Microsoft Platform and are developed in .NET platform using ASP.NET. Mostly Banks use Verisign SSL Certificates for their Online Application.

4.5 Questionnaire interpretation

The researcher has collected the some answer of the following questionnaire done to the Omni group, Muncha House and Thamel.com taken as a sample of 60 respondents.

Question 1: What do you think the influential factor of ecommerce in Nepalese market?

- A) Online Banking
- B) Online Shopping
- C) Remittance
- D) eGovernance
- E) No response

Regarding Question No. 1 the influential factor of ecommerce in Nepalese market the respondents gave the following responses:

Management	Respondents							Total
	A	B	C	D	E	A&B&C	A&B&C&D	
Top Level	2	3				11		16
Middle Level		14				6		20
Lower Level		20				4		24
Total	2	37				21		60

Table No. 3: Respondent view of Influential factor of Ecommerce in Market

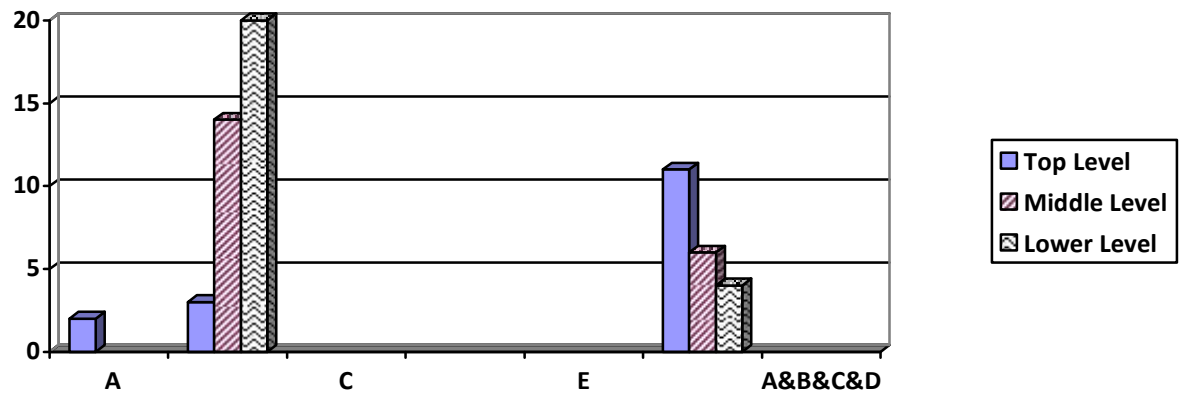


Figure No. 13: Bar Diagram of influential factor of ecommerce in market

The above Table No.3 and Figure No.13 shows that out of 60 respondents 37 says that online shopping is the most important factor for influencing ecommerce in Nepalese market and 21 respondent says that both online banking and online shopping plays vital role in ecommerce where as only 2 respondent says that online banking plays its major role to influence the ecommerce in Nepalese market. Most of the top level management employees are fully aware that online banking and online shopping plays vital roles where as middle level and lower level give their emphasis on online shopping.

Question2: How do you think the ecommerce demand of the customer can be fulfilled by your company?

- A) Remittance
- B) Online Banking
- C) Online shopping
- D) Online Government Bill Payment
- E) Integrated Online Payment for Cable, Electricity, Phone bills

Regarding Question No. 2 that the ecommerce demand of the customer can be fulfilled by their company the respondents give the following answer:

Management	Respondents								
	A	B	C	D	E	C&A	A,B&C	No Response	Total
Top Level						11	5		16
Middle Level						4	16		20
Lower Level	1		10			8	3	2	24
Total	1		10			23	24	2	60

Table No.4: Respondent view of ecommerce demand of the customer

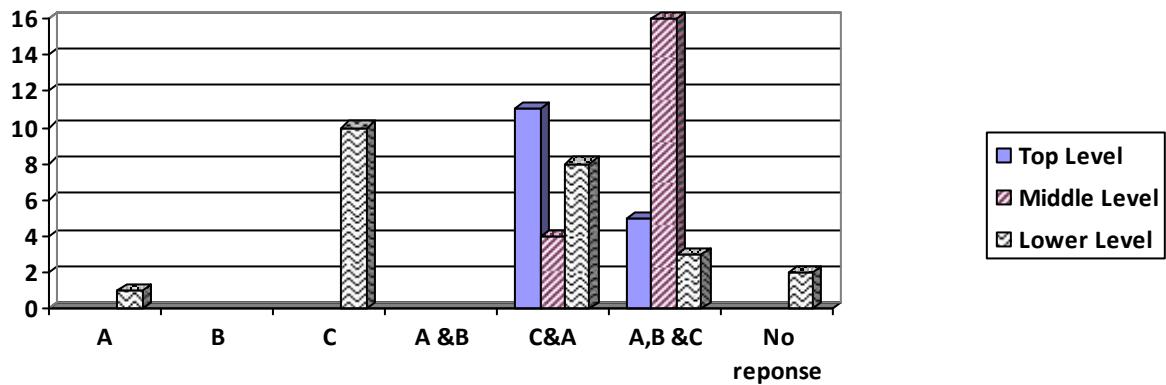


Figure No.14: Bar Diagram of ecommerce demand of the customer

The above Table No. 4 and Figure No.14 shows that among the 60 respondents top level and middle level give emphasis on remittance, online banking and online shopping will fulfill the demand of the customer where as 10 respondents of lower level management give priority to online shopping and 8 give priority for both remittance and online shopping whereas 3 were agree with remittance, online banking and online shopping them 2 of them do not give the response.

