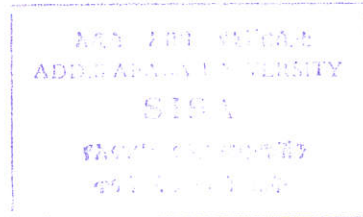


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**THE STRATEGIC USE OF ICTs IN THE ETHIOPIAN  
TRADE SECTOR FOR IMPROVED INTEGRATION IN  
THE GLOBAL ECONOMY**

BY  
ZAHRA DAGNEW

22 MAY, 2000

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A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIRMENT FOR THE DEGREE OF MASTER OF SCIENCE  
IN INFORMATION SCIENCE

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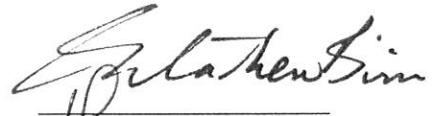
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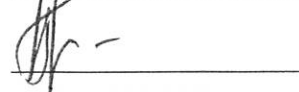
**ZAHRA DAGNEW**

**Name and Signature of Members of the Examining Board**

**Ato Getachew Birru, Chairman, Examining Board**



**Dr. Taye Tadesse, Advisor**



**Prof. I.K. Ravichandra Rao, External Examiner**

*Ravichandra Rao . I.K.*

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At the outset I would like to thank the almighty Allah for making me strong enough through out my studies and finish my work successfully. Alhamdulillah.

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I couldn't pass without acknowledging my mother Sophia Mohammed, who lifts a huge responsibility off me by taking care of my baby when I was busy doing my work. It would have been impossible to finish my work without her. Thanks mom.

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## DEDICATION

*I dedicate this work to*

*My Father*

*who would have been thrilled if he were with  
me this time;*

*My little baby- mammy*

*who went through all the hardships with me.*

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## ABSTRACT

The current globalised world is characterized by global production and consumption as well as global competition. The increased importance of information goods and services in international trade is also another feature of the global economy. ICTs play the leading role in these new global settings.

Although it is believed that ICTs provide many opportunities to developing countries, the opportunities provided by such modern technologies and the globalisation process such as technology transfer, new market opportunity, and so on are far being reaped by developing countries.

Ethiopia as many of the least developing countries are found to be loosely integrated in the global economy and could not benefit from the opportunities provided by modern ICTs. The study also finds that at the micro level the utilization of modern ICTs is very poor by business firms engaged in international trade.

As a result, it is recommended that Ethiopia can hold a strategic position in the global market place through the employment of ICTs in the trade sector to penetrate the international market easily still maintaining the export of its traditional export items. As a result, a sound macro-economic policy is needed that gives priority to the ICTs sector.

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# CHAPTER ONE

## INTRODUCTION

Developing countries are faced with new opportunities but also enormous challenges in the current ICT-driven global economy. The concentration of modern ICTs in the hands of the developed nations provide them power in the international market while marginalizing developing nations. Especially, business companies in industrialised countries have been in a much advantageous position to recognize the value of IT as a competitive weapon than companies in developing countries. Due to this, it has become very difficult for developing countries to benefit from international trade, as they were unable to resist the fierce competition from the firms in the industrialised countries.

If developing countries have to participate actively in the global economy and rescue their economies from further marginalisation, they need to invest on IT and effectively use it in their strategic economic sectors. As a result, an appropriate economic policy that targets on utilising IT in the strategic sectors of the countries is essential.

To this end, the study tries to provide policy prescriptions on how to strategically utilise ICTs for better participation of Ethiopia in the global economy. More specifically, the study is believed to give an insight to policy makers in the policy formulation process. In addition it is believed that the findings of the study can be

used as an input in the process of establishing a National Information and Communication Infrastructure in the country.

## **1.1 STATEMENT OF THE PROBLEM AND JUSTIFICATION**

It is believed that the current economic development in many of the developed countries is achieved by participating in the global economy through international trade. The late twentieth century was characterised by the globalisation of production and consumption and the emergence of the information age. The globalisation of the world economies and the emergence of an information society are highly facilitated by information and communication technologies (ICTs). Moreover, the new revolution that is underway i.e. the information revolution is knowledge intensive where information is the strategic economic resource.

Developing countries, especially, those that are found in Sub Saharan Africa (SSA), are left behind this fast changing and ever growing revolution and failed to integrate into the global economy. The main constraints for the poor performance of these economies, such as Ethiopia are:

- Socio-economic problems such as population pressure, drought, war, AIDS and the like,

benefit of its own social, economical, cultural, and political conditions and problems.

Especially the utilization and contribution of ICTs in international trade should be made clear. Policy makers, as a result, should be made aware of the significance of ICTs as a strategic tool in gaining comparative advantage and access to the global market and the policy implication that follows.

To this end, the following study is believed to serve as an important feedback in the analysis of the current situation of the Ethiopian economy Vis-à-vis the global economy. Such kind of study is very important and timely in a period where the world is going through dramatic changes (economically and politically) due to the effects made possible by ICT and the information age.

## **1.2 OBJECTIVE**

### *1.1.1 General objective*

The general objective of the study is to identify the different types of information required by the businessmen in the international trade of goods and services. The study mainly tries to pinpoint how ICTs enable the business firms to get access to their information needs.

### *1.1.2 Specific objective*

The specific objectives of the study are:

- To examine the performance and composition of international trade in Ethiopia (Import/Export)
- To assess the type and level of Foreign Direct Investment (FDI) in the country
- To determine the level of integration of the country in the world market
- To assess the utilization of modern ICTs by organizations engaged in international trade
- Indicate how ICTs contribute to improve competitiveness, efficiency and market penetration in international trade
- Identify appropriate macro-economic policies for the strategic use of ICTs

### **1.3 SCOPE AND LIMITATIONS OF THE STUDY**

The study doesn't consider exporters and importers in all sectors (categories). Due to the time constraints only those importers/exporters that are considered the major players (in case of exporters) and those that are believed to be relevant to the study (in case of importers) are considered.

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## **1.4 METHODOLOGY**

### **1.1.3 Data sources and materials**

For the purpose of undertaking the study the following are examined as a major source of information.

- Different literature for the purpose of discussing concepts such as globalisation, the importance of ICT in the globalisation process, the position of developing countries in the global economy, the views on globalisation and other related matters
- Secondary data on the macroeconomic performance of Ethiopia such as GDP, FDI, international trade etc.

#### **1.4.1 Data collection techniques**

For the purpose of determining the utilization of ICTs by business enterprises participating in the international trade, a survey was conducted on such enterprises. The major data-gathering tool employed is the questionnaire.

The sampling technique used in this study is purposive sampling. In purposive sampling the researcher uses his/her own judgment about which respondents to

choose, and picks only those who best meet the purpose of the study (Bailey, K., 1978).

Therefore, the exporters and importers are selected based on the following criteria. In case of exporters, those exporters that are engaged in the export of the major export of the country such as coffee, oilseeds, pulses and leather products are considered. Of the total of 300 exporters found in these categories (Addis Ababa Chamber of Commerce, 2000), one third of them i.e. one hundred are taken as a sample.

In the case of importers the selection criteria is based on the relationship of the imported item to modern information and communication technologies. The selected categories include telecommunication equipment, electronic products, radio, TV and the like, computer accessories, Audio/video diskettes, films, CDs and the like. A total of 320 importers are in these categories (Addis Ababa Chamber of Commerce, 2000). Of this, again, one third of them (100) are considered in the sample. In general a total of two hundred enterprises were selected as a sample.

#### **1.4.2 Analysis techniques**

For the analysis of the data an SPSS package is used to draw statistical measurements of the collected data.

## CHAPTER TWO

### *Globalisation and the Information economy*

The late Twentieth Century is characterized by the Information Revolution and the globalisation process. The two phenomena are highly interrelated and facilitated by technological advancements. Information (knowledge) plays the strategic role in the information revolution and contributes highly to the globalisation process. It is believed that technological changes coupled with economic changes such as privatisation and liberalization of airwaves is responsible for the emergence of the Information Revolution (Deane, J., 1999).

Especially, the growth and convergence in information and communication technologies enable the free flow of ideas and knowledge among countries at a very minimum cost and high speed by 'eliminating or narrowing the inequities caused by geographic, economic and social factors' (UNFPA, 1999).

### **2.1 GLOBALISATION**

Although the term 'globalisation' is very common, it does not have any unique meaning attached to it nevertheless, it will assume economic, political, and

cultural dimensions depending on the context it is applied. In its most general meaning globalisation can be defined as

“ a process which cuts across national boundaries, integrating and connecting communities in new space-time combinations” (Avgerou, C.,1995).

It can also be explained as

“an ongoing global phenomenon characterized by the intersection of presence and absence, the interlacing of social events and social relations ‘at a distance’, all conditioned by local conceptualities” (Cogburn, D. & Adeya, C., 1999).

Oman ( 1994) puts it as an economic phenomenon like:

“the growth of economic activity spanning politically defined national and regional boundaries”.

Further explanation was given by Avgerou (1995),

“ the trend towards freer trade, and the flow of finance, labour , commodities among countries and the flow of data among organizations”

The last decades of the nineteenth century (from 1870s) to the early twentieth century (up to 1914) marked the beginning of the globalisation process through the rapid growth of the global economy based on international trade and free capital mobility under the gold standard (Solimano, A., 1999).

