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Abstract

The information and communication technology evolution is affecting many nations around the world through one of its emerging transformational platforms, the digital economy. Therefore, electronic business with its different sub and parallel categories such as electronic commerce, electronic government and electronic learning and more is increasingly becoming the way to do business, learn, govern and trade in the 21st century. It reflects a concrete example where emerging technologies can contribute to socioeconomic development and growth for different societies. However, there are multiple challenges that exist that are creating a digital divide between the haves and have nots that call for more inclusion and more effective mechanisms to deploy the advantages of information and communication technology so that emerging economies capitalize on the potentials of the much promising global marketspace. This paper describes the development of electronic commerce in Egypt since the mid-1990s with a focus on the last few years post the uprising of 2011 and its implications on the marketplace including the challenges faced that relate to social, technological, financial, cultural and legal issues and the efforts exerted by different stakeholders including the government, the private sector and the civil society to diffuse electronic commerce in Egypt. The paper demonstrates the potential of the digital marketspace and the opportunities it presents to emerging economies and the associated lessons learned.

Keywords

Electronic commerce, electronic business, mobile commerce, information and communication technology, developing countries, technology transfer, emerging economies, digital economy, Middle East North Africa, Egypt.

1. Background

The role of the Internet and the digital economy is expanding and the impact on different economies in developed and developing nations is growing. Moreover, the information and communication technology (ICT) evolution is aggressively affecting many nations around the world, forcing changes and transformations to business and socioeconomic development plans, reflecting major implications on different economies and contributing to the notions of globalization and the evolution of the global digital economy irrespective of time and distance barriers. ICT supports small and medium-sized enterprises (SMEs) and larger corporations to compete more at a level playing field in the marketspace. ICT, with its continuously emerging online presence, cloud computing and digital transactions, is driving the radical transformation and change for individuals, organizations and societies from the marketplace to the cyberspace helping the realization of the digital economy, outsourcing and global outreach. Moreover, with a growing role of the Internet that supports a large variety of economic activities and services; the

opportunities for emerging economies look increasingly more promising. In a fast changing global environment, speed, competition and catering for various diversified cultural elements become the key factors for development and growth in the reengineered business environment where electronic commerce (eCommerce) applications promise to grow in volume helping the digital economy to mature and dominate. eCommerce represents a subset of a larger portfolio of electronic business (eBusiness) platforms that include multiple vehicles such as electronic government (eGovernment), electronic learning (eLearning) and more. Egypt, as a developing country, with an economy in transition during the 1990s had started to invest in building its ICT infrastructure since 1985 as a vital tool for development and leading to availing opportunities for eBusiness to grow.

2. Overview

Over the last few decades, ICT became vital as a platform for business and socioeconomic development (Kamel and Hussein, 2004; American Chamber of Commerce in Egypt, 2002; Kamel, 2000). Moreover, the Internet and its continuous diffusion across different societies became an important medium for information acquisition and knowledge dissemination across the globe (Kamel, 1995), leading to the formulation of the global information society and creating the digital economy with its growing trends such as competing in time, customer relationship management and smart communities (Kamel et al, 2009a). Since 1985, Egypt has invested in its ICT infrastructure targeting the build-up of its national information infrastructure (NII) to become the platform for the development of all sectors based on timely, relevant and accurate information (El Sherif and El Sawy, 1988). During the period 1985-1995, a public-private partnership (PPP) helped realize the establishment of Egypt's information highway (Kamel, 1995). The program embedded the establishment of hundreds of informatics projects and centers in different government (El Sherif, 1990), public and private sector organizations as well as the development and improvement of all the building blocks of the information infrastructure such as people, technology (hardware and software), networks, information and knowledge management aspects (Kamel, 1999). In 1991, the government began an economic reform program aiming at transforming the Egyptian economy from centrally planned and an inward looking economy to one that is market-based and internationally oriented (Kamel and Hussein, 2001). The government policy focused on the removal of price distortions and obstacles to investment and trade and worked on a plan to introduce smooth and effective processes for the reformation of the financial sector in an attempt to plug-in the one-stop-shop approach in the ways business is being developed and managed. The highlights of the program included deregulation of foreign exchange, budget deficit financing, gradual removal of government subsidies to cut down on expenditures, implementation of a privatization program, introduction of a capital market law, abolishment of investment licensing and the revision of the trade policy through the reduction of the level of tariffs of the general agreements on tariffs and trade-GATT (Kamel and Hussein, 2001). In 2015, the process is on its way to introduce a further amended and flexible investment law that can entice local citizens as well as foreign investors while facilitating the process for them and offering privileges to cement long-term partnerships and mutual interest agreements.