Question 3: Does your company provide the security system of ecommerce?

- A) Yes
- B) No

Regarding Question No. 3 is the companies provide security system of ecommerce the respondents gave the following responses:

Management	Respondents		Total
	Yes	No	
Top Level	16		16
Middle Level	20		20
Lower Level	24		24
Total	60		60

Table No.5: Respondent view for providing the security system of ecommerce

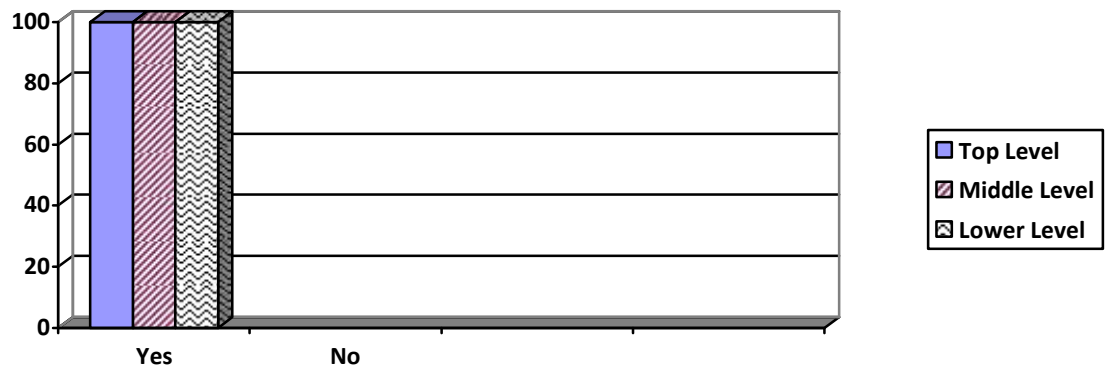


Figure No. 15: Bar Diagram for providing the security system of ecommerce

In the above Table No. 5 and Figure No. 15 shows that out of 60 respondents all the respondents are 100% confident that their companies are providing full security system.

Question 4: What are the advantages of ecommerce benefit by your company to the Nepalese People?

- A) Easy Money Transaction
- B) 24hrs Customer Service
- C) Time Saving
- D) Keep in touch with family and friend
- E) Security services for client

In the context of Question No. 4 the advantages of ecommerce benefited by their company to the Nepalese people the respondents give the following answer:

Management	Respondents						Total
	A&B	B&C	C&D	D&E	E&A	A,B,C,D&E	
Top Level	2	3	1	4	1	5	16
Middle Level	9		6	3		2	20
Lower Level	14		10				24
Total	25	3	17	7	1	7	60

Table No.6: Respondent view of advantages of ecommerce benefited to people

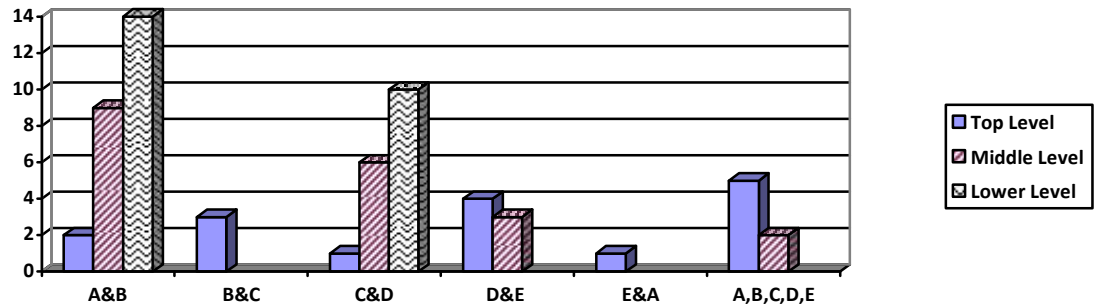


Figure No. 16: Bar Diagram of advantages of ecommerce benefited to people

In the above Table No. 6 and Figure No. 16 shows that out of 60 respondent 25 respondent says that easy monetary transaction and 24 hrs customer service are their advantages benefited by their company to the Nepalese people and 17 respondents says that time saving and keep in touch with family and friend are the basic advantages of their company.

Question 5: What is the strength of ecommerce relating to your company?

- A) Effective customer service
- B) Quality Products
- C) Security appliances for tracing frauds
- D) Secure Transaction Guarantee
- E) Most of the Products Covered

Regarding Question No. 5 the strength of ecommerce relating to their company the respondent give the following responses:

Management	Respondents						Total
	A&B	B&C	C&D	D&E	A,B & C	No response	
Top Level	3	4			9		16
Middle Level	10	2			4	4	20
Lower Level	6	3				15	24
Total	19	9			13	19	60

Table No .7: Respondent view of strength of ecommerce in their company

The above Table No. 7 shows that Out of 60 respondent 9 says that quality products and security appliances for tracing fraud are the strength of their company,19 respondents says that effective customer service and quality products are the two strength of ecommerce and 13 of them says that effective customer service, quality products and security appliances for tracing frauds all the three are the main strength of ecommerce where as 19 of them give no response and so on.

Question 6: What are the weaknesses of ecommerce relating to your company?

