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**ELECTRONIC COMMERCE IN EGYPT**

by

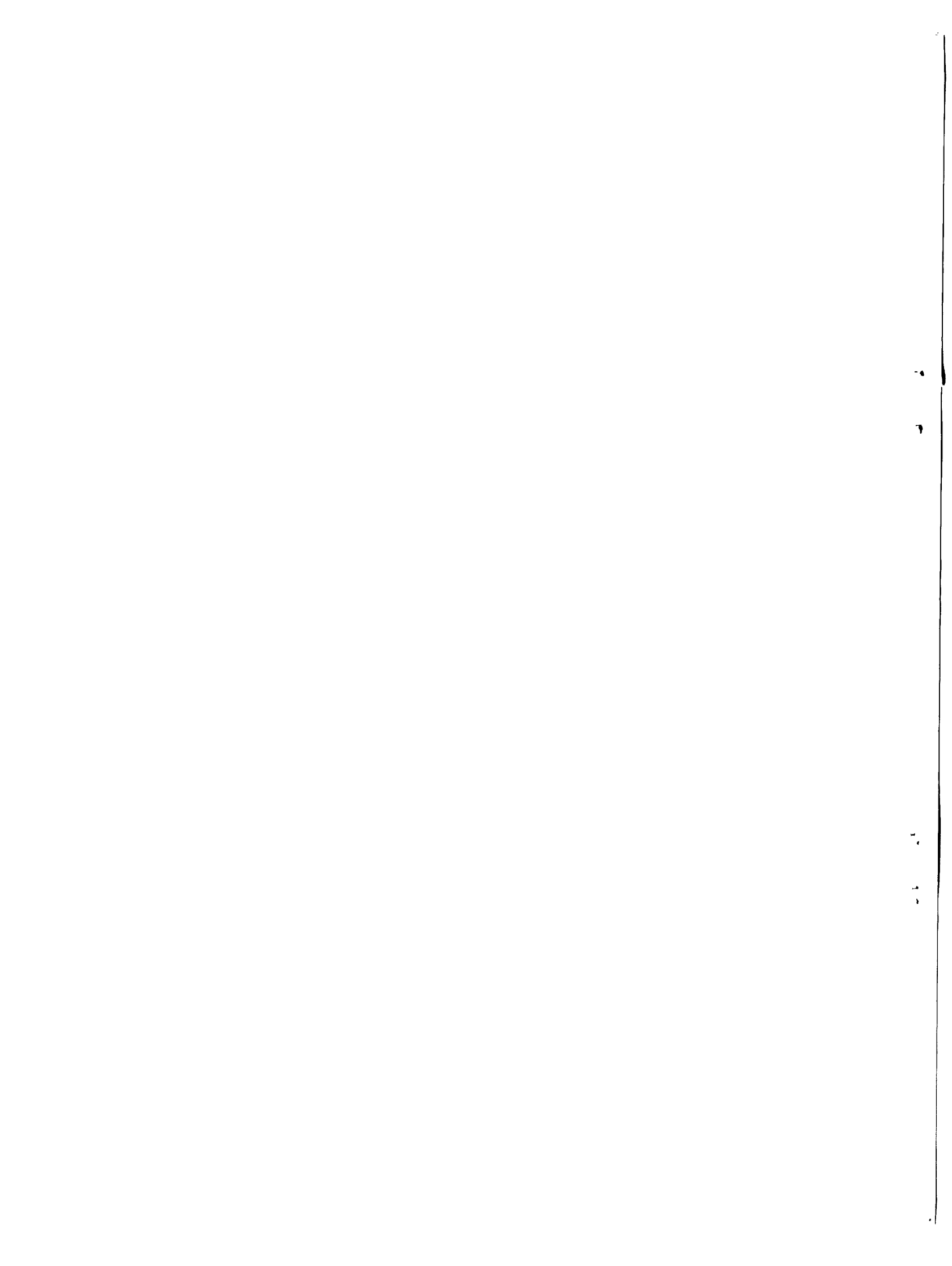
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**Preface**

Electronic commerce (e-commerce) is inevitable, representing 2% of business worldwide. E-commerce is currently growing dramatically around the world, and is projected to represent 1.3 trillion US dollars of business by the year 2002.<sup>1</sup>

Today, Egypt is already affected by e-commerce. Over 250,000 Internet users in Egypt are presently exposed to e-commerce; 60 private Internet service providers, as well as various government entities.<sup>2</sup> More specifically, these users download software, buy documents, books and computers, and are exposed to advertising on the Internet, which ultimately affects their purchase decisions.

As the Internet grows, E-commerce will also flourish. The questions that we need to ask ourselves is:

- ***Should Egypt continue to be in the reactive mode or should it be more proactive with regards to E-commerce?***
- ***How can Egypt set the appropriate compatible framework necessary for it to successfully adopt and benefit from the global e-commerce market?***

This document seeks to generate a debate which will hopefully lead to a more clear understanding of what needs to be done for Egypt to be more than ready for e-commerce. The Internet and e-commerce can be seen as a huge wave that is approaching us. This document will outline some steps that are necessary for Egypt to learn how to ride this wave, instead of being crushed underneath it.

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<sup>1</sup> Forrester Research, Inc., 1997.

<sup>2</sup> Kamel, Tarek. Internet Commercialization in Egypt: A Model from Africa. Note. Internet services have been available in Egypt since October 1993.

## I. National Background

### Introduction

Egypt is located in Northeast Africa on the coast of the Mediterranean Sea. Libya borders it on the west, on the south by Sudan, and on the east by the Red Sea and Israel. The country with an area of 1,001,450 sq. km is divided into two by the north flowing Nile River. The capital of Egypt is Cairo, which is also the largest city. Egypt is divided into 26 governorates<sup>3</sup> for the purpose of administration. The geographical regions as set in the urban plan for administration are as follows:

Egypt controls the Sinai Peninsula, which is the only land bridge between Africa and the Eastern Hemisphere. It also controls the Suez Canal, which is the shortest sea link between the Indian Ocean and the Mediterranean Sea, and its size and position bordering Israel, lend it an important role in Middle Eastern geopolitics.

### Demography

As of July 1999, the estimated population of Egypt was 67.2 million<sup>4</sup>. According to different sources the estimated population growth rate for the period between 1995-2000 is around 1.85% per annum.

The Nile Valley and the Delta are the most densely populated parts of Egypt. The inhabited area constitutes 6% of the total area of the country. Cairo had an estimated population of 9,900,000 in 1996 and continues to grow rapidly. Other large cities in Egypt are Alexandria, Giza, Shubra el Kebma, and El Mahalla el Kubra. According to the Egyptian State Information Service, one of the fundamental goals of the country is to redistribute the population and to make full use of the so far unexploited areas and natural resources available. Great attention is presently directed to the new cities with special emphasis given to the master development plan of Sinai, an area with huge economic and strategic potential<sup>5</sup>.

According to UNDP reports, the percentage of population living in urban areas in 1998 was 45.3% and this was predicted to be 53.5% by the year 2015. UNDP reports for 1998 also show a high dependency ratio 68.5%, which is expected to fall to 47.3% in 2015<sup>6</sup>. This can largely be attributed to the number of working women over the age of 15. This figure was only 15.3% in 1996<sup>7</sup>.

The major ethnic groups in Egypt are the Eastern Hamitic stock (Egyptians, Bedouins, and Berbers) who form 99% of the population. The remaining 1% of the population is made up of people of Greek, Nubian, Armenian, and other European (primarily French and Italian) origin. While the majority of the Egyptians are Sunni Muslims practicing Islam, there is a minor faction that practices Coptic Christianity. Arabic is the official

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<sup>3</sup> These are: Ad Daqahliyah, Al Bahr al Ahmar, Al Buhayrah, Al Fayyum, Al Gharbiyah, Al Iskandariyah (Alexandria), Al Isma'iliyah, Al Jizah, Al Minufiyah, Al Minya, Al Qahirah (Cairo), Al Qalyubiyah, Al Wadi al Jadid, Ash Sharqiyah, As Suways, Aswan, Asyut, Bani Suwayf, Bur Sa'id, Dumyat, Janub Sina', Kafr ash Shaykh, Matruh, Qina, Shamal Sina', Suhaj

<sup>4</sup> Central Intelligence Agency. The World Factbook 1999. Internet. Available at: <http://www.odci.gov/cia/publications/factbook/eg.html>

<sup>5</sup> Egypt State Information Service. Internet. Available at: <http://www.us.sis.gov.eg/egyptinf/overview/html/ovwfrm.htm>

<sup>6</sup> UNDP. Human Development Report 2000. Internet. Available at: <http://www.undp.org/hdr2000/english/book/back2.pdf>

<sup>7</sup> UNDP. National HDR. Internet. Available at: [http://www.undp.org.eg/EN\\_Home.htm](http://www.undp.org.eg/EN_Home.htm)

language, although both English and French are widely used in the country. The Egyptian currency, which is called the Egyptian pound, is commonly denoted by LE<sup>8</sup>.

### Politics

Egypt gained independence in 1922 and the remnants of British control over the country came to an end following the Second World War. In 1954 Gamal Abdel Nasser, leader of the then ruling military junta, came to power. Egypt is currently a democratic republic with a head of state, President Hosni Mubarak, who has been in office since 1981. The Prime Minister, Atef Ebeid was appointed by the President in 1999. Although the country is a democratic republic, President Hosni Mubarak's ruling party, the National Democratic Party (NDP) dominates the political scene. The constitution provides for a strong president who is empowered to appoint one or more vice-presidents, the cabinet, the Prime Minister, and the governors of the 26 governorates<sup>9</sup>.

Since coming to power, President Mubarak has honoured the Camp David peace accords, chaired the Organization for African Unity, in 1989 and again in 1993, and taken on an approach of liberalization to expand the role of the private sector in the economy.

