



WHITE PAPER

Egypt: The Journey Toward Becoming the Preferred Offshoring Hub

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EXECUTIVE SUMMARY

Industries and economies around the world are rapidly embracing the concept of digital transformation (DX), and an unprecedented number of organizations are increasingly leveraging digital technologies to create disruptive business models, reshape their customer experiences, and significantly improve their operations. By 2021, 80% of business revenue growth is expected to be driven by digital offerings and operations, particularly as organizations put DX at the center of their corporate strategies.¹

Over the past decade, new technological paradigms have emerged that are underpinning and accelerating this transformation. IDC refers to these technological models, which include cloud, mobility, social, and big data analytics, as the 3rd Platform. More recently, other disruptive technologies such as robotics, artificial intelligence/cognitive systems, augmented and virtual reality, 3D printing, and Blockchain – collectively referred to as "Innovation Accelerators" – have also gained prominence. Following the emergence of these technologies, global DX spending is expected to rise robustly over the coming years, increasing at a compound annual growth rate (CAGR) of 17.9% over the 2016-2021 period.

It is apparent that organizations need to transform to not only thrive but also survive and remain relevant. To assist with their DX journeys, organizations require delivery models and capable partners that can provide the process and technology expertise and requisite capabilities to conceptualize and execute initiatives that drive real business outcomes. However, ensuring the availability of high-quality IT and process skills in the 3rd Platform technologies that can enable this transformation is a significant challenge, as is achieving efficiency at an affordable cost. These daunting challenges are exacerbated by the dearth of reliable and adequate talent in most developed economies.

For several years, leading organizations in developed economies have outsourced and offshored IT and functional business skills to countries with strong talent pools to bridge the skill gaps. Moreover, the rapid acceleration of DX has compelled these organizations to urgently review their human resource sourcing strategies. Driven by DX adoption, the global offshoring market (i.e., IT outsourcing [ITO], business process outsourcing [BPO], and research and development [R&D]/product engineering outsourcing) is expected to expand from \$84 billion in 2015 to \$123 billion by 2019, translating into a CAGR of approximately 10.0%.²

Egypt is effectively positioned to become a major hub of business and technology services to countries and organizations that are undertaking DX, particularly those in regions such as North America, Europe, Middle East, and Africa that are facing resource constraints. Indeed, after establishing itself as the preferred regional outsourcing services hub for Europe, the Middle East, and Africa (EMEA) and US, Egypt started expanding its global outsourcing footprint and is now one of the fastest-growing offshore destinations in the world. The country has also established a good reputation for its large, high-quality offshoring services. As a result, Egypt's BPO and IT offshoring industry has gradually gained share in the global marketplace over recent years. Egypt's captive and offshore BPO and IT

services market is expected to record a CAGR of 14.2% for the 2017-2020 period, thereby becoming a significant supporter of global IT and business transformation initiatives.

Egypt possesses many strengths that support its offshoring industry:

- A strong resource pool (owing to the government's focus on technical education), thousands of fresh graduates in Engineering, Computer & Information Sciences, General Sciences and Technology and a large skilled workforce that enhance the country's position as one of the largest global sources of ITO, BPO, and knowledge process outsourcing (KPO) skills, and a large workforce with English, Arabic, French, German, and other European language skills.
- A stable political environment, including several special economic and legislative reforms that have boosted the country's ranking in the World Bank's 'Ease of Doing Business' report. Between 2015 and 2017, Egypt improved its global rank in 'Protecting Investors' by 21 points which significantly increased the interest and confidence of overseas investors.
- Continuous investments in developing local physical infrastructure (to provide better utilities and telecommunications connectivity to offshoring companies), significant improvements in international bandwidth, and a persistent focus on building technology parks across the entire country.
- A rapidly expanding offshore services market footprint and steadily rising global experience (as an increasing number of international companies operate captive centers in the country).
- The possibility of cost arbitrage due to the country's competitive labor rates and floating of the currency.
- The country's proximity to the EMEA region in terms of geography and time zone and strategic location at the intersection of 15 global submarine cable lines¹³.
- Other ecosystem drivers, including the country's high smartphone penetration level, the formation of a new administrative capital leveraging Smart City concepts built around the Internet of Things (IoT) and big data analytics, and the creation of the Egypt Government Cloud and a datacenter cluster.

Global Technology Trends, the 3rd Platform, and the Impact on Outsourcing

Leading organizations around the world are attempting to reimagine and reconstruct their businesses to compete in an increasingly platform-powered and ecosystem-enabled digital economy. The competitive pressures generated by early adopters are starting to force organizations to undertake DX efforts, no matter where they are based geographically. Organizations will thus need to craft separate digital roadmaps with the right mix of digital executives, processes, technologies, and platforms to gain a competitive advantage over their peers. These road maps will be fueled by a combination of 3rd Platform technologies and Innovation Accelerators.

