E-commerce

E-Commerce its Impact on the Economy of Developing Countries

Introduction:

The New Economy is full of contradictions. In this new world, companies need to collaborate and to compete with rivals -- simultaneously. Critical to business success is the ability to develop and manage a set of bi-lateral relationships with TTPs (trusted-third parties). The way business is being done is changing.

Organizations are facing new challenges in terms of delivering cost savings across the enterprise. To achieve profitable targets and decrease pressure from ever-shrinking margins, companies have increasingly looked at reducing indirect maintenance, repair and operations (MRO) costs, such as office supplies, temporary personnel and IT equipment.

At the same time, the e-commerce revolution is starting to mature. First, there was the gold rush of business-to-consumer (B2C) ventures, of which only a handful have become household names like Amazon.com. Not surprisingly, attention soon switched to business-to-business (B2B) applications with forecasts estimating the market to be worth between $2,700 bn 4 to $4,500 bn5 by 2004. The impending convergence of business imperatives and e-commerce solutions to create digital trading exchanges, offers a significant opportunity fundamentally to re-invent companies. The growth of exchanges is forecast to be even more prodigious rising, from $145 bn in 1999 to over $ 4.5 trillion by 20041.

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1 Forrester 2000
The Electronic Commerce is not new event:

The history of technology may help put its story into realistic perspective. If you know the roots of the Internet, you will have a better idea of its promises, as well as its limitations. You will discover first, that much electronic commerce is not as new concept as many people believe, and second, that much electronic commerce has been carried out without relying on the Internet. Some of these commercial activities have been gradually integrated into the Internet.

Electronic commerce, or E-Commerce, as it is popularly called, is not a new event. It has been around for at least three decades

Banks have used their own telecommunications lines since the early 1960’s to transfer funds electronically from one branch to another and from one bank to another. This may be regarded as the earliest use of commerce executed by means of electronic data transferred through communications lines.

The reason E-Commerce became so visible in the second half of the 1990s was the commercial aspect of the Internet. Once the Internet was opened to commercial activity, this worldwide network became the major carrier of business-to-business electronic data exchange.

The Internet and the new Business model:

To understand E-Commerce one must understand both the technologies that serve as the infrastructure and the business models taking advantage of the technologies\(^2\). Both technologies and business models currently used are innovative and fascinating. However, we must realize that within several years almost all commerce will be e-commerce to some extent. No one considers doing business via telephone or fax as t-commerce or f-commerce. It is only a matter of time before we realize that there is no reason to call business that is executed digitally via the Internet or other networks “E-Commerce”\(^3\)

Business on the web:

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Commercial Organizations the world over are looking to the Internet to take advantage of the great potential of the Web as a channel for doing business\(^4\).

E-commerce holds out enormous promises for producers in developing countries: easier access to the markets of developed countries and higher incomes resulting from these new trading opportunities.

E-commerce can take several forms depending on the degree of digitization (transformation from physical to digital) of (1) the product (service) sold (2) the process, and the delivery agent (or intermediary)

The contribution of online markets on the creation of revenue: According to a study by Boston Consulting group, E-commerce will explode in the next several years. If the market maintains its expected growth of 33% per year, the Internet will account for one fourth of all business-to- business (B2B) purchases by 2003, a total value of $2.8 trillions.

Kevin Jones\(^5\) lists three ways businesses save money and create new revenue: Inventory squeezers, value creators, and product creators.

*Inventory squeezers* save buyers money and enabling them to quickly find information on price, availability, and guaranteed arrival dates of items the buyer need to make products. For example, E-Steel.com lets steel makers reduce the extra inventory they keep to ensure that delivery delays do not prevent them from meeting customer demand. The site links 1,444 companies from 65 countries.

*Value creators* are companies that would never have existed without the Internet and whose value for customers could be created only with such a large network. For example Albriris.com, a Web hub for used books, helps buyers and sellers find each other by availing the inventories of used book dealers to online book vendors such as Amazon.com. Albriris helps sell books that might otherwise never be sold. Value creators provide intermediary service.

*Product Creators* are Internet markets that provide services that eventually enable the creation


of physical products that would otherwise not have been
helped www.pl-x.com developed. For example (universities, businesses, and research groups exchange
intellectual property so that an idea that one
organization might never turn into a product can be
manufactured and marketed by another.