### Economy<sup>10</sup>

Following problems of low productivity, economic mismanagement, excessive population growth, high inflation, and massive urban overcrowding, Egypt, under President Mubarak, undertook structural reform measures in 1991. The IMF supported these reform measures under three different arrangements, the last of which was concluded at the end of 1998. The results of structural reform have been slow in the coming, yet the economy has shown visible signs of improvement that are manifest in lower inflation rates (down from 14.9% during 1985-96 to 9.1% in 1996<sup>11</sup>), lower budget deficits, and strong foreign reserves.

According to UNDP's Human Development Report 2000<sup>12</sup>, the GNP of the country in 1998 was US\$79.2 billion with a per capita GNP of \$1290. The annual growth rate of GNP in the period between 1975 and 1997 was given at 4.6%. In 1998 GDP consisted of 17.5% revenues from agriculture, 32.3% revenues from industry, and 50.2% revenues from services. In 1990, the estimated breakdown of labour force by occupation was 40% in agriculture, 38% in services including government services, and 22% in industry. Major industries in Egypt are textiles, food processing, tourism, chemicals, petroleum,

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<sup>8</sup> Bay Area Economic Forum & Los Angeles Chamber of Commerce. Egypt: World Factbook. Internet. Available at: [www.tradeport.org/ts/countries/egypt/wofact.html](http://www.tradeport.org/ts/countries/egypt/wofact.html)

<sup>9</sup> U.S. Department of State. Egypt: Background Notes. Internet. Available at: <http://tradeport.org/ts/countries/egypt/political.html>

<sup>10</sup> Taken from various sources including Tradeport, the Central Intelligence Agency etc.

<sup>11</sup> Ibid.

<sup>12</sup> Internet. Available at: <http://www.undp.org/hdr2000/english/book/back2.pdf>

construction, cement, and metals. The unemployment rate in 1998 was estimated at 10%.

The principal export commodities for the country include crude oil and petroleum products, cotton yarn, raw cotton, textiles, metal products and chemicals. The estimated value of exports at the end of financial year 1997-98 was \$5.5 billion. Major trade partners with Egypt include the United States, the EU and Japan. At the end of fiscal year 1997-98 the value of imports amounted to \$16.7 billion. The major import commodities are machinery and equipment, foods, fertilizers, wood products, durable consumer goods and capital goods. The estimated external debt that Egypt owed at the end of fiscal year 1997 amounted to around \$29 million.

Oil and natural gas forms another important part of Egypt's export sector. The discovery of new natural gas reserves is attracting foreign investment from the Western Hemisphere. The two biggest gas companies are International Egyptian Oil Company (Agip's joint venture with Egyptian General Petroleum Corporation), and BP Amoco, also in a 50 per cent partnership with EGPC. Other major players are Shell, Italy's Edison International and BG Egypt, part of BG International (formerly British Gas)<sup>13</sup>.

The government's recent commitment to liberalizing the public sector has produced mixed results. While there was an initial surge in privatization in 1996, most public enterprises remain overstaffed with huge debts and poor quality services. However, the government's zeal to privatize is evident in the way it is promoting privatization in the cement industry as well as the banking industry<sup>14</sup>. In 1997 the state owned banks were used to cushion the blow from the fall in revenues from the tourism industry. With complete privatization in the banking industry, this may not be possible in the future.

### Human Development

According to the UNDP Human Development Index (HDI), Egypt is a medium development country and ranks 119 out of data collected for 174 countries by the UNDP. Egypt is also one of the countries that has made the fastest progress in human development starting with a low HDI of .432 in 1975 to a medium HDI of .616 in 1997. The HDI is a measure of development calculated by taking into consideration the life expectancy at birth, adult literacy rate, combined enrolment ratio, and adjusted per capita income in PPP\$<sup>15</sup>. Table 1.2 presents some statistics on the HDI, as well as a few other factors that are likely to affect the usage of, and access, to the Internet.

### Human Development Indicators

<sup>13</sup> Financial Times. Country Briefs. Fuel for Economy. Internet. Available at: <http://www.ft.com/ftsurveys/country/sc2b1a.htm>

<sup>14</sup> Financial Times. Country Briefs. Privatization: A Testing Time. Internet. Available at: <http://www.ft.com/ftsurveys/country/sc2ae6.htm>

<sup>15</sup> UNDP. Human Development Report 1999. Internet. Available at: <http://www.undp.org/hdro/Backmatter1.pdf>

Indicator	Value	Source
Life expectancy at birth	66.3	UNDP, data for 1998
Adult literacy rate	53.7%	UNDP, data for 1998
GDP per capita (PPP\$)	3,041	UNDP, data for 1998
School enrolment ratio	74%	UNDP, data for 1998
Percentage of households with electricity	98.4%	UNDP, <u>Egypt National HDR 1997-98</u> <sup>16</sup> . Data for 1996.
Percentage of households with a telephone	20%	World Telecommunications Indicators, ITU 1998

<sup>16</sup> Internet. Available at: <http://www.undp.org.eg/HDR/HDR-97-98/default.htm>



## II. Internet and Telecommunications Environment

### Telecommunications Structure<sup>17</sup>

The structure of the telecommunications industry in Egypt still represents a relatively traditional structure in that the incumbent operator, Telecom Egypt, remains the dominant player. But there are signs of change. The current reform process positions Egypt as one of the more forward-looking of the Arab States economies. In particular, the process of corporatisation of the incumbent has already taken place, the separation of regulatory and operational functions is underway, and the privatization of the incumbent is at an advanced stage of planning. However the most dramatic changes in the sector have been brought about by the introduction of competition in mobile communications and Internet service provision. Traditional assumptions about the level of demand for telecommunications services have been turned on their head by changes in the supply side of the industry. Indeed, private companies such as Orascom Telecom are now emerging as regional, not just national, powerhouses.

The same law that created Telecom Egypt, law 19 of March 26 1998, also created the Telecommunication Regulatory Authority (TRA) as an independent regulator. It is expected that TRA's independence will be confirmed by a new law, which is currently being drafted. The sector was further revamped in 1999 when responsibility for telecommunications, which had previously rested with the Ministry of Transport and Communications, was separated out and transferred to a newly created Ministry of Communications and Information Technology (MCIT). The MCIT is now championing a much more energetic approach to development of the sector, which is no longer perceived as a source of funds for cross-subsidy for other government projects. The new law, expected to be passed in either late 2000 or in early 2001, should put the sector onto a sounder, more commercial footing and establish a timetable for further liberalization and the licensing of additional players. One of the features of the process for drafting the new law is the fact that it has been a relatively open and inclusive consultative process, reflecting the style of the Minister, Dr. Ahmed Nazif.

### Industry players

**Telecom Egypt** is by far the biggest company in the Egyptian telecom market. It was formally created, as a joint-stock company, in April 1998. Previously it was known as the Arab Republic of Egypt's Telecommunication Organization (ARENTO). It is also the biggest telecommunications company among the Arab States, as measured by number of fixed telephone lines in operation. At the start of the year 2000, Telecom Egypt had some 5.1 million subscribers and a teledensity of just under 7 lines per 100 inhabitants (see Figure 2.1). This places it behind many of the Gulf States but marginally ahead of other North African states.

While the growth rate in the number of main telephone lines over the last five years has been some 13 per cent per year, this has not been sufficient to keep ahead of demand. The waiting list has remained fairly static, at around 1.2 million for most of the 1990s. At current rates of line growth, that converts to an average waiting time of just over two years, but the goal is to increase growth to some 1 million lines per year in the early years of the 21<sup>st</sup> Century. It is likely that the phenomenal growth of mobile communications may also reduce the level of the waiting list for fixed service.

<sup>17</sup> Tim Kelly. International Telecommunications Union, September, 2000.

Telecom Egypt enjoys a monopoly over all fixed-line domestic voice services in the country and, crucially, over all international services (including data and Internet services and calls to and from mobiles).

There are some signs of change. For instance, Telecom Egypt has now set up a marketing department, recognizing the need to sell its services and market its brand in a progressively more competitive market. Similarly, it has established a "new services" department and is actively pursuing joint ventures with other companies in fields such as data communications (with EGYNet) and Internet Service Provision (with GegaNet) through a franchise model. It has also recently become more innovative in its approach to premium-rate Internet service and IP Telephony (see below). But the changes may have come too late for senior management. In a sweeping move, in June 2000, the bureaucratic head of Telecom Egypt and seven of the senior vice-presidents were removed from office. A new head of the company has been appointed from outside, Akeel Beshir, an entrepreneur who previously managed Giza systems, a hardware and software company. It is believed that the management changes were made at the direct instigation of the prime minister. The planned privatization of Telecom Egypt is likely to bring about further changes.

**Orascom Telecom** is emerging as the major second player in the country. As part of a consortium, it owns part of MobiNil, the leading cellular operator in the country, which was acquired from Telecom Egypt in May 1998. In February 2000, Orascom acquired an 80 per cent stake in Telecel International. This was the largest ever acquisition by an Egyptian company. In total now Orascom has stakes in 18 GSM licenses including those of Jordan, Syria, Yemen and Pakistan in addition to Egypt. Orascom is also a shareholder in Menatel (again with France Telecom) which has a franchise (from Telecom Egypt) for the installation of a minimum of 20'000 public payphones over a ten-year period. Orascom is also the biggest player in the Internet Service provision market. In April 2000, it acquired the remaining 59 per cent it did not own of InTouch, the country's largest ISP and is now combining this with Link Egypt, another leading ISP of which it acquired 50 per cent in July 1999 which have merged into LinkdotNet. Orascom Telecom is a subsidiary of Orascom Technologies which, in turn, is one of three companies run by Orascom, a company founded in 1950 and owned privately by the Sawyers family. It employs some 20'000 people in Egypt alone. Via the Technologies subsidiary, Orascom is involved in computer hardware, software and services. It acts as a local agent for Hewlett-Packard and Lucent (a major supplier to Telecom Egypt). Orascom is also involved in tourism and construction.