Evidence shown by Haile (2000) indicate that the current globalisation process is much lesser in the rate of transfer of savings from developing countries (relative to the size of the world economy), internationalisation of finance and trade than the pre-1914 globalisation process. For instance, a capital flow from the world economic core to the periphery is only \$150 billion a year in 1990s. This was less than 15 percent of their investment and less than 5 percent of saving in the developed capitalist economies. These shares are much smaller than comparable figures before 1914 where they were both close to 50 percent.

Although the globalisation process, as pointed out, is not a recent phenomenon, there are some features that make the current process unique as compared to the previous one. One major factor contributing to this unique feature is the advance in information and communication technologies and their contribution to the instant flow of information at the world scale.

Furthermore, the stronger role played by financial institutions aimed at regulating and stabilising the world economy (such as the WTO, IMF, and World Bank) coupled with the enhanced role played by multilateral corporations in the

production and distribution of world output are considered to be the major motivating factors (Solimano, A.,1999; Haile K., 2000). Especially, the growing activities of Multi-National Corporations (MNCs) and their increased influence on economic spheres contributed to the integration of the global economies. MNCs are going beyond their national boundaries and are investing in other nations to reduce cost of production and to maximise profits (Asfaw K., 1998).

The globalisation process, in general, gains a new momentum in recent years especially due to the advancement in ICTs and the new opportunities provided by such advancements (such as lower cost of communication, instant flow of information across the world, technological transfer, access to foreign markets, and so on) to different nations in general and to producers and consumers within those nations in particular.

### 2.1.1 Views about globalisation

There are mainly two paradigms of thought about globalisation. The first paradigm views globalisation as a positive phenomenon where countries (both rich and poor) can foster their economic well being through the introduction of free competition among firms as well as among countries and regions. According to this view, the private sector is considered more efficient than the state and that liberalisation will lead to greater global competition (Khor, M., 2000; Haile K.,

2000; Oman, C., 1994). In other words it is believed that market forces will bring about economic prosperity through free competition and free flow of information at a global scale, if there is no state intervention.

The second paradigm view globalisation as another form of colonialism by the developed countries where they try to retain their economic advantages and powers they enjoyed during the colonial era (Martin K., 2000). In this paradigm the global trading system, multilateral trade liberalisation and governmental trade policies are the focus of concern (Oman, C., 1994). Here the major concern is that the globalisation process will further marginalize poor countries as the developed world controls the international market and information and communication technologies through the multilateral organizations.

In spite of these positions towards globalisation, it is almost impossible for developing nations to try to avoid the effects of globalisation. As these countries rely heavily on the developed world for their survival, they can't avoid being part of the process. In general they are not in a position to choose to be part of the process or not to be.

It is interesting to note that even the proponents of the second view, that the globalisation process is meant to benefit the powerful nations at the expense of the weak, acknowledge that developing countries have no choice, other than being

## 2.2 THE INFORMATION ECONOMY AND ICTS

The Information Economy is defined as “ a new global economic structure, wherein the production of information goods and services dominates wealth and job creation, and is underpinned by the use of information and communication technologies (ICTs) and a Global Information Infrastructure (GII)\*” (Cogburn, D. & Adeya, C., 1999).

In the information economy, production and consumption shifts from objects towards information and services such as computer software, financial products, telecommunications, the Internet, entertainment, management consulting and the like. For instance, information goods and services account for about 23 percent of US Gross Domestic Product between 1987 and 1994 (Cameron, G., 1998).

The information economy differs from the industrial economy in the nature of the goods involved. In the information economy, the major focus is (Knowledge) and how to manipulate and incorporate it in the process of production and consumption. The unique nature of information such as its ability to expand infinitely (can be used and distributed to many people at the same time) and its intangible nature enables the creation of global markets and global competition (Cameron, G., 1998; Cogburn, D. & Adeya, C., 1999; Hallberg, K.& Bond. J., 1998).

---

\* GII refers to the technologies, organizations, and capabilities that facilitate production and use of ICTs.

In addition, this unique nature of information offers a chance to lessen the barriers to entry in the production and distribution process. Compared to the other economies such as the industrial economy, the acquisition of knowledge/information is much simpler than the investment needed to acquire land, labour and capital in the latter. The following table shows the main features of the industrial economy versus the information economy.

**Table 2.1 The industrial economy versus the information economy**

Characteristics	Industrial Economy	Information Economy
Source of competitive advantage	Land, labour and capital	Knowledge
Production mode	Command and control hierarchies	Innovation-Mediated through services and networks
Scope	Local/regional	Global
Industry classification	Distinct; multiple	Diffused; architectures

Source: Cogburn; Derrick & Adeya, Catherine; 1999

In general there are three economic phenomenons that are at work in the information economy (Cameron, G., 1998)

- Production has become globalised and foreign competition has become increasingly intense
- Deregulation and liberalization of domestic and world markets have reduced the power of trade unions and increased levels of competition

- By helping sellers of products and services make information more rapidly and fully available to potential buyers worldwide.

#### 2.4 INTERNATIONAL TRADE AND DEVELOPING COUNTRIES

International trade has been the driving force of globalisation since the late 19th century. And it will continue to drive global integration in the current global setting especially among developing countries (World Bank, 2000).

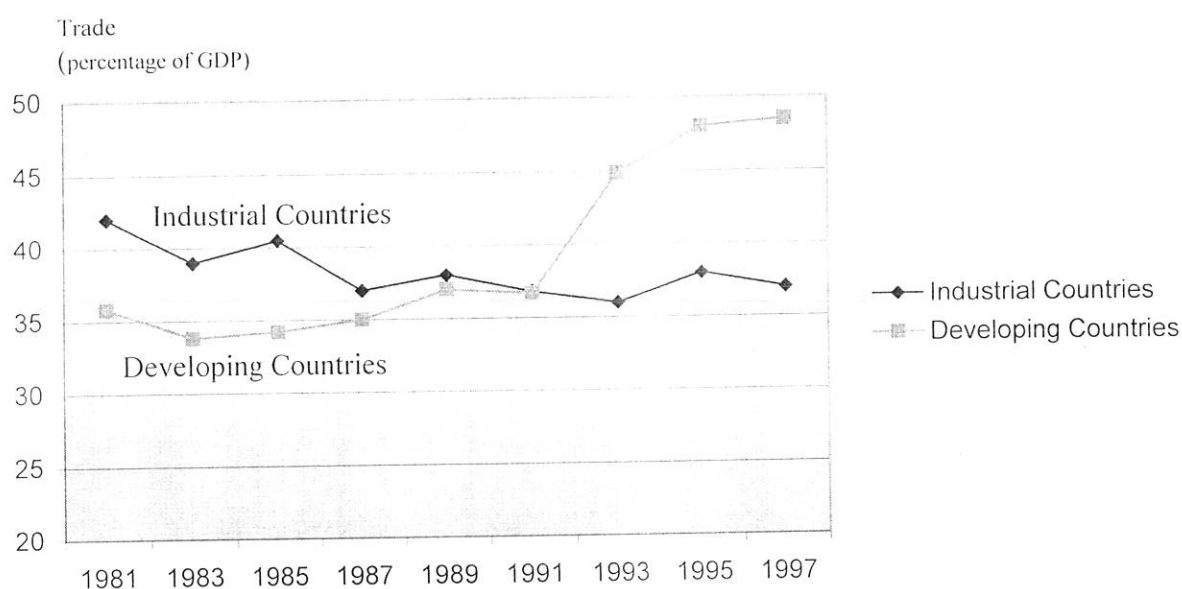
The world economy grew at a faster rate over the four decades since 1950. Over the period as a whole output grew at an annual average rate of 3.9 percent, world trade at 5.8 percent (Chatterjee, S., 1999). Moreover, over the last two decades international trade and investment flows have increased at an average of 4.6 percent and 12.2 percent respectively (Low, P. Olarrega, M. Suarez, J, 1998).

World exports rose from US \$ 61 Billion in 1950 to US \$315 Billion in 1970 and US \$ 3,447 billion in 1990. The share of world exports in world GDP rose from about 6 percent in 1950 to 12 percent in 1970 and 16 percent in 1992 (Martin, K., 2000).

Figure 2.1 shows that foreign trade has grown quickly. It can be seen that the share of trade in GDP is increasing from 35 percent in 1981 to almost 50 percent

in 1997. This figure is growing rapidly over that of industrial countries, which shows a moderate growth.