Organizations or Companies In Arab countries must define what
type they are creating for others and who would be likely to pay the
service they provide. In other words, they must create a Business
Model. A Business Model is the principal manner in which a business
operates, it is equally important to understand how different business
models work, both on and off the web. In fact, in recent years the
Web has brought greater initiative to business more by inciting the
creation of innovative business models than by introducing a new
technology. No business model, whatever the technology behind it, can be
successful if it does not, in the end, generate income.

Regardless of business model, B2B commerce has generated the
greater portion of online commerce. Forrester Research firm,
estimated the volumes B2B in 1999 and made forecasts for 2003. The
firm’s estimates are shown in the figure below (Fig 1)  

<table>
<thead>
<tr>
<th>Industry</th>
<th>Estimated Online Sales in 1999 (billions)</th>
<th>Projected Online Sales in 2003 (billions)</th>
<th>Increase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmaceutical and medical</td>
<td>$1.4</td>
<td>$44.1</td>
<td>3.150</td>
</tr>
<tr>
<td>Motor Vehicles</td>
<td>$9.3</td>
<td>$212.9</td>
<td>2.289</td>
</tr>
<tr>
<td>Paper and office products</td>
<td>$2.9</td>
<td>$65.2</td>
<td>2.248</td>
</tr>
</tbody>
</table>

Forrester.com (March 7, 2001)
<table>
<thead>
<tr>
<th>Industry</th>
<th>2000</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping and warehouse</td>
<td>$2.9</td>
<td>$61.6</td>
<td>2.124</td>
</tr>
<tr>
<td>Consumer Goods</td>
<td>$2.9</td>
<td>$51.9</td>
<td>1.790</td>
</tr>
<tr>
<td>Construction</td>
<td>$1.6</td>
<td>$28.6</td>
<td>1.789</td>
</tr>
<tr>
<td>Food and Agriculture</td>
<td>$3.0</td>
<td>$53.6</td>
<td>1.787</td>
</tr>
<tr>
<td>Petrochemicals</td>
<td>$10.3</td>
<td>$178.3</td>
<td>1.731</td>
</tr>
<tr>
<td>Heavy Industries</td>
<td>$1.3</td>
<td>$15.8</td>
<td>1.215</td>
</tr>
<tr>
<td>Industrial equipment</td>
<td>$1.3</td>
<td>$15.8</td>
<td>1.215</td>
</tr>
<tr>
<td>Utilities</td>
<td>$15.4</td>
<td>$169.5</td>
<td>1.100</td>
</tr>
<tr>
<td>Computing and Electronics</td>
<td>$50.4</td>
<td>$395.3</td>
<td>784</td>
</tr>
<tr>
<td>Aerospace</td>
<td>$6.6</td>
<td>$38.2</td>
<td>578</td>
</tr>
</tbody>
</table>

**Figure 1**: the past and future of online B2B Transactions

Worldwide B2B transactions over the Internet are projected to eighteen fold, from $403 Billion in 2000 to over $7300 billion in 2004. The dollar volume of B2B is 10 to 15 times greater than that of B2C, about 80 percent of what we call E-Commerce is trade between businesses and about 20 percent is between business and consumer. Electronic marketplaces are the Internet’s greatest contribution to the economy.

An *Electronic marketplace* is an environment where businesses (and individuals for that matter) can trade through communications technology. Unlike a physical marketplace, trading is in cyberspace, with no need for the parties to convene. Without need for physical location or travel, thousands of organizations can sell within seconds, with full disclosure of transactions. The availability of information to all market participants, a condition that has always been a key of competitive markets, has finally been accomplished through the Internet. This brings it significantly closer to what economist call perfect market: No single entity, seller or buyer, can affect prices. Prices are truly determined by the combined forces of all participants.

Near-perfect markets have been established in industries that recently were quite limited in their use of information technology for transactions, such as the construction industry, the competition significantly brings down the total cost to the buyer. Not all B2B electronic Market places follow the same pattern. Some serve as auction sites, some serve only as matchmaking sites, and some, link buyers, sellers and service providers.