In the following phase, the government of Egypt was eager to apply and diffuse emerging ICT to join the world in the development and realization of the global digital economy (Rizk, 2002a and 2002b). This has taken a further boost with the appointment of a cabinet in 1999 that was geared towards investment in the development of an economy that capitalizes on the benefits of ICT and

that looks at ICT as a vehicle for socioeconomic development (Azab et al, 2009). ICT was identified as a priority at the highest policy level and a new cabinet office was established namely the ministry of communications and information technology (MCIT) leading to more investments and infrastructure build-up (Kamel, 2005). Thus, the growth of the ICT industry took massive steps during the period 1999-2009 in different aspects including human, information, legislation and infrastructure (Kamel et al, 2009b). Such development was growing positively which led to the creation of multiple job opportunities until early 2011 when given the socio-political developments in the society things slightly slowed down matching the deteriorating growth rate in the economy from 7% to under 2% (Kamel, 2014). However, despite the multiple developments that took place since 2011, it is important to note that one of the sectors that was resilient and managed to sustain the implications of a pressured economy was the ICT sector promising positive effects as the nation moves steadily forward into its recovery path (Helmy, 2014).

Egypt is a regional hub linking the Mediterranean, Europe, Asia and the Middle East. With a population of over 82+ million, it is the most populous country in the region (www.idsc.gov.eg, 2014). About 28% of its population is enrolled in educational programs (schools and universities); 58% are under the age of 25 and 21+ million represent its student population; around 7.1 million are working as civil servants. Egypt is witnessing its reincarnation into a modern, liberal and private sector-led market driven economy. The current economic growth rate stands at 1.8% with an inflation of 9% (www.indexmundi.com, 2014). A few years back it reached 7% and is expected to reach that level of economic growth in the next few years. Estimates show that unemployment is standing at 14% and the labor force is growing at around 2.7% annually now standing at 28 million (www.amcham.org.eg, 2014). Within the ICT spectrum, the Internet is a major driving force of change in the global market place (Kamel, 1995; Apulu and Latham, 2011). The growth of the number of Internet users has been steady and it is expected to continue to rise as the world becomes more aware of the opportunities enabled by the Internet (Cerf, 1999) such that during 2013, there were 200 million new Internet users worldwide joining the cyberspace for the first time (www.internetworldstats.com, 2013). In Egypt, with an economy relying 92% on SMEs, the Internet and eCommerce can empower SMEs to become global players without the need of the massive resources of a multinational corporation (ITU, 2008; Apulu and Latham, 2011).

3. Internet Growth in Egypt

The 21st century promises to bring to the world more innovations, more opportunities and more challenges. Therefore, countries around the world, including Egypt, should be prepared for a more competitive global marketspace that is information led and knowledge driven. The global Internet market today is estimated to have over 3 billion users with over 4.65 billion mobile users (www.statista.com, 2014); all are potential consumers for eCommerce and mobile commerce (mCommerce) applications. However, the Internet users in developing countries only constitute a small percentage of the total global users around 18.6% (www.internetworldstats.com, 2013) reflecting the fact that the current distribution of Internet access needs to be restructured so that members of different societies benefit from the digital revolution (Ahmed, 2007a). It is expected in the coming decades that the Internet penetration will more than double in emerging economies. In Egypt, Internet penetration has grown rapidly since the early 1990s, initially due to a number of free government-sponsored initiatives then followed by a very active and competitive private sector when the market matured and grew rapidly. Table 1 demonstrates the macro level statistics of the ICT sector in Egypt and reflecting the electronic readiness (eReadiness) of the society.

