

The Software Industry in Egypt

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INTRODUCTION

During the 1960s computing was introduced to Egypt. Its use and applications were limited to the government and the public sector. During the 1980s the introduction and diffusion of computing was widespread following the global personal computer evolution. Personal computers effectively impacted organizational development and growth due to the continuous developments in the information technology industry and caused by hardware penetration, software innovations, and the build-up of the telecommunications infrastructure. This article assesses the software industry in Egypt as a major building block of the information technology industry and a possible active contributor to business and socioeconomic development at large.

BACKGROUND

Although computing started in Egypt in the 1960s, 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. Therefore, it is perceived that the way developing countries will manage the computer driven process of change will influence whether their 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 state-of-the-art information and communication technology infrastructure. Many researchers have identified information technology as the combination of information, computing and communication technologies.

Today, with the evolution and diffusion of the Internet, the integration of these technology elements is invaluable to societies around the world and is strongly contributing to globalization. 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. 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).

In Egypt, since 1985, the driving force for the diffusion of information technology has been the government-private sector partnership. A large number of informatics projects were formulated targeting the use of information technology to leverage managerial and administrative performance in the government. These projects targeted key sectors such as education, health, employment, trade and local administration with a focus to introduce computer-based technologies with its different building blocks, including human and information resources, software, hardware, and networking resources to contribute to socioeconomic development (American Chamber of Commerce in Egypt, 2001).

A COUNTRY PROFILE

Egypt is the cradle of an ancient civilization dating back to 3000 B.C. With a population of about 70 million, it is the most populous country in the region (www.mcit.gov.eg). About 28% of its population is enrolled in education programs (schools and universities education) and 19 million represent its workforce (www.idsc.gov.eg). 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 5.7% annually with an inflation of 6% (www.economic.idsc.gov.eg). Estimates show that unemployment is standing at 8% and the labor force is growing at around 2.7% annually (ITU, 2001). The government of Egypt is more determined than ever to build up the national infrastructure and keep pace with the IT evolution worldwide. In October 1999, the government estab-

lished a ministry for communication and information technology to embark 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).

THE SOFTWARE INDUSTRY

The software industry in Egypt is still in its infancy stage. However, it is diverse and heterogeneous in nature, with the presence of local vendors and multinationals like most mature markets. Most of the software development companies provide training services to support their products and clients. The software industry is divided into four categories, including (a) software tools, (b) packaged applications, (c) tailored applications and multimedia applications and (d) Arabization of applications. The total number of staff employed in the industry in October 2000 was estimated to be around 6,000, including managers, programmers and project managers mostly involved in the development and delivery of information systems to local and international markets (Osman, 2000). However, the figure excluded IT support staff working in the industry, the government and the private sector, which was estimated to be around 1,000 and an additional 1,000 experts and consultants in the IT training field. Software companies range in size between one to five staff members in start-ups, through to relatively mature firms with around 50 to 150 employees. The majority of firms are located in and around Cairo or Alexandria. However, recently, some of the new start-ups were located in the new industrial areas to benefit from the tax holidays they offer.

Software is the fastest growing segment of the IT industry. It represented 14% of the total market in 2000. The industry was valued at 105 million US dollars with 27% growth rate from 82.75 million US dollars in 1999 (American Chamber of Commerce in Egypt, 2002). Moreover, exports from the industry were valued at 50 million US dollars and are expected to reach 500 million US dollars by 2005 (American Chamber of Commerce in Egypt, 2001). The number of companies having software development as part of their activities is estimated to be 300 (www.expolink.org.eg). While these numbers are not impressive if compared with more developed software industries, they do provide a foundation from which to start a serious development of the industry. Moreover, the ministry of communication and information technol-

ogy has embarked since May 2000 on a plan to train 5,000 fresh graduates annually on the recent IT and communication applications. The plan aims, over the next five years, to train 25,000 fresh graduates that could represent the core of the development of a high-tech industry (Osman, 2000). The expectation for growth in the domestic marketplace for IT products and services is expected to be in the range of 35% for services and products. Imported software accounts for 55% of software market revenues while the remaining sales comprise 19% for locally developed software, 16% for tailored software and 10% for Arabization (Osman, 2000). The market for Arabized software is large in Egypt but there is also a great potential elsewhere, with 300 million Arabic speakers in the Arab countries and worldwide to be served with language-specific software produced in Egypt.

The industry distribution channels in Egypt are still relatively underdeveloped, with around 63% of software sales without intermediaries; 50% of tailored applications are sold bundled with niche products and services. Moreover, software sales through system integrators are low because of limited subcontracting, technical cooperation and interchange of skill and specializations between local companies. Finally, function-oriented software is sold primarily through dealers. With regard to software demand, the government purchases generate 25% of total software revenues, making it the largest demand segment, with two major purchase determinants, which are quality and after-sales service for fear of system failure with cheaper systems (American Chamber of Commerce in Egypt, 1998). However, only 6% of revenues are from sales to small office and homes, which is in part due to the widespread piracy rate of 86% that plagues this segment. This figure is gradually decreasing due to the newly introduced laws against violators of software piracy laws. Also, the number of software applications sold to households is increasing due to the boom in PC sales for household usage and the spread of Internet among younger generations. The competitive advantages of Egypt's domestic software production environment have attracted numerous international producers to subcontract programming of tailored applications. Currently, 6% of subcontracting carried in Egypt is destined for export, and 15 to 20 companies are currently considered active exporters (IDSC, 2000). With the presence of over 50 Internet service providers; there is an expected significant growth in services and software applications that are Internet-based. Additionally, there is an expected increase in the development of applications of a number of key sectors in the economy, including the financial, petroleum, tourism and health sectors (Loch, Straub & Kamel, 2000).

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