FIGURE 1

3rd Platform Technologies and Innovation Accelerators



Source: IDC, 2017

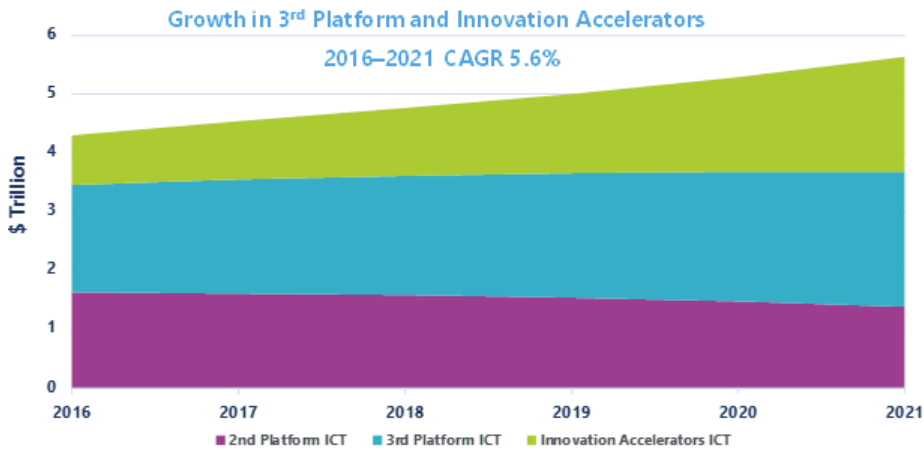
The bulk of global DX spending in 2018 (\$662 billion) will be directed toward technologies that support new or expanded operating models as organizations will seek to make their operations more effective and responsive by leveraging digitally-connected products/services, assets, people, and trading partners. Technologies supporting omni-experience innovations that transform how customers, partners, employees, and things communicate with each other, as well as the products and services created to meet unique and individualized demand, are expected to be the second-largest DX investment area in 2018 (\$326 billion). Information will also be an important DX investment area in 2018 (\$240 billion), particularly as organizations will strive to obtain and leverage information to gain a competitive advantage.

By the end of 2018, at least 40% of organizations will have a fully staffed digital leadership team (versus a single DX executive lead) to accelerate enterprise-wide DX initiatives, and by 2020, in over half of global 2000 firms, revenue growth from information-based products and services will be twice as fast as the growth of traditional products/services portfolios. By 2019, 40% of DX initiatives will be supported by cognitive/artificial intelligence (AI) technologies that provide timely critical insights for new operating and monetization models. By the end of 2019, worldwide DX spending is expected to total \$1.7 trillion, reflecting a 42% increase from 2017. By 2020, investors will view digital businesses differently, with specific measures based on platform participation, data value, and customer engagement accounting for over 75% of enterprise valuations.

These developments will all be underpinned by 3rd Platform technologies, and the emergence of Innovation Accelerators will further disrupt and accelerate the ongoing transformations.

FIGURE 2

Growth in 3rd Platform Technologies and Innovation Accelerators, 2016-2021



Source: IDC, 2017

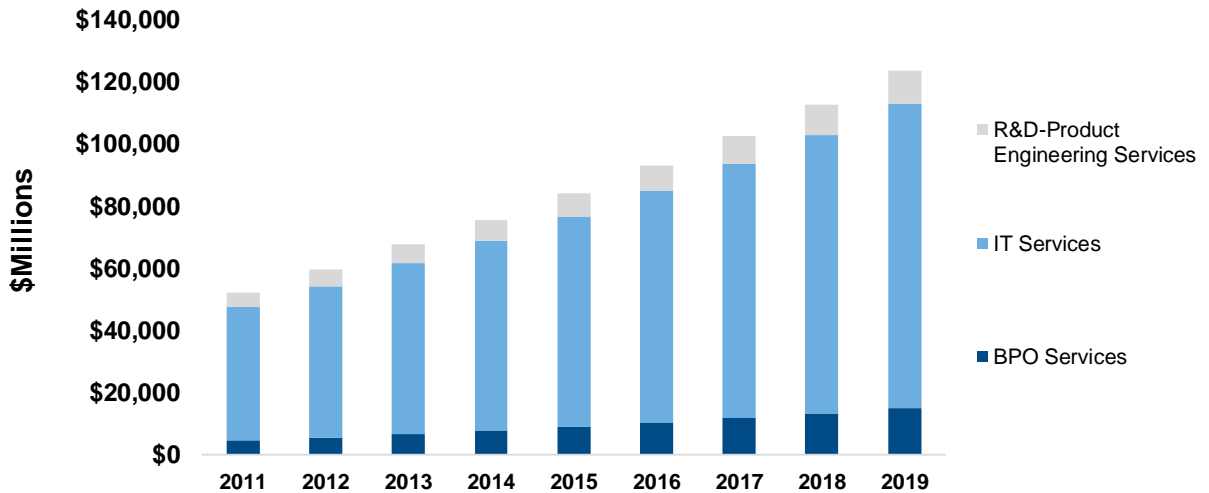
DX will bring about changes in organizational workforces and necessitate a review of sourcing strategies. Due to the resource constraints in most developed markets, the rapid speed of innovation, and the need for agile decision-making processes, most international organizations will need to leverage the skills and capabilities of global offshoring centers in order to implement their DX agendas. Organizations will also need to review their outsourced services partnerships and locations to align themselves with new market realities and further optimize their nearshore, onshore, and offshore sourcing models.