**MobiNil** is the leading cellular operator in Egypt. By September 2000, it had amassed some 1000'000 subscribers. At the time it was created, through the purchase of Telecom Egypt's GSM operations in 1998, it had only 83'500 subscribers. MobiNil's owners are a consortium comprising Orascom Telecom, France Telecom International, Motorola, and local companies Systel and Raouf Abdel Messih (Alcatel's local agent). The price MobiNil paid L.E. 1.7 billion, was the same as that paid by Misrfone (Click GSM) which won a tender for a second license. By acquiring Telecom Egypt's asset, MobiNil was able to gain a flying start in the market, which it has maintained to date.

Misrfone is the second cellular operator and operates under the brand name of **ClickGSM**. It won the tender for the second mobile phone license, in March 1998, and entered into service in November 1998. Within its first year of service it gained some 332'000 subscribers. As of April 2000, it had gained over 600 thousand subscribers, the majority of which are on pre-paid schemes.

## Internet Infrastructure<sup>18</sup>

### History of the Internet

As in many parts of the world, Internet in Egypt has developed outside the formal telecom sector. What makes the history of Internet in Egypt unique is the degree of government awareness and support from very early on. The Government's Information Decision Support Cabinet (IDSC) [see box] has played a key role in raising awareness about the Internet, provided a forum for dialogue between the ISPs and the incumbent Telecom Operator (Telecom Egypt) and played an active role in encouraging the diffusion of Internet services outside of Cairo.

The first use of the Internet can be traced to a link started by the Egyptian Universities Network in 1993 via an initial 9.6 kbit/s link to EARN. However, according to Dr. Tarek Kamel, awareness of Information Technology predates the Internet by some 10 years.

A landmark event that was to raise awareness within government circles of the potential of the Internet was the International Conference on Population and Development (ICPDUN) held in Cairo, from 5-13 September 1994 and attended by some 20,000 delegates. One of the conditions imposed by the United Nations was that the Egyptian Government should provide a 64kbit/s link to the Internet for the duration of the conference. It is interesting to note that this link, established via a leased line to via Montpellier, France cost the Egyptian Government US\$ 450,000 for 9 days.

Following this successful event, the government decided to allow (IDSC) and the Regional Information Technology and Software Engineering Center (RITSEC) to offer free Internet accounts to government agencies, NGOs, and private companies as part of a long-term government funded campaign. The objective of this initiative was to promote awareness of the Internet and boost the number of users in sectors such as trade, manufacturing, healthcare, tourism and social services etc.

Another landmark event was the decision taken in December 1995 by the Chairman of Telecom Egypt to establish an open-door policy for commercial Internet services. Telecom Egypt stated that it would establish private and public Internet gateways and allow 12 ISPs to begin operating. Today, this sector is fully liberalized with more than 60 Internet Service Providers.

### Egypt's Information and Decision Support Center (IDSC)

In October 1996 Internet diffusion suffered a setback when the Egyptian press ran a series of negative articles. This led to demands from government circles that an official body be nominated to regulate the Internet in Egypt. The best candidate, it was decided, would be a local chapter of ISOC and the Internet Society of Egypt was formed with the understanding that it would act as the regulatory body for Internet matters. Formed under law No. 32 of 1994, the Egyptian ISOC Chapter is managed by the Board of Directors. It includes 15 members elected by the General Assembly of the Society. The Internet Society has also been instrumental in establishing a code of ethics for Internet

<sup>18</sup> Guy Girardet. International Telecommunications Union, September 2000.

use; defining ground rules for commercial relationships between ISPs and Telecom Egypt; establishing policies for IDSC with respect to services offered to government departments and reducing leased-line prices and removing sales tax on Internet services.

### **National bandwidth providers**

#### **RITSEC/IDSC**

The Regional Information Technology and Software Engineering Center (RITSEC), hosted by IDSC is the main provider of national Internet bandwidth in Egypt. According to Mostafa Abdel Wahed, Director of Communications, RITSEC/IDSC currently accounts for 70% of national IP traffic with an estimated 14 M/bits of total capacity. Telecom Egypt and Gega Net handle the remaining 30%. By pooling bandwidth, IDSC is able to offer cheaper tariffs than those available from Telecom Egypt. However, capacity is often oversold leading to congestion and poor quality of service.

Domestically, RITSEC/IDSC has installed digital multiplexers in the public switches enabling the creation of a digital network in Egypt. The network, managed by Egypt Telecom, provides a high-speed distribution network for more than 50 nodes throughout the country.

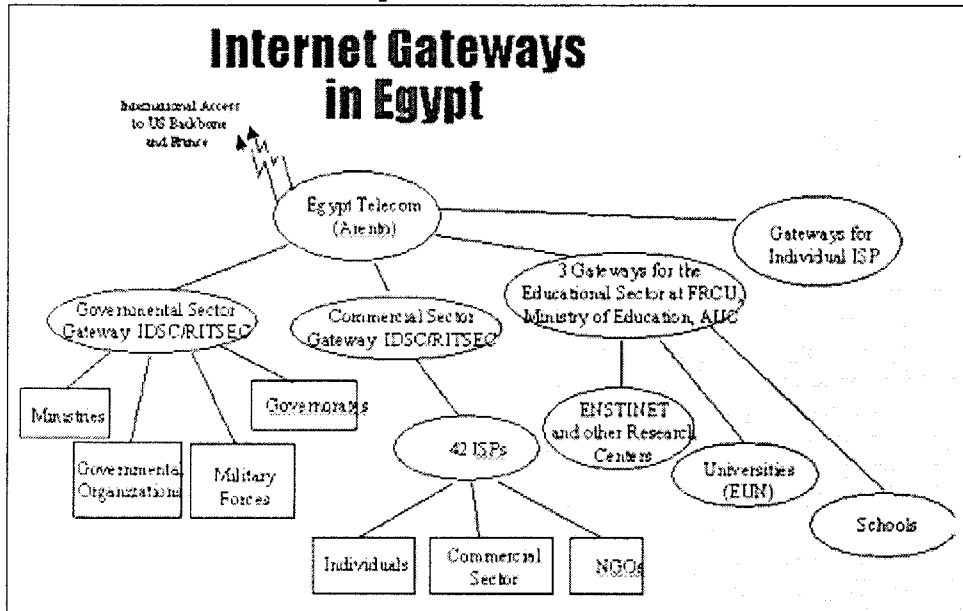
#### **Egyptian Universities Network**

Bandwidth to the Academic sector is provided via the Egyptian Universities Network. Which has been connected to the Internet since October 1993 through a 64 kbit/s link. Subsequent upgrades brought speeds to 256 kb/s in October 1996 and 512 kb/s in December 1997. Further capacity was added in April 1999 bringing speeds up to 2 Mb/s. The EUN connects all the Egyptian Universities, AlAzhar University and the American University and is responsible for providing connectivity for approximately 90 sites. It also provides accounts for some 4000 dial-up subscribers comprised of university staff and postgraduate students.

#### **Nile-On-Line**

A recent newcomer on the Egyptian Internet scene is Nile-On-Line which was recently granted a license to operate as the commercial Internet Backbone in Egypt. Nile-On-Line is jointly owned by Telecom Egypt and IT Invest and has raised US\$ 15 million in capital. Nile-on-line is expected to replace RITSEC/IDSC as the main provider of Internet bandwidth to commercial ISPs. It is also expected to operate the international gateway in conjunction with Telecom Egypt. Unconfirmed reports suggest that the new CEO will be Dr. Hisham El-Sherif who co-founded IDSC and RITSEC. The Nile-online.com domain name was registered in May 1999 but, as yet, has no web site.

## International bandwidth providers



Access to the international gateway is primarily controlled by Telecom; however Gega Net and Internet Egypt have direct access to the US backbone via Cable and Wireless and MCI.

### III. Egypt's Rationale for E-commerce

#### ***E-commerce defined***

The information technology revolution is transcending the barriers of time and place, promising businesses and nations new strategies and policies while paving the way towards a more efficient lucrative future.

Electronic commerce (e-commerce) is simply defined as ***every type of business transaction in which participants electronically prepare, transact business or conduct trade, in goods or services***<sup>19</sup>. It covers the different forms of business interactions, between business-to-business and/or business-to-consumer, using information and communication technologies. This encompasses several activities such as on-line marketing and advertising; on-line catalogs and product information; electronic inquiries and market research; electronic payment and fund transfers; and after-sales customer service and support. E-commerce, one of the most prominent information technology applications, represents a new revolutionary form of trading, offering a borderless global marketplace.

Leading e-commerce into Egypt represents a tremendous challenge, but also a great opportunity for growth and development.

#### ***A tool for socio-economic development***

Poised on the threshold of the 21<sup>st</sup> century, the economic process is characterized by a strong internationalization of markets, the globalization of corporate strategies, and the increasing mobility of capital and know-how. The prime movers behind this development are the new possibilities of global communication and the processing of graphical and audiovisual data in worldwide information networks.

E-commerce has a wide range of implications for international trade and business. With the promise of a cash-less society, more facilitated and closer communication, borderless marketing and trade, as well as a more and transparent business environment, the opportunities are extensive and the potential is yet untapped. With issues of security of financial transactions being addressed and where standards are today being set, to overcome these obstacles, the reality of e-commerce is becoming more tangible.

With the dawning of this new era, two main issues should be addressed; namely, the opportunities and challenges that e-commerce holds for Egypt and, as importantly, the consequences that could befall the country if it does not make use of this new directive. Such a question may be compared with that of the shift that occurred more than a hundred years ago, when the world's economy evolved from an agricultural society to an industrial society. Had it not made this

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<sup>19</sup> Electronic Commerce: Initiative of the Federal Government. Federal Ministry of Economics, Bonn, Jan. 1998

shift, Egypt would have been left behind, unable to survive in the New World order. Similarly, e-commerce brings about the same type of situation, where it provides unprecedented opportunities for increasing trade, promoting investment, facilitating business transactions, and supplying an unparalleled marketing tool.

