Abstract

Egypt has led the region (Africa and the Middle East, excluding Israel) in the availability of Internet services on a wide scale. Nevertheless, Egypt is encountering very particular issues and problems – common to developing countries – with regard to electronic commerce. This paper, as it identifies deterrents to electronic commerce in Egypt, hopes to offer a to-do-list for anyone who is championed to overcome this predicament. Nonetheless, the resolution of these deterrents through (1) Promotion, Education and Awareness, (2) Human Resource and Skills Development, (3) Liberalization of Telecommunications Infrastructure, (4) National and Legal Endorsement, (5) Regional Strategy, (6) Financial Services Enabling, (7) Content Development, (8) International Negotiations and Agreements, (9) Monetary Issues and (10) Pragmatic Projects will be (as was the Internet at large) bottom-up driven.

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Introduction

Globalization forces are increasingly affecting commercial and cultural interactions among nations, particularly in developing nations; the speed of interaction and increased accessibility brought about by the Internet has accelerated this trend. It has changed the very nature of national governments, imposed on local national culture and it has promised to homogenize economies. Yet it has enlarged the gap for nations who will not abide by this New World order. Furthermore, the advent of electronic commerce has compelled economists, politicians, lawyers, and bankers to rethink and reengineer work methods, policies, laws, and standards. Within the aforementioned context, this paper aims to outline the main deterrents to the implementation of electronic commerce in Egypt. A to-do-list will be contributed within the inputs of anyone who attempts to venture on the arduous task of getting Egypt e-commerce ready.

Awareness, Education and Promotion

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 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. Furthermore, the number of Internet users in Egypt doubles once every 10–12 months, at half of the global rate. 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 catalysing awareness, the rate of adoption can be accelerated.

HUMAN RESOURCES 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 forecasted that 1,000,000 IT jobs will be available in 2002. 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. 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.

INTERNET AND TELECOMMUNICATIONS INFRASTRUCTURE ENVIRONMENT

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

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. Several positive initiatives have taken place to liberalize Telecom Egypt. Recently, a new head from the private sector has been appointed to the company. Moreover the new Telecom Act for year 2000 will be passed by Parliament.

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later this year. Furthermore, 20% of the company will be offered for IPO in the coming few months.

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 180,000 Internet users, which is equal to 0.18% 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 75% 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.

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 (for example, 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 recognise, accept and facilitate electronic communications (contracts, notarised 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 since a small move by the government through effective national projects (for example, government procurement or electronic government services) would lead to tremendous liberation of 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.

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 technology for the country. This indicates a change in direction and a focus on the use of information and communication technologies as an enabler of public and private sector effort.

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 – UNCTAD (United Nations Conference on Trade and Development) and UNDP (United Nations Development Program) organized the 1st Arab Regional Workshop on Electronic Commerce. Crucial recommendations stemmed from this conference:

- 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);
- 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;
- 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;
- partnerships between public and private entities active in electronic commerce should be stimulated in Arab countries;
- 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;
- 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 these 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.

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 120,000 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 in 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 120,000 users.

Financial Transactions on the Net

The lack of existing compliance mechanisms in the country (for example SET – secure electronic transactions) stems out of a culture that limits the application of computer online 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, which has refused to 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.

CONTENT DEVELOPMENT

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 1,971 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 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.

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 participates actively in the many international fora that are laying the foundations and regulations for electronic commerce.

MONETARY ISSUES

One of the typical attributes of developing countries is a 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 the cost issues that are related to the Internet and IT via comparison of costs Egypt and developed countries (see table below):

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

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 10 websites rise to offer some level of transactional back office and clearance mechanism that
provide some form of Internet enabled acquisition of goods/services.

**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 on-line 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. 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)**

A large 57% of procurement in Egypt remains within government operations. 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 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:

- Damietta and Portsaid Containers Handling & Cargo Companies: These projects demonstrate the use of EDI over the Internet at two Egyptian ports. The companies have secured business with the largest five shipping lines worldwide.
- Egyptian Aluminum Co.: This is one of the largest public enterprise sector companies in Egypt produces 1% of the world’s aluminum. The company processes its requests for proposals over the Internet.
- Capital Exchange: This project is a stock-trading system over the Internet, which links all the trading community of brokers with any potential investor in the world; therefore, providing a better mechanism for trade in the Egyptian stock market.
- Banking: Several banks in Egypt have only currently taken initiatives to incorporate remote banking, Intranet banking and home banking on different levels.

This very small level of e-commerce activity is an indication further effort is required in this domain in the private, but most importantly in the public sector.

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.

**Priority Focus Areas:**

It is crucial for a champion in the government to carry forward the necessary steps to implement e-commerce in the country. 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. **Awareness and Promotion**: 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 Resources 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 (for example, lawyers, judges, tax and custom authority, etc). The private sector and governments must work together to create new human resource 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. **Regional Strategy**: not enough regional planning, 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.

5. **Financial Services Enabling**: a general policy of enabling of financial services, credit system furthering and endorsement of standards for financial transactions, 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.

6. **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.

7. **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.

8. **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.

9. **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 in order to attract industries to venture into e-commerce. The need for centers of excellence, aid centers for SMEs (Small and Medium Enterprises) and telecentres (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. However, when these issues are resolved, new ones, that are just as important will appear.

**CONCLUSION**

Globalization, which is catalysed by the Internet medium, will be expedited around the world as people trade using this medium. Some see that the most enabling mainstream features that facilitate a country to mobilize itself towards being ‘e-commerce ready’ is: (1) having its data present electronically and (2) in a standards based form. The majority of Egypt’s commercial data has only been recently transported electronically and even though the standard may exist in bytes, it is not in the regulatory framework set forth. Accordingly this will deter Egypt’s leadership position. It will also delay the rollout speed by which Egypt may catch up.

Nevertheless, Egypt will catch up. The political commit-
ment made towards New World economy is true. The Policy made at the highest levels in Egypt runs against the belief's of the ‘old guard’, or executives of the regulation that were inherited from the older regimes. The education challenge may be overcome at a segmented level. Sadly, this and other factors maintain a widening gap, within Egypt (in addition to the pervasively widening gap between the haves and have-nots). Therefore, there will emerge the ‘truly have nots’, the ‘truly know nots’. The turbulence caused by them will be felt and may render the conclusions within this paper too optimistic and generally untrue.

The telecom infrastructure problem, is least pressing and it is being overcome, slowly but surely. Deregulation, which is coming about, will be soon governed by International treaties (GATS and GATT) that will further liberate this section. Again the development is not coming from within.

As the Internet users count increases more business-to-consumer forums can come forward. But more importantly, as the government makes a move towards business-to-business e-commerce by enabling its institutions (ministries) to interact commercially, this move alone can shorten the span of time – that is negatively colored by this paper – by half. The government must attain transparency, and generally increase awareness. Imagine if the government determines that 30% of its procurement efforts (hence suppliers RFIs – request for information prior to tender, RFPs, pre-qualifications, tenders, qualification, closes) will be done via e-commerce by 2001. This (objective) type is singularly important.

The longer term solution for the above will come about as more business deregulation comes about and hence as foreign investment comes to buy into this business, then major moves towards e-commerce will be done. Again this development will not come from within, but rather – again – from outside.

Notes
1. 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.

References