Figure 2.1 Trade developments



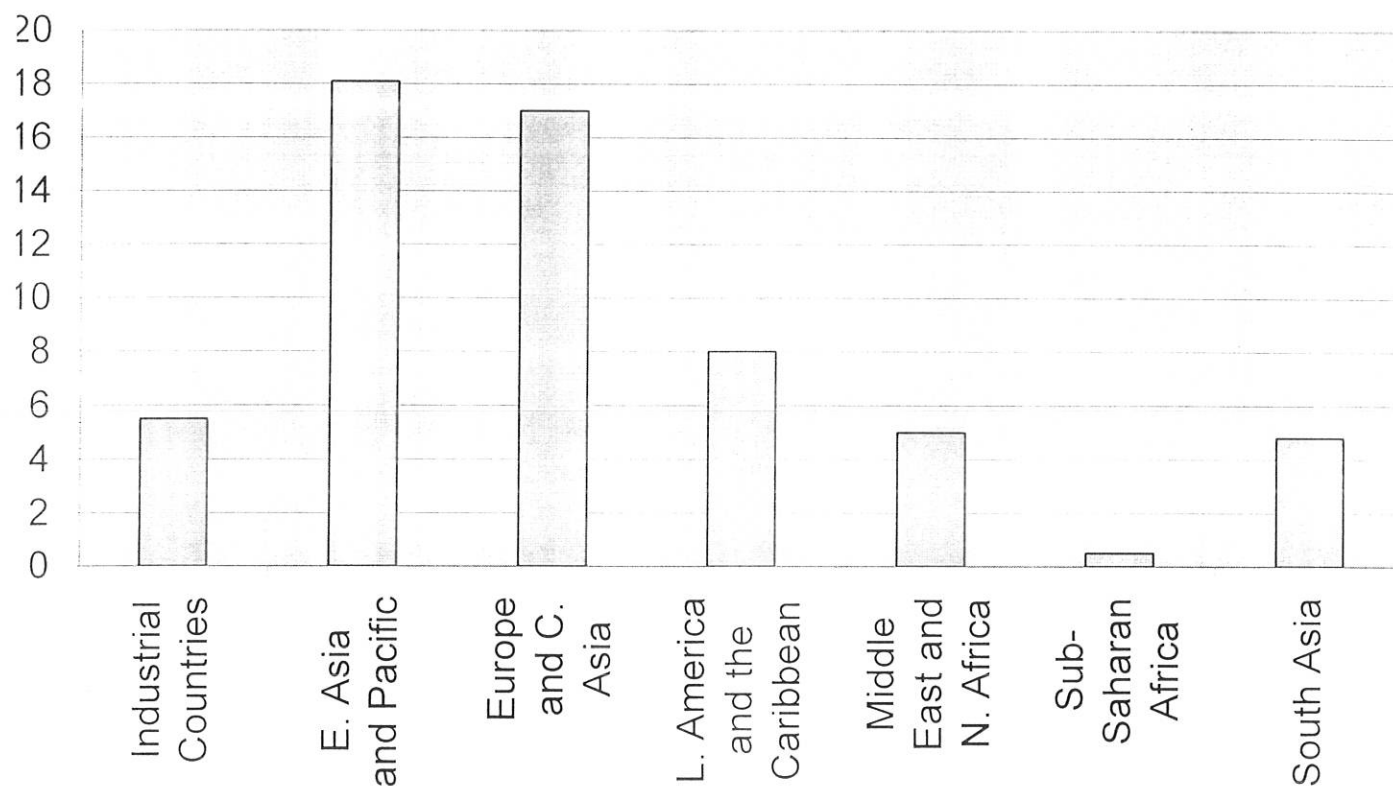
Source: World Bank, World Development Report, 2000

Trade, particularly trade in commercial services, has been growing much faster in the last decade and is being seen as a critical means for economic development (Cogburn, D. & Adeya, C., 1999, Braga, C., 1995).

Exports of commercial services have been growing on every continent as shown in figure 2.2. Especially the growth rate registered in East Asia is enormous. Sub Saharan Africa countries however register the least growth rate (less than 2 percent).

Figure 2.2 Exports of commercial services

Annual Growth rate of exports of commercial services, 1990-97  
(percent)



Source: World Bank, World Development Report, 2000

Another new feature witnessed in the current international trade is the shift towards trade in components. The use of advanced technologies such as the Internet enable the creation of a web of global production networks that connect subsidiaries within trans-national firms to unrelated designers, producers, and distributors of components by offering the firms access to new markets and commercial relationships and facilitate technology transfer. In the early 1990s one

third of all manufactures trade (approximately \$800 billion) involved parts and components (world Bank, 2000).

Foreign direct investment (FDI) flows have also increased at a faster rate in the last decade due to the wide opportunities provided by technological advancement and globalisation. The cost effective means of communication provided by modern ICTs, allow companies to locate different parts of their production process in different countries while maintaining close contact among themselves (Cogburn. D. & Adeya, C., 1999 ; Braga, C.,1995; Cameron, G., 1998).

According to the report of the World Bank (2000) the increase in foreign direct investment is very striking. As shown in figure 2.3 FDI flows to developing countries increased from around 20 billion US dollars to more than 150 billion in 1998.

For instance, over the last 25 years, the region's world market share in Cocoa beans fell from 80 percent to 67 percent; in coffee from 26 percent to 15 percent and in cotton from 30 percent to 16 percent. Moreover, the ratio of manufactured goods to total exports for SSA, fell from 7.8 percent to 5.9 percent from 1965 to 1985 (Cogburn, D. & Adeya, C., 1999).

Regarding FDI flow, although there has also been a steady growth in liberalisation of foreign direct investment, their increases are among the advanced countries (Martin, K., 2000). Developing countries in general account for only US \$ 37.2 Billion of FDI inflows on average in the period 1986- 1994. Of this, the share of Africa in world total drops from 1.5 in 1995 to 1.4 in 1996 and 1.2 in 1997 as compared to that of Latin America and Caribbean which rose from 9.6 in 1995 to 13.0 in 1996 and 14.0 in 1997. Table 2 shows FDI inflows in developing countries by region.

Table 2.2 FDI inflows in developing countries by region, 1986-1997 (billions of US dollars)

Region	1986-1994	1995	1996	1997
	(Annual Average)			
Developing Countries				
Value (\$ billion)	43.8	105.5	129.8	148.9
Share in the world total (%)	24.7	31.9	38.4	37.2
Africa				
Value (\$ billion)	3.3	5.1	4.8	4.7
Share in the world total (%)	1.9	1.5	1.4	1.2
Share in the developing country total (%)	7.6	4.8	3.7	3.2
Latin America and Caribbean				
Value (\$ billion)	13.4	31.9	43.8	56.1
Share in the world total (%)	7.6	9.6	13	14
Share in the developing country total (%)	30.6	30.2	33.7	37.7
West Asia				
Value (\$ billion)	1.6	-0.7	0.3	1.9
Share in the world total (%)	0.9	-0.2	0.1	0.5
Share in the developing country total (%)	3.7	-0.7	0.2	1.3
Central Asia				
Value (\$ billion)	0.2	1.6	2.1	2.6
Share in the world total (%)	0.1	0.5	0.6	0.6
Share in the developing country total (%)	0.4	1.5	1.6	1.7
South, East and South-East Asia				
Value (\$ billion)	24.9	66.6	77.6	82.4
Share in the world total (%)	14.1	20.1	23	20.6
Share in the developing country total (%)	56.8	63.1	59.8	55.3
The Pacific				
Value (\$ billion)	0.2	0.6	0.2	0.4
Share in the world total (%)	0.1	0.2	0.1	0.1
Share in the developing country total (%)	0.5	0.6	0.2	0.3
Central and Eastern Europe				
Value (\$ billion)	2.3	14.2	12.3	18.4
Share in the world total (%)	1.3	4.3	9.5	4.6
Share in the developing country total (%)	5.2	13.5		12.4
Memorandum:				
Least Developed Countries				
Value (\$ billion)	1	1.1	2	1.8
Share in the world total (%)	0.6	0.3	0.6	0.4
Share in the developing country total (%)	2.2	1	1.5	1.2
Developing Countries excluding China				
Value (\$ billion)	33.6	69.7	89	103.6
Share in the world total (%)	19	21	26.4	25.9
Share in the developing country total (%)	76.8	66.1	68.6	69.6

Source: Economic Focus, Vol 2, No.3, 1999

## 2.4 DEVELOPING COUNTRIES AND ICTS

In addition to trade and investment flows the spread of modern ICTs is also not evenly distributed around the world where almost half the world's population does not have access to the most basic of communication technologies (Deane, J., 1999).

While there are nearly 70 telephone lines per 100 people in Sweden, there are just 0.8 and 0.2 per 100 citizens in Kenya and Uganda, respectively. Only 0.1 percent of the population of Sub-Saharan Africa uses the Internet, whereas more than 35 percent of Icelanders use it (Raychaudhuri, S., 1999).

It is argued that ICTs can result in further marginalization of the poor countries since these advanced technologies are scarcely available in such countries and it is unlikely that the poorest 20-40 percent of the population will be able to afford such services (Deane, J., 1999).

The situation is exacerbated by the fact that developing countries are dependent on industrialised countries for increasing their communication technologies through foreign investment, supply of equipment and training. Since industrial countries make sure that developing countries remain dependent on them through the control of the information infrastructure and the content it contains, it is very difficult for developing countries to reap the benefits of ICTs.

Although developing countries try to liberalise their economies in order to attract foreign investment, they find it very difficult to integrate in the global economy. The marginalization is particularly evident in the areas of FDI flows and ICTs due to political instability, lack of adequate infrastructure, skilled labour force, lack of appropriate institutions and economic policies on one hand, and the inappropriate policy recommendation advocated by international financial institutions on the other (Haile K., 1999).

In addition, donor agencies 'force' governments of developing countries to follow a certain policy package when giving fund to information technology development. The policy packages may not be relevant to developing countries, as they were designed to fit the development needs of developed nations (Hanna, N., 1991).

On the other hand, there is evidence that some developing countries utilize ICTs effectively in their development endeavours. Several African countries such as Tanzania, Egypt, Uganda and South Africa have adapted creative approaches to bridge the information and technology gaps (eg. HealthNet, PEOPLink, etc) (Raychadhuri, S., 1999; OpokuMenash, A., 1999).