### **For a Competitive Egypt, industry and people**

E-commerce as a medium for foreign trade is also a catalyst for export - suggesting an increase in exports and balance of trade and subsequently having a positive impact on the national economy. It will aid in curtailing national debt and inflation rates and in increasing the gross national product. Moreover, not only will e-commerce have an indirect effect on the local economy, but it will also enable Egypt to experience a more open economy and increase its comparative advantage worldwide.

### **Energizing Business**

Projections for the volume of transactions of e-commerce show that world electronic-based trade can reach a \$1 trillion by the beginning of the next century. This is an opportunity for the economic development of Egypt, providing new opportunities for penetrating international markets. This is especially true for small and medium enterprises, which lack the resources that can enable them to promote themselves globally. The advent of the Internet and e-commerce has contributed in reducing costs e.g. costs of travelling and costs of marketing and advertising, as well as reducing time and space requirements to perform transactions. This is due to the ability to communicate remotely, as well as advertise and promote at a distance. One can carry business to business and business to consumer transactions without ever having to be in direct contact with the client.

Moreover, e-commerce is not limited to boosting trade as many other sectors of the economy can benefit from e-commerce.

These include:

- Financial services (insurance, banking, brokerage, currency trading)
- Electronic procurement
- Travel and ticketing
- Entertainment music
- Advertising and marketing
- Information services (collecting and disseminating information)
- Education and training
- Media (electronic books, newspapers, journals, news services)
- Other services (medical, real estate, legal, architectural)
- Retailing in books, flowers, computer software, and hardware, highly specialized and other products, electronic shopping.

Therefore, e-commerce would aid in bringing in additional sources of revenues with very minimal overhead and investment costs. Finally, e-commerce opens avenues for the rise of many hi-tech industries.

### **Empowerment and Creating Job Opportunities**

E-commerce also carries strong socioeconomic implications for the Egyptian citizen. On an individual level, Egyptian citizens (those having access to the

technology) will be able to perform transactions worldwide and trade products across national borders and elevating their own standard of living and "quality of life." E-commerce has the potential to create many jobs: A middle-class Egyptian could have the opportunity to establish a small, medium or even micro-size enterprise with global market access. An Egyptian software developer can work from home and write software for international customers; a maker of oriental rugs or artifacts can export to new markets from his small business in a remote village. Additionally, the many issues that e-commerce brings along (ex. legal issues) will create many working opportunities for professionals in many fields.

### **Egypt's Fertile Business Environment** ***A spawning ground for e-commerce***

Over the past two decades, Egypt has witnessed socio-economic prosperity and development, positively impacting society, raising standards of living and reducing unemployment. Shifting to a market based and liberalized economy, Egypt has adopted notable adjustment programs which have led to accelerated economic growth rates, decreased budget deficit, controlled public spending, decreased inflation rate, an improved balance of payments, and stable exchange rates.

Egypt is exerting great efforts in promoting investment and creating an attractive environment for investors. Having the necessary level of foreign reserves, it endorses investors to exploit opportunities offered in Egypt. Two major industrial operations: the 10<sup>th</sup> of Ramadan City and the 6<sup>th</sup> of October City are examples of success stories in this respect. The government has greatly facilitated regulatory procedures. It has liberalized interest and exchange rates as well as eliminated bureaucratic barriers and procedural restrictions, such as licensing for investment.

The private sector is taking the lead in stimulating growth and endorsing employment in Egypt. Accelerated privatization taking place along with liberalization and deregulation, have empowered the country's economic status and increased national savings as well as investment.

### **Why E-commerce - what's in it for Egypt?**

Following are the anticipated benefits that e-commerce will bring to Egypt:

- **Global Competition**

The use of electronic processes in commerce gives companies the ability to offset drawbacks and create advantages in competition, strengthen their innovative capacities, and develop new markets. It is anticipated that a rapidly growing share of world trade will be transacted with the aid of global information networks. E-commerce offers companies the chance to market their products and services abroad; therefore e-commerce will have a strong positive impact on the country's exports.



Electronic commerce provides a more coherent and comprehensive approach to trade with a particular emphasis on the use of information technology in integrating developing countries in the Multilateral Trading System. The WTO, as a supporting arm to e-commerce activities, can cooperate in contributing and enhancing trade and investment opportunities of developing countries through electronic commerce and the effective use of information technology in the area of trade.

- **Government Transparency**

Electronic commerce offers tax, fiscal, labor, social, and economic administration, numerous possibilities to simplify, accelerate, and reduce the cost of business transaction. At the same time, there are opportunities to slim down the structures of government itself ("lean government") and to reduce the distance between government administration and the individual - leading to government transparency.

- **Opportunities in the Hi-Tech market**

The combination of reliable e-commerce and Internet infrastructures will create an environment that will encourage the creation of new hi-tech firms. One important example of this may occur in the IT industry. The state of Virginia alone has announced 35,000 vacant positions in the IT sector. It is predicted that 1.8 million jobs will be available in the US by 2004. Studies suggest that this shortage is global and it will persist for some time to come, mainly due to the continuing growth and demand in the IT sector. The demand is so great that the American government is considering increasing the quota of the number of visas that give foreign IT professionals the right to work in the U.S. *This shortage in IT professionals is both an opportunity and challenge for Egypt.* With the right infrastructure and political will in place, the global software shortage can be transformed from a threat of a brain drain to an opportunity, to create a local IT industry that is capable of competing in the global market.

- **Competing in Time**

The use of e-commerce will enable the Egyptian business community to compete in time with the international community. E-commerce allows on-line transactions to take effect instantaneously. Additionally, the internet provides up to date information on various business opportunities in the world.

- **Better Business**

- **New - Flexible - Efficient Markets**

Narrowly defined local or regional markets could become international markets through electronic commerce. Shop hand zoning lose their significance. Goods and services may be brought onto the screen and purchased directly from the producer merely by pushing a button, without the trading intermediaries being involved. In general, electronic commerce makes markets more open and efficient. Competitive small and medium sized companies can benefit most from e-commerce in the following manner:

- Companies can adapt more flexibly to changes to consumer needs

- Companies and consumers can react more rapidly
- Product life cycles are shortened
- Value-added chains can be broken down and reconstructed in new sequences
- Markets take on greater transparency

Therefore, the "electronic marketplace" can contribute to intensifying competition, enhancing companies' innovation, and creating new fields of corporate activity. These trends also have the result that those individual components in the value-added chain and entire production processes may be shifted to lower-cost locations or to countries with more favorable regulations.

Due to a lower price/knowledge workers who are needed to create such content, in developing countries, these countries could disseminate their own information in a more effective manner through electronic commerce. It will allow firms and new entrants to extend their reach beyond what was previously possible. This may be particularly useful to small and medium enterprises (SME), since it provides a low cost means to approach potential customers worldwide.

#### ***Internet - the "great equalizer?"***

It has also been argued that the Internet can act as the "great equalizer" by allowing firms to compete on equal footing. However, there are numerous challenges that we have to face at the national and international levels to enable developing countries to effectively use electronic commerce and take advantage of the benefits that it may provide.

#### **New Goods and Services - Increased Consumer Choice**

It is obvious from these areas that electronic commerce will extend beyond what may be considered tradable. Through electronic commerce, some new services could soon become tradable across borders. Any good or service that can be provided in digital form could probably be traded electronically across borders. This implies more variety and increased consumer choice. Firms in many sectors will soon realize that cost savings from the use of electronic commerce and the opportunities that it provides will be necessary for them to maintain competitiveness.

E-commerce revolutionizes the relationship between consumer and provider. Consumers benefit from increased choice by being able to compare and choose instantly from a wide range of offers. A personalized one-to-one relationship (relationship marketing) is replacing traditional mass-marketing and mass-distribution techniques, bringing more responsive service

#### **Lower Cost of Business**

Setting up a business entity in the virtual world is faster, easier and more cost effective. E-commerce over the Internet reduces the need to

have, for example, middlemen, and salesmen to do presales work and to close deals.

For many products marketing is done through specialized sector specific exhibitions. These are used by new entrants as well as by established producers. However, participation is very expensive and presents various difficulties to producers from developing countries. A less expensive alternative is the participation in virtual exhibitions. However, this still requires a high level of expertise, in order to know how to present products, how to approach markets and how to establish and retain trade contracts and consumer confidence, which is lacking in most developing countries.

#### **Work Efficiency**

The use of digital signatures for internal and external accounting transactions will remove the need to put all payments down on paper and make it possible to archive them in electronic form. This is expected to considerably boost the efficiency of administrative work. Additionally, the delivery of hi-tech products e.g. software, can be done electronically, reducing delivery time and eliminating the distance required for transfer of the product.

#### **The Risk of not adopting E-commerce**

E-commerce offers a lot of opportunities for growth in Egyptian exports. However, if Egypt does not respond in a timely manner - to prepare Egyptian companies to maximize their benefits from such a technology, they might lose this global opportunity. Furthermore, other international companies might be able to replace the Egyptian companies even in the local Egyptian market, especially with the onset of trade agreements such as the Global Agreement on Tariff and Trade (GATT).

## IV Challenges and Issues

The advent of the millenium brings forth restructuring of national and global economies - introducing non-traditional forms of trade coupled with non-traditional approaches in dealing with emerging technologies and global information infrastructures. Electronic commerce (e-commerce) has arrived at the end of the 20<sup>th</sup> century - compelling economists, politicians, lawyers, bankers...etc to rethink and reengineer work methods, policies, laws and standards. It is still an infantile technology, which poses many issues that are, until this very moment, being discussed in numerous international fora. These issues vary from financial and regulatory issues, to legal and market access issues. Moreover, the national government retains a critical role as a facilitator and enabler of the infiltration of e-commerce in the society, as a new technology and business "culture" in society, which requires necessary infrastructure support.

To ensure e-commerce success, financial and regulatory issues must be tackled. E-commerce implies that customs and taxation regulations must be altered and electronic payment systems must ensure interoperability in a global environment. Standards must be developed and implemented on the national level, but must be compatible with the global level. There are also numerous legal issues to be determined. Privacy, liability, jurisdiction, intellectual property protection and security are all major questions to be addressed; breaking new frontiers in "traditional" legislature. Additionally, a uniform national, legal framework that recognizes, facilitates, and enforces electronic transactions worldwide is needed. Approaches to enforcement of contracts must be changed; governments should establish a predictable and simple legal environment based on a decentralized contractual model of law rather than one based on top-down regulation.