Indicators	Oct 1999	Dec 2004	Dec 2006	Dec 2008	Dec 2011	Dec 2012	Dec 2013	Jul 2014
Internet subscribers	300K	3.6m	6m	11.4m	29.8m	36.8m	37.1m	44.5m
ADSL subscribers	N/A	N/A	206K	593K	1.65m	2.24m	2.49m	2.89m
Internet penetration per 100 inhabitants	0.38%	5.57%	8.25%	16%	35%	44.11%	44.2%	52.2%
Mobile phones	654K	7.6m	18m	38m	79m	97m	97.5m	97.6m
Mobile phones penetration per 100 inhabitants	0.83%	9.74%	23%	51%	98%	117%	118%	114%
Fixed Lines	4.9m	9.5m	10.8m	11.4m	8.96m	8.56m	6.84m	6.80m
Fixed lines penetration per 100 inhabitants	6.2%	12.1%	13.8%	15.2%	12%	10.51%	8.28%	8.11%
Public pay phones	13K	52K	56K	58K	24K	15K	14K	14K
IT clubs	30	1,055	1,442	1,751	2,163	2,163	2,163	2,163
ICT companies	870	1,870	2,211	2,621	4,250	5,083	5,237	5,965
IT companies	266	1,374	1,970	2,012	3,599	4,116	4,245	4,877
Communications companies	59	152	244	265	295	375	390	410
Services companies	88	148	211	242	356	592	602	678
Number of employees in the ICT sector	48K	116K	148K	174K	212K	216K	221K	223K

Table 1: eReadiness in Egypt
Source: (www.egyptictindicators.gov.eg, 2014)

4. Growth of eCommerce in Emerging Economies: Cases from the Middle East

In the context of the Middle East, there are a few countries that have invested and grew their digital economy significantly more than others and that includes, in no specific order, Egypt, Kuwait, Saudi Arabia, and the United Arab Emirates (UAE). Such development was realized due to a number of factors including, but not limited to, the remarkable growth in the Internet over the last 10 years as indicated in table 2. Some of the core primary sector adopters in terms of digital economy deployment and growth were realized in travel and tourism; obviously there were some implications given the developments in the region since January 2011 but overall the numbers still grow collectively across the region whereas the revenues from online travels in the region grew from 2.3 billion US dollars in 2012 to 3.6 billion US dollars in 2015 (Payfort, 2014). The region is defined as the Arab countries in the Middle East which constitute over 350 million residents excluding expats. Consequently, the amount of online bookings in the primary markets in the region is perceived to be as follows; UAE (46%), Kuwait (34%), Saudi Arabia (23%) and Egypt (12%) respectively of the total bookings (Payfort, 2014).

Year	Number of Internet Users
2004	20 million
2008	56 million
2012	128 million
2014	141 million

Table 2: Internet Growth in the Middle East North Africa
Source: (Payfort, 2014)

It is important to note that the primary impediments in the region that is hindering the growth of the digital economy is online payment, especially in some countries where cash still dominates and a relatively small credit card community. However, having said that, it is important to note that online payment in the Middle East is growing faster than anywhere else in the world and the

market for online shopping is significantly expanding faster than other developing regions (Ahmed, 2007b). Table 3 demonstrates the growth rate of the region compared to other regions and primary markets. The main driver countries in the region are Saudi Arabia, Egypt, UAE and Kuwait.

Region/Primary Markets	Percentage Growth
USA	15%
Latin America	30%
Middle East North Africa	**45%**
Europe	20%
Asia Pacific	25%

Table 3: eCommerce Growth rate in the Middle East North Africa
Source: (Payfort, 2014)

As indicated earlier, despite such growth, one of the primary elements that holding up further growth is the development taking place in the region and the related security concerns. Moreover, the lack of enough credit/debit cards in the region in general and in some countries in specific. So far, the primary payment methods for online purchases is based on cash and pre-paid cards. According to Payfort (2014), statistics show that the amount of people who prefer to pay by credit/debit cards, even if they had access to such cards would have amounted to the following; Kuwait (21%), Egypt (20%), Saudi Arabia (24%) and UAE (22%) with the vast majority of potential online shoppers concentrated in the capitals of those countries and the major cities.