Global Offshoring Services Market

The value of the global offshoring services market (IT, BPO, and R&D/product engineering) is expected to grow from \$84 billion in 2015 to \$123 billion by 2019. IT offshoring services had the largest share of spending in 2017, with 80.5% market share. Meanwhile, BPO and R&D/product engineering services had respective market shares of 11.5% and 8.6% in 2017. IT offshoring services are expected to remain the largest market segment going forward, with an estimated 79.3% share of the market in 2019.

FIGURE 3

Worldwide Offshore Services by Combined Macro Markets, 2011-2019 (\$US M)



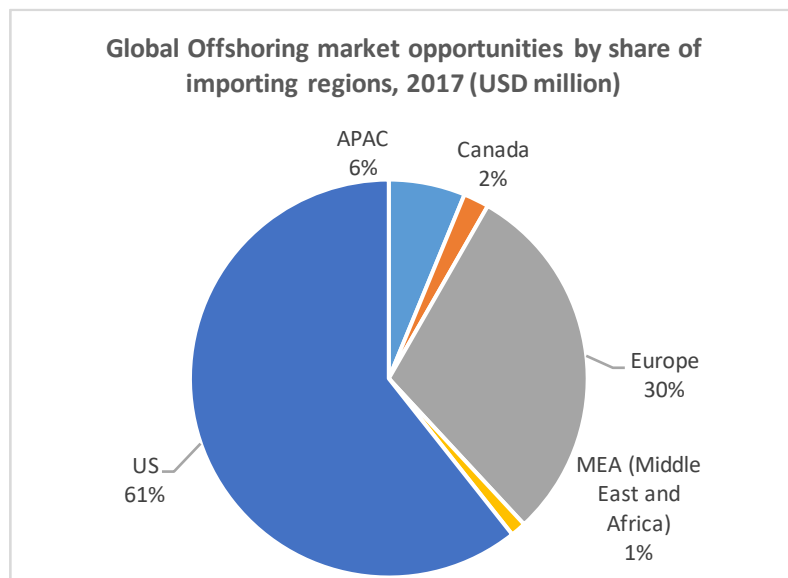
Source: IDC, 2017

The global offshore IT services market, which totaled \$68 billion in 2015, is expected to expand at a CAGR of 9.7% to stand at \$98 billion by the end of 2019. Similarly, the offshore BPO services market (which includes customer care, finance and accounting, procurement, and human resources [HR]) is expected to rise from \$8.9 billion in 2015 to \$15.1 billion by 2019.

The United States and European markets – which are the key markets for offshore services – will expand at a CAGR of 9.3% between 2015 and 2019. The United States and Europe region collectively held 91.6% share of the worldwide offshore services market in 2015, and accounted for \$53 billion and \$24 billion, respectively, of offshoring spending during the year. Canada (2.1%), the Asia-Pacific region (5%), and the Middle East and Africa (MEA) (1.1%) accounted for the remainder of the global offshore market in 2015. The United States and Europe will continue to hold the largest share of the market over the coming years, although this share is expected to decline slightly to 89.3% by 2019.

FIGURE 4

Global IT, BPO, R&D/ Product Engineering Offshoring Market Opportunities by Share of Importing Regions, 2017 (\$US M)



USA (62362), Europe (30632), APAC (6393), Canada (2133), and MEA (1285). Source: IDC, 2018

Some of the factors driving the global offshoring industry include:

- The need to drive organizational strategic agenda despite challenges in inhouse skill gaps in the midst of fast evolving technology and business changes
- Offshoring customers are increasingly focusing on lowering costs and increasing ROI to justify their business cases.
- Offshoring customers are also seeking out business benefits such as process improvements; greater agility in sourcing, efficiency, and customer engagement; reduced development time; and improvements in their operational key performance indicators.
- The shift of the services industry to new models (e.g. virtual, cloud, crowdsourcing) and the changing structure of the industry to a "utility-based" delivery system.
- The focus on "new" value (e.g. information-centric, localized, and intelligent applications).
- Customers expect higher levels of automation and are shifting from capex to opex spending models to make their decisions more transparent.
- A shift to hybrid IT/BPO/managed services that combine traditional (labor-oriented) and cloud (automated) capabilities within an engagement/deal.
- Customers are increasingly expecting their offshore providers to make strategic investments in digital capabilities.
- Providers are expected to provide subject matter expertise and domain knowledge over and above their standard IT/BPO delivery models.

At the same time, geopolitical turmoil is forcing countries to adopt protectionist and nationalist stances, which in turn are complicating the risks associated with companies utilizing offshore/nearshore IT resources. Additionally, security continues to be a major consideration for traditional and modern outsourcing services (such as those based on cloud). The implementation of the General Data Protection Regulation (GDPR) in Europe and general considerations around privacy and security are among the key factors that customers are considering when planning to increase their level of IT offshoring and BPO.