Market access issues must also be handled. The appropriate liberalized tele-communications and information infrastructure must exist to ensure suitable market access. Private sector investment, promoting and preserving competition, implementing independent flexible regulation and guaranteeing non-discriminatory user-access and open access must be encouraged. Technical standards need to be determined to guarantee interoperability. "Content " is another issue which is to be tackled. There should be support for the broadest possible free flow of information across borders. Special focus should be done on content development: computer software and business information.

The government has a critical role in paving the way for the practical implementation and utilization of the technology. The government must be convinced using this technology in the business environment. Moreover, the government must have a non-regulatory, but supervisory, role when needed e.g. government intervention concerning consumer protection, providing a transparent and predictable legal environment. Governance should be bottom-up. The government should act as a coordinator and facilitator between the private and public sector, but while giving the private sector "the upper hand," so to speak. Finally, consumer, user and business awareness of and confidence in e-commerce must be established. Egypt's position on these key areas will be discussed in the following sections.

## 1. Promotion and Awareness and Education

Awareness is one of the most crucial and critical barriers to the implementation of e-commerce in developing countries. Other deterrents identified in other sections of this paper can be traced back to this "root" factor.

One of the strongest indicators of the lack of awareness to venture into e-business from the b-t-c and b-t-b side is the small market size of 35,000 to 40,000 paying customers. This is the singular largest deterrent for business on the end, and hence minimal business-to-consumer e-commerce is possible<sup>20</sup>. Furthermore, the number of Internet users in Egypt doubles once every 10-12 months, at half of the global rate<sup>21</sup>, and this rate of increase is unfortunately decreasing. In general, the number of Internet users and hence potential consumer base, discourages commercial efforts to produce venues for the consumer to buy, sell or in any way commercially transact. Another view would be, instead of waiting for the demand (the pull), a solution could be to provide the supply (push) of viable electronic commerce sites in the local language – Arabic – to break down the language barrier and to attract potential consumers (as well as corporate customers) to transact over the Internet. The market is at the "early majority" stage of consumer adoption. Therefore, the curve is rising slowly; by catalyzing awareness, the rate of adoption can be accelerated.

The private sector cannot carry alone the burden of building awareness of electronic commerce. National governments, NGO's, as well as international organizations should take upon themselves the role of awareness raising across all sectors of society.

## 2. Human Resource and Skills Development

There is a strong need for human resource development in the area of information and communication technologies in the Arab and African region. This need spreads across different sectors: legal, financial (including customs and tax authorities), health and education. Professionals in these areas have not been adequately trained to deal with the rising needs of ICT's. The number of people who are working in IT (information technology) in Egypt are estimated to be a mere 5,000 people producing around 45 million USD of software. This number compares drastically with that of Israel which has a 20,000 IT workforce producing 1.5 billion USD of software.

Moreover, the revolution of information and communication technologies worldwide poses strong implications for the potential brain drain of human resources working in this field in the developing world. In 1998 there were 300,000 available IT jobs in North America. It is now forecasted that 1,800,000 IT jobs will be available there in 2004. This high demand implies the flocking of ICT brains to the North American region and a further depletion of human resources for the Arab and African regions. There is a large discrepancy in salaries offered locally and internationally. A fresh graduate would earn within the range of \$400- \$700/month. This person would easily earn \$5000/month in the U.S. There has been a recent flocking of technical expertise to the U.S. Therefore, the lack of available human resources coupled with a further brain drain of resources poses a serious threat to human resources and skills availability in ICT in the Region.

<sup>20</sup> "An Internet User Profile in the Middle East." Presented at Comdex98, by Intouch Communication Services, Cairo, Egypt.

<sup>21</sup> Ibid.

The Ministry of CIT has included in its projected five-year plan an ambitious program to train 5000 professionals in IT skills every year. This pool of professionals will be utilized to provide adequate supply for local demand in addition to supplying international resources for IT skills. A sample survey indicated a severe lack of quality and quantity of human resources that have the appropriate skills for IT. Moreover a more dire scarcity is the availability of middle management that have the appropriate combination of IT and managerial skills.

There are several institutions that have been contributing to the labor pool of the country. In addition to national universities that have their own IT programs, the ITI (Information Technology Institute – under the IDSC umbrella) provides a 9-month program to graduates of universities which sharpen students' skills in technical areas. The ITI recently launched a masters program in electronic commerce in collaboration with the University of Nottingham. A similar program is being launched by RITI (Regional Information Technology Institute). These efforts are positive steps towards contributing to a qualified labor pool.

Moreover, there is a need for school and university curricula to be modified in order to reflect the required skills of the information age. There is a need for the integration of information technology skills in all university curricula and primary and secondary school curricula.

### 3. Internet and Telecommunications Infrastructure Environment

Egypt's Internet and Telecommunications environment has improved tremendously in the recent years. The table below illustrates the current status of Egypt's telecommunications and Internet environment.

<b>Telecommunications Environment</b>	
Number of Telephone Lines	6.7 million
Teledensity (# of lines/100 people)	11.1
Teledensity in Cairo	23
Teledensity in Heliopolis	81
Independent Regulatory Board present	
PTT Operator	Sole provider of basic and international telcoms services
2 GSM Operators	1,700,000 subscribers
<b>Internet Environment</b>	
Internet Service Providers	60 in 18 out of 27 governorates
Internet Users	250,000
Commercial subdomains (.com.eg)	1930

The number of communities with phone access is concentrated in the cities of Alexandria and the capital, Cairo. The quality of service has greatly improved with fiber

optic technology, and automatic and digital exchanges. Telecom Egypt, the recently corporatized PTT (10/97) is the incumbent provider of local and international telecommunication networks in Egypt. It is undergoing a strong privatization process whereby the newly appointed CEO came from the private sector. Telecom Egypt will be set for initial public offering of 5-10% of its stock by the end of 2000. Additionally, the Ministry of Communications and Information Technology determines the rules for market regulation through the Regulatory Board for Telecommunications whose mission is to regulate pricing, standard of services, and develop and implement a national telecommunications policy.<sup>22</sup>

The current total number of paying Internet users are between 35,000 to 40,000 users; using a ratio of 2.5 - 4.5 users-of-an-account to subscribed accounts, there are over 250,000 Internet users, which is equal to 0.26% of Egypt's population of over 66 million.

The recent creation of a new Ministry of ICT brings new promises to the nation in the form of opening the doors to the private sector to invest in telecommunications and Internet development. Recently a contract was signed with a private company to establish an Internet backbone in Egypt and half-circuit tariffs were reduced by 50% bringing prices down to international averages. The need still exists for better quality, and affordable connectivity for more bandwidth. This is only the beginning of the road towards a better quality telecommunication and Internet environment.

#### 4. National Endorsement

Complicated and unclear business rules form one of the most critical barriers, one that exists in many developing countries. Vital components of the e-commerce business cycle (ex. logistics and customs) are deeply embedded in government operations; the information systems for these operations are manual, bureaucratic, and paper-based/dependent. The government should be encouraged to recognize, accept and facilitate electronic communications (contracts, notarized documents...etc.). Coherence, transparency, coordination, and avoidance of duplication should be the government's guiding principles in this endeavor.

Egypt has singular actions that reflect that this thought is pervasive in the top policy maker's mind, but the direct champion leading to true liberation of this policy and the sensation of its heat with any/all sectors of the government/society is absent. This champion is needed especially that a small move by the government through effective national projects (ex. government procurement or electronic government services) would lead to tremendous liberation to the efforts of e-commerce development in the country. It is important to point out that the lack of national support (including financial support) for electronic commerce will end up in *international electronic commerce* causing damage to national economies including Egypt.<sup>23</sup>

Nevertheless, there are strong signs that indicate that the country is strategically moving into the information and communication technology environment. President Hosni Mubarak recently declared at a national ICT conference in (9/1999) that he will be directly overseeing and chairing a committee for high technology. This committee will determine the national strategy for high tech for the country. This indicates a

<sup>22</sup>Telecommunications Development in Egypt. American Chamber of Commerce in Egypt, Business Studies and Analysis Center, August, 1998.

<sup>23</sup> www.iawmag.com/jul\_98/inside.html Abdel Kader El Kamly. Internet Arab World

change in direction and a focus on the use of information and communication technologies as an enabler of public and private sector effort. September 13<sup>th</sup>, 1999 was a turning point in the ICT history of Egypt. President Hosni Mubarak gave a strategic national speech at the National Conference for Information Technology. A month later, the presidential elections ensued and a new cabinet of ministers was created. The Ministry of Communications and Information Technology was established. For the first time in the history of Egypt, the IT community was represented by a ministry that would be fostering IT development in the country. The National Plan for CIT was produced in December, 1999. The next five-year period will focus on:<sup>24</sup>

This plan laid out the ministry's objectives for the coming three years (starting 1999) for electronic commerce, the most important of which are the following:<sup>25</sup>

- ❖ Build local awareness on the importance of electronic commerce - implement training programs for the business sector.
- ❖ Develop local telecommunications infrastructure to accommodate the growing demand of electronic commerce applications.
- ❖ Establish technological incubators: Technological incubators represent one of the modern tools for developing industry by encouraging youth to enter this industry through the establishment of new companies that are incubated for a limited period of time and providing them with the financial, technical and administrative support in marketing their products. The plan aims to construct incubators that can accommodate 100 new companies simultaneously.
- ❖ Establish a Certificate Authority to organize and authenticate electronic transactions, to be used as a trusted third party in case of disputes and to delineate security, confidentiality, privacy measures, and copyright protection.
- ❖ Amend Egyptian business law to include necessary provisions for e-commerce cyberlaws.
- ❖ Plan and execute a governmental project to adopt current customs and taxation systems to electronic commerce logistics.
- ❖ Execute a government project that utilizes electronic commerce in government purchasing, tenders, and financial payments.
- ❖ Plan and execute a joint public/private project that implements the application of electronic commerce in the banking and financial sector.
- ❖ Plan and execute a joint project with the Ministry of Economy and Foreign Commerce, investor associations and other organizations involved in Foreign Trade to construct an Egyptian network for electronic commerce.

