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**ELECTRONIC COMMERCE IN THE
UNITED ARAB EMIRATES**

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I- Introduction

Internet trade is increasing at an increasing rate making way for unprecedented opportunities. Individuals, enterprises and governments around the world are using this technological revolution to conduct their transactions. So far e-commerce has been mainly active among the OECD countries headed by the United States. In these countries new programmes and on-line security software are being invented and legal measures are being adopted, all contributing to the enhancement of the volume of electronic trading.

Developing countries have, so far, been absent from the active e-commerce market for many reasons of which the absence of the basic requirements of this mean of trading. Engaging in e-commerce is no more an option, most of the future trading will be conducted electronically, consequently, developing countries have to speed their efforts towards laying the ground to facilitate this mode of trading in their countries. In fact, e-commerce could help boost the economies of these countries. It may provide the opportunity for small and medium enterprises in these countries to expose their products in new markets. At the same time it might allow governments to buy capital and other goods more effectively and economically. In other words e-commerce could help to reduce the import bills and increase export returns of developing countries. However, this could only happen if individuals, governments, and private sectors collaborated to create the right environment for e-commerce to thrive.

Basically, in order to venture into e-commerce the availability of adequate telecommunication infrastructure, hardware and software and Internet services are minimum requirements. ESCWA member countries have taken steps towards providing these facilities and, in fact, they have been connected on-line for a few years now with varying numbers of on-line connections per capita. Although the number of Internet subscribers per capita is still small, yet these subscribers are involved in few simple commercial activities, which are expected to increase as more people connect to the Internet. So far most of the transactions conducted by individuals and businesses in the ESCWA member countries tilt towards importation of products into those countries although the internet provide opportunities for those individuals and businesses to sell their products abroad. Therefore, in order not to widen the gap between imports and exports a number of measures have to be taken by governments, businesses in the private sector as well as by individuals in order to have a central role in global e-commerce.

The Economic and Social Commission for Western Asia has included in its work programme the organization of an Expert Group Meeting on "Trade facilitation and Electronic commerce in the ESCWA Region". This meeting was in line with the developmental issues that constitute the ESCWA's Trade Section's activities where trade issues and its economic development characteristics are studied. The meeting includes studying the e-commerce situation in four ESCWA member countries of which is UAE.

This paper, which is based on a fact-finding mission and a survey, explores the facts of e-commerce in the United Arab Emirates. The mission included meetings with different governmental officials and non-governmental persons working in the private sector and non-governmental organizations in both Abu Dhabi and Dubai. The visits included the Ministry of Planning, the Ministry of Economy and Commerce, Abu Dhabi and Dubai's Chambers of Commerce and Industry, the Central Bank of the UAE, The General Information Authority, the Municipality of Dubai, The Department of Ports and Customs- Dubai, the Arab Trade Financing Program, the World Trade Centre, Private Banks,

private companies practicing e-commerce, "Etisalat", "Emirates Internet and Multimedia" and "Comtrust". During these meetings discussions centered on the preparations made and the impediments facing the inception and growth of e-commerce (Appendix B: Contacts in UAE)

The survey was conducted on a sample of 10 enterprises dealing with e-commerce. The sample included enterprises that provided different e-commerce solutions from telecommunications to online security and payment. The survey was based on a set of questions specifically designed to investigate the problems and solutions concerning the creation e-commerce in the UAE. (Appendix A: Guidelines for Interviews, Annex C: List of Interviewees)

In fact, this paper checks the readiness of UAE to embrace e-commerce and the preparation for an e-commerce enabling environment. It investigates the availability and the quality of basic infrastructure needed for the growth of e-commerce, be it in the telecommunications, Internet services, on-line security, banking facilities and the legal environment. Finally the paper makes a number of recommendations for the government of UAE as well as for the private sector to consider in their pursue of e-commerce.

II- The General E-Commerce Environment.

There is much optimism concerning e-commerce in the United Arab Emirates and this optimism is found on valid reasons. The UAE has the best telecommunication facilities in the region; it utilizes the latest technologies in telephone and Internet services. Credit card coverage and Internet usage are high and payment gateways and on-line security solutions are available. In addition, human resources, local and foreign, could be described as having the adequate skills to operate electronic commerce.

Although most of the requirements of electronic commerce are available in UAE, little e-commerce is taking place. Many firms have websites but actual on-line buying and selling is minimal both at the local and the global levels. A number of online shops and a few malls have been established. However, most of these online stores are mainly for advertising and marketing. In fact, the e-commerce experience for these merchants is just another channel of doing business. This is more so at the small and medium enterprises level. These enterprises should be guided to the right way of conducting e-commerce. Many of them lack business strategies that help them draw, plan and implement procedures.

