

# The Challenges and Opportunities of the Software Industry in Egypt

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## INTRODUCTION

The information and communication technology (ICT) sector is one of Egypt's strongest sectors with prospects for job creation, productivity, and sustained growth (Mahmoud, 2011). One of the subsets of ICT, the software industry, is gradually becoming more visible, stronger and mature in terms of output and impact both locally and beyond. Software is arguably the best entry platform for developing nations, like Egypt, into the ICT production complex (Heeks, 1998). The exposure to products from different global markets and growing competition have effectively led to improved software products delivered coupled with an increasing pool of IT professionals and developers who are well-educated, multilingual, technology-savvy and interested to take the software industry to the next level. During the last two decades, pro-business government policies and regulations have helped grow the software industry and have encouraged a number of multinationals to invest in Egypt including, but not limited to, the likes of IBM, Intel, Valeo and Oracle that have invested substantially in setting-up facilities and grew their operations. This article assesses the ongoing developments in the software industry in Egypt and the potential role it can play as a contributor to economic development through the establishment of an export-oriented outsourcing software industry.

According to the minister of ICT, the sector is expected to go back to its double-digits growth by 2014 (Helmy, 2013) to match the growth that was taking place during the period 2009-2010. Such development is expected to drive the growth of other economic sectors. While projections, in the short-term, projections indicate that the ICT sector will grow from 6% (2011-12) to 10% (2013-14) and that contribution of the sector to the gross domestic product (GDP) would rise from 3.2% to 4.1%; projections for the long-term indicate that by 2017-18, annual growth rate will reach

20% and account for 6% of GDP and the sector will help create 500,000 jobs (Helmy, 2013). Today, the sector employs 280,000 employees.

The ICT industry includes different aspects such as people, hardware, and telecommunications. However, software represents an enabling platform linking all different aspects (Tayia & Wahba, 2001) and a possible area of growth and comparative advantage for Egypt. Within the ICT industry, the innovation ratio in software development has been lower than that of hardware and telecommunications systems (Bozzetti, 1999) which led a number of developing nations such as India to position the development of a software industry as a strategic option (Tayia & Wahba, 2001). This was supported by the fact that the cost of establishing the software industry in developing nations is relatively low (El-Deeb, 2012). Therefore, since the late 1990s, Egypt has decided to follow that path and different stakeholders have collaborated to help establish a software industry capable to gradually become one of the primary support vehicles to economic development while emphasizing the export-oriented elements in the mix to help improve the nation's current massive trade deficit. From a different perspective, the software industry is considered to be one of the new areas for comparative advantage with massive potentials for Egypt (Rizk, 2002). The importance of software is that it emerged as the digital brainpower of ICT becoming a platform for economic growth and as the driving force among different economic sectors (Nordhaus, 2000).

## BACKGROUND

The developing world started to use and produce software in the 1950s and 1960s (Heeks, 1998). During the 1960s computing was introduced to Egypt. At that time, its primary use and applications were limited to the government and the public sector with

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some modest use within the private sector. During the 1980s, the diffusion of computing gained momentum and was widespread following the global personal computer (PC) evolution. Personal computers affected organizational development, restructuring and growth due to the continuous developments that were taking place and continue to reflect regular transformation in the information technology (IT) industry and caused by increasing hardware penetration, software innovations, and the build-up of the telecommunications and information infrastructures.

Although computing started in Egypt almost 50 years ago, it was only in 1985 that the active role played by the government caused a change in the way IT was perceived as a vehicle for socioeconomic development and a tool to improve the decision making process (Rizk & Kamel, 2013; Kamel, 1999). This change was accelerated by the continuous development of new tools and techniques that had direct and concrete effects on socioeconomic development. Moreover, after the establishment of a ministry for communications and information technology (MCIT) in 1999, Egypt's information society initiative (EISI) was launched in 2001 to provide a broad perspective on the strategic plan for ICT diffusion in Egypt (Kamel, 2005).

The general perception indicates that the way developing nations will manage the computer driven process of change will undoubtedly influence whether its socioeconomic development goals will be promptly achieved. This has also been explicitly mentioned in the Millennium Development Goals (MDGs) and articulated in both meetings of the World Summit on the Information Society (WSIS) in 2003 and 2005. It will also 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 ICT infrastructure. Many researchers have identified IT 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). One of the venue, according to Kamel (2010) is through "focusing on stimulating the growth of export-oriented activities as opposed to local infrastructure development where the focus will be directed towards innovation as a primary driver for future growth."

Since 2005, there has been various efforts and steps taken to position Egypt as an alternative location for investment in intellectual capital as well as offering

software development, business process outsourcing and call center services. This has led Egypt to invest in accelerating its high-tech infrastructure by developing technology parks with over 130 multinational company in the areas of ICT, software development, outsourcing and call centers. Moreover, the growing interest and operations of some of the global players in the call centers and outsourcing space in Egypt has been very encouraging. Sample of these companies includes Sykes, Stream, Convergence and Sutherland and more (Mahmoud, 2011).

As one of the world's leading outsourcing sectors, Egypt is expanding its operation aiming to increase earnings and contributing to the economic growth as well as emphasizing higher-value services and niche segments (Oxford Business Group, 2012). Through the industry, Egypt operates virtually everything from inbound call centers to multiple offshore functions and services. Sample multinationals operating in Egypt include the Oracle global product support center established in 2005, Stream Global Services, Sutherland Global Services and a finance and accounting base for IBM (Oxford Business Group, 2012).

Table 1 demonstrates the current demographics of the ICT sector in Egypt. It is clear that there was an exponential increase in all indicators that was realized post Egypt's uprising in January 2011. This was caused by an overwhelming engagement of the nation's youth in learning, communicating, and exchanging ideas and starting-up IT companies as part of what has been widely known since the uprising as Egypt 2.0 and the creation of an environment that aims to promote freedom of expression, inclusion, entrepreneurial activities and more engagement of different constituencies in policy making and development at large. It is important to note that despite the economic challenges that Egypt is facing, one of the few sectors that managed to float and maintain its steady operation and in some ways grow is the ICT sector which reflects many positive signs of its potentials and how it can effectively contribute to the future of Egypt.

MCIT formulated a strategic three-year plan for the ICT sector in 2007 with a primary mandate to surpass 1 billion US dollars in terms of IT export revenues by 2010, that target has actually been realized with an additional 10% reaching 1.1 billion US dollars by 2011 largely due to the growth rate in the sector which had reached 14.9% in 2009 and the growing number of multinationals in the ICT sector that had expanded

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