- A) Product updating
- B) Computer illiteracy
- C) Valid Login Information required
- D) Master Card or Visa required
- E) Changing Produced

In the context of Question No. 6 the weaknesses of ecommerce relating to their company the respondent give the following response:

Management	Respondents		
	A&B	No response	Total
Top Level		16	16
Middle Level	5	15	20
Lower Level		24	24
Total	5	55	60

Table No. 8: Respondent view of weaknesses of ecommerce

The above Table No. 8 shows that out of the 60 respondents only 5 say that product updating and computer illiteracy are the major weakness of ecommerce relating to their company and 55 were silent

Question 7: What are the opportunities of ecommerce relating to your company?

- A) Essential to Luxurious
- B) Target Local Market
- C) Target international market
- D) Security of Information Confidently
- E) Reach general public

In the context of Question No. 7 the opportunities of ecommerce relating to their company the respondent give the following response:

Management	Respondents						Total
	A&B	B&C	C&D	D&E	A,B,C,D & E	No response	
Top Level		4			12		16
Middle Level		10			4	6	20
Lower Level	5	10				9	24
Total	5	24			18	15	60

Table No. 9: Respondent view of Opportunities of ecommerce

Question 8: What are the threats of ecommerce relating to your company?

- A) Economical Crisis
- B) Government Policy
- C) Cyber law
- D) Hackers
- E) Software Loopholes

In the context of Question No. 8 the threats of ecommerce relating to their company the respondent give the following response:

Management	Respondents					Total
	A&B	B&C	C&D	D&E	No response	
Top Level	4		3		7	16
Middle Level	1	2	4		13	20
Lower Level	3		7		14	24
Total	8	2	14		44	60

Table No. 10: Respondent view of ecommerce threat

The above Table No. 10 shows that Only 8 respondents are agree with the economical crisis and government policy whereas 14 respondent are agree with cyber law and hackers are the threats of ecommerce and 2 of them says that government policy and cyber law are the main threats and remaining 44 respondents give no response.

Question 9: How do you measures to improve the IT policy regarding ecommerce in your company?

- A) Strong law implementation for confidentiality in information
- B) Secure merchant and consumer rights
- C) Timely monitoring system
- D) Installing Proved Products
- E) Re-evaluating the IT Policy as per current threats

In response to Question No. 9 to improve the IT policy regarding ecommerce in their company the researcher found the following answer:

Management	Respondents					Total
	A&B	B&C	C&A	A,B &C	No response	
Top Level				12	4	16
Middle Level		3	8		9	20
Lower Level			10		14	24
Total		3	18	12	27	60

Table No. 11: Respondent view to improve the IT policy

In the above table no. 11 it shows that out of 60 respondents 18 respondents says that strong law implementation for confidentiality in information and timely monitoring system are the major factor to improve the IT Policy and 12 respondents says that Strong law, secure merchant and consumer rights and timely monitoring system are the main factor to improve the IT policy.

Question 10: Do you think ecommerce is essential in Nepalese Market?

- A) Yes
- B) No

In the context of Question No. 10 ecommerce is essential to Nepalese market the respondent give the following response:

Management	Respondents		
	Yes	No	Total
Top Level	16		16
Middle Level	18	2	20
Lower Level	24		24
Total	58	2	60

Table No.12: Respondent view of ecommerce is essential in Nepalese market

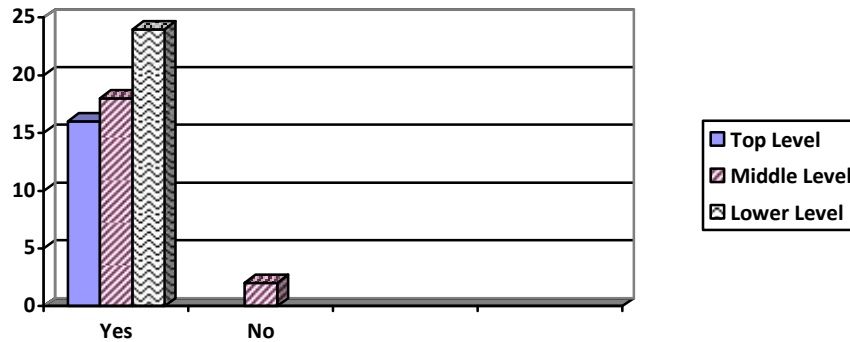


Figure No. 17: Bar Diagram of ecommerce is essential in Nepalese market

The above Table No. 12 and Figure No. 17 shows that the entire respondent are agree that ecommerce is essential in Nepalese market except 2 respondents.

Question 11: Do you think Nepalese Government can lead to a successful phase in implementing IT policy?