This modest e-commerce performance is due to a number of factors of which the cultural factor that renders consumers reluctant to use the Internet for trade with other parties they can't see. Moreover, language may be a hindering factor to the use of e-commerce. Arabisation of the Internet might help increase the number of subscribers, as the local population may relate more to Arabic enabled sites. In fact cultural traits of this region when taken into consideration and applied in the content of websites will be an asset to the promotion of e-commerce. Another factor is trust, many customers have lack of trust: and they are weary of using their credit cards and the leakage of personal data and information. The most important reason for the lack of e-commerce practice is the combination of the lack of awareness about what electronic commerce really is and what solutions are available, and the lack of laws and regulations to protect such transactions and consumers from online fraud.

What is needed at the Federal level is: a strategy by the government to manage and regulate e-commerce in the country; more awareness and drafting of laws and regulations to embrace electronic commerce. At the emirates level, Dubai stands out, it has shown a great deal of government initiative, which has produced some awareness about e-commerce. However, Dubai needs two things to move forward with e-commerce namely: further awareness raising and the promulgation of laws and regulations to govern and manage e-commerce transactions.

However, Dubai's enthusiasm about moving forward with e-commerce and e-government is worth noting. The government of Dubai represented by Sheikh Mohammed Bin Rashed Al-Maktoum has launched three main initiatives aiming at embracing globalization by utilizing latest communication and information technologies for daily management of government as well as for doing business. Dubai Internet City and e-government initiatives were launched in 1999 to be implemented by October 2000 and October 2001 respectively. More than two hundred million US Dollars have been already spent on Dubai Internet City whose phase-I will be inaugurated by the end of 2000. Moreover, the government of Dubai launched the first on-line virtual mall at www.tejari.com. "Tejari.com", which is the first digital business-to-business marketplace in the Middle East; was developed by Oracle and launched by Dubai Port Authority upon the request of Sheikh Mohammed in June 2000. Tejari has already been operational and has the government of Dubai as its largest member; the latter has moved its procurement operations onto "tejari.com".

The Dubai electronic government (e-government) project aims at connecting all government offices together as well as with citizens through the Internet. It aims at facilitating governmental transactions. Citizens will be able to pay their dues, apply for licenses and obtain approvals and information from the different governmental departments without having to go to these offices in person. When e-government becomes functional many citizens who have never used computers and the Internet will be compelled to use these two facilities in order for them to easily fulfill governmental procedures. Hence e-government will encourage more citizens to be connected to the Internet and consequently to be exposed to e-commerce.

Some of the several government institutions, whose databases will constitute the electronic network for e-government, have already migrated their services to the Internet; they are already offering online services to citizens. It is possible now to pay traffic fines via the Internet by entering the Dubai Police website. The Dubai Department of Ports and Customs offers the facility of on-line transaction processing up to clearing of goods. At the same time, Dubai Electricity and Water Department offers the possibility of on-line bill reading and soon it will provide payment facility over the net.

In sum, UAE has no blue print for launching e-commerce. At the emirates level Dubai is quite robust in joining the developed world in using ICT (information and communication technology) for both governing the emirate and conducting commerce in and out of it. Dubai is cashing on the reputation it has earned in the past two decades as a commercial hub to establish a state-of-the-art e-commerce centre namely Dubai Internet City (DIC) Since most of the pillars of e-commerce are available in Dubai, (and the UAE for that matter) with the political will and the adequate financing, there are prospects for Dubai to rise as a regional e-commerce centre.

III- E-Commerce Infrastructure in UAE

1- Information and Communication Infrastructure

1.a- Telecommunications: “Etisalat”

United Arab Emirates telecommunications compares with those of developed countries. “Etisalat” which is largely controlled by the government, is the sole provider of telecommunications in the country. Etisalat’s network consists of Satellite, Earth and Coastal Stations, local lines covering length and beneath UAE, submarine cable systems, cable ships, optic fiber cables and international projects. Etisalat’s provision of telecommunications based on such infrastructure will certainly assist in creating an enabling environment for e-commerce.

Etisalat has monopoly over telephones, mobiles and main lines. Its telephone services are quite high standard and are offered at affordable prices. Moreover, it provides data services of which: Electronic Mail Network which provides 24 hours per day automatic and electronic transfer of messages; Integrated Services Digital Network (ISDN) which allows all forms of information (video, audio and data) to flow through a single network interface with a considerable speed; and Asynchronous Transfer Mode or ATM which allows the transportation of data from a wide range of applications using one seamless network thus enabling users to consolidate current divers networks.¹ Lately Etisalat has also introduced the Asymmetric Digital Subscriber Line to consumers and will introduce it soon for businesses.