Egypt: An Economy Poised for Growth and Transformation

Tremendous focus on skill building and resource pool creation: Egypt has focused on creating a thriving resource pool in different IT, BPO and KPO technologies and continues to churn out a large number of graduates in technical fields year on year. For example, in 2015/16 Egypt produced 90,000 Engineering Graduates, 18,000 Computer & Information Graduates, 22,600 Technology Graduates and around another 66,000 General Science graduates.¹⁴ Talent development is a key ingredient and differentiator of Egypt's ICT sector development agenda not only for serving local organizations but to address the increasing demand and interest of established MNC ICT and non ICT companies who are looking at Egypt to fulfill their talent gaps for providing both Captive and Offshore delivery resources. Apart from technical skills, language skills is another area where Egypt has laid a great stress on and as estimated by IDC in 2015, Egypt produced 90,000 English Language graduates and a significant number of other language graduates such as French, German, Turkish, Spanish, Italian, Siamese, Hebrew, Chinese, Russian, Farsi etc.¹ The English language is the most common language taught to students in private and public schools starting primary stage.

In Egypt, academic curricula are steadily being altered to include 3rd Platform technologies. In addition, major enterprises such as Cisco and Microsoft are partnering with educational institutions to offer practical training programs and internships to technology students. The focus areas are primarily mobile development, big data, and IoT. Each year, institutions that focus on emerging ICT technologies receive thousands of applications for training programs that are supported by the government and international investments. Education institutions and universities also collaborate with the major technology providers operating in Egypt to update curricula, fund laboratories and research programs, and provide internships to undergraduate and graduate students.

Big data and IoT are similarly hot topics and focus areas that have been incorporated into training programs. For example, major research universities like Nile University have started offering diplomas in big data and analytics to students.

Egypt has made a number of investments that are expected to boost the skills ecosystem in this regard; Next Technology Leaders Initiative (NTL) - a presidential initiative implemented by MCIT- focuses on building outstanding technology capacity among the workforce. NTL provides government-funded degrees in collaboration with leading universities such as MIT, Johns Hopkins, Universities of California, Texas, Virginia, etc., and enterprises including IBM, Google, Amazon, Facebook, GitHub, etc., on emerging technologies that drive accelerated innovation (including data science, IoT, AI, cyber security, etc.). The aim is to train and certify 16,000 resources by 2019, of which around 6,000 have already been completed.

Government Vision and Support: Egypt experienced a strong economic recovery after the 2011 revolution and its subsequent political changes. The Egyptian government has been successful in maintaining a stable political environment and has created special economic and legislative reforms in the recent past (pertaining to tax rebates, reduced customs tariffs and streamlined customs procedures, bank privatizations, and regulations against money laundering and software piracy). For example, the country's new Investment Law includes incentives for both foreign and domestic investors; it also reduces red tape and stipulates a single point of contact for obtaining licenses. The new law also reduces the bureaucratic overheads in setting up and running businesses and greatly simplifies duties, tariffs, and many other financial and tax burdens.

According to the Economist Intelligence Unit (EIU), Egypt's economic growth rate in 2016/17 stood at 4.2% – higher than the previous forecast of 3.8% – and is expected to average 5.8% annually between 2018 and 2022.³ This rising growth rate indicates that the government's reform programs and monetary policies have been effective in supporting economic expansion. Global confidence in Egypt's economic reform policies has also been strong, with the World Bank approving the disbursement of a

\$1.15 billion development policy loan to support reforms aimed at creating jobs, ensuring energy security, and enhancing business competitiveness.⁴

According to the World Bank's "*Doing Business 2017*" report, Egypt significantly improved its ranking in the "Starting a Business" metric, moving up to 39th position in 2017 from 73rd position in 2015 and also made significant improvement in metrics such as 'Dealing with construction permits', 'Protecting investors' and 'Closing a Business/ Resolving Insolvency'.⁵ Egypt also ranked 122nd out of 190 countries across the globe in terms of the overall "Ease of Doing Business" metric, improving from the 131st position it held in 2016. This rise in ranking has significantly improved the confidence of overseas investors in the Egyptian market.

Physical Infrastructure: Egypt has continuously invested in developing local physical infrastructure to provide better utilities and telecommunications connectivity to offshoring companies. The country also provides significant international bandwidth and has invested heavily in power infrastructure.

According to the World Bank's *Doing Business 2017* report, Egypt held 88th position in the "Getting Electricity" measurement, representing a marked improvement from the 106th position it held in 2015.⁵

Additionally, the government's focus on building technology parks across the entire country will encourage multinational companies to establish local operations using best-in-class technologies and facilities. The Egyptian government is serious about its commitment to improving telecommunications efficiency and accessibility, which is evident from its eagerness to closely collaborate with the International Telecommunication Union (ITU) in developing the local telecommunications sector. According to the National Telecom Regulatory Authority (NTRA), Egypt's international bandwidth at the end of 2016 was 1,134Gbps, reflecting a 45% increase in capacity year on year. Internet connectivity has significantly improved through the use of scalable and high-quality international submarine cables, and because of its location at the heart of the worldwide cables network, Egypt can provide offshore cloud services with the lowest latencies and speeds to Europe and the Middle East.

