Chapter 6.11
M-Government:
Challenges and Key Success Factors – Saudi Arabia Case Study

Mubarak S. Almutairi
King Fahd University of Petroleum & Minerals, Saudi Arabia

EXECUTIVE SUMMARY

In developing countries like the Saudi Arabia, due to high mobile phone penetration rates, any electronic government initiatives that don't take mobile technology into account will eventually fail. While the number of landline phones and internet subscribers are growing steadily over the past few years, the number of mobile phone users and its penetration rates are skyrocketing. In the near future and with the many mobile phone features, mobile phones will remain the main media of communication and a main source for providing information to citizens and customers.

A BRIEF HISTORY

The development in the telecommunications industry came along way and in different phases until it became what we see today. In the mid 19s, so many technologies were introduced and faded away shortly or got replaced with newer ones. In 1971, Advanced Mobile Phone Service (AMPS) was introduced by AT&T in USA. Later that year, ARP (Autoradiopuhelin or car radio phone) was launched in Finland. ARP was the first commercially operated public mobile phone network in Finland

The first generation (1G) of commercial cell phones (uses radio analog signals) was introduced in the late 1980s. The Nordic Mobile Telephone (NMT) is one of the earliest 1G-standards. NMT was developed jointly in Denmark, Finland, Iceland, Norway and Sweden. In Japan, the first commercial 1G service was provided by Nippon

DOI: 10.4018/978-1-61350-101-6.ch611

Telegraph and Telephone Public Corporation (NTTPC) in 1979, where they introduced the 'automobile telephone'. Soon the device became detached from automobiles and was called 'shoulder phone'. Between 1985 and 1988 a number of new carriers entered the market.

The second generation (2G) which is the well known technology today (GSM) was launched in Finland in the 1990s. Later, the mobile technology development rhythm speeded up drastically. High speed services were being developed as an extension to 2G networks, also known as 2.5G, such as the General Packet Radio Service (GPRS) and Enhanced Data rates for Global Evolution (EDGE), both GPRS and EDGE allow improved data transmission rates.

According to some statistics, there were 295 million subscribers on 3G networks worldwide by the end of the year 2007. During that year, the 3G mobile services generated over 120 billion USD in net profit. The top 10 telecom companies in the world made over $600 billion in revenue and over $70 billion in net income at the end of 2007. As for Saudi Arabia, telecom companies generated $27 billion in revenues and $7.4 billion in net income. With the expansion of networks and the emergence of the latest technologies used to develop 3.5G network, it's viewed easier to use high-speed broadband for internet use and web-based applications for consumers. High speed bandwidth such as WAP, GPRS and EDGE allowed mobile operators to provide services such as Multimedia Messaging, Video calls and much more. The evolved version of the 3.5G systems will be 4G. It will be based on cellular systems but will require very small cells (Yuan & Zhang, 2003). There are some indicators that the 4G systems could expanded to included machine to machine interactions rather than just simply human to human or human to machine (Turban et al., 2004; Siau & Shen, 2003; Varshney, 2002; Varshney & Vetter, 2000)

MOBILE PHONE MARKET

According to Wireless Intelligence, the Middle East has surged to become the second-fastest growing mobile phone market in the world. With penetration set to cross the 50% mark, over 150 million handsets in circulation and a 30% growth rate in 2006, the Middle East is now only trailing Africa as the fastest-growing market. Turkey, Iran and Saudi Arabia represent almost 70% of total connections in the Middle East. In these markets, the average market penetration is around 67%, which is above the average market penetration rate for the region (50%). Saudi Arabia is the second biggest market in the Middle East; it represents about 15% of total connections in the region. At the end of 2006, Saudi Arabia passed the 20 million connections mark, and the market is expected to grow by almost 30% each year.

Saudi Arabia with a population of 23 million already comprises the largest telecommunications markets in the Arabian Gulf and is one of the fastest growing in the Middle East. The sector which has some 4 million fixed lines and 20 million mobile lines has been expanding at a rate of 30% a year.

The acceleration in services has been boosted by deregulation and partial privatization of the national telecoms provider Saudi Telecommunications Company. This was sealed in a 2003 initial public offering of 30% of the latter's shares. Prior to this the government had liberalized the sector and opened it up to foreign investment and competition.

A regulator was established and designated the Saudi Telecommunications and Information Technology Commission (STITC) in April 2003. The STITC is responsible for awarding licenses to investors and for the regulation of telephone and Internet services as well as other media in addition to tariffs, competition, interconnectivity and equipment standards. The total number of users of the three mobile service providers is shown in Figure 1. This number is compared to the land lines (fixed phone line) and internet users in Figure 2.