*A joint electronic commerce task force* has been formed by the Ministers of Economy and Communication and Information Technology, Minister of Finance and US officials. This taskforce will focus on six areas: 1) regulations and law 2) telecommunications infrastructure 3) encryption and payment security 4) procedures for establishing e-commerce companies 5) SME incentive programs 6) public awareness.

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<sup>24</sup> National Plan for Communications and Information Technology, Arab Republic of Egypt, Ministry of Communications and Information Technology December 1999.

<sup>25</sup> Egypt's National Plan for Communications and Information Tehenology, December, 1999.



#### *Certificate Authority at the Federation of IT*

The Ministry of CIT is consulting with industry to create a Federation of Information Technology companies. Within this federation, there will be a certificate authority which will serve as a trusted third party in online payment disputes. However, this is still "work in progress." The creation of this authority would depend on existence of a sound legal framework, which is yet to be created.

The main goal of an Egyptian Certificate Authority (CA) is to provide the necessary and sufficient technical, organizational, and regulatory framework for effective and accountable implementation of electronic commerce in Egypt.<sup>26</sup> From a technical point of view, the CA will enable electronic commerce participants to obtain certificates, issued by CA, which will enable them to participate securely in electronic transactions. The CA will interface with international certificate authorities to gain international recognition for the certificates it issues. From a legal point of view, the CA will enable the effective resolution of electronic commerce related disputes; since the CA will act as a trusted and impartial third party that will offer expert advise to the Egyptian legal system in related cases. Finally, the CA will work on raising awareness within Egyptian community. This effort will seek the development of both the consumer, as well as the institutional bodies related to electronic commerce.

### **5. Regional Strategy**

The Arab region shares a common culture, language and environment; consequently, it would be beneficial for Arab countries to cooperate and collaborate in the area of electronic commerce. The challenges, risks and barriers are common to many countries of the Arab world. Nevertheless, to date only one event took place in the Arab Region (Egypt (September 1998) – the UNCTAD (United Nations Conference on Trade and Development) and the UNDP (United Nations Development Program) organized the 1st Arab Regional Workshop on Electronic Commerce. Crucial recommendations stemmed out of this conference:<sup>27</sup>

1. Enhanced external support should be extended to Arab countries in the area of **training and human resource development** for electronic commerce; such training should be based on practical experiences (such as that of Trade Points) and allow Arab decision makers to benefit from the experiences of experts in the various domains of e-commerce (legal, financial, technical);
2. **Regional and inter-regional workshops**, should be organized in Arab countries in order to (a) Enhance local awareness of the various dimensions and expected impact of electronic commerce, and (b) Stimulate further exchanges of experiences among Arab governments and enterprises active in the area of electronic commerce.
3. A **background study** should be produced on the possible impact of electronic commerce on Arab countries and on the possibilities for Arab countries and enterprises to participate in global electronic commerce;
4. **Partnerships between public and private entities** active in electronic commerce should be stimulated in Arab countries;

<sup>26</sup> E-commerce Committee of the Internet Society of Egypt. "Towards Towards Electronic Commerce in Egypt, A Certificate Authority for Egypt," presented at C@inet'98, Cairo, Egypt

<sup>27</sup> UNCTAD/UNDP Report on the UNCTAD/UNDP Arab Regional Workshop on Electronic Commerce, Cairo, Egypt, September 26-28, 1998.

5. An **Arab regional entity** should be created to address electronic commerce issues on a regional basis; various possibilities should be examined in this respect as early as possible, keeping in mind that the private sector should be an active component of such an entity;
6. UNCTAD and other relevant organizations are called upon to help Arab countries **mobilize appropriate financial support** for the implementation of the above recommendations; the European Union in particular should be approached in this context, considering its natural interest in the socio-economic development of the Arab world.

Unfortunately, scant actions were taken in the above directions by the countries of the Arab world to move forward with this simple yet significant recommendations.

With regards to the African region, COMESA (Common Market for Eastern and Southern Africa) has taken very mild actions towards bringing together member countries to collaborate on this issue.

## 6. Financial Services Enabling

A strong financial service infrastructure is vital for secure and efficient electronic commerce. The following sections provide an overview of Egypt's financial infrastructure.

### Credit Card Usage

There are 102 licensed banks in Egypt while the total number of credit cards is less than 250,000 cards (provided by six banks and a credit card provider company). This low number can be mainly attributed to the lack of existing "culture" and awareness for the usage of credit cards; the consumer market is still in the initial phase of credit card services provision to the end-consumer. On the other hand, trust for credit cards issued without submitting twice of the credit limit as an earmarked deposit, is limited. Hence, as credit cards are the primary method of settling consumer transactions on the Net, the upper limit potential for consumer e-commerce potential is 250,000 users.

Smart cards will be introduced into the market as an alternative to credit cards. A memorandum of understanding has been signed between IDSC and Visa International to create a company which includes all Visa member banks in Egypt as partners. Salary payments will be provided via a salary card. There are more than five million people who are working for the government, earning over 24L.E. billion (7\$ billion). Half a billion of this amount is handed over to citizens in the form of cash every month. If this money were to be retained in banks and accessed as needed via salary cards, this would aid in potentially solving a liquidity problem that the country is currently facing.

### Financial Transactions on the Net

The lack of existing compliance mechanisms in the country (ex. SET – secure electronic transactions) stems out of a culture that limits the application of computer on-line validation services, which are not currently offered as a banking service to reconcile credit cards. Even more, the support for Internet based (initiated) transactions is non-existent from the Central Bank of Egypt,<sup>28</sup> which has refused to

<sup>28</sup> VISA Department, Banque Misr, Cairo, Egypt.

be the designated bank for national settlements for credit cards. Egypt might be soon paying the risk of not implementing the necessary infrastructure. There are many cases of local Egyptian companies using credit card validation services located abroad to guarantee financial transactions. Some companies pay 10% on every deal they make - if many companies follow, this number will grow to represent a handsome sum of money drained from the national economy!

#### **The Bank as a Financer**

Banks are reluctant to invest in startup companies. Therefore they may not be regarded as potential sources of funds for small startups. Moreover, there is very scarce existence of venture capital funding for IT in Egypt. There are two contending investment banks that operate in these areas – EFG-Hermes' Horus Fund and CIB (Commercial International Bank). These entities have been very discerning regarding making new investments after the recent downhill process of .com companies in the US and the NASDAQ stock exchange. No longer are these investment banks paying large sums of money for websites or companies who claim to make revenues from advertising. It is argued that the cycle that the US went through regarding “.com millionaires” took the US six years, while it has taken Egypt just six months. There was an initial boom early 2000 and the investment market is currently drawn to a halt.

### **7. Content Development**

*Egypt could naturally be the sort of Arabic content and software development hub in the region, like it has always been for other industries, such as the movie or TV industries.” Ahmed Nazif, Minister of Communications and Information Technology*

The developing world at large suffers from a severe lack of content in general in addition to a shortage of content in indigenous languages. The number of commercial websites in Egypt is a mere 1930 websites, most of which are in the English language. Furthermore, the language barrier is considered one of the problems facing the spread of the Internet in the region on a large scale (82% of websites are in English). The usage of Latin characters is common in the Arab region, but the real penetration to businesses is more bound by using Arabic websites. Language no doubt is a barrier to the use of the Net for the majority of the Egyptian and Arab people who only read and write Arabic.

There is a lack of homegrown content sites in Egypt. This poses a problem vis-à-vis export based electronic commerce. Ratios of incoming and outgoing traffic are 4 to 1, respectively. Therefore most of the traffic is inbound, indicating no pull factor to Egyptian websites. Increasing local content, in both the English and Arabic language will draw “international clients” to local websites and create the demand of Egyptian products and services online. This issue stems from a deeper inherent character of the Egyptian society – as one interviewee states it “we are not an information-based society.” This is another “developing country” characteristic, which should be tackled in order to move forward in the new knowledge-based economy.

The government also has a role to play in promoting the creation of content. If government agencies are encouraged to improve the integrity and standardize the format of the information (ex. trade, economic and other types of data) and statistics they release, Internet content companies will be able to offer a wider more useful range of information and products.

### Nomadic Experiences in Egypt

Nomad is a newly formed company that is focusing on building its own in-house content in specific areas. Nomad recently (21/8/00) launched its sports portal with the onset of the Olympics Tournament in Australia, named "Minhina.com"<sup>29</sup>. Nomad focuses on language and style of reporting, as its marketing edge and building Arab perspectives on regional events. Using CNN as a model for content, Nomad is challenging the way existing reporters write and present information. Some of the obstacles faced by reporters is the "supersensitivity regarding divulging information," Con O'Donnell Managing Editor of Nomad, remarks. Moreover, there is "a culture of paranoia of giving information" when it comes to the government. There is a willingness to sell information, but not provide it freely. Some organizations do not even have basic statistics - for ex. the Football Association was not able to provide statistics on league players because it simply did not have this information at hand. There is a long waiting time to retrieve visual info as well. Since there are no photo archives in newspapers, Nomad does its work directly through photographers. It gets statistical information from people who know these facts from history. It also depends on "stringers" who are people normally working at sports clubs, who disseminate breaking news to Nomad before it reaches local newspapers or international press agencies.

The model used to promote content in emerging countries is somewhat different. It is recommended that offline content is used to promote online content. Since the number of users of the 'Net is still very low - the hard copy is the basic medium for dissemination of information and can then be used to promote more content and give incentives to use the Internet and access more interesting information and opportunities.