The UAE has the best telecommunication facilities in the ESCWA region. The number of main lines and cellular mobile subscribers per 100 inhabitants are the highest. The number of main line telephones for 1998 was 38.9 per 100 inhabitants almost two folds higher than the world’s figure of 14.27. While the number of 1999’s cellular mobile subscribers amounted to 20.96 per 100 inhabitants almost 4 folds of the world’s figure of 5.39. Telephone calls are also provided at affordable prices almost the cheapest in the region.

1.b- Internet Services: “Emirates Internet and Multimedia”

Etisalat also provides Internet Services; actually it is the only Internet Service Provider (ISP) in the UAE. The Internet was introduced to the UAE by "Etisalat" in 1995; at that stage the Internet proliferated slowly. Now, Internet subscription has picked up and the number of users has reached 400,000 according to Dubai Municipality sources, which makes the UAE Internet connectivity per 100 inhabitants comparable with the first ten countries in the world.

Etisalat’s Internet company is known under the name “Emirates Internet and Multimedia” and it provides a number of services of which Internet access, leased lines and web hosting services. Access is provided in two ways. The first is dial-up either analogue (56 kilobit/sec) or ISDN (up to 128 kilobits/sec). The second is through ADSL (Asymmetric Digital Subscriber Line) either for residential or commercial use; the latter use will be launched in October 2000.

Dial-up Internet connection is available at 1.8 Dirham/hour (50 cents) during the day and 1 Dirham/hour (less than 30 cents) during the night. ISDN technology is in use and has also gone down in cost. ISDN at 64kbs cost 1.8 Dirham/hour during peak hours and 1.0 Dirham/hour off peak time. As for ISDN at 128kbs the charges are 3.6 Dirham/hour peak hours and 2.0 Dirham/hour off peak. In the case of ADSL, which is 8 times faster than ISDN, its cost is still high amounting to 380 Dirhams per month per subscription. Etisalat also provides leased line services, which could cost around 10,000 Dirhams per month. Leased lines usually are expensive but could connect from 20 to 30 users.

¹ www.Etisalat.co.ae/a_strong2

It is worth mentioning that “Emirates Internet and Multimedia” has spread its activities to encompass the region. Through its Emirates Internet Exchange (EMIX), the first network of its kind in the Middle East, it provides Internet backbone connectivity to the regional ISPs. EMIX has already 23 customers in the Middle East, Africa and Asia Pacific.

The Monopoly of “Etisalat” over telecommunications in the UAE including telephones, mobiles and Internet access has been criticized few times. Although “Etisalat” has provided a wide range of excellent services, there are some critics who believe that competition in the telecommunications sector would have even driven “Etisalat” to provide better services while consumers would have benefited from a competitive price and better terms.

Like many countries in the ESCWA region, telecommunications in the UAE is controlled by the government. However, Saudi Arabia, Kuwait, Lebanon and Jordan have licensed multiple private companies to sell Internet access while keeping telecommunications management to the publicly owned companies. “Etisalat” has kept Internet services under its control. Many users complain about the fact that there is too much control over the Internet access in the UAE. “Etisalat” has built many firewalls and controls price and policies concerning Internet access.

2- On-line Security: “Comtrust”

Etisalat has also established e-commerce services in the UAE through its “Comtrust” department. “Comtrust” provides a comprehensive e-commerce solution. It provides technology that helps build public trust and confidence in e-commerce. According to “Comtrust”, the e-commerce solutions they provide offer businesses, governments and consumers an efficient and cost-effective way of conducting business. And the technology they offer will help the UAE business community go global thus reaching new markets and increasing revenue.

“Comtrust” provides secure e-commerce services utilizing digital signature, public key encryption technologies and public key certificates based on public key infrastructure (PKI). Moreover, “Comtrust” is a certificate authority (CA) or a trusted third party in charge of certifying the authenticity of users. By issuing digital certificate it does not only serve as means of authentications but facilitates public key encryption and digital signing thus ensuring the confidentiality and integrity of the data. In addition, “Comtrust” utilizes certified secured socket layer (SSL) technology to ensure non-repudiation of transactions. It also offers server digital certificates which are the proof that on-line shoppers need to know that a site is real and could be trusted.² “Comtrust” will soon provide payment solutions for credit cards, debit cards and B-to-B transactions by tying up with banks and financial institutions.