## 2.5 OPPORTUNITIES AND CHALLENGES FACED BY DEVELOPING COUNTRIES

Developing countries are faced with both opportunities and challenges in the ICT driven global economy (Avgerou, C., 1998; Braga, C., 1995; Cameroon, G., 1998). However, the opportunities and challenges a country face in the globalisation process are partly determined by initial conditions such as the extent of integration, the natural and man-made endowments the country possesses and the adequacy of socio-economic infrastructure and human capital (Jemal M., 2000).

This being the case, globalisation and the information economy opens new 'windows of opportunity' for developing countries that are willing to address them strategically. It is believed that the new technologies allow developing countries such as Africa to leapfrog in their development process by taking advantage of the falling costs and increasing utility of cutting edge technologies without having to bear the high costs of discarding older legacy systems (Cogburn, D. & Adeya, C., 1999).

Among the opportunities provided for developing countries, the following are the major ones (Solimano, A., 1998; Haile K., 2000; Braga, C., 1995)

- Provision of investment capital to enhance productive capacity
- Enhancement of the easy flow of technology transfer

- Opening of markets for domestic products
- Making domestic economy more competitive by imposing work ethics, discipline and overall productive efficiency
- Strengthen international division of labour based on comparative advantage
- Opening the door for export-led growth by reducing the barriers to international trade
- Access to a wide variety of consumption goods, new technologies and knowledge

There are however challenges that developing countries face due to the globalisation process and the information economy. The following are some (Time, 1998; Solimano, A., 1998; Haile K., 2000)

- Weakening or destroying productive capacity in the manufacturing sector due to world competition
- Complete vulnerability of the domestic economy to external shocks particularly when speculative capital is involved
- Loss of sovereignty of governments to address distributional and other social issues as they see it fit
- May trigger unproductive competition among the least developed countries since as it stands most of them have similar endowments or comparative advantage

- Globalisation gives a premium to people with sophisticated skills, high levels of education and entrepreneurial traits.
- Tends to transmit the cultural patterns of large countries to the rest of the world through imitation of consumption patterns, global mass medias and other means of influence

## 2.6 THE APPLICATION OF ICTS IN INTERNATIONAL TRADE: E-COMMERCE

The progress in ICT (Convergence of computer and communication technologies) is making it possible to trade services internationally. World trade involving computer software, entertainment products (motion pictures, videos, games, sound recordings) information services (databases, on-line newspapers), technical information, product licences, and professional services (businesses and technical consulting, accounting, architectural design, legal advice, travel services etc.) has been growing rapidly over the past decade, and now accounts for well over US\$ 40 billion worth of US exports alone (Mansell, R. & When, U., 1998).

This development in service trade is highly attributed to the advancement in information technology and specifically to the emergence of electronic commerce (E-commerce). E-commerce is defined as

“the use of documents in electronic form, rather than paper, for carrying out functions of business or government (Such as finance, logistics, procurement, and transportation) that require interchanges of information, obligations, or monetary value between organizations and individuals” (Mansell, R. & When, U., 1998)

It is also further defined as

“all forms of commercial transactions involving both organisations and individuals, that are based upon the electronic processing of data, including text, sound and visual images.” (OECD, 1997)

“It includes activities that could be replaced by the electronic media such as the exchange of documents, telephone calls, faxes, etc. and also includes standards for procurement of manufactured goods by governments and the private sector and the participation of firms and individuals in the electronic marketplace” (Mansell, R. & When, U., 1998).

The emergence of E-commerce created new forms of business transactions and market place than the conventional means. E-commerce is transforming the global marketplace, and its impact is being felt in diverse areas such as production, distribution, finance, culture and the reengineering of government (Cogburn, D. & Adeya, C., 1999).

Business agents and consumers can transact over the net through the use of intranets, Internets and other computer networks from every angle within a very short period of time. E-commerce can make markets function more efficiently by reducing information asymmetries between buyers and sellers, eliminating the need for middlemen, and collapsing distance (Hallberg, K. & Bond, J. 1998).

E-commerce makes business activities very easy and efficient for those who have access to the global infrastructure by lowering the time and money spent to make transaction dramatically. It is estimated that commerce on the Internet could reach several billions of dollars by the turn of the century and sales were estimated at US\$ 200 million in 1995. (Mansell, R. & When, U., 1998).

Some developing countries have also started to use E-commerce in some sectors of their economies. Especially the newly industrialised countries such as Singapore promoted the use of electronic data interchange for several years. Likewise Brazil has also made use of ICTs in its financial sector since 1960s to automate its procedures (Mansell, R. & When, U., 1998).

However, many developing countries did not start using ICTs in their business activities. They have only just begun to use ICTs to address financial management at the macro-economic level (Mansell, R. & When, U., 1998).

Since E-commerce has a global nature and it involves many parties at the same time there are some crucial issues that need to be addressed in order to benefit from the service. Electronic commerce raises issues about intellectual property protection, the introduction of electronic money or e-cash, the protection of individual privacy, as well as rules with respect to advertising, prevention of fraud, technical standards for electronic payments, etc. (Mansell, R. & When, U., 1998).

## 2.7 BUSINESS INFORMATION NEEDS IN THE TRADE SECTOR

Any business entity, be it small or large require different types of information for the smooth operation of its activities in particular and for the survival of the business in general. Most studies shows that organizations are increasingly aware of the potential of information in providing competitive advantage (Kirk, J.,N.D; Widen-Wulft, G., N.D; Wilson, T., N.D; Correia, Z. & Wilson, T., N.D). As business organizations, especially those that are engaged in international trade operate in an environment where there are different factors excreting a profound effect on their performance, an up-to-date and relevant information becomes a necessity.

These external factors as pointed out by Glose et. al (1976) and Kirk, J. (N.D) could be social, economical, political, physical, legislative, and technological factors. In addition, the migration of population, increased education, changed values, increased leisure time, influence of labour unions etc. are among the social

factors; while inflation and international economic developments are some of the economic factors.

The business community, as a result, has its own information need (requirement) based on which important decisions and measures are taken. According to Wilson (N.D), business information needs arise from the organisation itself in terms of its goals and objectives. In addition to that, the different roles played by people in a given organization also give rise to personal information need.

A closer look at the literature on the information needs of business entities shows that business information needs are categorized under different groups based on the different categories and division of labour in a given business organizations and that the information need at different levels vary considerably (Clifton H. & Sutcliff, A. 1994; Wilson, T. 1987; Wilson, T., N.D; Widen-Wulff, G., N.D).

The categories (hierarchies) most common in the literature (Voich et al, 1975; Glos et al, 1976; Clifton H. & Sutcliff, A. 1994; Wilson, T., N.D; Widen-Wulff, G., N.D) are

- Top or Institutional management
- Administrative management
- Operating management (technical management)

As a result, based on the above category, the nature of information needed by business organizations is categorized as

- *Strategic information*: this is related to long term planning policies and is therefore of most interest to top management. The types of information needed at this level are information such as population size, government policies, international environment, and level of competition, market share, per capita income of the population, level of demand etc.
- *Tactical information*: Middle managers need information on the operation of each department. They need information about the performances of each department such as sales, financial information etc.
- *Operational information*: at this level the information need is directly related with the current activity that takes place. For instance, information about the availability of raw material or stocks, sources of supply, progress made at each production level, quality of products etc.

However, Wilson (1987) argued that the above categorizations are much fuzzier in real world than in theory where it becomes evident that different individual pursuing different kinds of tasks within functional divisions overlap quite significantly in their needs for information. He further argued that one couldn't say people that are involved in specific kind of activity need such kind of information. Rather, it is found out that people in all kind of roles needed all kinds of information.

In addition to this, most studies in information needs of business entities focus on the importance of external information and the demand for it (Glos, et al, 1976; Reid, C.,1986; Voich et. al. 1975) by ignoring the importance of internal information. Wilson (1987) showed that internal information such as company general accounts, stock levels in the company, delivery performances, company targets and new product information are found to be relevant to the business organisation. Wieden-Wulf (N.D) further argued that internal factors such as the information culture, the attitudes and the traditions of the company, affected business behaviour more than the external factor.

However, business organizations that are involved in international trade (import/export) are much more concerned with external information or with intelligence or information that can be put to strategic use (Wilson, T.,N.D; Correia, Z. & Wilson, T., N.D). This is mainly because most of the intelligence that an organization needs will be drawn from outside the organization, since it relates to the competitive environment in which it finds itself.

As a result, the most important information needs for such business organizations is information on markets and market trends, on competitors (their actions, decisions, strategies, plans, weak and strong points), on economic trends, statistics and forecasts, on patent rights, on suppliers, on global issues (regarding social, cultural, demographic, and political trends), and the like (Reid, C., 1986; Wilson, T., 1987; Wilson, T, N.D, Correia, Z. & Wilson, T, N.D).

However, information both from internal and external sources is required to sustain a business organization in international trade. Unless the internal information is processed and managed effectively and there is a well-established information culture in a business organization, external information alone will not bring a profound effect.

There is no attempt made however, whether the business organizations themselves favour internal or external information and which sources they consider very crucial to them.

## CHAPTER THREE

### *ETHIOPIA AND THE GLOBAL ECONOMY*

#### 3.1 OVERVIEW OF THE ECONOMY

The Ethiopian Economy is dominantly an agrarian economy where the agricultural sector accounts for about 50 percent of the Gross Domestic Product (GDP), about 65 percent of total exports and 85 percent of employment (Addis Ababa Chamber of Commerce, 2000).