5. eCommerce Developments in Egypt

Developed nations as opposed to developing nations have been showing solid and growing improvements with respect to their economies when it comes to eCommerce implications (Javalgi et al, 2005). Such fortunate realization is not shared with developing nations in general and with Egypt in specific (Elbeltagi, 2007) whereas the development of eCommerce in developing nations has been less promising than expected (ITU, 2008). It is important to note that there is little research that have focused on the role of the Internet and the digital economy on emerging economies (Nottebohm et al, 2012; Maier and Nair-Reichert, 2008). In addition, Internet growth have increased by around 25% annually over the last 5+ years in emerging economies as opposed to around 5% in developed countries, offering huge opportunities for developing countries; Egypt included.

In reality, eCommerce is still in its infancy in Egypt and for many entrepreneurs in the developing world, online buying and selling is still far from being a normality. In the context of Egypt, there has been a mild growth in the space over the last decade but still, it is way below par when compared to the market size, the possible huge potential and the Internet growth realized. There have been a number of efforts over the years to introduce and institutionalize a national eCommerce initiative starting in September 1999 but there was a number of challenges that hindered the real growth of eCommerce and the realizations of its full potentials such as local culture, politics, as well as the ICT infrastructure, adequacy, completeness and readiness (Elbeltagi et al, 2005; Stahl and Elbeltagi, 2004). For example, a limited credit and debit card community of 7% of the population define the fact in Egypt that it is still a classic case of a cash society. Moreover, consumer mistrust of online transactions and a lack of legal clarity have been blamed for the slow development of eCommerce (Kamel and Abdel Ghaffar, 2003 and 2004). In addition, to the impact of the low penetration rate of computers standing at 4.27 per 100 inhabitants despite

the PC for every home initiative launched in 2002 and restructured to PC2010 that targeted a penetration volume of 4 million PCs by 2010 (www.mcit.gov.eg, 2009). It is important to note that given the fact that computer penetration is much higher within the business community than among the general population, it is envisioned that there is greater potential for business2business (B2B) than business2consumer (B2C) transactions. A typical example would be the success of speedsend.com, which is a B2B platform, established in 2001 and pioneered the electronic procurement (eProcurement) industry in Egypt through a customized web-based ecosystem (Kamel, 2009b; Pani and Agrahari, 2007).

However, it is important to mention that B2C platforms such as otlob.com established in 1999 was also successful having started as a food and beverage delivery service then expanded its offerings to a wider and more diversified variety of products. Both were based on a cash-on-delivery (COD) model and remain the same to be able to appeal to a wider pool of consumers. They are successful and still growing in volume, turnover and outreach among the local and regional communities within Egypt and beyond with the expansion and diversification of the products and services offered. In the context of Egypt, there are 44.5 million Internet users and 3.5 million online buyers which is the highest number of Internet users in the region representing around 52% penetration rate. In addition, 80% of smart phone users in Egypt make a mobile purchase at least once a month where 80% of those use cash and the rest either credit or debit cards (Payfort, 2014). There are 5.7 million credit and debit cards in Egypt which is the second highest in the region (as a volume) but that does not necessarily mean that they belong to more than 33% of that figure because many in the region possess two or more cards, and compared to the population it is still 8% total as indicated before so per capita it is still way below par. Such volume contributed to consumption during the period 2008-2012 to an amount of 2.63 billion US dollars which represents 1% of a total amount of 262.83 billion US dollars (Payfort, 2014). More specifically in mobile commerce, with 47% penetration rate in the region, with Egypt representing 26% (Payfort, 2014).