- A) Yes
- B) No

Regarding Question No. 11 Nepalese government can lead to as successful phase in implementing the IT policy the respondent give the following response:

Management	Respondents		
	Yes	No	Total
Top Level	16		16
Middle Level	18	2	20
Lower Level	24		24
Total	58	2	60

Table No.13: Respondent view to implementing IT policy

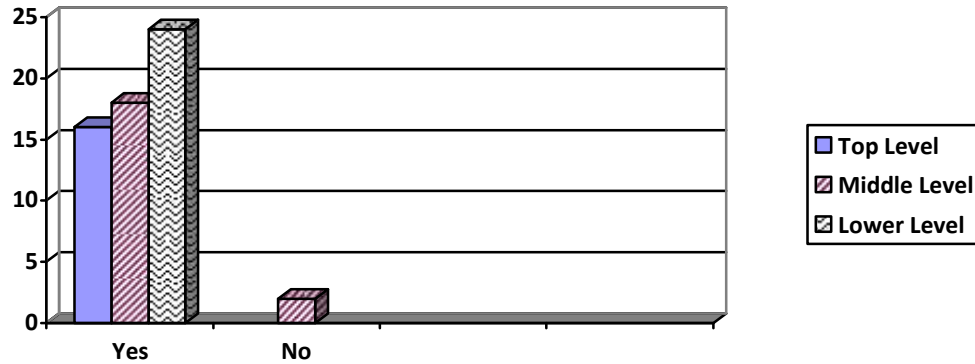


Figure No.18: Bar Diagram to implementing IT policy

The entire respondent are agree that Nepalese Government can lead to a successful phase in implementing IT policy except 2 respondents.

Question 12: What you would like to see the government to help the ecommerce business in Nepal?

- A) Educate business on how to conduct ecommerce
- B) Provide tax incentive to reduce business cost
- C) Educate and encourage consumer to engage in ecommerce
- D) Provide facilities to ecommerce in Nepal
- E) Provide funding Build ecommerce capabilities.

Management	Respondents						
	A&B	B&C	C&A	A,B & C	A,B,C,D & E	No response	Total
Top Level					16		16
Middle Level					20		20
Lower Level					24		24
Total					60		60

Table No.14: Respondent view to see the government to help ecommerce business

Out of 60 respondents all are agree with all the above mentioned points.

4.6 Technical Structure of the system

4.6.1 Hardware Specification and Operating System

Omni group

Server : IBM x3650 Xeon Processor based server with hardware RAID Level 10 with 4 SAS 15K RPM Hard disks. 2GB of IBM DRAM is installed for performance. OS: CentOS(Linux Server Operating System)

Workstations:

IBM X61 Laptop -1

Intel Core 2 Duo 2.2 GHz, 2GB RAM, 160 GB HDD, IBM MultiLayer Writer, Windows Vista Businesses.

IBM T61 Laptop – 1

Intel Dual Core 1.66 GHZ, 3GB RAM, 60 GB HDD, IBM MuliLayer Writer, Windows XP SP2

IBM M55 Workstation-22

Intel(R) Pentium(R) 4 CPU 3.06GHz, Samsung DVD/CD ROM, 80 GB HDD, 512 MB RAM, Windows XP Professional 2007 Service Pack 2

Cisco Catalyst 2960 Switch

Cisco 1841 Security Router

Cisco ASA5510-AIP10 Firewall with IPS

McAfee EWSA 3100 Appliance

McAfee TOPS ePolicy Orchestrator

Muncha.com

Server: Acer Branded, Pentium 2.8 GHz Processor, 1 GB RAM, TSST corp. CD/DVDW SH-SI82D, 1.44 Floppy Disk, 80 GB HDD, Authorize.net, a US based company server with database SQL server.

Workstations:

Intel(R) Core (TM)2 Duo CPU E4500 @2.20GHz,1GB of RAM,80 GB of HDD, Sound card, 10/100 NIC Card, OS: Windows XP Professional 2007 Service Pack 2 with advance security technologies Software:

Total 6 Desktop Computer

4.6.2 Requirement to run the software

The following software and hardware are minimal prerequisites to install and run the system.

Omni group

Operating system: CentOS Linux Operating system

Front end support: PHP

Back end support: SQL

Muncha.com

Operating system: .Net currently used. The server can be run in Windows operating system, 2000 or higher version also.

Web server: IIS (Internet Information server)

Thamel.com

Operating system: use Verisign SSL Certificates for their Online Application, and when it is too complicated the company elected to develop its own system.

4.7 Major findings of the study:

The researcher studied thoroughly during the research period. The major findings that the researcher has found out are pointed as follows:

1. The internet users of the nation represent a very small market size thereby literally limiting the reach of companies.
2. These business houses are doing well in the market to serve the Nepalese people especially on the festival period and holiday.
3. 100% respondent like to see the government should educate and encourage the consumer to engage in ecommerce, provide tax incentive to reduce business cost, provide facilities to these business houses and provide funding build ecommerce capabilities.
4. 99% respondent are agree with the Nepalese government can lead ecommerce to a successful phase in implementing IT policy and also agree with the e-Commerce is essential in Nepalese market.
5. Strict Compliance of related to cyber law, use of advanced technology, knowledge manpower regarding IT is needed to improve the IT policy.
6. Running a well structured E-business venture is a hassle for most companies with genuinely skilled professionals being scarce and extensive competition based on

limited number of goods that can be being sold online. Since the domestic market is not lucrative companies have to compete with each other for a chunk of the foreign market (selling to foreign customers) which fortunately is positive and lucrative but companies still have not been able to get a good grip on the foreign market.