The industrial sector in general accounts for about 12 percent of GDP of which the share of the manufacturing sector is about 4 percent of GDP. The manufacturing sector supplies important consumer goods both to the domestic and international markets. The main manufactured products are textiles, foodstuffs, tobacco, beverages, cement, leather and leather products, wood, plastic, paper, etc (Addis Ababa Chamber of Commerce, 2000).

The rest 40 percent is contributed by the service sector that comprises of banking, insurance, education, health, trade, transport and communications and the like. The share of the service sector in total GDP showed an increase in recent years. It

registers a growth rate of 7 percent in 1997 and, 10 percent in 1998 (MEDaC, 2000).

### **3.1.1 The foreign trade sector**

The foreign trade sector includes the export and import sectors of the country.

#### **Export**

The export sector depends highly on the agricultural sector, as the major exports of the country are primary commodities in the form of raw or semi-processed form. The major export items are coffee, hides and skins, oilseeds and pulses. Table 3.1 shows the volume and value of the major exports of the country during the period 1993-1999.

The country's single most important export item is coffee. The country depends on the export of coffee for foreign exchange earnings. As indicated in table 3.1, coffee has the lions share in total exports accounting 58 percent of the total export on average from 1993 up to 1999. The volume of coffee exported to other countries increases from time to time. Table 3.1 shows that during the period 1993-1999 the volume of coffee exported increases from 63.4 thousand metric tons to 101.2 thousand metric tons.

**Table 3.1** Export by major commodity (Value in millions of USD, Volume, in thousands metric tons)

Commodity	1993	1994	1995	1996	1997	1998	1999
<b>Coffee</b>	125.8	124.4	287.8	355.0	420.0	281.2	308.0
Volume	63.4	73.0	82.2	97.6	123.2	120.0	101.2
Price	2.0	1.7	3.5	2.8	2.9	3.5	2.8
<b>Pulses</b>	0.9	4.8	16.5	12.2	11.9	15.4	13.8
Volume	1.5	9.8	26.1	29.0	30.5	30.9	29.8
Price	0.6	0.5	0.6	0.4	0.4	0.5	0.5
<b>Oilseeds</b>	0.3	7.7	8.0	6.6	11.4	45.7	36.1
Volume	0.4	10.4	11.9	7.8	14.1	66.6	51.4
Price	0.7	0.7	0.7	0.8	0.8	0.7	0.7
<b>Leather and leather products</b>	31.5	35.3	59.8	50.8	57.3	50.5	32.4
Volume	5.6	-	9.9	7.5	8.6	7.9	5.8
Price	5.7	-	6.1	6.7	6.6	6.4	5.6
<b>Others</b>	63.7	73.7	81.5	70	163.1	70.9	121
<b>Total</b>	222.3	245.9	453.6	412.5	598.7	602.1	484.2

Source: National Bank of Ethiopia. 2000

## Import

The major import items of the country are raw materials, semi-finished goods, fuel, capital goods and consumer goods. Table 3.2 shows the value of major imports during the period 1993-1999.

Table 3.2 Major import items (in millions of USD)

Imports	1993	1994	1995	1996	1997	1998	1999
Raw materials	20.6	14.9	20.9	28.4	26.7	27.8	24.3
Semi-finished goods	94.9	129.3	182.8	199.7	189.7	219.5	248.5
Fuel	198.0	222.3	168.9	147.9	68.8	331.5	158.0
Capital goods	382.0	238.6	333.7	410.7	508.2	404.1	599.7
Consumer goods	334.7	291.3	340.0	385.9	269.9	267.4	406.5
Miscellaneous	21.7	18.2	16.7	22.8	12.6	3.9	25.3
<b>Total</b>	<b>1,051.8</b>	<b>914.6</b>	<b>1,063.0</b>	<b>1,195.5</b>	<b>1,075.9</b>	<b>1,254.2</b>	<b>1,462.3</b>

Source: National Bank of Ethiopia, 2000

### 3.1.2 Foreign investment

According to data from the Ethiopian Investment Authority (2000), there are a total of one hundred and seventy eight Foreign Direct Investment projects with an investment capital of 10,381.43 Million Birr during the period 1992-1999. Of this investment ninety-three of the projects are totally owned by foreigners while eighty-five of them are joint ventures with domestic investors. The secondary sector, (manufacturing sector) received more investment projects (86) followed by the tertiary sector (72) and the primary sector (20).

From the total FDI projects approved, only 33 of the projects started operation with a total capital of 3,361.47 million Birr. Again, most projects belong to the

secondary sector (22) while the tertiary and the primary sector received only 8 and 3 projects respectively.

In general, the FDI trend shows that the manufacturing sector is attracting enormous foreign capital followed by the service sector. However, when looking at the composition of investment projects in the secondary sector, it shows that the foreign investment projects concentrate in the major imports of the country like pharmaceutical products, chemical products, metal products including machinery and equipment etc.

### 3.2 LEVEL OF INTEGRATION IN WORLD MARKET

International trade and foreign direct investment are the two symptoms of the information age and determine the level of integration of a country in the global economy. (Mansell, R. & When. U., 1998, Cameron, G.,1995). When countries participate in international trade and open their economies to foreign investors, they will have access to the technological knowledge of the rest of the world through the exchange of information. Hence, a country that receives higher foreign direct investment and engages in international trade is said to be integrated in the global economy.

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In this section the position of Ethiopia in terms of global participation will be assessed. In order to determine the level of integration of the country in the global economy some indicators such as the ratio of trade in GDP, the share of manufactured products and services in export and the share of foreign direct investment in GDP will be used. Tables 3.3 and 3.4 show the share of trade and Foreign Direct Investment (FDI) in total Gross Domestic Product (GDP), respectively.

**Table 3.3** Share of trade in GDP

	1996	1997	1998	1999
<b>Trade</b> (import, export) (in millions of USD)	1608.0	1674.6	1856.3	1946.5
<b>GDP*</b> (in millions of USD)	2213.9	2263.6	2126	2070.4
<b>Trade/GDP ratio</b>	0.73	0.74	0.87	0.94

Source: National Bank of Ethiopia, 2000

**Table 3.4** FDI inflow in Ethiopia (Billions of US Dollars)

	1995	1996	1997
<b>FDI inflow</b> (in Billion US dollar)	8.0	5.0	15.0
<b>GDP*</b> (in millions of USD)	2022.8	2213.9	2263.6
<b>FDI share</b>	4.0	2.3	6.6

Source: UNCTAD Investment Report. Trends and Determinants, 1998 and MEDaC, 2000

\* For the purpose of this analysis the GDP figures are converted to US dollars through the official exchange rate of the Birr to US dollar.

As indicated in table 3.3 trade to GDP ratio is showing an increase in recent years. This shows that the share of trade to the overall GDP is increasing and the country's participation in international trade is improving.

Table 3.4 shows that the share of FDI fall from 4 percent in 1995 2.3 percent in 1996 and again increase to 6.6 percent in 1997. This shows that the country is receiving more foreign investment in recent years.

The type of foreign direct investment the country receives includes agriculture, manufacturing, construction, education and health, and others. Among these the largest amount is received in the manufacturing sector. Table 3.5 summarises foreign investment inflows in the country by sector.

**Table 3.5 Foreign Direct Investment Projects in Ethiopia (1992-1999)**

Sector	No. of Projects	Amount of Investment capital (Million Birr)
Agriculture	20	2,302.15
Manufacturing	86	3,313.71
Construction	21	909.06
Education and health	23	624.88
Others	28	3,230.63
<b>Total</b>	<b>178</b>	<b>10,380.43</b>

Source: Ethiopian Investment Authority, 1999

When the share of manufactured goods in total exports is examined, data on export of manufactured items cannot be found. The major reason is that Ethiopia does not export manufactured items in great proportion. As indicated above Ethiopia's exports are mainly composed of agricultural products and the export of manufactured items is insignificant.

As discussed above, the indicators used to determine whether Ethiopia is integrated in the world market or not, show that the level of integration in terms of these indicators is poor. Although the share of trade in total GDP is significant, the composition of the country's export items reveals that manufactured items do not have a significant share in the country's export and hence there is little chance of penetrating the global market. The share of FDI in total GDP is also insignificant, thereby, indicate that the possibility of technological transfer and information flow that is to be achieved through foreign investment is very small. This shows that the possibility of penetrating the international market is very low and hence the country is among those loosely integrated countries. This poor performance of the country in the global economy has sound implications for policy formulation in the country if better participation in the global economy is needed.

### 3.3 ICTS IN ETHIOPIA

The ICT sector is a collection of industries and service activities– internet service provision, telecommunications equipment and services, information technology (IT) equipment and services, media and broadcasting, libraries and documentation centres, commercial information providers, network based information services and other related information and communication activities (ECA, 1999).

Table 3.6 is extracted from the World Bank, World Development Report 2000, to show the status of ICTs in Ethiopia and some African countries.

**Table 3.6** ICTs in selected countries

Per 1000 people

Country	Daily newspaper 1996	Radios 1996	Television sets 1997	Telephone main lines 1997	Mobile Telephone 1997	Personal computers 1997	Internet hosts(per 10,000 people) 1999	High technology exports % of mfg exports 1997
Ethiopia	2	194	5	3	0	...	0.01	0
Kenya	9	108	19	8	0	2.3	0.23	11
Senegal	5	141	41	13	1	11.4	0.21	55
Morocco	26	241	160	50	3	2.5	0.20	27
Egypt	38	316	127	56	0	7.3	0.31	7

Source: World Bank, World development Report, 1999/2000 p. 266

As indicated in table 3.6, the current state of ICTs infrastructure in Ethiopia is still among the very poor. There are only 194 radios, 5 television sets, 2 daily newspaper and three telephone main lines for 1000 people. It is clear that broadcasting provides a basic information infrastructure in the country. Access to radio is by far greater than access to newspapers, telephones and televisions.