Egyptian Government Placing DX at the Center of National Strategies

Egypt has foreseen the transformation to 3rd Platform technologies and is therefore taking a multifold approach to putting its ITO, BPO, and KPO industries on the DX path.

The Egyptian Ministry of Communications and Information Technology (MCIT) has plans to build a giant Datacenter Cluster. This cluster, which is to be established at the 60,000m² Borg El Arab Technology Park, will serve as a focal point for both East and West.⁶ The datacenter cluster will take advantage of Egypt's favorable position as a nexus between Asia, Africa, and Europe; it will also utilize the submarine cables connected to the country to improve efficiency, speed of response, and data-transfer speed on a global level. The datacenter cluster will be completed in partnership with a number of global technology leaders. Several global organizations have invested in datacenters in Egypt, including NxtVn⁷, CloudFare, Giza Systems (for Telecom Egypt), and Bright Computing (on behalf of the Electronics Research Institute, which serves the Egyptian academic community by providing cloud services such as infrastructure as a service [IaaS], platform as a service [PaaS], and software as a service [SaaS]).

Egypt's plan to establish a new administrative capital east of Cairo is a Smart City project of huge proportions. All the capital's facilities are supposed to be managed through technological solutions. The huge investments to be made in IoT and big data analytics are expected to create a solid pool of resources in these technologies. The administrative capital will also be home for "Knowledge City" that will host branches of foreign universities and research, innovation and entrepreneurship centers along with a science park.

The government has also launched the Egyptian Government Cloud (EG-Cloud) to improve the efficiency and performance of government agencies.⁸ EG-Cloud aims to deliver optimum value by increasing operational efficiency and responding faster to the integral needs of the government. The

cloud will also provide government agencies with highly rapid, reliable, and innovative services within the existing resource constraints, and boost the growing capabilities of Egypt's IT and BPO industries.

Egypt ranks 14th out of 165 countries – and 2nd in the Arab world – in the International Telecommunication Union's Global Cybersecurity Index (GCI) for 2017 and is placed among the "Leading" category along with countries like Japan, Korea, US, UK and Singapore among others.⁹ The GCI ranks countries based on their commitment to cybersecurity, with each country's level of development measured against five categories (legal, technical, organizational, capacity building, and cooperation). This ranking also shows the depth and maturity of the Egyptian ICT market in terms of cybersecurity, which today is a key technological consideration. Egypt provides computer emergency response team (EG-CERT) support to several entities in the ICT sector, the financial sector as well as the government sector, in order to help them tackle cybersecurity related threats.

Egypt has one of the highest mobile phone penetration rates in the MEA region, standing at 113% in 2017.¹⁰ In addition, 68.7% of mobile phone users in the country own a smartphone, which is an interesting statistic considering that 57% of the population live in rural areas. Commercial 4G services were also launched in the country in early 2017. For these reasons, demand for locally-developed mobile applications will rise going forward, and the opportunity to export such applications will increase as well. Mobile development has thus also been added to training programs and curricula in various institutions.

Leading ICT organizations are focused on building a thriving ecosystem of ICT-focused SMEs and entrepreneurs. For example, IBM is working on supporting SMEs through its cloud computing and data analytics solutions. IBM is also a technology partner of Cairo University; as part of an incubator program, IBM trains entrepreneurs on how to use and adopt the latest technologies within their businesses. And it has an agreement with the Information Technology Industry Development Agency (ITIDA) to host small and medium-sized IT companies on the IBM Cloud. The technology innovation ecosystem is also booming in Egypt, with the United Nations Development Programme (UNDP) selecting Cairo to host its first Regional UN Technology Innovation Lab (UNTIL) in Africa in 2017. This traction has been driven by the outstanding success of startups and small and medium enterprises (SMEs) in Egypt.

One of the most prominent contributors to building a solid ICT ecosystem in Egypt is the IT Industry Development Agency (ITIDA); ITIDA has taken an active role in developing ICT capabilities within the country and positioning ICT as a cornerstone of economic development and foreign investment. They focus on working with all public and private bodies, industry players and associations, universities, and individuals to help grow the Egyptian IT industry and offer a wide range of services that helps building the capacities of the local IT companies in addition to attracting and servicing multinational IT companies. Additionally, they help to expand local IT businesses by offering a unique access to numerous markets through sponsoring and participating in the local, regional and international tradeshows.

Additionally, MCIT and the Technology Innovation and Entrepreneurship Center (TIEC) provide full-fledged support for innovation and incubate businesses through their many programs, in addition to providing co-working space to techpreneurs, investors, and tech start-ups that aims to help Egyptian youth build successful enterprises focused on 3rd platform technologies such as IoT and Big Data.

Success stories are constantly occurring in Egypt, IBM having invested in 6 delivery centers serving the entire globe, Valeo Egypt has evolved to be Valeo's main software R&D center, providing all services in the field of automotive embedded software, Mentor Graphics' R&D Center in Egypt currently employs 400 engineers and is one of its biggest centers outside USA. Additionally, Dell EMC has identified Egypt as one of its best locations for investment and growth and Microsoft Egypt's Advanced Technology Lab (ATL) works on many exciting services and research areas like Natural Language Processing, Speech Processing, Machine Learning, Computer Vision, & Search Engines which contributed to building Microsoft flagship products and cloud services.

