

The Software Industry in Egypt as a Potential Contributor to Economic Growth

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INTRODUCTION

During the 1960's computing was introduced to Egypt. Its use and applications was limited to the government and the public sector. During the 1980's the introduction and diffusion of computing was widespread following the global personal computer evolution. Personal computers effectively affected organizational development and growth due to the continuous developments in the information technology industry and caused by increasing hardware penetration, software innovations, and the build-up of the telecommunications and information infrastructures. This chapter assesses the recent developments in the software industry in Egypt, especially post to the establishment of the ministry of communications and information technology late in the 1990's as a major building block of the information technology industry and a possible active contributor to economic development at large through a strong, quality and much needed export-oriented software industry that could have concrete implications on the economy.

BACKGROUND

Although computing started in Egypt in the 1960's, it was only in 1985 that the active role played by the government caused a change in the way information technology was perceived as a vehicle for socioeconomic development and a tool to improve the decision making process (Kamel, 1999). This change was accelerated by the continuous development of new tools and techniques that had direct and concrete effects on socioeconomic development. Furthermore and after the establishment of a ministry for communications and information technology, Egypt's information society initiative (EISI) was launched in 2001 to provide a broad perspective on the strategic plan for information and communication technology diffusion in Egypt (Kamel, 2005). Therefore, it is perceived that the way developing countries will manage the computer driven process of change will influence whether its socioeconomic development goals will be promptly achieved. This will be bound to the continuous ability to invest in emerging technologies, the provision of skilled human resources and the completion of a state-of-the-art information and communication technology

infrastructure. Many researchers have identified information technology as the combination of information, computing and communication technologies that through convergence could help the development process (The American Chamber of Commerce in Egypt, 2001).

Today, with the evolution and diffusion of the Internet, the integration of these technology elements is invaluable to societies around the world and strongly contributing to globalization. Moreover, newly evolving economies in the 21st century are mainly dependent on hardware to process information; communication that acquire and distribute information and software which helps manage the whole process. The importance of information technology has been greatly emphasized in most developing countries in a deliberate effort to ensure that they do not lag behind, with an emphasis on localization and adaptation to local community needs. In most developing nations, the government has played the most important role in the diffusion of information technology being the largest user of computers (Moussa & Schware, 1992) and through its policies, laws, and regulations it still exerts the largest influence on the diffusion of information technology throughout different organizations (Nidumolu & Goodman, 1993). Such concept has gradually started to change throughout the last decade through massive deregulation of the information and communication technology sector with a focus on telecommunications. For example, in the case of Egypt, the government used to be the primary user of information technology with an accumulated market share of 25% (Ministry of Communications and Information Technology, 2006). However, recently increasing use of information and communication technology has been greatly felt in the banking, health, employment, trade, and local administration and education sectors among others (CIT Egypt, 2006).

Since the establishment of Egypt's information society initiative in 2001 and its amendments in 2003 to cater for the changing local and global market needs, and through a public-private partnership (PPP), there has been a growing and effective role being played by the private sector through a win-win formula that is applied on a variety of information and communication technology projects that relates but not limited to (a) PC for every home, (b) free-subscription Internet model, (c) information technology clubs, (d) broadband diffusion, (e) mobile penetration, (f) electronic

government institutionalization, and (g) software incubation and development (Kamel & Ahmed, 2006).

Software as an integral element of the information and communication technology industry is attracting increasing attention of developing nations after many years where hardware was really the focal point. Moreover, it is important to note that the software industry is an excellent setting to understand the features of the knowledge-based economy (Seleim, Ashour & Bontis, 2004). It is also important for knowledge acquisition and transfer since the essence of software development is pure knowledge and the fact that 95% of software business is intangible capital (Grant, 2000; Hoch, Roeding, Purkert, Linder & Muller, 2000). India is a classical example with 6.5 billion US dollars industry and increasing steadily (Nasscom, 2000). In Egypt, the ICT market has been steadily increasing since the late 1990's (Economic News Bulletin, 2003). The software market according to the Egyptian Software Association (ESA) was estimated at 50 million US dollars in 1998 mainly locally developed with a focus on tailor-made applications and with an annual growth rate of 35% locally and expectation of 200% increase in exports annually (Harvard Consulting Group, 1999). During that time, the total market was estimated at being 140 million US dollars however with massive expectations of growth in the following years. It is also important to note that since the late 1980's, Egypt has been playing a leading role in software publishing in the Middle East and 80% of its software exports are regularly going to countries in the Gulf region and mainly Saudi Arabia (Arab Human Development Report, 2002). Table 1 demonstrates a number of elements that relates to the software industry in Egypt showing the different stakeholders, market outreach and the various applications whether customized or packaged.

IT FOR DEVELOPMENT

Egypt is the cradle of an ancient civilization dating back to 3000 BC. With a population of about 72 million, it is the most populous country in the region (Ministry of Communications and Information Technology, 2006). About 28% of its population is enrolled in education programs (schools and universities education), 58% are under the age of 25 and 19 million represent its workforce; around 6 million are working for the government sector (Information and Decision Support Center, 2003). Egypt is trying to expand its industrial base and modernize itself technologically with agriculture accounting for 17% of the gross domestic product, industry for 32% and a large service sector (51%) mainly built around tourism and transportation. A comprehensive economic reform program was implemented that enabled its current economic growth rate to stand at 6.1% annually with an inflation of 5.3% (Economic News Bulletin, 2003). Estimates show that unemployment is standing at 11% and the labor force is growing at around 2.7% annually (Information and Decision Support Center, 2003).

The government of Egypt is more determined than ever to build-up the national infrastructure and keeps pace with the IT evolution worldwide. Since 1999, the concerned ministry in collaboration with different stakeholders embarked on a master plan to build Egypt from an information and communication technology perspective that is based on the fact that as an emerging market, Egypt has already made considerable achievements in terms of economic development and is ready to move aggressively into the global market and the only vehicle to realize that objective is through a state-of-the-art information and communication technology infrastructure (Osman, 2000). There is no doubt that the information technology sector can act as a driving force behind a potential new economy for Egypt. With the growing size of the global

Table 1. Software industry elements

Industry Characteristics	
Stakeholders	Government Private sector Public sector Civil society organizations Individuals
Market Outreach	Europe Arab countries North America
Applications (customized and packaged)	Functional applications Educational applications Cultural applications Arabization of applications

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