Regarding Internet connectivity, the Ethiopian Telecommunications Corporation (ETC) runs Ethiopia's Internet service on a monopoly basis. There are still no plans to allow private ISP (Internet Service Provider) in the country. Rather, the government is working jointly with UNDP to expand the Internet Infrastructure in the country (ECA, 1999).

In this regard, ETC has recently purchased 128 additional modems to the existing 96, to improve its services and has a plan to maximise the number of customers from about 2,4000 to 3,000 around the country by adding more satellite stations (ECA, 1999).

The monopolisation of the telecommunication sector is responsible for the inefficiencies observed so far. For instance, the distribution of Internet service is limited only to cities and it could not satisfy the demand for the service. Moreover the high cost of the service is prohibiting potential customers from using it.

If the telecommunication sector is liberalised and private sector participation is allowed, there will be a huge reduction of price due to competition and the service will be distributed to a wider place than now.

In general, ICTs are still poor in Ethiopia and there is a lot to be done in this sector. The government is giving emphasis to the development of a national Information and communication infrastructure (NICI). The objective of the NICI

plan is to reflect overall development priorities, redefine sectoral policies and support the introduction of a new regulatory framework so as to improve the efficiency and to mobilise resources, for building national information and communication infrastructure(ECA, 1999).

## CHAPTER FOUR

### *ANALYSIS OF THE UTILIZATION OF MODERN ICTs BY BUSSINESS FIRMS*

For the purpose of analysing the utilization of information and communication technologies (ICTs) by the trade sector, those firms that are engaged in international trade i.e. the import and export of goods and services are considered. As these firms are engaged in international trade, they interact with foreign organizations and business partners and which make them susceptible to the outside world than other firms.

A total of two hundred firms are selected for the purpose of analysis as indicated in the methodology section before. The sampling technique employed to select these business firms is purposive sampling where those firms that are engaged in areas considered much more relevant to the study are considered. In case of exporters, those firms that are engaged in the export of the major export items of the country such as coffee, oilseeds, pulses and leather products are considered.

The rationale behind this selection criteria is simple and straightforward. As shown in chapter three, Ethiopia participates in the international market through the export of primary commodities in which the country has comparative advantage

relative to other countries. As a result it is believed that, it is reasonable to consider such areas with respect to their utilisation of ICTs. Moreover, these firms have been in the business for so long and they can easily detect any change that is occurring in the new global economy and the effects of introducing ICTs in their business activities.

According to the Addis Ababa Business Directory (2000), published and distributed by the Addis Ababa Chamber of Commerce, there are three hundred exporters that are engaged in the export of the major items (i.e. coffee, oilseeds, pulses, leather and leather products). Of these firms, one third of the total i.e. one hundred exporters are selected randomly.

In the case of the importers, those firms that are engaged in the import of modern information and communication technologies are selected. Although the country's major imports are mainly composed of manufactured goods, pharmaceuticals and other raw materials, such firms are found to be relevant in the sense that their exposure to modern ICTs would initiate them or make them appreciate the importance of ICTs for their business activities.

In this category, those firms that import telecommunication equipment, electronic products, radio, T.V and the like, computer accessories, and Audio/Video, diskettes, films, CDs are included. There are a total of three hundred twenty firms

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in these categories where one third of them i.e. one hundred are considered in the sample (Addis Ababa Chamber of Commerce, 2000).

For the purpose of collecting the information, a five-page questionnaire is prepared and distributed to the selected organizations. Of the two hundred questionnaires that are distributed, forty-seven of them are returned. The other one hundred and fifty three are not returned due to different reasons.

There are different factors that contribute to the low level of returned questionnaire. It was difficult to persuade the respondents to cooperate because most of them were not willing to give any information about their business activities. They were suspicious of the 'real' objective of the questionnaire and the consequences that follow. In other words, they has a fear that the information they provide might be used by somebody against them or to outsmart them in their business deals.

The other constraint faced during the fieldwork was total unwillingness of the individuals. Some of the respondents do not understand the importance of the importance of a research work and the contribution they make to the research by providing responses. Hence, they were totally not willing to give any response because they felt it was juts a waste of time. Some of them give the reason that they do not have time to fill the questionnaire.

The unavailability of the right person to provide information coupled with the very limited time allotted to the fieldwork were also major hindrances. Another minor difficulty encountered in the process was the unwillingness of the respondents to provide answers to open ended questions. Most of them like to give responses for questions that have options to choose.

Although the returned questionnaires are much less than expected, it is believed that the available information can be used as a representative of the sample. This is mainly because most of the firms are doing businesses in almost the same manner and the utilisation of modern ICTs is a very recent phenomenon in the country. Due to this, the researcher believes that the conclusion that will be arrived based on the available information would not be that much diverted from the reality.

Based on the returned questionnaire, the following analysis and result is presented. An attempt is made to divide the analysis into different parts based on some points. The major points of discussion are:

- Type of ICTs widely used by businesses
- Information needs
- Business links
- Application of personal computers
- Access to Internet
- E-commerce

- Advantage of utilizing ICTs
- Cost
- Manpower

#### 4.1 BRIEF ANALYSIS OF THE MAJOR POINTS

##### *Information needs*

An attempt was made to identify what type of information is required by the business firms. It is found out that all the respondents acknowledge the importance of information to their business activities. An investigation as to the information needs of such business organisations reveals that most of them need information regarding the current market trend such as the price of a given item, the demand for it, the availability of a product (the supply level) in the international market.

They also indicated that they need information regarding who are the major players in their fields or information about their competitors and how they are performing in the international market. In addition to this they also indicate that they need information regarding the rules and procedures of payments, shipment conditions and insurance of a given country in international transactions.

attempt is made to show the trend in Ethiopia. According to the responses available, there is a shift from ‘conventional’ means of communication to modern ones. As indicated in table 4.1, most business firms (almost all of them) utilise telephone and fax machine in their day-to-day activities.

**Table 4.1 ICTs widely used**

<b>ICTs</b>	<b>No. of respondents</b>	<b>Percentage</b>
Telephone	47	100
Fax machine	44	93
Personal Computer	30	64
Type writer	17	36
Others (telex, router, etc)	7	15

The number of businesses that utilise personal computers in their business activities is found to be encouraging i.e. among the total of 47 business firms, 64 percent (30) of them use personal computers. Thirty six percent (17) of them use traditional tools such as type machine for data processing and information keeping. In addition, some business firms use other technologies like telex, router etc. in line with telephone, fax machine and personal computers.

### *Business links*

Business enterprises engaged in international trade do interact with similar business enterprises to make transaction of any kind. The business interaction can be at regional, continental and international level depending on the type and demand of the business.

The importance of information and communication tools becomes very essential at this point. In order to maintain a closer contact with overseas firms, local business firms need to have access to modern, efficient and cost effective means of communication tools.

**Table 4.2 Trade partners by region**

<b>Region</b>	<b>No. of respondents</b>	<b>Percentage</b>
Africa	7	16
Asia	10	23
Europe	19	43
U.S.A	8	18
L.America	-	-

As summarised in table 4.2 all of the business firms have contacts with overseas firms. Of the total business firms, only six percent (3) of them have branches outside the country while ninety four percent (44) of them have partners outside the country. Of those firms that have partners outside of Ethiopia, most of them

have partners found in Europe and U.S.A, sixty one percent (27), while 16 percent (7) of them are in Africa and twenty three percent (10) in Asia. This shows that business firms in Ethiopia are making closes contact with outside firms both in Africa and other continents.

**Table 4.3 Major communication means**

<b>Communication means</b>	<b>No. of respondents</b>	<b>Percentage</b>
Telephone	-	-
Mail	-	-
Fax	31	66
E-mail	16	34

Regarding the communication means employed by such firms to make contact with their partners/branches, most of them communicate as a major communication means through fax (sixty six percent) while the rest thirty four percent (16) communicate via E-mail mainly to make business dealings such as order, price negotiation, shipment condition etc.

As table 4.3 shows, telephone and postal services are not the major means of communication. The reason behind this trend might be the high cost associated with long distance telephone calls and the longer time involved in postal services.

*Application of personal computers*

Modern ICTs such as PCs provide a vast amount of facilities to business firms. However, in many cases these technologies are under-utilised in many organisations in the town. In most places, it is customary to see PCs employed as a substitute of a typewriter. The finding of the survey indicates the same fact.

**Table 4.4 Application of personal computers**

<b>Application</b>	<b>No. of respondents</b>	<b>Percentage</b>
Word processing	17	57
Data manipulation	11	37
Internet browsing	13	43
E-mail	13	43
Electronic Data Interchange	-	-
E-commerce	-	-

From those organizations (30) that use personal computers in their businesses, about half of them (fifty seven percent) use it only for secretarial works such as writing documents, letters and so on while forty three percent (13) of them said they use it for browsing the Internet, e-mail service. Thirty seven percent (11) of them said they use it for data manipulation besides the major application of word processing.