Moreover, “Comtrust” provides a range of hosting services that are meant to address the requirements of small and medium enterprises as well as corporate organizations. There are also plans that “Comtrust” form contractual alliances with logistics companies for the delivery of goods. “Comtrust” plans to provide a comprehensive e-commerce services will certainly encourage e-commerce in the UAE. The fact that “Comtrust” comes from an institution (Etisalat) that enters every house and business in the UAE, and that enjoys a lot of trust by the citizens, will encourage merchants and corporates to immigrate to e-business and e-commerce.

² www.comtrust.co.ae/cert.

3- Banking Aspects of E-Commerce in UAE

The UAE Central Bank brings all banks together under one system. It offers payment mechanism of direct debit payment. It is currently introducing secured socket layers and will introduce PKI and smart card technologies. The Central Bank also helps small banks that cannot afford e-banking by sponsoring them and having them share applications, and by linking them to the one payment system. Moreover, the Central Bank has plans to amend its laws in order to introduce a section on electronic book keeping and electronic signature. It also has plans to introduce the multiparty payment system.

Electronic banking has been introduced in the UAE. However, the only bank that offers comprehensive e-banking by providing payment gateway is the "Emirates Bank International" (EBI) which is 80 per cent government owned. EBI and the National Bank of Dubai have also signed up with Comtrust, the only Certificate Authority in the UAE, to provide online credit validity. Consumers and businesses that have accounts with these two banks can verify their accounts.

The rest of the banks that have announced e-banking offer services that were automated before like ATM transactions, transfer of money and checking of accounts, but do not provide secured payment gateways. The National Bank of Dubai, The National Bank of Abu Dhabi, Al Mashrek Bank and Union National Bank have announced their secured Internet banking but still do not offer e-commerce payment gateways.

"Comtrust" has also created a virtual mall to which it has provided a payment gateway. But since Comtrust is not a bank and can not deal or clear payments directly with credit card companies (Visa, Master card), requested shops (located in the virtual mall) to deal with the Emirates Bank International the only payment gateway in UAE with regard to Visa, Master Card and Diners. Other banks are trying to offer payment gateways such as the National Bank of Dubai and Al-Mashrek Bank, but their operations are not yet end-to-end solutions and have to go through the Emirates Bank International.

It is worth mentioning that most of the virtual shops and malls that have been founded by UAE merchants are hosted in the USA or the United Kingdom and are in fact using foreign banks for settling online payments.

4- The Absence of Legal Aspects of e-commerce

Laws that govern e-commerce are absent in the UAE. The existing laws that are applied in the country are not commensurate with the new global situation and certainly do not help e-commerce. All institutions, government and private sector, agree that without laws that govern all aspects of e-commerce it will not flourish. Therefore, there is a need for the issuance of laws that govern electronic signature and electronic documents as well as a need for consumer protection laws and the amendment of the commercial code law that may cater for the banking aspects of e-commerce.

Most of the government institutions have realized the importance of having laws that govern electronic commerce. The Central Bank has plans for drafting a law that entitles it to organize payment and regulates electronic commerce in the federation. Moreover, the Ministry of Trade and Commerce would like to be involved in drafting a law that organizes e-commerce. And the General Information Authority in Abu Dhabi involved in amending the commercial code law to suit the new

reality of e-commerce. The Authority also has plans to put a comprehensive e-commerce strategy for the federal government of UAE to consider.

Other laws such as the ones that govern computer crimes, fraud and hacking are also non-existent in the UAE. There is a need for the UAE to draft such laws and to harmonize them with international laws, as computer crimes are mainly international in nature being committed by people across borders.

The availability of laws that protect e-commerce operations is important especially that the UAE and Dubai in particular are encouraging large foreign companies to come and invest in the country. Foreign companies are attracted by sound legal environment that ensures trust and confidence, and fights piracy and fraud. It is worth noting that UAE has already enforced Intellectual Property Right Laws even though the official law will be promulgated by the end of the year 2000. The enforcement of such law was necessary since UAE has become a WTO member in June 1996. Moreover, work should be initiated towards having consumer protection laws in the country.

5- Logistics: Adequate Delivery of goods

UAE has 11 ports, 6 airports, 8 post offices and 8 Free zones³. Dubai, Sharjah, and Abu Dhabi's ports, airports, post offices and land ports of entry provide advanced cargo and custom services where customs and cargo procedures are done electronically. It can be generalized that delivery of goods in and out of the UAE meets the standards required for e-commerce to grow. Especially so in Dubai where world-class services are provided at all its ports of entry.