Moreover, in terms of market size in Egypt, the country witnessed the largest growth in the region that translates to 16% growth in cash on delivery purchases from 83 US dollars in 2013 to 96 US dollars in 2014 as an average basket size. With respect to debit and credit cards that translates to 36% growth in cash on delivery purchases from 71 US dollars in 2013 to 96 US dollars in 2014 also in terms of basket size (Payfort, 2014). The top digital platform have been souq.com, Alibaba.com, amazon.com, ebay.com and nefsak.com. Nefsak is the Arabic word for "your wish". There is no doubt that Egypt is arguably one of the main forces behind the fastest growing MENA eCommerce market due to the size of the population and the high penetration rate of both Internet and mobility (Helmy, 2015).

Sector	Percentage of Total
Electronics	17%
Air Tickets	15%
Entertainment	10%
Hotel Bookings	8%
Health Services	6%
Clothes	8%
Books	8%

Table 4: Top Online Purchases from Egypt
Source: (Payfort, 2014)

Table 4 demonstrates the patterns of online shopping in Egypt and what kind of products and services people look for more as priority merchandises.

In Egypt, culturally, people like to go to stores and interact with suppliers, dealers and merchants preferring the social bond that could come out of such transactions. In other words, the problem is both infrastructural and cultural (Loch et al, 2003). In some locations, according to Loch et al (2003) culture could be a barrier to using the Internet since many would think and feel threatened by how the Internet will affect the family and community life. According to Zohny (2010) quoting a survey which was conducted by the Amman (Jordan) based consultancy, Arab Advisors Group, that 35% of Internet users in Egypt (2.4 million Egyptians at that time) were engaged one way or another in some form of eCommerce which yielded a volume of 2.1 billion US dollars' worth of online transactions including bill payments in 2009. It is worth noting that the study assessed a number of elements including telecommunications subscriptions and services, Internet usage, mCommerce, electronic banking (eBanking) and more. There is no doubt that the growth of the Internet users globally and in Egypt has been one of the driving forces for the introduction and diffusion of eCommerce worldwide and continues to play an effective role in the growth and diversity of the global marketspace and Egypt should not be an exception. The Internet with its massive innovative capacities will no doubt boost efficiency and enhance market integration domestically and globally, especially in developing economies that are most disadvantaged by poor access to information (Maier and Nair-Reichert, 2008). However, it is important to note that it can also have negative implications on nations that will not have access to information (Kamel et al, 2008; Ahmed, 2007a). The Internet, as an output of the ICT evolution, is the largest network of computers in the world, providing a wealth of information and knowledge; with more promises and implications coming through with the dissemination of the Internet of Things (IoT) with expectations of having between 26-30 billion devices connected on the network by 2020. eCommerce is one of the most important topics in today's global business environment (Helmy, 2014). Therefore, understanding the degree to which the Internet will change business and society is a vital topic for businesses, industries and academia. The global society is currently witnessing a phase of transition from an information age that was physical to an information age that is digital (Lynch and Lundquist, 1996) and it represents a unique opportunity for developing nations to boost their economies through the development and dissemination of a universal digital economy, Egypt included (Helmy, 2013).

6. eCommerce Challenges and Opportunities
With respect to the challenges, the extent of eCommerce readiness is governed by the degree of ICT diffusion and the institutionalization of an encouraging eCommerce environment (ITU, 2008). The PC, notebook, and tablet penetration and access to the Internet have been growing steadily over the last decades which provides an important element in the ecosystem. However, the availability of a legal infrastructure governing business and financial transactions and protecting consumer rights can neither be taken for granted nor overlooked. It is important to note that the difficulties surrounding eCommerce in Egypt have more to do with traditional ways of conducting business than with legal barriers such as being predominantly a cash-based society. For example, the limited credit/debit card community indicate the core of the challenge in a digital environment where payment is predominantly based on online payments. Moreover, the fact that the limited debit/credit card community also have restricted use online because of banks regulations and the issuance of specific credit cards for online purchases is not helping much in building trust among

the community in the digital economy. In addition, the lack of a credit bureau until 2008 did not help financial institutions manage their risk more strategically with no credit histories for consumers. Today, with the establishment of the I-Score bureau it is different; there was over 4.3 million corporate and individual registered customers during the first year and financial institutions started using consumer credit ratings and more to approve card applicants. However, moving forward, with over 40% of the population under the age of 18 and so are not eligible for issued credit/debit cards, the future looks more promising with larger segments of the community potentially engaging in digital payment transactions (MCIT, 2014).