It is also reported found out that none of the respondents use their computer for E-commerce and communication and data transfer. This could be due to lack of awareness as to the application of the technology in their fields or lack of skilled manpower to effectively utilise the services provided.

#### *Access to Internet*

Access to Internet has become a very important aspect of the business community in general. The Internet provides a huge amount of information sources and a very new way of doing business electronically. Moreover, it provides access to many consumers around the globe to the products of a given firm thereby expanding the market horizon for firms.

Although, Internet is a recent phenomenon in Ethiopia, an attempt is made to see the awareness of business firms of the advantage of using such service. Hence as table 4.4 shows, of the total firms considered only 28 percent (13) of the organizations have access to Internet. And most of them started using the service before one year.

**Table 4.5 Reasons for not utilising Internet service**

<b>Reasons</b>	<b>No. of respondents</b>	<b>Percentage</b>
Cost	23	68
Applicability	7	20
Lack of infrastructure	4	12

Of those organizations that do not have access to the Internet, seventy six percent (26) of them said they have a plan to start using the service, while the remaining eight (twenty four percent) said they do not have a plan.

Among the reasons mentioned by the business firms for not utilising the service, the high cost associated with the service (the service charge) is the major one (sixty eight percent). Twenty percent (7) of them said they requested telecommunication for a line but couldn't get one due to the lack of new lines. Four of the respondents (twelve percent) said they do not yet understand the importance of the service in relation to their business.

In general, there is a very poor access to Internet service by business firms mainly due to costs and lack of sufficient infrastructure in the country. There is also lack of awareness by the business firms. Hence, this calls for instant measures to be taken by the responsible bodies.

### *E-commerce*

Electronic commerce is regarded as a pre-requisite to conduct businesses in the knowledge societies of the future in many developed countries. Currently, there are businesses that do their businesses over the Internet like Amazon.com. It is

business counterparts and to get information regarding the activities taking place around the world.

Although all of the respondents do not have personal computers and access to the Internet, they somehow use other communication technologies such as telephone, fax, telex etc as their major means of communication.

However, the investment most businesses allotted to the acquisition of modern ICTs seems very small. Of the total respondents considered, eighty seven percent (41) of them said the investment they made on ICT from the overall investment they make (i.e. the investment they allotted to acquire capital for conducting their business) is less than 25 percent. Nine percent (4) of them said it is 25 percent while the rest two (four percent) said they make nearly 50 percent investments.

Table 4.6 Investment in ICTs

Share of investment	No. of respondents	Percentage
50 percent	2	4
25 percent	41	87
Less than 25 percent	4	9
None	-	-

When responding to the benefits they gained by utilizing modern ICTs, the following are mentioned:

- fast and reliable way of doing business
- doing business twenty four hours
- new business opportunity
- more access to foreign markets
- Access to important information sources such as Almanacs, Encyclopaedia

All of those businesses that use modern ICTs agreed to the fact that their usage of the technology contributes to the profitability of their business.

Regarding the benefit of ICTs in providing services that are not available domestically, the business organizations indicated that they gain some advantages such as

- support on the products they sell,
- recommendation and marketing strategies to promote the products,
- latest information on world market,
- addresses of new (potential) partners,
- global information sharing,
- UseNet which offer access to news groups for group discussions

*Cost*

One advantage of employing modern ICTs is a fast and reliable communication at a very minimum cost. In many instances, ICTs are praised due to this significant cost reduction and the opportunities they provide to business firms by reducing costs of production.

Sixty two percent (8) of the respondents said communication is fairly cheap through modern ICTs (E-mail) when compared with other communication means such as telephone, fax, telex, and others. The rest five said it is cheap. A long distance call costs much more than the cost they paid for E-mail and hence it is unattractive for making frequent communications.

However, as mentioned before, the major constraint mentioned for using the Internet by most firms for not using the Internet is the unattractive cost associated with the service. This is due to the absence of many Information Service Providers (ISPs) in the country. When many ISPs exist in the market, the price will become lower and lower due to the competition among the firms.

### *Manpower*

The availability of skilled manpower is essential to fully benefit from modern ICTs. Unlike previous times, the information economy requires the participation of a skilled human capital in the business sector.

Regarding the question whether the firms have the necessary manpower to utilise modern information and communication technology (especially in cases of Internet, E-mail etc), most of them (eighty five percent) said they do not have a problem with manpower. They hired at least one person with adequate skills in computers. The rest said they have a manpower problem. This group said although they have the necessary technology at hand they couldn't use it effectively.

One reason for the absence of skilled labour in such areas might be due to the low level of skilled labour in the country. Moreover, the lack of awareness by firms that they need professionals to do their jobs in the current economic order is also one factor.

In general, the finding of the survey shows that although ICTs are highly crucial in international trade, the technology is not widely used by business firms. Most business enterprises use the conventional means of communications widely. Even

those who have the equipment at their hands do not properly utilise it. In most cases, the technology especially computer is under-utilised and is becoming a substitute for typewriter.

The main reason for not utilising modern ICTs by the side of some business organisations is the high cost associated with the acquisition of such technologies and the unavailability of new Internet connection lines. The absence of skilled human resource is also one major bottleneck.

However, those organisations that use ICTs to make transactions internationally believe that they get a lot of advantage such as fast communication, market information, more access to foreign markets and the like.

## CHAPTER FIVE

### *CONCLUSION AND RECOMMENDATIONS*

#### *5.1 CONCLUSION*

Advanced information and communication technologies are bringing a new economic order where the whole world is interconnected and start to function as one global factory. This new set of world interaction economically, politically and culturally is known as globalisation.

The term globalisation is an elusive concept and has given different meaning by different people. However, all the definitions or meanings suggested by different people describe the process as one that interconnects (integrate) the whole world socially, culturally, economically or politically. The main characteristic of globalisation is that it brings the world together by eliminating the physical, cultural and political boundaries.

The globalisation process is highly interrelated with the emergence of the information economy where information is becoming power. In the new globalised world there is a free flow of information besides that of capital and labour, among countries. Hence, it is believed that the globalisation process

highly facilitates or contributes a lot to the emergence of the information economy.

There are, however, two major opinions about the globalisation process. Many people view the process as a disruptive force where the rich countries promote to control the economies of the developing countries. This group of people argue that the process in no way benefits the poor countries, rather it contributes to their marginalisation. The second group, however, views it as a positive phenomenon where it brings new opportunities for developing countries through the creation of a global marketplace.

In the current globalised world, production and consumption become worldwide and there is global competition. In addition, international trade and foreign direct investment (FDI) are growing at a faster rate than ever before. Another feature of the global economy is the increased importance of information goods and services in international trade. Those goods that were considered non-tradables before are becoming the major trading items due to the advancement in information and communication technologies.

Developing countries, however, face challenges in fitting themselves in such a revolution. One major constraint that hinders their participation in the global economy is lack of infrastructure in modern ICTs. Lack of unskilled labour force also contributes to the gap that is created among the rich and poor countries.

export and the share of trade in total GDP. Although the share of trade in GDP is significant, the two indicators show that Ethiopia performs less in the global economy.

Regarding the situation of modern ICTs in the country, again Ethiopia is placed with those countries that have poor access to such technologies. Therefore, one can say that the Ethiopian Economy is still agrarian and it is not integrated in today's global information economy.

From the micro side, the survey conducted on business firms on the utilisation of modern ICTs, reveals that most of the firms do not yet utilise modern ICTs effectively. The opportunities provided by modern ICTs to such businesses participating in international trade is enormous.

However, many of the firms do not yet become in a position to utilise it effectively. The reasons mentioned by such businesses are the high cost associated with the services, the unavailability of access to such services, and lack of awareness by the firms on the potential use of ICTs.

## **5.2 RECOMMENDATIONS**

Based upon the findings of the survey and the analysis of the Ethiopian economy vis-à-vis the global economy, the following recommendations are made to get a full benefit from the utilization of modern ICTs.

The findings of the study indicated that the Ethiopian economy is poorly integrated in the global economy based upon some indicators such as trade to GDP ratio, share of manufactured items in total exports, and level of FDI in the country.

Since the process of globalisation and the information revolution are the order of the day, Ethiopia cannot afford to stay detached from the two phenomena. Being part of the globalisation process is not a matter of choice; it is rather a matter of survival. As a result, Ethiopia should take the advantage offered by globalisation and the information economy by working with it rather than working against it.

Specifically, there are opportunities for Ethiopia to make use of the potential offered by ICTs to support the country's development goal especially in the trade/business sector.

The Ethiopian economy is dominated by the agricultural sector and the export sector is also dominated by the export of primary goods. Hence ICTs can contribute a lot by facilitating the export of such goods for better market access. In

other words ICTs should be used to strengthen the export of the agricultural products of the country. This means ICTs can improve the country's foreign exchange earnings from foreign trade by strengthening the trade sector. As a result, different measures should be taken both at macro and micro level.

At the macro level:

- The government should focus on ICTs and their application in facilitating the export of the countries major export items
- The government should also give emphasis to the service and trade sector like the attention given to the agricultural sector as these sectors are the engines of today's current international trade
- Foreign investment in ICTs is non-existent in the country; hence the government should encourage and try to attract investment in such areas as this will facilitate technological transfer
- The government should focus on ICTs and should find ways to link the sector with the development goals of the country or how ICTs assist the country's development goal
- Currently it is not feasible to involve in the production of modern ICTs for the export market in Ethiopia, as a result emphasis should be placed on the use of ICTs effectively
- A close cooperation between the government and the business firms is essential

- Access to modern ICTs should be improved so that business firms participate in the global market place
- The business sector should be made aware of the importance of E-commerce
- The Chamber of Commerce should play a great role in introducing and demonstrating the application of E-commerce in trade
- The Chamber of Commerce should build a network with other Chamber of Commences in other countries to share experiences
- Appropriate policy formulation to coordinate these activities becomes essential.