Dubai stands out in cargo and customs services. It has automated all the procedures for sea, land, and air cargo. The success of its free zone "Jabal Ali" is a testimony to the success of its advanced cargo and custom services. These services are, in turn, an important support for e-commerce in the emirate whose government has big plans to transform it into a regional hub for electronic commerce and IT industry.

The Department of Ports and Customs in Dubai (DPC) has migrated from a paper-based institution to a computer based. With the emergence of e-commerce DPC has moved now to the Internet to provide web-based customer services. "E--Mirsal" is a web-based application that has been introduced recently at DPC. "E--Mirsal" was built on the application called "Mirsal" which laid the foundation for electronic interactions of the procedures of Dubai customs and cargo community.

"Mirsal" was migrated to the Web to become E-Mirsal which is an electronic network that links DPC with air, sea and land cargo agents, handling authorities and banking system for data interchange and electronic payment to clear consignments. E-Mirsal, so far provides: processing of bill of entry, delivery orders, and an electronic payment gateway, in addition to a statistical inquiry system (HS codes, country of origin, country of shipment/destination and products by country and vice versa). These developments, however, are crucial for the creation of a conducive e-commerce environment commensurate with the plans of the government of Dubai.

³ Report of ESCWA's Regional Adviser on Telecommunication on his mission to the Ministry of Planning in Abu Dhabi, Feb. 2000, p.11

6- The Demand for Human Resources and IT Skills

The population of UAE is around 2.9 million which comprises a small market not to the advantage of the growth of e-commerce. Most of the 2.9 million comprising UAE population accounts for more expatriates than locals mainly from India, Pakistan, the Arab countries (Egypt, Lebanon, Syria and Jordan) and the United Kingdom.

IT skills in the UAE are available for the current limited IT industry and e-commerce, relying mostly on IT technicians and professionals from India, Lebanon and Egypt. Moreover, when Dubai Internet City will become functional, the Emirate's demand for IT skills will soar. Dubai might face some difficulty in attracting IT technicians and professionals especially with the existing labour laws that limit the mobility of expatriate employees and denies them home ownership. However, Dubai plans to enlarge the pool of IT skills to cater for its forthcoming project at DIC to transform the emirate into IT and e-commerce centre. The government of Dubai is already targeting IT professionals from Bangalore and Hyderabad, India's IT centers⁴, as well as from Egypt and other Arab countries.

In order to build up future skills, the government of Dubai has plans to build an Internet University that offers courses in e-commerce, multimedia operations and other relevant courses. When such a project sees fruition, IT professionals will be more available to meet the demand of Dubai Internet City (DIC).

Meanwhile and until the Internet University is established, other universities and vocational schools should add e-commerce courses to their programmes. These educational institutions along with other trade promotion organizations should devise training courses and seminars on e-commerce transactions and solutions. Training is crucial to start e-commerce operations especially for small and medium enterprises that are reluctant to start e-business.

IV- The Role of the Government and the Private Sector

1- The Role of Trade Promotion Organizations

Trade promotion organizations can have a major role in promoting e-commerce. They can guide their members, especially small and medium enterprises, to the proper migration of their businesses to the Internet. They could provide information, raise awareness and conduct seminars to the benefits and requirements of e-commerce.

The Abu Dhabi Chamber of Commerce and Industry (ADCCI) has 50,000 member companies of which 10 thousand are large enterprises. The chamber has posted a directory of all the member companies on-line and it advertises its site on international portals. Only 500 companies have websites and 1500 have e-mails. Few of the 500 companies that are on-line buy and sell through their websites. It was estimated that only 10 companies trade over the Internet including 2 or 3 malls. The chamber has established a quasi committee on e-commerce that campaigns to raise awareness. This committee has organized training courses and seminars and the Chamber has helped some companies design their websites. ADCCI admits that Abu Dhabi's government has not shown much initiative concerning e-commerce. It realizes that e-commerce awareness and initiatives are slower than those found in Dubai.

⁴ viewswire.com/display_article.asp?doc_id=E1108706

The Dubai Chamber of Commerce and Industry (DCCI) is optimistic about e-commerce in Dubai. They expect that it will further increase when e-government will be launched in 2001. At that time the Chamber will be linked with all the rest of the government departments in Dubai. DCCI encourages its 46,000 members to communicate with the Chamber electronically (most of them have e-mail). The Chamber participates in, and organizes seminars on e-commerce, Internet usage and website design. It has also started issuing certificates of origin on-line. According to DCCI, large enterprises in Dubai are well prepared to pursue e-commerce while smaller ones have a long way to go and thus, need the support of the Chamber. The Chamber in Dubai is also active at the educational level. It owns Dubai College (previously Dubai Polytechnic) which is a business school that is currently designing e-commerce courses.