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While venture capitalists and corporate world may have most of their attention directed to Business-to-Business (B2B) ventures and models in developed countries, million of people are exposed to online business mainly through Business-to-Consumer (B2C) activities because there are more consumers in the world than there are businesses. A study by the “Consulting firm the Boston Group” attached the 1999 B2C volume at $33.1 billion and estimated it almost doubled to $61 billion in 2000. Consumers prefer to shop and buy on the Internet for three major reasons: Convenience ✓ Saving time ✓ Comparative shopping ✓

Shoppers can shop from anywhere in the world, at any time and with a single of the mouse execute a purchase order. Shoppers can visit numerous vendors’ sites within a short period of time. While it could take several hours to drive to shopping malls and browse stores, they can accomplish much more shopping from the comfort of home in a few minutes.

One of the Web’s greatest advantages over traditional shopping comparative shopping. Numerous sites let shoppers compare item and prices in preset categories.

E-commerce holds out enormous promises for producers in Arab Countries: easier access to the markets of developed countries especially B2C, and higher incomes resulting from these new trading opportunities.

The obstacles to reaping these benefits for firms in developed countries inside developing countries appears quite hard, in other words the access and communication with consumers in developing countries seems unreachable for different reasons that we can discussed some of them in this paper:

<table>
<thead>
<tr>
<th>Reason</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiteracy</td>
<td>1</td>
</tr>
<tr>
<td>Lack of computer-related skills.</td>
<td>2</td>
</tr>
<tr>
<td>It is a matter of bridging the 'digital divide' that arises from poor telecom infrastructure</td>
<td>3</td>
</tr>
<tr>
<td>This results a low rate of Internet users</td>
<td>4</td>
</tr>
</tbody>
</table>

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8 The Boston Group, “The state of Online Retailing 3.0, April, 17,2000.
The number of illiteracy is increasing over the world from 1970-2000 (847million to 862 million). But it is decreasing over this period in developed countries, and it is estimated to be reduced to 35 million in 2015, which is not the case in other regions such as Arab countries it started with 48 million and grew to 67 million in 2000, and it is estimated to be raised to 71 million. (According to the statistics from UNESCO ⁹) (See details in Appendix A)

Even the statistics demonstrate that the situation is critical for developing countries, but the firms in developing countries can use it as a benefit to get access to the market in the developed countries and the case for the firms in developed countries to reach developing countries market by using E- Commerce B2C as a mean to sell their product or services have less chance.

2. Lack of computer-related skills.
   It is known that some attempts to use Information of Technology in education have already started in some Arab countries, but they remained local and isolated. It is also known that many of the Arab educational reforms have introduced computer and technology as part of their regular

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⁹ www.unesco.com
education curricula, but in most of the cases, IT has not been integrated in the whole teaching/learning process.

Another challenge may be facing the Arab countries and affecting their developmental abilities. In the age of globalization, information is being mainly produced and disseminated primarily in one language. Access to knowledge is dependent on a level of fluency in that language. This raises questions regarding equity in access to knowledge and ways to overcome such an obstacle.

3. It is a matter of bridging the 'digital divide' that arises from poor telecom infrastructure

Under the joint supports of the United Nations Development Programme (UNDP) and the Arab Fund for Economic and Social Development a recently published report, Arab Human Development Report 2002 (Creating Opportunities for Future Generations), diagnosed human development in 22 Arab countries.

The report uses the number of Internet hosts per 1,000 people as one proxy for access to knowledge. The report concludes that the Arab countries have the lowest level of access to Information and Communication Technology (ICT) even lower than sub-Saharan Africa. The report attributes the poor access to ICT to the absence of national information policies that "defines aims and priorities, coordinate the various sectors and formulate strategic alternatives with regard to the
creation of infrastructure and the development of human and information resources."

Another aspect of poor access to knowledge is the low rate of Research and Development (R&D) funding. R&D expenditures as a percentage of GDP were a mere 0.4% for the Arab world in 1996, compared to 1.26% in 1995 for Cuba, 2.35% in 1994 for Israel, and 2.9% for Japan.

The report also addresses the situation of the youth as a subset of knowledge acquisition. Based on surveys conducted in a number of countries, 51% of older youths expressed a desire to immigrate to other countries, as a measure of "their dissatisfaction with current conditions and future prospects in their home countries." Hence, "the disparity between ambitions and their satisfaction has in some cases led to isolation, lack of interest and dissatisfaction."