From the micro side:

- Business firms should move towards using ICT in their transactions such as E-commerce (like selling their goods via the Internet)
- They should share ideas and experiences on how to make business over the internet among themselves

## BIBLIOGRAPHY

- Asfaw Kumsa (1998). Globalisation and Regionalisation: Implications for Developing Countries'. *Regional Development Dialogue*. Vol. 19, No.2.
- Addis Ababa Chamber of Commerce (2000). Addis Ababa Business Directory, 200-2001 Edition. Addis Ababa.
- Avgerou, Chrisanthi (1998). How Can Information Technology Enable Developing Countries to Integrate into the Global Economy? London: School of Economics.
- Bailey, Kenneth (1978). *Methods of Social Research*. New York: The Free Press
- Braga, Carlos( 1995). The Impact of Internationalisation of Services on Developing Countries.  
<http://www.worldbank.org/landd/english/0396/articles/070396.htm>.
- Cameron, Gavin (1998). Economic Growth in the Information Age: From Physical Capital to Weightless Economy. *The Journal of International Affairs*, Vol. 51, No. 2, PP.447-72.
- Chatterjee, Srikanta (1999) *Unequal Partners: Globalisation In Retrospect And Prospect*. New Zealand.
- Clifton, H.D, Sutcliff. A.G (1994). *Business Information Systems*. New York: Prentice Hall International Ltd.

Cogburn, Derrick and Adeya Catherine (1999). Globalisation And The Information Economy: Challenges And Opportunities For Africa. Theme paper. Addis Ababa. E/ECA/ADF/99/8.

Correia, Zita & Wilson, T.D. (N.D). Scanning The Business Environment For Information: A Grounded Theory Approach.  
<http://www.shef.ac.uk/~is/publications/infres/paper21.html>

Deane, James (1999). Communication And Information Industry Trends. *International Seminar on ICPD advocacy in the global information and knowledge management age*. UNFPA. Technical report No. 47, New York: 1999.

Ethiopian Economic Association (1999). Economic Focus Vol.2, No.3, Addis Ababa.

Ethiopian Investment Authority (1999). Statistics on Investments in Ethiopia. No.2, Addis Ababa.

Glos, Raymond, Steade, Richard, Lowry, James. (1976). Business: It's Nature and Environment. Ohio: South-Western Publishing Co.

Hanna, Nagy (1991). The Information Technology Revolution And Economic Development. Washington D.C: The World Bank.

Haile Kibret (2000). Globalisation: Potential Challenges And Opportunities. *Economic Focus* Vol. 3, No. 1, pp.10-12.

Hallberg, Kristin and Bond, James (19). Revolutions In Technology For Development. <http://www.worldbank.org/html/fpd/technet/revol.htm>.

- Jemal Mohammed (2000). Globalisation And Economic Development: An Overview Of The Ethiopian Experience In The 90s. *Economic Focus* Vol. 3, No. 1, pp.6-9.
- Kirk, Joyce (N.D). Information in Organisations: Directions for Information Management. <http://www.shef.ac.uk/~is/publications/infres/paper57.html>
- Khor, Martin (2000). A Global Infrastructure For A More Equitable Distribution Of Wealth. *Access, Empowerment and Governance in the information Age*. Building Knowledge Societies Series. Vol. 1, pp.30-50. NITC Malaysia.
- Low, Patric; Olarrega, Marcelo; Suarez, Javier (1998). Does Globalisation Cause A Higher Concentration Of International Trade And Investment Flows? WTO, Staff working paper ERAD-98-08.
- Mansell, Robin and When, Uta (1998) Eds. Knowledge Societies: Information Technology For Sustainable Development. UNCSTD. Oxford University Press.
- OECD. (1997). Electronic Commerce: Opportunities And Challenges For Government. Paris: OECD.
- Oman, Charles (1994). Globalisation And Regionalisation: The Challenge For Developing Countries. OECD.
- Raychandhuri, Sumana (1999). Is Globalisation Bypassing Africa? *Africa Recovery*. UNDP, Vol. 13, No.2-3.
- OpokuMenash, Aida (1999). Democratising Access To The Information Society. Theme Paper. E/ECA/ADF/99/4.

- Reid, Christine (1986). Business Information Needs in Scotland. *ASLIB Proceedings* Vol. 38, No. 2, p.51-64.
- Solimano, Andres (1998). Globalisation And National Development At The End Of The 20th Century: Tensions And Challenges. The World Bank.
- UNCTAD (1998) UNCTAD Investment Report. Trends and Determinants.
- UNECA (1999). National Information and Communication Infrastructure, Country Profiles.
- UNFPA (1999). International Seminar On ICPD Advocacy In The Global Information And Knowledge Management Age. Technical report No. 47, New York.
- Voich, Dan, Mottice, Homer, and Shrode, William (1975). Information Systems for Operations and Management. Ohio: South-Western Publishing Co.
- Wilson, Tom (1987). Information for business: the business of information. *ASLIB Proceedings*, Vol. 39, No. 10. P.275-279.
- Wilson, Tom (1995). Modelling the Information User: the wider perspective. <http://www.shef.ac.uk/~is/lecturer/usemod.html>
- Wilson, Tom. (N.D). Information Seeking Behaviour: Designing Information Systems to meet Our Clients' Needs. <http://panizzi.shef.ac.uk/tom/tom-pubs/acuril.html>

Widen\_Wulff, Gunilla (N.D). Business Information Culture: a qualitative study of the information culture in the Finnish Insurance industry.  
<http://www.shef.ac.uk/~is/publications/infires/paper77.html>.

World Bank (2000). Entering The 21<sup>st</sup> Century; World Development Report 1999/2000. New York: Oxford University Press.

## ANNEX

### Questionnaire

This questionnaire is prepared as part of my Masters Thesis in Information Science at the Addis Ababa University under the title '*The Strategic use of ICTs by the trade sector in Ethiopia for improved integration in the global economy*'. My research focuses in investigating the utilization of modern information and communication technologies such as telephone, computers and so on by business enterprises in the country and the potential use of such technologies for the trade sector.

The term ICT refers to technologies such as telephone and computers (internet, E-mail, etc.).

Your cooperation in filling this questionnaire, by sacrificing your time and energy, is very important and highly appreciated.

#### **PART I      About the organization**

1. What type of business are you in?

Import of goods

Import of services

Export goods

Export services

Import/export goods

Import/export services

2. For how many years are you in this business? \_\_\_\_\_
3. How many employees do you have? \_\_\_\_\_
4. Do you have branches out side the country?
  - Yes                       No
5. If your answer is yes, where?
  - Africa                       Europe                       Latin America
  - Asia                               U.S.A
6. Do you have business partners outside Ethiopia?
  - Yes                       No
7. If your answer is yes, where?
  - Africa                       Europe                       Latin America
  - Asia                               U.S.A
8. What is the purpose of your communication?
 

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9. What kind of information do you want for your business activities?
 

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**PART II      Utilization of ICTs by the organization**

10. What kind of information and communication technology do you use?
  - Telephone               fax machine               Personal computers
  - Type Writer               Other, please specify \_\_\_\_\_
11. Do you have access to the Internet?
  - Yes                       No                       Have a plan

12. If yes, for how many years do you use the service? \_\_\_\_\_

13. If your answer is no, what is your reason?

- Cost                                       applicability to business  
 Infrastructure                               other ,please specify\_\_\_\_\_

14. Do you know about E-Commerce (Electronic Commerce)?

- Yes     No

15. What is the main application of the personal computers in your organization?

Word processing                               Internet browsing

Data manipulation                               E-mail

E-commerce                                       Communication and Data transfer

16. What percentage is the investment you make in ICT from the overall investment you make?

- 50 percent                                       25 percent  
 Less than 25 percent                               none

17. Do you think ICT is important for your Job?

- Very important                               moderately important  
 Less important                               Do not Know

18. If you think ICT is important for your job, in what sense is it important?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

19. If you invest in ICT, what do you think you gain by such investment?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

20. Do you think there is disadvantage in using ICT? Please mention.

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21. Do you think your usage of ICT contribute to the profitability of your business?

- Yes       No       Do not know

22. Do you think you get more access to foreign markets than you get before through the use of modern ICTs?

- Yes       No

23. Do you get access to services that are not available domestically through the use of ICT? If your answer is yes, mention some?

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24. If you have partners outside of Ethiopia, what is your major means of communication?

- Mail       Telephone       Fax       E-mail

24. Do you think communication is cheap through the modern ICTs?

- Cheap       Fair       the same with other technologies

25. Do you have the necessary manpower to utilize the ICTs you have effectively?.

- Yes       No

26. Mention the number of IT professionals in your organization\_\_\_\_\_

Thank you for your cooperation.

## DECLARATION

This thesis is my original work and has not been submitted for a degree in any other university.



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Zahra Dagnev

22 May, 2000

The thesis has been submitted for examination with my approval as university advisor.



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Dr. Taye Tadesse

22 May, 2000