In terms of legislation, Egypt's sole law number 15/2004 that focuses on eCommerce was enacted in 2004. The law permitted legal standing to verified electronic documents (eDocuments) and provided the Information Technology Industry Development Agency (ITIDA), established in 2004, the authority to approve organizations that can verify the eDocuments. Moreover, in 2009, ITIDA launched the Egyptian Root Certificate Authority (Root CA), which links all certificate service providers in Egypt to provide consistency and validity to their activities. All in an attempt to increase public trust and confidence in eCommerce; being one of the primary challenges. It is worth nothing that trust in payment methods is an important element especially since only around 11% (9 million Egyptians) only bank their money which is related to the fear of identity theft and invasion of privacy; that obviously is magnified in the case of online transactions and payments. Statistically in Egypt, Internet usage among the private sector is 60% when compared to the households which stands at 15%. There are 18.4 million households in Egypt with about 20% of the households having computer facilities (www.egyptindicators.gov.eg, 2014). Since 2004, the government has been introducing a variety of eGovernment applications in an attempt to help people get used to conducting business online. This includes issuing driving licenses, high school grades and more. Table 5 demonstrates the barriers to eCommerce in Egypt following the measures adopted by the benchmarking telework and eCommerce in Europe report (ECATT, 2000).

To sum-up the challenges of eCommerce in Egypt, the different stakeholders in the market need to address a variety of social, technological and financial elements. With respect to social challenges, there is lack of awareness, training, trust, resistance to change and the language barrier. Awareness is considered a major deterrent including customer and organizational awareness of the benefits of eCommerce. When comparing mobile diffusion to Internet usage in Egypt, it is clear that for the same expenses mobile users are increasing remarkably indicating that affordability is not an issue, in fact Internet access is less costly and more reliable making it viable for mCommerce to penetrate the market if the proper ecosystem is provided (Kamel and Fikry, 2007; Dutta and Mia 2009). The lack of training is a major obstacle where people are not prepared to handle operations in a cyber-environment, which creates confusion for those accustomed to traditional systems when they are introduced to innovative techniques. The lack of trust remains a major challenge with respect to ePayment systems, and doing business with people never seen before. Resistance to change is a factor that has more of a cultural aspect where people find it so difficult to change their habits, and which relates to an organizational factor that is the gap between senior managers who are usually computer illiterates and younger generations represented in middle managers and technical staff who are advocates of ICT. Finally, there is the language barrier to comprehend the content of the web where the majority of Egyptians can only read and write Arabic while over 82% of the websites are in English. More Arabic content, online stores and portals need to be

launched on the World Wide Web to help grow the online community among the masses. It is worth noting that the growth in social media in Egypt, especially post 2011, should have concrete consequences on the development of the eCommerce community and respectively improve its implications on the economy.

Barriers	Remarks
Lack of awareness of added value	Availability of considerable skepticism regarding the added value of eCommerce due to lack of interest by firms and users for online shopping due to lack of properly distributed access and/or for security concerns.
Suitability of products for distribution	Statistics in Egypt show that 48% of online shoppers' main reason for buying online is the lack of product availability in the local market, followed by ease of purchase (45%), convenience of comparing products online (32%), comparing prices (24%) and ease of payment (21%).
Costs and performance	The limitations of narrow band access have hampered eCommerce evolution; online shopping is perceived by many as expensive rather than an efficient alternative to traditional shopping.
Data security	Compared to private value added networks, the Internet causes considerable security concerns due to its open architecture, necessitating specific technological measures to make data exchange secured and reliable, which are costly. There is a need to improve security and for allowing alternative payment methods to complement the use of credit card, such as cash on delivery, which suits the local consumer and allows for building trust and alleviating consumer concerns with regard to exchanging payment details over the Internet.
Consumer protection	In B2C, building trust requires measures that protect consumers from fraud and entitles them to consumer protection rights when buying online. There is a need to enhance buyers' awareness and to engage trust in online shopping to accommodate their concern related to the collection of personalized data that may be used for other purposes, which could be dealt with thru a copyright statement or a new law for intellectual property rights.
Lack of critical mass	Online marketplaces work better with more consumers and suppliers involved. In Egypt, the market is still relatively small but this can be improved through diversification of market segments that might have not been accessible through traditional retail outlets.