It could be generalized that at the federal level with the exception of Dubai awareness programmes on e-commerce are greatly needed. However, the Chambers of Commerce and Industry in both Dubai and Abu Dhabi, which combined represent most of the companies in the UAE, are active and aware of the compelling needs to assist their members and raise their awareness towards new technologies and e-commerce. Other laws such as the ones that govern computer crimes, fraud and hacking are also non-existent in the UAE.

2- The Role of the Government

The UAE is a Federation of 7 independent emirates namely: Abu Dhabi, Dubai, Sharjah, Ras Al-Khaimah, Ajman, Umm Al-Quwain and Al-Fujaira. At the Federal level there is an absence of a comprehensive e-commerce strategy, however there are some sporadic initiatives that have relevance to e-commerce. The Ministry of Finance and Industry has plans to extend electronic services: Government-to-Consumer (G-to-C), and the Ministry of Labour and Social affairs is planning to issue work permits through the Internet.

In a nutshell, prior to having an e-commerce strategy at the federal level, the UAE government has to address the following impediments: lack of awareness at the enterprise and citizen levels, lack of databases in the Ministries, which are pre-requisite for connecting the different ministries together, the inadequacy of the existing laws which are not commensurate with the existing world trends of globalization and e-commerce, and the lack of trust in, and protection for, transactions done over the Internet.

Notwithstanding this fact, a notable exception at the emirate level presented itself in 1999 when Dubai Crown Prince Sheikh Mohammed Bin Rashed Al-Maktoum initiated a sort of a strategy that set Dubai on a major ICT track that could serve the progress of e-commerce in the Emirates. Sheikh Mohammed announced that by 2001 Dubai will have an electronic government (e-government) where the various government institutions will extend service electronically to the citizens. He also announced the launching of Dubai Internet City (DIC), a free-trade zone for business operated over the Internet by enterprises in Dubai.

Moreover, in April 2000, Sheikh Mohammed commissioned Dubai Port Authority to coordinate with Oracle to launch Tejari (tejari.com) the first digital market place in the ESCWA region and its largest B-to-B marketplace. The government of Dubai has also announced that it had moved its procurement transactions to "Tejari.com". Since most companies in Dubai are in some business with the government, many of them moved to "Tejari.com" making. Although the number of

companies in this electronic marketplace is around 50, the target set for the first year of corporation is 1000.

Although these three initiatives are not part of a published strategy by the government of Dubai, it is certainly a result of a vision that was translated into a policy and a workplan for embracing ICT as well as to further promote trade in Dubai. In fact, it is part of a larger strategy that aims at further diversification of Dubai's economy. Dubai has for the past two decades turned away from depending on oil towards enhancing trade and re-exports through the development of free-zones in the Emirate. The government of Dubai aims at becoming a trade centre that encompasses an area stretching from India to the Middle East and North Africa. Having an e-commerce Centre at Dubai Internet City will certainly help Dubai come closer to its aim.

3- Dubai Internet City

Announced by Sheikh Mohammed as the "world's first free trade zone for e-business", Dubai Internet City is supposed to be inaugurated in October 2000. Work has been implemented and in fact phase I of the project will be ready to meet that date.

DIC is being built with a world-class technical infrastructure that includes high bandwidth, secure high-speed support infrastructure and low cost telecommunication of which IP (Internet Protocol) telephony. There are plans that DIC will have its own ISP and will only depend on "Etisalat" marginally. This state-of-the-art infrastructure supports the idea that the "New Economy" is being shaped by rapidly evolving technologies whose most crucial element is speed. Moreover, DIC has been announced to have access to a large pool of high skilled professionals and low cost knowledge workers. Again this demand for skills is in line with the "New Economy" which is based on knowledge, information and entrepreneurship whose most crucial resource is talent⁵.

With state-of-the-art infrastructure and world-class facilities, office and residential accommodations, DIC is expected to function as a centre for information technology innovation as well as e-commerce. DIC will be the meeting place of creative ideas and investment. It will encompass all IT related sector companies that are venturing into the field of e-commerce. This will include areas such as e-finance, e-marketing, e-design and multimedia.

DIC will be accompanied by the "Internet University" that will train and graduate highly skilled manpower who in turn will carry out research in IT. This University is still in the assessment stage; the popular thinking is that the government of Dubai in cooperation with top private universities of the world will manage and run the university in order to enlarge the skills pool for DIC companies to draw on. Moreover, DIC will also house Research and Development Centre for new technology initiatives and a Science and Technology Park that will support all resident companies⁶.