Egypt: Well Positioned to Leap Forward as an Offshoring Destination

The countries and locations that cater to the demand for offshored services are undergoing significant transformations, and Egypt possesses many strengths in this regard. The combined IT, BPO, and KPO export market in Egypt is forecast to grow from \$3.2 billion in 2017 to \$4.7 billion in 2020.¹¹

Egypt is one of the fastest growing offshore destinations in the world. Indeed, over time, Egypt's IT and BPO offshore industry has gradually gained share in the global markets. The market had lost some momentum in previous years due to rapid political changes, but given the corrective measures taken by the authorities, Egypt is on course to regain its market share. Accordingly, IDC believes that, by the end of 2019, Egypt's market share in the global offshore BPO market will grow to 16.9%. Similarly, Egypt's IT offshoring industry is on track to leverage 3rd Platform technologies to increase its value proposition in global markets.

FIGURE 5

Egypt's Export Market Size, 2017-2020 (\$US M)



Source: IDC, 2017¹¹

IT Exports – Egypt is a Preferred Destination for Captive Centers and a Hub for Offshore Services

The IT services market in Egypt totaled \$1100 million in 2017 and is projected to grow to \$1,419 million by 2020.¹¹ According to the EIU, the country's economic growth in 2016/17 was a result of higher levels of domestic investment and a rebound in exports. This improvement in the economy had a positive impact on both onshore and offshore IT services spending.

The IT export market in Egypt includes:

- Offshore IT Services:** The offshore IT services market in Egypt stood at \$306 million in 2017 and is forecast to total \$402 million in 2020¹¹, representing a CAGR of 9.4% over the period. Application-related IT services, which include software support and installation, application consulting and customization, custom application development, and application management outsourcing services, are the most widely offshored IT services.

- **Captive IT Services:** The captive IT services market in Egypt, which has a 42.7% share of the overall IT services market in the country, totaled \$464 million in 2017 and is slated to grow to \$571 million in 2020¹¹. Several IT companies have set up their global delivery centers in Egypt because the country offers advanced technical skills that support global customers.

Leading MNC ICT companies such as IBM, Valeo, Mentor Graphics, Dell EMC, and Microsoft have established large centers in Egypt.

Egypt Driving Growth of Its BPO Services

Global businesses continue to show an increasing appetite for BPO, driven by pressures to restructure their businesses, respond faster to market conditions, and streamline operations. IDC forecasts rapid global growth of the BPO segment through 2020.

Egypt is well established as a regional hub for contact center outsourcing, with several major operations with over 1,000 seats, numerous small firms existing within the country, and a total customer care labor pool of 83,230 professionals (as of 2017). The customer care industry is expected to expand at a CAGR of 16.2% between 2017 and 2020¹¹. Other BPO segments are also expected to perform well going forward. For example, Egypt's HR, finance, and procurement segments are all projected to grow at a CAGR of around 10.3% through 2020¹¹.

Egypt has a broad base of skilled, multilingual professionals, making the country an attractive and low-cost hub for contact centers servicing Western markets and the Arabic-speaking world. Several contact centers support US, European (French, German, and Russian) and Asian languages, enabling them to compete more broadly.

Countries throughout MEA also provide opportunities for Egyptian BPO exports. For example, Turkey, Saudi Arabia, the UAE, South Africa, Nigeria, and Kenya are all home to large and medium-sized customers of outsourced BPO services from Egypt.

KPO Services – Bringing Niche Capabilities to the Globe

Egypt's KPO services exports are steadily growing, with IDC anticipating a CAGR of 9.2% over the 2017-2020 period¹¹. R&D/product engineering, which is a KPO field of notable growth, totaled \$35.2 million in 2017 and is expected to grow to a projected \$65.6 million in 2020 (translating to a CAGR of 23% over the period)¹¹. Egypt lays particular stress on this and has become an established global offshoring center for this. This also ties in with Egypt's strong focus on building their Electronic Manufacturing Services domain.

Egypt is also focused on translation services that are used by domestic, regional, and global customers. This particular segment offers enormous potential for expansion into diverse languages and specialist areas (e.g., the translation of websites, applications, scientific papers, and engineering documents). In 2017 the market segment was valued at \$218 million. It is projected to grow to \$285 million by 2020¹¹.

Legal process outsourcing and medical transcription outsourcing services are forecast to grow at a CAGR of 5.3% and 6.8% respectively between 2017 and 2020¹¹; however, these services are subject to broader KPO/BPO outsourcing relationships (i.e., they are included as a part of larger contracts). Egypt performs well in these KPO segments due to its experienced and growing workforce and supporting infrastructure for customers based in Europe and the rest of the MEA region. The large base of graduate students with degrees in key fields such as engineering, computer science, medicine, finance, and law is a major factor in Egypt's emergence as a player on the global KPO stage, especially since the costs associated with such skills in other markets is much higher.