7. Principally different websites post ridiculous prices claiming to foreign buyers that their goods are genuine and rare. Since customers cannot easily compare prices, primarily because of the difficulty in searching for information. Thus price is not transparent.
8. The business houses are focuses on developed countries where IT literacy is higher and market need is well defined.
9. 75% of the customer will come from the USA and UK and the biggest market opportunities are in Hong Kong and Japan their combined diaspora equals to the that of the USA and Canada but the current customer are less than 2%
10. 61% of these business houses thought that online shopping is main factor to influence the ecommerce in the Nepalese market and 35% thought that online banking, online shopping and remittance are the main factor and remaining 4% thought that online banking plays vital role to influence ecommerce in Nepalese market
11. These business houses are 100% sure that they provide the full security system but Frauds in e-business are still noticed due to which service and product demands are decreasing and are also a threat for consumer and companies.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

The final chapter of the study Summary, Conclusion and Recommendation summarizes the whole study, spells out conclusion and suggest the concerned organization for the betterment. In this way, the chapter is divided three distinct parts: Summary, Conclusion and Recommendation.

5.1 Summary

Nepal formally accorded priority to the development of the ICT sector with the launch IT policy 2000. Unfortunately, judging from the performance of the sector over the last few years, it is fair to say implementation of the policy remains slow and many actions stipulated in the policy remain just words on paper. However, some of the key national initiatives to develop the ICT infrastructure, such as the construction of first IT Park and the information superhighway, are on the verge of completion. The commissioning of these initiatives, occurring in tandem with the return of an encouraging environment for foreign investment, should boost activities in the ICT sector over the coming years.

Recent efforts such as the licensing of private rural telecommunications operators, as well as the liberalization of the telecommunication market, are excellent examples of enabling initiatives undertaken by the government. The establishment of telecentres is also very much welcomed, although the pace is much slower than desired. The internet has made differences to the lives of many people in Nepal, thanks largely to the bold initiatives of the private sectors, which took the lead in introducing Internet services. Over the past few

years, government departments have shown an increasingly awareness about the potential of ICT, and they are establishing a growing presence of Web. The government finally enacted the long waited Electronic Transactions Act in 2004. The passage of the bill is expected to spur the growth of E-Commerce and other forms of online transactions. However, the current unsettled political situation in the country may curb this growth. Indeed, the most crucial factors for advancing the ICT sector may be the security, peace and political stability of the country.

The banking industry has made good progress in introducing online services, including telephone banking and in a few cases internet banking. Many of the banks in Nepal have also introduced mobile banking. Other companies have generally used their online activities for promotional purposes than for providing more convenient services to customers.

The passage of the Electronic Transactions Act needs to be quickly followed by the development of an online payment system in the absence of an electronic fund transfer systems and credit cards.

Moreover, it seems online banking and shopping has been taking broad market. But still due to lack of adequate knowledge Nepalese people are found to be misled. The security systems needs improvements time to time as new viruses and hackers are rapidly effecting systems. Most of the companies are forming reliable software, introducing broad network, effective customer oriented and believe in delivery excellence with

prompt services, customer are aware of avoiding traditional communication channels and prefer ecommerce being time saving and globally accessible. Proper and effective measures of controlling occasional system failure, reduction in high maintenance cost, improvement in infrastructure of e-transaction, making nil of paper work but introducing documents digitally, introduction of new and reliable ISPs providers, 100% accurate and secured flow of information is required.

There is only few fully functioning Nepali ecommerce application online. Some of them are having their hosting server in Nepal and some have the hosting server abroad. Having Server abroad by buying server space or dedicated server from Server Provides Server4You. Purchasing and operating ecommerce application on third-party managed server abroad ensures the uptime of server by 90% time, but there can a treat of data use or alternation. Servers locally hosted are generally hosted on NSP and ISP to ensure the bandwidth requirement and uptime. There are factors like Load Shedding that compels the ecommerce provider to host the server abroad to have higher uptime and lower the operating cost of the ecommerce application.

Wireless communication should be emphasized compared to wired communication network through the situation found in Nepal. All those parts should be availed with full communication technology. Then it will help the outsiders to take and give the information about the products and services possible from that sector. This could also possibly increase the amount of experts if local areas are provided with sufficient e-commerce technology. Local products can be advertised via Internet globally, which gradually cause an impact upon the services of business. Every products manufactured in

the local market could be made available to the external market which would also help to generate large amount of revenue and aid in the national income of the country too.

Despite of valuable resources prevailing in our country they have either been illegally poached at higher prices (i.e. black marketed) or misused due to the lack of proper market. Unused or misused resources should be properly used with a view to resource mobilization and output production Government should encourage all the economic activity of those sectors to operate via an electronic medium, which would obviously result into greater amount of revenue generation and resource utilization. The home products could be globalized throughout the world. Though there are certain e-commerce site like easykathmandu.com, nepalbazar.com, thamel.com, munchateleshoppingnepal.com and few others in existence. They are very nominal in amount compared to the actual need for overall development.

It takes a time to develop anything but its destruction does not take any time. Many foreign investors in the past were interested in this project for promoting e-commerce sites. But due to the static government policies, unorganized market structure, internal conflicts going within country and some anti social groups creating hindrances in the foot of development made it all stopped. Most of the rural areas should be given priority and connected with effective communication networks. Though radios and televisions are also one of the major agents in promoting business activities but generally they act as a source of advertisement. With the e-commerce facility one can easily see the product, auction the product, select multiple product choices, order the product and pay for the

product all these only by sitting within a room. Major concentration should be focused on providing this technology at a very reasonable price. Also making and encouraging people to use commercial sites. From this we can imagine that how broad business concept has gone in the present era. Highly influenced technology has become a need of every consumer to producer.