Table 5: Barriers to eCommerce in Egypt
Source: (ECATT, 2000)

With respect to technological challenges, there is still the problem of relatively weak resources with respect to the telecommunications infrastructure. This includes bandwidth cost with low capacity level leading to long periods of time for access and downloading. With respect to financial challenges, there is the lack of efficient and secured ePayment systems coupled with a limited credit/debit card community due to the lack of awareness of the use and benefits of credit/debit cards representing a primary challenge since credit/debit cards are the primary method of setting consumer transactions over the Internet. There is also the issue of customs and taxation which is another barrier for eCommerce diffusion and where the position of the government reflect the belief that the use of information networks should not be given any preferential treatment in trading as opposed to traditional methods. For example, the imposition of taxation on products bought over the Internet remains a viable option, especially that Egypt, as an economy, relies on taxes and custom duties as a dependable source of income. The above-mentioned challenges need to be dealt with strategically at the national policy level and through proper allocation of mechanisms and resources, many of which need to be transformed into opportunities that can enable the development of a solid infrastructure of eCommerce in Egypt.

As for the opportunities, the government started a full-fledged process to modernize the National Postal Authority (NPA) as one of the major government initiatives that is part of the overall planning process of launching eCommerce capabilities being the main delivery and distribution arm. NPA is building a network to connect its 3,000 branches throughout Egypt's 28 provinces. It is the only organization in the country that is present at the villages' level, way more than what the banking sector can reach through its 38 banks and multiple branches. The potential envisioned through PPP is the introduction of electronic postal services in addition to new applications in postal banking. The location of the different branches especially in 4,000 villages and remote areas could help transform the classical developing nations-like current digital divide situation so that its communities become socially and economically included in the community (Kamel, 2009a). Postal services are well-respected brands in most countries around the world, and especially Egypt, offering physical transport network; with eCommerce such services could be optimized in terms of efficiency and global exposure with timely information to different customers about their shipments (ITU, 2008).

The digital economy in Egypt is in the build-up phase. However, although small, there is a dynamic eCommerce platform in Egypt. In 2011, the Internet contributed to the economy around 2.2 billion US dollars that was comparable to 1.1% of the nation's gross domestic product (BCG, 2012). The positive implications is that the development of the digital economy was fueled by entrepreneurship, innovation, creativity, investment promotion, and technology startups, and supported by different stakeholders including the government, the private sector and the civil society. There is a huge potential, especially with the proliferation of angel investment and venture capital networks. The ICT sector in Egypt has generated revenues of around 9.3 billion US dollars during fiscal year 2011-2012 compared to 8.7 billion US dollars during fiscal year 2009-2010; during that period, ICT revenues growth rate was calculated to be 6.5% (MCIT, 2013). It is worth noting that the ICT sector makes a substantial contribution to Egypt's gross domestic product (GDP) with 4.2% and 4.6% during fiscal year 2009-2010 and 2011-2012 respectively (MCIT, 2013). The ICT sector achieved the highest growth rate in 2010-2011 (7%) and the second highest in 2009-2010 (13%) among different socioeconomic sectors in Egypt (MCIT, 2013). This has also been reflected in the number of ICT companies established and the job opportunities created in the sector.