Emerging Destination for Electronic Manufacturing Services

To adapt to changing supply chain dynamics in their markets and search for cheaper and better facilities and personnel, global electronics and technology manufacturers are constantly reviewing the sites of the production facilities. Accordingly, electronic manufacturing services (EMS) offshoring providers are establishing more technically advanced and innovative centers for global markets, offering engineering talent, and providing access to raw materials (in the context of supply chains).

The Egyptian EMS market stood at \$350 million in 2017 and is expected to post a CAGR of 8.2% through 2020¹¹. The local market is dependent on design services – local manufacturers design components for international brands. There are several design houses with notable impact on the industry and operating out of Egypt for global markets such as Analog Devices, Mentor Graphics, Axxcelera, and Si-Vision. Si-Vision is a leading IP provider for high-performance, low power wired and wireless-intellectual property (IP). They have developed IPs and solutions for IOT market and consumer electronics in collaboration with leading technology partners such as IMEC, SMIC, HHGrace, Mindtree, and XFab. In 2015 Synopsys Inc. the world biggest EDA/IP company acquired all Si-Vision low power wireless IP portfolio and Si-Vision became exclusively strategic partner for Synopsys Inc. in the region. Si-Vision workforce was also doubled in the last two years reaching more than 110 R&D Engineers. Due to Egypt's large pool of highly qualified and skilled engineers who are focused on design services in small local companies, there is a lot of potential for the country to become a regional EMS hub. Capitalizing on this potential, MCIT has recently launched the "Egypt Makes Electronics" initiative with different programs to expand the industry and position Egypt as a regional hub for electronics design and manufacturing.

Egypt's assembly market was valued at around \$3 billion in 2015, with huge assembly facilities in the country producing consumer electronics. Egypt now serves as a central Middle East regional hub for assembled goods due to its ability to cost effectively produce goods at economies of scale. Sico technology is the first Egypt-based manufacturing and assembly technology and handset manufacturer of smartphones which came to light in Cairo ICT 2017. The smart phone was made with LE 400 million in investment in the company's factory in the technology park in Assiut and has five production lines spread over 4,520 square meters, with a capacity of producing 1.8 million devices per year. SICO mobile phones are now the leading local brand in the industry and the percentage of local components is 45 percent.

The abundance of engineering design talent and houses, the size of the assembly market, the government's focus on expanding manufacturing, and the cost-effective environment will enable Egypt to develop a solid global EMS footprint. MCIT actively supports the electronics manufacturing industry by pushing exports of Egyptian manufactured products at both the regional and international level.

The Key Factors Driving Growth Include:

- **Talent Pool:** Egypt has a strong resource pool due to the government's increasing focus on technical education, certification, and research. Thousands of technology graduates join the workforce every year and, according to World Bank data, Egypt has had one the largest tertiary education enrolments (2.8 million in 2015) across the Arab world and Middle East.

The quality of education is a focus area; as such, Egypt's extensive network of professional training and certification facilities ensures a base of world-class talent in high-demand fields. In 2015, 13.8% of all enrolled students were enrolled in science, engineering, and manufacturing programs.¹² The National Telecommunication Institute (NTI) and the Information Technology Institute (ITI), affiliates of MCIT that provide education and research programs in telecoms and IT, have been actively contributing to the expansion of the overall skills pool in Egypt.

Additionally, the availability of large numbers of speakers of English, Arabic, French, German and various other European languages allows Egypt to support various global functions and technologies. Egyptian humanities graduates are particularly well-regarded in their command

of European languages such as English, French, German, Italian, and Spanish, and are a key factor in the success of the country's KPO and BPO industries.

A survey of the top technology education institutions in Egypt was conducted by IDC and ITIDA. The survey found that institutions provide students with up-to-date technologies, routinely update education and training curricula, invest in R&D, and prioritize job market demand. All institutions, including national/international universities and government ICT entities, recognize the importance of providing students with access to the latest technologies through formal education.

The attrition rate in Egypt is also low compared with other offshoring destinations in Europe and Asia, ensuring better customer management and process continuity.