These findings led Dr. Rima Khalaf, UNDP Assistant Administrator and Director of the Regional Bureau of Arab States, to warn, "If these deficits persist, the Arabs will not be able to make it."(10) It is hardly surprising that the report received "lukewarm" reception in the Egyptian media because, "either the press is not free, or... the report is not interesting enough."n10

As results from the above points discussed earlier, (Illiteracy, Lack of computer-related skills, Infrastructure for telecommunication) the Internet users in developing countries and according to the statistics from different sources, many are online throughout the world is an inexact one at best. Surveys abound, using all sorts of measurement parameters. However, from observing many of the published surveys over the last two years, here is an "educated guess" as to how many are online worldwide as of September 2002. And the number is 605.60 million.

<table>
<thead>
<tr>
<th>Region</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Total</td>
<td>605.60 million</td>
</tr>
<tr>
<td>Africa</td>
<td>6.31 million</td>
</tr>
<tr>
<td>Asia/Pacific</td>
<td>187.24 million</td>
</tr>
<tr>
<td>Europe</td>
<td>190.91 million</td>
</tr>
<tr>
<td>Middle East</td>
<td>5.12 million</td>
</tr>
<tr>
<td>Canada &amp; USA</td>
<td>182.67 million</td>
</tr>
</tbody>
</table>

10) "A person who is not free is poor," Al-Ahram Weekly Online, July 11-17, 2002
Table 3 The Internet users over the world and in different regions

It appears clearly that is big heterogeneity between different regions over the world. The proportion Internet Users vary from one region to another for Example Africa (6.31/605.6)=1%, Canada, USA =30%, Europe =31% …

The next figure shows the Internet users in Arab countries, (December, 2001).

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>DATE</th>
<th>NUMBER</th>
<th>% POP</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahrain</td>
<td>December 2001</td>
<td>140,200</td>
<td>21.36</td>
<td>ITU</td>
</tr>
<tr>
<td>Iraq</td>
<td>December 2000</td>
<td>12,500</td>
<td>0.05</td>
<td>ITU</td>
</tr>
<tr>
<td>Kuwait</td>
<td>December 2001</td>
<td>200,000</td>
<td>9.47</td>
<td>ITU</td>
</tr>
<tr>
<td>Lebanon</td>
<td>December 2000</td>
<td>300,000</td>
<td>8.38</td>
<td>ITU</td>
</tr>
<tr>
<td>Oman</td>
<td>December 2001</td>
<td>120,000</td>
<td>4.42</td>
<td>ITU</td>
</tr>
<tr>
<td>Palestine</td>
<td>March 2001</td>
<td>60,000</td>
<td>-</td>
<td>Ajeeb.com</td>
</tr>
<tr>
<td>Qatar</td>
<td>March 2001</td>
<td>75,000</td>
<td>9.75</td>
<td>Ajeeb.com</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>March 2001</td>
<td>570,000</td>
<td>2.5</td>
<td>Ajeeb.com</td>
</tr>
<tr>
<td>Syria</td>
<td>December 2001</td>
<td>60,000</td>
<td>0.35</td>
<td>ITU</td>
</tr>
<tr>
<td>U.A.E.</td>
<td>December 2001</td>
<td>900,000</td>
<td>36.79</td>
<td>ITU</td>
</tr>
</tbody>
</table>

www.nua.ie

11
<table>
<thead>
<tr>
<th>Country</th>
<th>Month 2001</th>
<th>Users</th>
<th>Rate (%)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yemen</td>
<td>December</td>
<td>17,000</td>
<td>0.09</td>
<td>ITU</td>
</tr>
<tr>
<td>Algeria</td>
<td>March</td>
<td>180,000</td>
<td>0.57</td>
<td>Ajeeb.com</td>
</tr>
<tr>
<td>Egypt</td>
<td>December</td>
<td>600,000</td>
<td>0.85</td>
<td>ITU</td>
</tr>
<tr>
<td>Libya</td>
<td>March</td>
<td>20,000</td>
<td>0.24</td>
<td>Ajeeb.com</td>
</tr>
<tr>
<td>Morocco</td>
<td>December</td>
<td>400,000</td>
<td>1.28</td>
<td>ITU</td>
</tr>
<tr>
<td>Sudan</td>
<td>December</td>
<td>56,000</td>
<td>0.15</td>
<td>ITU</td>
</tr>
<tr>
<td>Tunisia</td>
<td>December</td>
<td>400,000</td>
<td>4.08</td>
<td>ITU</td>
</tr>
</tbody>
</table>

(www.nua.ie) **Table 4** Internet Users in Arab Countries (source:)

The rate of Internet users in Arab countries is also very low compared to the population, which is not the case in USA, and Canada the rate exceed 50% of the population.