5.2 Conclusion

In the present context of Nepal there are only fewer fully functioning ecommerce applications. These website are basically the remit based business and online purchase system and are protected by SSL certificated generated by third-party CA Server. But, most of the online applications are not secured using recognized third-party CA, instead self-signed or no CA certificated is used, thus are informational rather than transactional based. Nepali Government has developed cyber crime law to restrict abuse of misuse of ecommerce application from potential attacker.

In current scenario, ecommerce applications used are in passive mode, because currently Nepali ecommerce applications are only in view mode; cannot directly purchase online using debit cards. Thus, Nepali financial institution, bank, and government has to promote purchase/payment online integrating Debit card with ecommerce application and increasing the transaction security using global standard security measures. The current ecommerce applications are not well tested against security threats using security tools to detect the flaws of application, in addition the ecommerce application are not protected

using Firewall and IPS appliances to increase the level of confidence by users and protect the confidentiality of users' Card details against potential attacker or intruder. Government Bodies and Corporations like Nepal Telecom, NEA, and Nepal Water Department should be using e-commerce application to facilitate bills payment online and reduce long waiting time on queue for bills payment. Banks are facilitating the payment of PostPaid Mobile phones integrating banking application module with NTC system, which still needs some modification to be very effective. The current market is dominated by Remittance application there are various remit applications developed in Nepalese market mostly used by banks and some other purely remit business offices like himal remit, prabhu money transfer, western union, remit on. Most banks have their own remit application and some that doesn't have its own use partner bank remit application. Thamel.com and Muncha.com sell and provides gifts online, in addition to this Thamel.com provides remit based services from various countries.

In conclusion it can be said that because e-commerce has the potential to yield visible benefits in a relatively short period, because it stimulates mutually beneficial relations between governments and enterprises, and because it has multiplier effects on other key areas of the development of Least Developed Countries like Nepal (including the education, infrastructure and better governance), its development in should receive priority attention and support from the governments and businesses, but also from relevant international organizations and donors.

And finally, by contributing to lowering transaction costs and to reducing geographical disadvantages, e-commerce is of direct importance to all LDCs; in the absence of

appropriate domestic and international action, however, the 'trillion dollar economy' could by-pass LDCs, which would then run a distinct risk of being on the wrong side of a growing Digital Divide.

4.3 Recommendation

The vast potential of ecommerce is not a dream or a distant reality for Nepal. With a few focused actions and commitment the kingdom of Nepal can establish a very strong ecommerce market. The recommendation has been generalized. After having study and observation of the ecommerce procedure, the recommendations are as follows:

- ❑ Design of database using standards. Use of relationship and normalization. Many ecommerce application are being hosted in LAMP System(Linux Apache MySQL and PHP). The demerit of this system is MySQL version 4.0 doesn't support relation integrity (Primary Key and Foreign Key), thereby the database integrity on table relationship could not be managed by Database instead those relationships are managed from application layer logic. But, the recent version of MySQL 5.0 support relation Integrity. For commercial ecommerce application, Researcher would recommend to use Sun MicroSystem version of MySQL, or Microsoft SQL Server, or Oracle Database Server.

- ❑ Server Operating System: Windows XP desktop operating system does support to run Apache, MySQL and PHP. But it is never recommended that the production ecommerce application has to be run using workstation operating system platform. It has to be either Windows Server Operating System like Windows

2003 Server or Windows 2008 Server or any Linux Server Operating System like RedHat, CentOS, Ubuntu Server. In addition to having the server all unnecessary service port on the server should be shutdown to protect from potential attack to the system. The running service ports can be detected using free network tools like NMAP, Zenmap, BluePort Scan etc.

- ❑ Ecommerce application should be rigorously tested against XSS and SQL injection attack. During the application coding the software programmers should use the code that reduces the chances of buffer overflow or stack overflow. The ecommerce application XSS and SQL Injection testing can be done using free or commercial testing tools like Acunetic, Canvas.
- ❑ Server Placement: The ecommerce application server should always reside after a Firewall and IPS (Intrusion Prevention System). Having ecommerce application system and Database System behind the Firewall coupled with IPS, protects the server from unauthorized and intrusive activities launched from internet. Firewall only allows the business traffic to enter the server and block all unwanted requests. Globally know Firewall like Cisco ASA 5500 Series, IPS like Cisco IPS Sensor 4200 Series, installed by Cisco Certified Professional ensures the Security of the Servers from Outside and Inside attackers.
- ❑ Develop an autonomous vision: The governments and businesses interested in developing e-commerce policies and strategies should design such policies and strategies without being excessively fascinated with current 'success stories' or

'models' of e-commerce. For example, grant priority attention to developments in the area of business-to-business transactions (B-to-B) and business-to-government transactions (B-to-G) rather than to business-to-consumer (B-to-C), which remains the dominant activity of most 'dot-com' companies in developed countries. Both enterprises and governments should also focus on the 'commerce' part of electronic commerce, rather than on its 'electronic' component: success in e-commerce starts with a good understanding of what e-commerce will help buying or selling.

- Ensure proper linkage between the old and the new economy: The successful introduction of e-commerce will require a complete review of the value chain and supply chain in the sectors most likely to benefit from/be affected by e-commerce. Infrastructure and trade-supporting services (transport, banking, insurance, telecommunications, and customs) will still remain key to the success of Nepal in e-commerce.