- **Government Investments in infrastructure:** The Egyptian government has heavily invested in creating suitable infrastructure for offshore services by building IT and BPO parks such as Smart Village and Maadi Park. These parks host offshoring providers and tech corporations such as Microsoft, Oracle, and Vodafone, and can support up to 100,000 employees. In fact, several industry and technology specific parks have been successful in attracting investments from global organizations. For example, the Smart Village in Cairo is a success story that will be replicated in other cities. Knowledge city located in the new Administrative Capital is Egypt's new project for building its own Silicon Valley. Due to be built over 305 acres in 3 years and with EGP 12bn of investments, it is envisaged that Knowledge City will cater to Egypt's growing demand for a higher education system that meets international standards. It will house branches of foreign universities as well as research, innovation and entrepreneurship centers. The establishment of new parks in Alexandria and Assiut is further expected to benefit all IT services, BPO, and KPO industries, and potential exists for more tech parks across the country. Silicon Waha, a company known for building science and technology parks across second-tier cities, has a vision to reach out to Egypt's talented youth everywhere. The company provides the ecosystem that enables Egyptian technology companies to create value through innovation and technological advancements. Silicon Waha has an effective plan to create ICT hubs and necessary infrastructure in cities like Borg El Arab and New Assiut (already up and running) and 10th of Ramadan, Sadat City, Beni Suef, and Aswan (in progress to be delivered in the next two years).
- **Global Experience:** Some of the most well-established international companies currently operate captive centers in Egypt (including BPO, ITO, and manufacturing outsourcing centers), illustrating that the government initiatives to boost the offshoring industry are paying dividends. Egypt has also been successful in addressing markets not only in nearshore zones of the Middle East but also in the United States, Europe, and Africa. Egyptian employees are taking on managerial roles in companies in these countries as well, and in the process, are helping establish Egypt as a capable offshoring destination.
- **Cost Arbitrage Potential:** Egypt also offers competitive operating costs per full-time employee that are comparable with those of prime offshore destinations like India. In general, the average salaries of IT, BPO, and KPO resources in Egypt are lower than in other mature offshore destinations such as India, Philippines, and Malaysia. Additionally, the Egyptian pound has constantly depreciated over the past five years (it is currently trading at EGP 17 to USD 1), significantly lowering the cost of operations in the country in comparison to the aforementioned countries. After the application of new monetary policies in 2016, Egypt is now able to deliver offshoring services at a lower cost than many other global offshore locations.

TABLE 1

Salary Levels in Egypt (in 000s EGP/Year Net Value)

	Entry	Mid-level	Senior
Business Process Outsourcing			
Call Center Agent	18-36	36-60	60-72
IT Services			
Business Analyst/Software Developer	42-48	48-96	96-120
Electronics Manufacturing Services			
Embedded Software Engineer	36-84	84-108	108-155
Knowledge Process Outsourcing			
Analyst	20-40	40-80	80-115

Source: IDC, 2018

- **Geographic Proximity:** Egypt is in close geographic proximity to the Middle East and Europe with few time zone differences, making it an attractive offshore/outsourcing location. As a result, multinational corporations such as IBM, Vodafone, Microsoft, Sutherland, Schneider Electric, Oracle, and Dell EMC have opened delivery centers in the country. Due to its location, Egypt is also increasingly being leveraged by European and U.S. companies as a gateway to the growing Middle Eastern (e.g., Saudi Arabia and U.A.E) and African (e.g., Kenya, Algeria, Morocco, Tunisia, Iraq, Libya, and Sudan) markets across a wide range of ITO and BPO services.

Guidance Note

Egypt has been taking all the right steps to develop its IT and BPO/KPO services export industry and has made great progress in terms of the number of services offered and the growth of the market. Nevertheless, Egypt needs to take numerous measures if it is to realize the enormous potential of becoming a global offshoring hub.

Egypt is well positioned to take a leap forward since 3rd Platform technologies and Innovation Accelerators are at a growth stage. Given the dynamic nature of 3rd Platform technologies and delivery models, Egyptian government agencies, academic institutions, and industries will all need to work collaboratively for sustained periods of time to effect this change. The whole IT ecosystem needs to be transformed if Egypt is to be viewed as an innovation hub rather than a mere cost arbitration center.

As the drivers for offshoring go beyond cost reduction and into the realms of innovation, scalability, and globalization, Egypt's IT and BPO/ KPO export industry needs to align itself with new and emerging technology areas. Many of the emerging technologies that will become commonplace in the future will demand niche and high-quality skills; consequently, Egypt will need to continue executing its well-established strategies to align skills development programs accordingly. While maintaining its high number of graduates (specifically engineering and technical graduates), Egypt needs to focus on building the depth of student capabilities.

Ideally, Egypt should focus on some niche skills such as product development and product engineering, R&D, big data, IoT, mobility, translation, and high-end KPO to distinguish itself and remain relevant in the global market. Given the industry's requirement for deep domain knowledge, Egypt needs to create industry models and solutions and tailor services to keep them in line with these models.

In addition, Egypt should analyze the key geographies in which it will have higher levels of acceptance and concentrate on building long-term sustainable relationships with clients in these areas. If necessary, the country should also look to build up its nearshore capabilities.

The Egyptian government should adopt a continuous and multi-faceted approach to attracting FDI into the local offshoring industry, and create focused plans for increasing the industry's reach and visibility. The government should also focus on improving its ranking in the World Bank's "Ease of Doing Business" index, and work toward becoming one of the top 50 countries in the world across various *Doing Business* report categories. The government should also explore additional investments in simplifying processes and creating specific programs and green channels for FDI in the ICT sector.

Furthermore, Egypt needs to create a thriving SME innovation and incubation culture over the long term, as this will allow it to build a strong ecosystem of innovative companies that develop new products and solutions.

Other global offshoring countries are equally driven to address client requirements by investing in industry solutions, consultative approaches, continuous improvement tools, and platform solutions. As such, Egypt needs to be aware of the developments in these countries and adequately position itself among its global clients.

Lastly, in line with the construction of a new waterway canal in Suez, the huge investments in new roads, the establishment of new power plants, the rapid copper-to-fiber conversion across the country, and the recent introduction of 4G services, Egypt will need to continue scaling up its physical infrastructure to adapt to the pace of transformation around the world.

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