While today the consumer's total digital purchases make around 50% of the Internet contribution to the economy in Egypt, projections indicate that the total contribution will grow three folds by 2017 to reach 1.6% of GDP (BCG, 2012). However, it is important to note that Egypt's businesses and industries have not yet grasped the significant commercial potential and capacities of the Internet. There are sectors that could benefit clearly from the digital economy such as the travel and tourism sector where the industry's potential online marketplace for travels and tourism services is 1.8 billion US dollars of which Egyptian tourism companies exploit less than 5% (BCG, 2012). eCommerce is estimated to contribute 229 million US dollars representing 0.1% of Egypt's GDP (BCG, 2012). This modest volume represents a major divide with other countries who are gradually developing their Internet economy. For example, in 2011, online advertising was estimated to be 4% of Egypt's ad spending (BCG, 2012). This demonstrates a model of B2B economic activity that the Internet generates and increasingly challenges the traditional TV ads space which represents the nation's most popular and widespread advertising platform that attracts over 82+ million in Egypt and over 400 million in the Middle East (Ahmed, 2007b). In addition,

the digital economy is an opportunity to leverage social services and promote social inclusion. For example, the government of Egypt uses the Internet to improve the efficiency in delivering services such as food subsidies through the "family card" to monitor the purchase, transparency and fairness of food distribution (BCG, 2012).

ICT can help in alleviating poverty, improving access to healthcare, fairly distributing resources, and strengthening participation in decision-making processes. Therefore, the impact of the Internet, as an ICT tool, should not be measured only in terms of absolute numbers of connected individuals and but more in terms of contribution to social and economic progress, development and growth. Therefore, one needs to address the opportunities that the Internet with its various engines holds for Egypt because eCommerce as a platform for business provides unprecedented opportunities for increasing trade, promoting investment, facilitating business transactions, providing a larger and more varied market and supplying an unparalleled marketing tool (EIU, 2001). With the youth bulge in Egypt, many are opting to startup their own businesses that are primarily focused on offering different products and services that are much needed for the community. Such trend that can have multiple positive implications not just to cater for different needs but also it is an opportunity to create jobs, reduce unemployment among the youth, and improving the economic conditions for many. Moreover, as Egyptian companies learn how to use the eCommerce ecosystem, they will become more efficient and more profitable (Bell, 1998). There are a number of Internet start-ups, although limited, but have become extremely popular, given the need and efficiency in providing their services (Kamel and Hussein, 2004). These include, but not limited to, B2B and B2C examples such as filgoal.com (sports), bayt.com (employment), freedaysegypt.com (tourism), tahriracademy.org (online education), alborglab.com (health) and bazzarinegypt.com (shopping) and more. These Internet startup efforts to transform themselves into wide ranging eCommerce websites have been notably unsuccessful (EIU, 2007). The number of websites is estimated to be over 10,000 based in Egypt where less than 15% are purely dedicated for eCommerce and of those, less than 50 have established strong names and recognized from the market, yet only a handful of those eBusiness and eCommerce websites and portals use online payment methods and mostly still depend on COD. Some also resort to other payment methods such as prepaid scratch cards, debit cards and mobile payments. However, none has surpassed COD especially for SMEs. Some use a blended model of traditional and unconventional payment transactions (Kamel and Abdel Ghaffar, 2004).

7. Conclusion

eCommerce holds many opportunities for Egypt at different levels including business, social and economic. With emerging and innovative ICTs, the availability of enabling environments and ecosystems for development, competition and growth sets the stage for diffusing business processes, global trading communities, and new revenue streams that could have positive implications on the economy. For Egypt, eCommerce represents an opportunity to keep pace with the developed world and to leverage its developmental plans using ICT and online applications by capitalizing on a young, skilled and ambitions population. The next phase should witness more coordination between different constituencies including the government, the private sector and the civil society to provide a platform that blends awareness, adoption, diffusion and adaptation of ICT capitalizing on the potentials of eCommerce while catering to the local values, norms and cultures of the community. This can help avoid creating gaps within the society and will help realize the critical mass required for a successful online community interacting digitally and

benefiting from the marketspace to prevail. In brief, eCommerce is still in its infancy in Egypt but it is definitely poised to become one of the economy's most promising next major developments.

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