Moreover, macro-economic considerations relating to trade, finance (including debt) and investment must also be taken by governments into account in making decisions in the area of e-commerce. From an enterprise point of view, the basic principles of good management (including accounting practices) fully apply. Priority attention needs to be granted to the ways in which old industries and practices can be adapted to modern ways of doing business and trade.

- Responsibilities of enterprises: In many instances, private enterprises will have to take the lead in creating an 'e-commerce culture, because they are generally closer to the relevant sources of knowledge and good practice. However, it must be kept

in mind that, in Nepal, the private sector is still embryonic: in such cases, appropriate governmental action remains necessary, and should aim at stimulating the growth of healthy private enterprises ready to compete in the new economy. Foreign enterprises and international business alliances can greatly help such efforts by maintaining contacts with the businesses, and sharing with them knowledge and experiences in the area of e-commerce.

- Responsibilities of governments: In Nepal, governments willing to stimulate e-commerce should focus on developing an explicit long term vision of the role of information, information technology and knowledge in their social and economic strategy; designing and communicating (to all parts of civil society) a clear IT policy appears as of particular importance in this context. Also, implementing appropriate fiscal, legal and regulatory policies aimed at stimulating the development of appropriate infrastructure (e.g. in telecommunications) and reducing the cost of access to relevant equipment and networks (in particular the Internet), especially in rural areas. And finally, central priority to the development of adequate human resources should also be concentrated upon. The Nepalese ecommerce market will grow as these actions are taken effectively and efficiently by the government and businesses. And we can expect great economic boom, for example in the areas that Nepal is already famous for such as handicrafts and tourism.

Thangka's (Tibetan religious paintings) could be marketed via the Internet. It would generate hard currency and employment, with the possibility of converting some rural labor from supplemental to fulltime work. Thangka's can be shipped with relatively low

cost compared to their high value and with a well structured website that allows customization these paintings will be in even higher demand. Savings from reduced distribution and retailing cost would be used to directly benefit the producers by paying over the usual rate, while demanding high quality.

Timely, accurate fulfillment of orders would be critical, requiring shipping from warehouses in local market areas. Delays due to export bureaucracy would have to be eliminated, and a fast, reliable mechanism for transferring payment from the market area to Nepal would be needed. Since the largest export market area for handicraft is North America and English is used in the United Kingdom and Australia, the United States would seem to be a reasonable location for initial distribution with English the initial web site language. On a more social note village connectivity projects should be put underway. It would provide practical experience with e-commerce technology and applications in rural areas, and would hold the promise of improving quality of life and discouraging movement to urban areas.

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Appendix

Sample of the Questionnaire

February 2009

Dear Sir / Madam,

I, Mr. Roshan Shrestha, the student of Masters in Business Studies (MBS), have selected a topic "**Development of Ecommerce in Nepal (with reference to Muncha.com, Thamel.com and Omni Group)**" for the project/thesis for partial fulfillment of the requirements of M.B.S.

It would be appreciable if you could response precisely. (Please feel free to express your opinions, as the information provided would be confidential)

Name: _____ (Optional)

Staff No.: _____ (Optional)

Designation: _____

Company Name: _____

Service period (years): _____

1. What do you think the influential factor of ecommerce in Nepalese market?
 - a) Online banking
 - b) Online shopping
 - c) Remittance
 - d) eGovernance
 - e) No response

2. How do you think the ecommerce demand of the customer can be fulfilled by your company?
 - f) Remittance
 - g) Online Banking
 - h) Online Shopping
 - i) Online government bill payment
 - j) Integrated online payment for cable, electricity, phone bills
 - k) Online Government Bill Payment

3. Does your company provide the security system of ecommerce?
 - a) Yes
 - b) No

4. What are the advantages of ecommerce benefit by your company to the Nepalese People?
 - a) Easy Money Transaction
 - b) 24hrs Customer Service
 - c) Time Saving
 - d) Keep in touch with family and friend
 - e) Security services for client

5. What is the strength of ecommerce relating to your company?
 - a) Effective customer service
 - b) Quality Products
 - c) Security appliances for tracing frauds
 - d) Secure Transaction Guarantee
 - e) Most of the Products Covered

6. What are the weaknesses of ecommerce relating to your company?
 - a) Product updating
 - b) Computer illiteracy
 - c) Valid Login Information required
 - d) Master Card or Visa required

- e) Changing Produced
7. What are the opportunities of ecommerce relating to your company?
 - a) Essential to Luxurious
 - b) Target Local Market
 - c) Target international market
 - d) Security of Information Confidentially
 - e) Reach general public
 8. What are the threats of ecommerce relating to your company?
 - a) Economical Crisis
 - b) Government Policy
 - c) Cyber law
 - d) Hackers
 - e) Software Loopholes
 9. How do you measures to improve the IT policy regarding ecommerce in your company?
 - a) Strong law implementation for confidentiality in information
 - b) Secure merchant and consumer rights
 - c) Timely monitoring system
 - d) Installing Proved Products
 - e) Re-evaluating the IT Policy as per current threats
 10. Do you think ecommerce is essential in Nepalese Market?
 - a) Yes
 - b) No
 11. Do you think Nepalese Government can lead to a successful phase in implementing IT policy?
 - a) Yes
 - b) No
 12. What you would like to see the government to help the ecommerce business in Nepal?
 - a) Educate business on how to conduct ecommerce
 - b) Provide tax incentive to reduce business cost
 - c) Educate and encourage consumer to engage in ecommerce
 - d) Provide facilities to ecommerce in Nepal.
 - e) Provide funding build ecommerce capabilities

Introduction of the TDC

Thamel.com (TDC) was founded in early 1999 with an initial investment of USD \$25,000. Named after the tourist and commerce hub of Kathmandu², the site was initially set up to be the first comprehensive online directory of local Nepalese businesses. The portal was modeled after successful Western directories such as Yahoo.com, and aimed at tourists visiting from abroad. TDC provided local businesses with a profile page, Web site link, and email address. For an additional fee, the company offered to design, register and host a business's homepage.