It is to be noted that most of the office spaces in phase I of DIC has been rented out. More than 100 firms have been licensed to operate in DIC while 350 more are waiting for licensing. Among the companies that have been financed are Oracle, IBM, Microsoft, Intel, Compaq, Master Card International, Emirates Bank International, Arabia Online, and others⁷.

⁵ www.dubaiinternetcity.com/abstract

⁶ www.dit.net/itnews/newsmar2000

⁷ viewswire.com/display_article?/_id=E1112494

Dubai is poised to host such an e-commerce and IT Centre. Such project is expected to succeed because of a number of factors: the strategic location of Dubai, and the logistic, banking and telecommunication facilities. Adding to this the unprecedented incentives that the government of Dubai is offering companies in DIC such as 100 per cent foreign ownership and leasing and renting facilities. All these attractions combined might lure investors into choosing Dubai and namely Dubai Internet City as their regional headquarters for the Middle East and beyond. Dubai could be a regional centre that could also encompass Subcontract Asia, the Middle East and North and East Africa.

V- Summary, Conclusions and Recommendations

The United Arab Emirates is fertile ground for the growth of e-commerce. It has the best technical infrastructure in the region, one of the best credit card coverage, payment gateways and one of the most efficient and advanced delivery systems. Notwithstanding these facts, little e-commerce is taking place due to several factors.

UAE is a small country where consumers and businesses lack trust and sufficient awareness about e-commerce. This is coupled with shortage of manpower and IT skills, a problem that requires the country's dependence on expatriates. In addition, laws and regulations to protect Internet users are not yet put in place. Most importantly the UAE federal government does not have a specific strategy on e-commerce. Only Dubai among the seven emirates has showed some initiatives that could be described as action-plans for the implementation of a number of projects that aim at developing the emirate as an IT and e-commerce centre. It is therefore, concluded and recommended that:

In general, awareness about e-commerce is weak in the UAE with some variations from one emirate to another. But one fact remains is that most of the country's individuals and small and medium enterprises either do not know what is e-commerce is or have insufficient and sometimes distorted information about it. In Dubai the level of awareness is much higher than other emirates due to the government's initiatives, which started in 1999 and are being implemented at present. Even those businesses practicing e-commerce regard it just an additional selling channel.

As is the case in the other countries of the region, most of the UAE population especially senior citizens, merchants and consumers, have a cultural apprehension towards computers and Internets. E-commerce could cause more of an apprehension especially that it entails doing business with partners that cannot be seen.

Most of the on-line transactions taking place in the UAE tend to take shape of importing into the country books, videos, CDs and other equipments. E-commerce is tilting towards importation rather than exporting, thus widening the trade balance gap. This is true since the purchasing power in the UAE is strong; people are affluent, most of them hold credit cards and find it easy to shop on-line and receive goods from abroad.

There is a need to enhance awareness about e-commerce especially that the UAE is a fertile ground for on-line trading. The government, public and private trade promoting organizations, and the private sector should launch effective awareness campaigns and capacity building seminars; they should create an e-commerce culture in the country by clearing the concept of e-commerce and

what it really entails. They should also encourage entrepreneurs to expose their products on-line and to advertise adequately in order to sell and export products and not just be passive consumers.

Universities and vocational institutes should offer IT and e-commerce courses in order to prepare the right human resources for e-commerce. Computer and Internet literacy should also be encouraged.

Small and medium enterprises should have business and strategies that help them move to e-business and online trading

The Arabisation of websites should be taken seriously, not only to attract UAE citizens but the neighboring Arab population in the Gulf states. This is important since the UAE is poised to become a trading centre for the region. Arabic enabled websites will attract a large consumer base since such sites will provide concepts that are closer to consumers' understanding.

The Monopoly of "Etisalat" over all telecommunications infrastructure has been criticized a number of times. Many believe that competition will lead to better services and terms as well as to more affordable prices. In fact, this criticism could be most relevant to the Internet services domain where "Emirates Internet and Multimedia" is the sole ISP in the country. With more than one ISP, Internet services are likely to improve, thus encouraging e-business and e-commerce in the country. Moreover, privatization of telecommunication services has proved to make this sector more efficient and viable, an option UAE may want to consider.

More banks in the UAE should move to Internet banking providing their customers with services that facilitate online transactions. At the same time insurance companies should build confidence of buyers and sellers by insuring merchants and products.

