Chapter 35
The Potential Role of the Software Industry in Supporting Economic Development

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ABSTRACT

Emerging information technologies provide a solid and promising platform to support economic development. In that respect, the information and communication technology sector has been one of Egypt's strongest economic sectors with increasing prospects for job creation, productivity, scalability, impact, and growth. 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 global ICT production complex. Local companies and startups in the software development space have started their operations over the last decade trying to capture a segment of the regional and global market opportunities. This chapter assesses the 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 capitalizing on one of Egypt's primary resources, human capital.

INTRODUCTION

Emerging information technologies provide a solid and promising platform to support economic development. In that respect, the information and communication technology (ICT) sector has been one of Egypt's strongest economic sectors with increasing prospects for job creation, productivity, scalability, impact and 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 virtually embedded in every single aspect of our daily life with growing impact on individuals, organizations and society (Schroeder, 2013). In the information age, everything needs a software, one way or another. The software development industry is increasingly becoming global and consequently, there is a growing number of software companies that are providing their services overseas through outsourcing

and offshoring. Software is arguably the best entry platform for developing nations, like Egypt, into the global ICT production complex (Heeks, 1998). The exposure to products and services from different global markets and the accompanying growing competition have effectively led to improved software products delivered coupled with an increasing pool of ICT professionals and developers who are well-educated, multilingual, and technology-savvy and at the same time interested to take the local 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, Cisco, Google, Microsoft, EMC, Valeo and Oracle. They have all invested substantially in setting-up facilities and growing their operations, and more importantly deciding to offer their services out of their Egypt-based operations. Moreover, more local companies and startups in the software development space have started their operations over the last decade trying to capture a segment of the regional and global market opportunities. This article assesses the 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 capitalizing on one of Egypt's primary resources, human capital.

BACKGROUND

The ICT sector in Egypt has been steadily growing since the late 1980s. During the period 2011-2012 given the political developments that took place in the country there was an apparent slowdown in all economic aspects, including ICT. However, in 2013, the minister of ICT expected the sector to go back to its double-digits growth by the end of 2014 to match the growth that was taking place during the period leading to the fiscal year 2009-2010. Moreover, it would come at an ideal time as a solid platform and a strong and effective support mechanism to the overall economic revival of Egypt. For the long term, projections indicate that by 2017-18 annual growth rate will reach 20% and will account for 6% of the gross domestic product (GDP) and the sector will help create 500,000 jobs (Helmy, 2013). These projections naturally change on a regular basis. However, judging from the potential and trends in the marketplace, there is enough evidence that the software industry is probably on course to meet these set objectives.

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. The key determining factor remains is human capital. 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 and growing trade deficit. 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). In 2015, Egypt ranked 100 by the global innovation index among 141 countries worldwide indicating

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