TDC is a Nepal-based marketing and development company focused on making transactions. The company was founded to create new opportunities for Nepalese workers, generate cultural value, and help move local businesses in a new direction. Through a combination of high customer service and a full suite of quality products, the company has built a trusted brand name that has allowed it to rapidly grow and expand the services it offers.

TDC has five mutually reinforcing business divisions. The most lucrative and well known is the Gift Shoppe, an online portal which sells gifts to the Nepalese diasporas that are then procured and delivered locally to family and friends still living in Nepal. The IT Chemist division helps local entrepreneurs start their own e-commerce sites, while the export division helps them sell items overseas. Thamel Remit provides remittance, insurance and other financial services, and Thamel International replicates TDC's successes globally.

The company has overcome a number of challenges while developing the business, including an initial lack of adequate IT and delivery infrastructure. Current challenges include market expansion in a politically unstable country, enlarging the export division, and managing the company's rapid growth. Competition currently does not present a significant threat, as the company enjoys a first mover advantage and a well-known and respected brand name. It also benefits from a favorable relationship with government regulators.

TDC has had a significant impact on local businesses. On average, online sales accounted for 5-10% of participating retailers' total annual revenue, a number that continues to grow. The company has brought an understanding of e-commerce into the country, resulting in the creation of a number of new online businesses. TDC's business practices have also provided a high standard of trust and customer service for purchasing goods online. The TDC model combines a number of key practices that have allowed it to succeed at the base of the pyramid. Localization plays a role in almost every aspect of the business, inspiring customer loyalty and allowing the company to adjust to dynamic local circumstances. Through cultural marketing, TDC taps into both the sentiments and resources of the Nepalese diaspora to the benefit of local businesses. TDC has also innovatively used technology and has brought a Western standard of customer service to Nepal. Finally, the company's success is due in no small part to the dedication and talent of its employees who are motivated by both incentives and an emphasis on capacity building.

Thamel.com has developed a profitable and replicable business that has successfully tapped into the resources of the diaspora for the benefit of the Nepalese people and economy. The company's unique combination of e-commerce, remittance, and business development services demonstrate how combining the power of IT and diasporas can create opportunities at the base of the pyramid.

Introduction of Muncha.com

www.muncha.com is modeled after a regular departmental store “Muncha house” Muncha House originated at Balkumari, Ason and went by the name Moti Man Ratna Man back then. It was only after the shop moved to New Road in the 1930s that it came to be known by the name of Muncha House, a name it has retained to this day Muncha House is one of the oldest and leading departmental stores in Nepal, located in New Road, the heart of the capital. It has served its customers consistently for over eight decades by retailing, wholesaling and also supplying business organizations with their daily necessities.

With the sole motto of reaching out extensively to its customers around the globe, Muncha House has launched Muncha Internet Ventures through which www.munchahouse.com was started. This was done taking in view the advent of the internet which raised the possibility of serving the Nepalese people in ways which were before thought of to be impossible. In the long run, we have changed to “MUNCHA.COM” for brevity reasons, but our services remain the same and we always strive to improve our services to our valued customers. In order to extend services, Muncha Internet Ventures has recently registered a company in Texas, USA under the name of Muncha Internt Ventures has recently registered a company in Texas, USA under the name of Munchha LLC. To service clients in the US, a toll free line has also been set up. Hence customers service coverage to the UK and our clients in the UK can now call us directly at 44 02070787349.

Muncha Money Transfer is pleased to offer the customer access to a quick, secure and cost-effective way of sending money to anyone in Nepal. The entire transaction is

completed online and with just a few clicks of a mouse, customer's money is on its way to the recipient of his/her choice, with personalized message. There is no need to visit a bank to use this service. Muncha Money Transfer is being operated by muncha.com. Muncha.com is an ecommerce wing of Muncha House, which has a long history in Nepal as they have been operating in the retail sector of Nepal for over 50 years now.

Introduction of the Omni Group

Omni Group is parent organization dealing with various products and distribution throughout the world, having its' headquarter in Singapore. Omni Group has multiple companies each specializing in particular field. Omni Group has global annual turnover of more than 25 million USD. The companies under the parenthood of Omni Group are:-

-) Omni Choice Pte Ltd, Singapore
-) Omni Deals Inc, USA
-) Omni Business Corporate International, Nepal
-) Nepal Network Information Center, Nepal

Omni Group companies working in Nepal in the field of ICT promotion and standardization are Omni Business Corporate International (OBCI) and Nepal Network Information Center (NepalNIC). OBCI is has been focusing in the ICT products trading and deployment. NepalNIC has been growing as Omni Group's ICT deployment company in Nepal.