The UAE does not have laws or regulations that recognize digital signatures nor digital documents. In fact, it does not have laws that address computer crimes and on-line fraud. There is therefore a need to address these requirements. The different legislative bodies should act rapidly towards drafting of such laws and harmonizing them with international laws in order to avoid unnecessary controversies, as computer crimes, fraud and evidence are international in nature.

Finally the government of the UAE should draw a comprehensive strategy for e-commerce in the country. When such a strategy is drawn, a programme can be devised. An e-commerce programme should embrace all aspects of e-commerce with objectives such as enhancing infrastructure, promoting human resources and providing laws and regulations. A section or department at the Ministry of Trade could be established in order to host and see the implementation of such a programme.

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Appendix A: Guidelines For Interview

E-commerce As It Relates To You
Are you conducting e-commerce in your business?
Is it the main business activity or is it a supporting activity?
In what type of e-commerce activity is your company currently involved?
Do you have any aspirations to engage in another type of e-commerce activity?
Have you encountered problems setting up e-commerce solutions in your business?
Have you encountered problems while conducting e-commerce activities?
What are the main concerns you have as related to e-commerce and your business?
E-commerce Players & Factors
What organizations could assist in creating active participation in e-commerce?
What are the criteria that would facilitate e-commerce activities?
Are there issues related to trade, in particular?
What are e-commerce characteristics we can borrow from developed countries?
What characteristics we should not borrow?
Banking & Insurance Sectors as Players
What role is the banking sector taking with e-commerce?
What role would you like the banking sector to take with regards to e-commerce?
What role is the insurance sector taking with e-commerce?
What role would you like the insurance sector to take with regards to e-commerce?
Infrastructure & Technical Considerations as Players
Do you think that we have adequate infrastructure to conduct e-commerce?
Can we compete with developed countries?
How would Arabisation of the internet help promote e-commerce in the region?
How does the telecommunication infrastructure affect your business?
How does security on the internet affect your business?
Government Regulations
What kind of role should governments play in e-commerce?
Do you know of any regulations that are promoting e-commerce activities?
Do you know of any regulations that hinder e-commerce activities?
What are your suggestions to improve the government's role in e-commerce?
What kind of support are you getting from government agencies regarding e-commerce activities you are conducting, or wanting to conduct?
Would you describe a viable relationship between the private and public sectors to promote e-commerce?
How does the taxation law affect e-commerce?
How do customs regulations affect e-commerce?
Legal Aspects
What role is the legal branch taking in promoting e-commerce?
What role would you like the legal branch to take with regards to e-commerce?
Do you think that regional cooperation helps in promoting e-commerce? If so, how? If not, why?
What is the impact of international agreements on Lebanese e-commerce?
Promotion of E-commerce
How can e-commerce be promoted in Lebanon and the region?
In your opinion, who can help promote e-commerce?
Do you think that there is adequate awareness regarding e-commerce in the region?
Your Wish List
What would you like to see happen in the business of e-commerce?
What five actions would you take to promote e-commerce in the region?

Appendix B: UAE Mission Contacts

Abdulla A. Hashim
Senior Manager
Business Development & Sales
Emirates Internet & Multimedia

Ali Al Kamali
Managing Director
Datamatix

Viviane S. Zabbal
Assistant Manager
Research & Communications
World Trade Center Abu Dhabi

Adel Ahmed Lootah
Commercial Director
Dubai Internet City

Ahmed Al Mousawi
IT & Telecommunication
Network Infrastructure Incharge
Dubai Internet City

Mohammed A. Al-Jallaf
Senior Manager – Electronic Banking Services
Emirates Bank International

Mahmoud Khalil Al Hashemi
Research & Statistics Department
Central Bank of the UAE

Heshame Mohd. Al Zarouni
Research & Statistics Department
Central Bank of the UAE

Abdulhakim Abdulkarim Malik
Director of Information Technology Dept.
Dubai Municipality

Mahmoud Mohammed Al Khatib
Director of Information Technology Center
Department of Ports & Customs-Dubai

Adel H. Al Ali
Head of Operation, System Development & Statistics Section
Information Technology Center
Department of Ports & Customs-Dubai

Ahmed Al Banna
Assistant Director General
Studies & International Affairs
Dubai Chamber of Commerce & Industry

Salem Khamis Al Shair
Director
Finance & Administration Affairs Division
Government of Dubai
Department of Economic Development

Khaled Bin Zayed Al-Nehayan
Chairman
Bin Zayed Group

Salim A. Al Hammadi
Executive Director for Research & Statistics Department
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Al-Futtaim Trading Ltd.