<table>
<thead>
<tr>
<th>Country</th>
<th>Month 2002</th>
<th>Users</th>
<th>Rate (%)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>April</td>
<td>165.75  million</td>
<td>59.1</td>
<td>NielsenNetRatings</td>
</tr>
<tr>
<td>Canada</td>
<td>March</td>
<td>16.84 million</td>
<td>52.79</td>
<td>Nielsen NetRatings</td>
</tr>
</tbody>
</table>

According to the modest Analysis, which favored Firms in developing countries to get access in Developing countries, and develop B2C, the questions that we can ask are they ready to do it and what are the challenges that must be taken in considerations.
Selling goods in global markets is complicated. Firms that cannot meet the delivery and quality requirements of advanced markets will not find these any easier with e-commerce. On the contrary, providing online catalogues requires firms to acquire new competences. And even for the most competent firms, commerce-readiness involves four significant challenges to firms in developing countries:

- Speedy transport,
- Efficient payment systems,
- Confidence in the product,
- The availability of redress.

If developing countries producers want to use e-commerce as a means of selling to buyers around the world, transaction arrangements to support e-commerce must be in place:

- Speedy transport

There is no point trying to sell products that cannot be delivered at reasonable cost to the buyer's desired location. For digital products this is not a problem, but most developing country exports are not digital, they are material. Electronic transactions often raise expectations for faster delivery, making the transport infrastructure even more critical for the development of e-commerce. The policy lesson is that addressing the 'old' issues of providing efficient road and rail links, port facilities and fast customs clearance is essential for operating in the 'new economy'

- Efficient payment systems:

E-commerce requires low-cost and reliable payment systems. While various solutions to the problem of payments for e-commerce transactions are being developed, it is essential that banks in developing countries must participate to make these attributes of payment systems as a criterion of helping the firms to get access developed countries market.

- Confidence in the product:

Buyers must be confident that the product being purchased meets the desired specifications. Product specifications are becoming increasingly complex as industrialized economies impose norms relating to product safety and labeling, as well as for labor and environmental standards. This makes e-commerce purchasing more hazardous for the buyer.

- The availability of reimbursement:

As in all other forms of commerce, customers must be confident that they can obtain reparation if something goes wrong. The seller's assurance may not be sufficient. E-commerce may be enhanced by online ADR (alternative dispute resolution) mechanisms offering rapid, low-cost
redress for disputed transactions. These mechanisms are not intended to replace (slow and expensive) court adjudication, but to supplement it.
To some extent, new e-commerce relationships are already providing some of the solutions to support transaction arrangements. E-commerce portals that bring together buyers and sellers are providing an increasing range of services - from secure payment systems to links with logistics providers, insurance providers and customs clearance services. There are also new private certification agencies developing online certification schemes addressing international quality standards and environmental and employment standards (ISO 9000, ISO 14000 and SA 8000, respectively). Certification schemes are being developed by intergovernmental organizations such as the European Union and the UN agencies as well as by producer associations in developing countries. Some service providers even offer to collect samples from potential suppliers and dispatch them to potential customers. Although such solutions are beginning to become available, their reach is likely to be confined to large producers in developing countries whose operations are based in large urban centers.

**Conclusion:**

Business and individuals use E-Commerce to reduce transaction costs, speed the flow of goods and information, improve the level of the customer service, and enable the close coordination of actions among producers, suppliers and customers. E-Commerce enables consumers and companies to gain access to worldwide markets. E-Commerce and its related activities over the Internet offer enormous promises for producers in developing countries; it can be the engine that improves local economic well being through rapid integration into globalization of production.

E-Commerce offers an enormous guarantee for producers in Arab countries to an easier access to the markets of developed countries and higher incomes resulting from these new trading opportunities. Even the
obstacles and challenges are great, but the opportunity to gain access to
the developed countries market is achievable.

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