## 8. International Negotiations and Agreements

Currently many international negotiations and agreements are taking place which will formulate and determine the global electronic commerce framework. Among the major players on the international arena are WIPO (World Intellectual Property Organization), UNCITRAL (United Nations Commission on International Trade Law), OECD (Organization for Economic Cooperation and Development) and the WTO (World Trade Organization). These organizations are holding periodical meetings to negotiate and determine rules and regulations for global electronic commerce. Moreover, other international agreements have had a significant impact on countries' "readiness" for electronic commerce. For example, Egypt is not a signatory to the Basic Telecommunications Agreement or the WIPO copyright treaty and the Madrid Protocol for International Registration of Marks. It is imperative that Egypt participate actively in the many international fora that are laying the foundations and regulations for electronic commerce.

## 9. Monetary Issues

One of the typical attributes of developing countries is low income level. Therefore affordability is a critical issue. Electronic Commerce is a tool of information technology, meaning computer utilization, web-hosting, connectivity services...etc. This section aims to summarize cost issues that are related to the Internet and IT via comparison of costs in Egypt to developed countries.<sup>30</sup>

<sup>29</sup> Minhina means "starting from here"

<sup>30</sup> When reading this section please take note that adjustments need to be made for relative wage rates, therefore the gap is further increased.

Item	Cost
<b>Individual Spending on IT</b>	Individual spending on IT in Egypt is \$5/year, while is \$995/year in Switzerland. Individual income in Egypt = \$1100/year while in Switzerland = \$20K Hence, Egyptians spend 0.5% on technology, whereas Swiss spend 5%, from their individual income, that of the Swiss being 20X that of the Egyptian. <sup>31</sup>
<b>Hosting Cost &amp; Price/Performance</b>	Egypt=\$60 USA=\$25 Taking into consideration the average income, this figure is costly for an Egyptian. Additionally, the price/performance is very slow. This is an added (time) cost in itself.
<b>Website Design and Implementation</b>	Cost ranges from \$500 to \$35,000, the minimum cost still being too expensive.
<b>Internet Access</b>	15\$/month in Egypt. \$10/month in U.S. <sup>32</sup> 80,000USD for T1 connection versus 14,000USD in the U.S.
<b>Computers</b>	Adjusting for relative wage rates, a computer in developing countries is approximately 5-10 times more expensive than in the USA <sup>33</sup>

Therefore cost is an obstacle to accessibility of the Internet. Workaround solutions such as technology access centers provide a compromise solution. These centers may provide services to the general public or to specific industries situated in industry zones.

## 10. Pragmatic Projects

The best proof that E-commerce is a means towards making businesses more efficient, reducing costs and making wealth is through practical projects. An initial step was taken to assess the "size" of electronic commerce activity in Egypt. Companies working in the e-commerce domain are still laying the foundations and venturing on their very first projects in the field. In mid 1998, it was accounted that only ten websites rise to offer some level of transactional back office and clearance mechanism that provide some form of Internet enabled acquisition of goods/services.<sup>34</sup>

### **Business to Consumer (b-to-c)**

From the business-to-consumer side, most commercial sites in Egypt provide presence/cataloging level e-commerce. In the forefront, was a grocery-shopping attempt, which provided an online shopping experience to the Egyptian public, coupled with physical presence of a supermarket. There was a fair return on investment (ROI); yet low revenue qualified the entire attempt as purely experimental.<sup>35</sup> However, there are a few representative examples of b-to-c commerce that vary from selling flowers, Egyptian artifacts and Arabic software, to educational courses.

### **Business to Business/Administration (b-to-b/a)**

At large, 57% of procurement in Egypt remains within government operations.<sup>36</sup> Therefore, the government holds a strong potential to be a b-to-b/a prospect. Yet the number of e-commerce attempts from the government potential in comparison to

<sup>31</sup> International Data Corporation, 1997.

<sup>32</sup> Butterly, Tom. "Constraints to the Growth of Electronic Commerce in Developing Countries." Annual Trade Point Meeting, Lyon, France, November, 1998.

<sup>33</sup> Ibid.

<sup>34</sup> Internet Arab World, July, 1998.

<sup>35</sup> "An Internet User Profile in the Middle East." Presented at Comdex'98, by Intouch Communication Services, Cairo, Egypt

<sup>36</sup> Government investment figures for the fourth five-year plan. General National Plan, Ministry of Planning, May, 1998.

the local private commercial business is negligible. Nonetheless, there have been several e-commerce projects on the b-to-b level, which are still in the preliminary phase of operation.<sup>37</sup> This very small level of e-commerce activity is an indication of further effort is required in this domain in the private, but most importantly in the public sector.

#### **CiraNet – Pharmaceutical Portal**

The pharmaceutical industry is taking the lead in launching into the vertical portal business. CiraNet was launched during the summer of 2000. It is a joint venture (50/50) between Citibank and Raya Holdings (an IT holding company). This is a business-to-business exchange between suppliers and buyers of pharmaceutical products in Egypt. Raya recently obtained a license from the Ministry of CIT for a public data network, which would be connecting buyers with suppliers. This portal will provide English and Arabic content. It will also extend its services to include ASP services such as call centers, financial services and mail services. One of the issues that is of concern is supplier connectivity, let alone IT capacity. There are 19,000 pharmacies in Egypt out of which 2,000 have personal computers. Citibank plans to extend its plans to other sectors; travel, auto industry, textiles, petroleum, branded consumer goods and consumer durables. A pilot will be up and running by November of 2000 and the project will be going live by the first quarter of 2001. However, many obstacles are arising while going through the initial phases of the project. The main problem is business *culture*; these pharmacies have been doing business in a certain way and are not accepting to change the way they do their business. There is a strong resistance to change. There is a need to build trust in this new purchasing process, as well as building trust in online payment mechanisms. Pharmacies will be using vendor cards - a compromise solution - where purchases are made from a specific vendor within a certain credit limit. Many of the pharmacies are not even using personal computers to run their business, let alone the Internet. Therefore, there is a need to reengineer the way business is done. Other concerns include legal protection; there are no current laws that recognize financial transactions on the web. Furthermore, there are currently no laws on digital signatures and no official government positions on e-tax.

#### **e-Government?**

Not many people enjoy dealing with the government; one of the main reasons is due to public-sector inefficiency. Government departments are vertically organized while many of the services that they deliver require collaboration between employees across departments. The Internet offers solutions to this problem via introduction of government portals that can provide a one-stop shop for all of a citizen's needs. The citizen does not need to know about the organizational complexity behind the scenes because the portal is transparent to all transactions that actually occur in the government departmental matrix.

The Egyptian government is aware that its own e-government strategy can have a powerful catalytic effect on business in general. Before moving on to all embracing portals that cover every aspect of government activity, it is important to "start small, scale fast, deliver value," as Jay Nussbaum from Oracle remarks. The Ministry of CIT has been working closely with Microsoft to establish a framework for electronic government. This project, funded by Microsoft, will be implemented with Telecom Egypt. All telephone services are to be automated and remotely accessed. These services include customer complaints and payments of national and international bills.

<sup>37</sup> No statistics are available to measure project success.

The Cabinet Information and Decision Support Center (IDSC) and the Ministry of Communications and Information Technology have been coordinating efforts to provide government services online. The IDSC recently launched a pilot program to create information kiosks to the public. The IDSC surveyed international initiatives related to electronic government and concluded that these services can be provided in three forms or rather three consecutive stages: a) Interactive Voice Reponse (IVR) b) Information Kiosks 3) Internet. A pilot was conducted to provide the services of the Ministry of Administrative Development via the channels mentioned above. Voice services are provided to the public through dialing of a three digit number. One thousand services are currently provided for 25 sectors. Moreover, these public information kiosks that include PC's will be installed in rural and remote areas to enable the public to access forms for a particular service and submit these forms for processing. Moreover, the Internet is providing the forms online to the public at [alhofoma.gov.eg](http://alhofoma.gov.eg) (alhofoma literally means "government"). The first service provided on the web is the issuance of the national id card. Three hundred forms are currently displayed on the website.

The Ministry of CIT is currently collaborating with VISA and Banque Misr to enable interactive payment of the telephone bill over the Net through use of credit cards and/or the Post Office.

## 11. Legal Environment<sup>38</sup>

On a global level, many businesses and consumers are still wary of conducting extensive business in cyberspace due to the lack of a predictable legal environment that governs transactions and results in concerns about contract enforcement, intellectual property protection, liability, jurisdiction, privacy and security.<sup>39</sup>

On a national level, a local study confirms that from the written scripts point of view, the existing Egyptian law is ready for electronic commerce implementation and the resolution of disputes that may arise through electronic transactions.<sup>40</sup> However, a separate law for certificate authorities and e-commerce-related cases is essential. Certificate authorities are synonymous to other impartial third parties in Egypt that offer technical reference in case of disputes e.g. conscription companies; specific laws were created in order for these third parties to operate. Moreover, specialized circuits are needed in order to deal with e-commerce cases.<sup>41</sup> Furthermore, the legal system is in dire need of reform. Judges and lawyers are overburdened with work<sup>42</sup> and require training and specialization in specific fields of expertise, as electronic commerce and IT.

A joint legal electronic commerce committee was formed in coordination with the IDSC and the Ministry of Justice (3/2000). This committee drafted the Egyptian

38 El-Nawawy, Mohamed and Ismail, Magda. "Overcoming Deterrents and Impediments to Electronic Commerce in Light of Globalization." Inet'99, July, 1999.

39 However, these are concerns that are shared worldwide and are beyond the scope of this paper.

40 "Towards Electronic Commerce in Egypt: A Certificate Authority for Egypt," Electronic Commerce Committee, The Internet Society of Egypt, presented at CAINET'98, March, 1998, Cairo, Egypt. The Egyptian legal system follows the principles of the French legal system and not the Anglo-American system, which requires precedence, and creation of new laws for new situations. We use the French system and no new laws need to be drafted, only modifications to existing laws.

41 Dr. Hossam Loutfi, Professor at Cairo University, Beniuef Department. There has been an intention to upgrade the know-how of these judges, however cannot because of (a) The incredible large number of cases they deal with and (b) Need to have permanent awareness of new laws that are issues in the country as well as international laws and conventions that Egypt has acceded to, in order to have a "complete" view when judging cases.

42 There are over 15,000 judges in Egypt where each judge must write 1300-rulings/month and read 4000 cases/month, each case averaging 50 pages long!

cyberlaw which should be passed by the General Assembly in the next parliamentary rounds (11/2000). At the moment, there are no laws for digital signatures or electronic contracts.

## **12. Social and Psychological Drawbacks**

Commercial relationships are shaped to a considerable extent by social conditions and cultural attitudes. Diffusion of the benefits and opportunities of e-commerce are also limited by the following factors:

### **Trust**

The lack of trust in electronic means of payment remains to be a worldwide deterrent, although subsiding at the moment. However since Egypt is lagging behind, this remains to be a strong deterrent to payment over the Net.

### **Resistance to Change**

This is one of the most typical drawbacks that accompany any technological change in general and e-commerce is no exception. Decision-makers are used to doing business in a certain way and do not want to change the way they do work. Their system is working, so why change it? That is their philosophy, which is a significant hurdle in its own right.

### **Territorial Behavior**

Top-level level decision-makers are exerting "territorial behavior," meaning that they want to have control over their business territory. They feel that they are losing control over the company assets if they venture on to e-commerce. One manager made all the company employees use one e-mail account which he had the password to, so that he could "check" all incoming mail. One shall not dwell on the other managerial/organizational issues that reside in many organizations management systems – but this is a general philosophy that many top-level decision-makers subscribe to.

### **Generation Gap**

Many CEO's of probably most companies in Egypt do not use e-mail for the simple fact that they were not raised in the information age. Information technology is not part of their daily routine. This is also coupled with their mentality of not willing to invest in information technology due to lack of perception of its added value. However, middle-aged managers who are currently in middle management and will rise to top-level management in the next decade are convinced of the benefits of IT and are technologically adept.

### **Language Barrier**

The language barrier is considered one of the problems facing the spread of the Internet in the region on a large scale (82% of websites are in English). The usage of Latin characters is common in the Arab region, but the real penetration to businesses is more bound by using Arabic websites. Language no doubt is a barrier to the use of Net for the majority of the Egyptian and Arab people who only read and write Arabic.





Steps to E-Commerce Success

## V. Priority Focus Areas

The previous paragraphs aimed to give the reader a gist of the deterrents and impediments that stand in the way of e-commerce implementation in Egypt and the developing world. What follows are a list of focus areas that are required to enable this environment in Egypt:

It is crucial for a champion in the government to carry forward the necessary steps<sup>43</sup> to implement e-commerce in the country.<sup>44</sup> The following to do list is by no means a comprehensive one; however, it highlights the resolution of issues introduced in the body of the paper.

**1. Promotion and Awareness:** Encourage and facilitate businessmen associations, key private sector players, Chambers of Commerce, investors associations, the Federation of Egyptian Industries, and Trade Points to "educate, lobby, co-ordinate and motivate" the society to embark on e-commerce.

**2. Human Resource and Skills Development:** It is detrimental to the Egyptian society that professionals are trained and brought to speed with regards to e-commerce in respective fields of practice (ex. lawyers, judges, tax and custom authority...etc). The private sector and governments must work together to create new human resources policies that better prepare students and workers to meet the challenges of the emerging digital economy.

**3. Liberalization of Telecommunications Infrastructure Development:** Telecommunications is considered a "strategic investment" for maintaining and developing a competitive advantage in both local and international markets. The private sector should be encouraged to invest in the upgrade of local telecommunications infrastructure and value added services in urban and rural areas. This would produce a side effect of building know-how and facilitating employment.

**4. National and Legal Endorsement:** There is a need for more public endorsement of e-commerce on the highest government levels since this would induce the proper "line of control" over all ministries...and not just from the Ministry of Trade (where the National Electronic Commerce Committee lies). There is a need for general IT policy reform and more specifically automation of workflow systems within the government (ex. logistics, customs, and taxes). There is also a need for an e-commerce task force consisting of both government and private sector bodies – across the ministries, businessmen associations, etc. to determine the national e-commerce strategy and legal and financial infrastructures required.

**5. Regional Strategy:** Not enough regional planing, initiative, framework, or co-ordination has taken place in terms of the Internet and electronic commerce whether on the research and development, Arabization, organizational, regulatory, or awareness level. The need for a regional strategy is important since this would encourage countries within the region to abide by specific initiatives, plans, standards, etc...

<sup>43</sup> This pyramid is intended merely to draw connotations to the Pyramids of Egypt. There is no theoretical basis for placement of the items in an ascending/layered manner in the pyramid structure.

<sup>44</sup> The authors would like to thank Professor Giorgios Doukidis for introducing this idea at the UNCTAD Arab Regional Conference on Electronic Commerce, September 26-28, 1998, Cairo, Egypt.

**6. Financial Services Enabling:** A general policy of enabling of financial services, credit system furthering and endorsement of standards for financial transaction, should be induced in order to furnish the appropriate environment for e-commerce. The possibility of establishment of a CA must be looked into and endorsed.

**7. Content Development:** Need to encourage the use of Arabic content (and perhaps iconographic content) on the Net in order to attract local and Arab customers to use the Net (in general and) for e-commerce purposes. Crossbreeding and inter-cultural operation needs to be stimulated.

**8. International Negotiations and Agreements:** Should participate aggressively in the formulation process of these agreements instead of waiting till these agreements crystallize and then being forced to accept them as is.

**9. Monetary Issues:** The government needs to look into the means for reduction of general and specific costs related to IT and electronic commerce in addition to sources for funding e-commerce related projects.

**10. Pragmatic Projects:** There is a need for practical projects on the sectoral level (to create a sectoral user base) that address the needs of the community<sup>45</sup> in order to attract industries to venture onto e-commerce. The need for centers of excellence, aid centers for SME's,<sup>46</sup> and telecenters (compromise solutions for e-commerce in rural and remote areas) should be addressed.

In general, efforts must proceed in a spiral rather than wait for one before starting the other.<sup>47</sup> However, when these issues are resolved, new ones, that are just as important will appear.

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<sup>45</sup> One must resist the McDonald's approach – one culture and one language.

<sup>46</sup> SME's: Small and Medium Enterprises

<sup>47</sup> Ibid.

## VI Appendix A List of Interviewees

## List of Interviewees

Name	Affiliation	Position	Contact Details
<i>Telecom Egypt</i>			
Eng. Abdullah Abbas	Telecom Egypt	Central Department Chief of New Services & Marketing	5798055
Sanaa Soliman	Telecom Egypt	General Manager of Marketing	
Elham Zakaria	Telecom Egypt	General Manager, EgyptNet	
Eng. Amr Badawi	Telecom Egypt	Professor at Cairo University & Project Manager of Network Operation Center, Chairman of Technical Working Group, MCIT	012-2172277
Eng. Azza Torky	Telecom Egypt	Vice Chairman for International Telecommunication s & Backbone	012-2171415
<i>Regulator</i>			
Eng. Fekreya Allam	Telecommunication s Regulatory Authority	Vice Chairman	012-2100049
<i>Ministry of Communications and IT</i>			
Dr. Tarek Kamel	MCIT	Senior Advisor to the Minister	012-2139475
Dr. Sherif Hashem	MCIT	Director, Information Society Development Office	
Dr. Ali El Hefnawy	MCIT	Senior Advisor to the Minister	
<i>Other Organizations</i>			
Dr. Gamal Mohamed Aly	Egyptian Universities	Director	012-3108047

	Network		
Eng. Mostafa Abdel Wahed	IDSC	Director Communications Dept	012-2247528
Eng. Christine Arida	IDSC	Senior Network Engineer Communications Dept	3391368/3391372
Eng. Sayed Gharbawi	Motorola	Manager, Middle East Government Relations & Standards	012-2171323
Eng. Amin Kheir El Din	Triangle Group	CEO & Chairman of Business Working Group at MCIT	010-5011125
Sherif Kamel	Regional Information Technology Institute (RITI)	Director	
Dr. Gamal El Sayed	Egyptian German Telecommunication Industries (EGTI)	Chairman & Managing Director	
Horst Kovacic	EGTI	Deputy Managing Director	
Friedrich Pacher	EGTI	General Manager	
W.R.B Wigglesworth		Telecommunication s Regulatory Adviser	
James Hatch	Smith Consortium	Principal	3377552
<b>Mobile Operators</b>			
Eng. Mohamed El Mogy	Click GSM	Director, Regulatory Affairs	010-5009910
Mohamed Shabib	MobiNil	Director, Telecom Authorities Relations	012-3200032
<b>Internet Service Providers</b>			
Khaled Bichara	Link Egypt	Managing Director	012-2105611
Mohamed El Nawawy	InTouch Communications	Ex. Managing Director	012-2103768
Amr Abualam	Soficom Communications	Managing Director	012-2110571
Wael Ammar	GegaNet	Executive Manager	012-3148042
Nagui Anis	United Communications & Starnet	Managing Director	

Tamer Zanaty	United Communications	Business Development Manager	
<i>Other Ministries</i>			
General Mohamed Zamzam	Ministry of Education	Manager, Technological Development & Decision Support Center	7959893
Dr. Tayseer El Sawy	Ministry of Health & Population	Director, Information Center	
Les Fishbein	Partnerships for Health Reform (PHR) in cooperation with the Ministry of Health and Population	Health Information Systems Advisor, Health Policy Support Program	
Ibrahim Ezzat Kabeil	Ministry of Tourism Tourist Authority	Undersecretary of State for International Tourism	2859658
Fatma El Gammal	Egyptian Tourist Authority	Director PC Center	2839968
Amr Saad	Ministry of Tourism Cairo International Conference Center	Manager, IT Center	
Noha Tharwat	Ministry of Tourism Cairo International Conference Center	Web Developer	

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