



## M-government in Saudi Arabia

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**Abstract**— *there is a need for gradual transition from E-government to m-government services. M-government can act as a powerful concept for the dissemination of public services in order to provide better services to its citizens and residents. The concept of m-government in Saudi Arabia is still in its early phase and the government of Saudi Arabia should pay more attention towards the introduction of M-government in public sector services for the convenience of its nationals and to achieve its goals. This paper discusses the current state of Information and Communication Technology (ICT) in Saudi Arabia and also reviews the M government implementation in Saud Arabia.*

**Keywords**— *E-government, M-government, Information and Communication Technology (ICT), E-Learning, E-business*

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### I. INTRODUCTION

In the past few years, M-government is becoming more popular than E-government. The reason behind on this can be attributed to anytime and anywhere concept of M-government. M-government and E-government are not a two unlike or not two different concepts, but M-government is an advance set of E-government. M government endures is to use the mobile wireless communication technology between the government organization and in distributing of services and information to citizens and industrial enterprises. M-government services growth will be higher benefited by the recent progresses of the networks and mobile technology due to they are suitable condition for accessing information, real time access to information and personalization of information access in which they must be ensured its utilization in order to maximize benefits of expending information and called on further advanced E-Government services . The main purpose of M-government is to assure mobility for public, business, and government with the help of wireless technology. M-government is very effective at operation and services level by allowing for real time and up-to-date information and by offering citizens a less specific selection of alternatives of interaction. With the help of M-government citizens are able to save time and energy further by accessing the internet and government networks through mobile phone and other wireless devices. The successful implementation of M government differs between government's and is dependent on the nation's technological and information infrastructure, mobile device penetration, user adoption, reliability, security, effectiveness and privacy.

### II. PREVIOUS WORK

Mansoor Alrazooqi, Rohan De Silva(2010) M-government is defined as a subset or a complement to the e-government through the utilization of different mobile and wireless technologies, services, applications and devices to provide information and services to citizens, businesses and all government units thus creating better opportunities for public to participate and communicate with the government .[1]

Chen Su &Ma Jing (2010), their paper focused with the current development of China's mobile e-government. They first discussed the concept of m-government, introduces relevant technologies and application fields of mobile communication technology in government, along with several application cases. Followed the analysis of mobile e-government's advantages and problems in its development. They defined M-government as a new application model of e-government, mobile e-government provides a new approach to improve government's efficiency, effectiveness and economy of public services.[2]

M-government defined as a strategy and its implementation involving the utilization of all wireless and mobile technology, services, applications and devices for improving benefits to the parties involved in E government including citizens, businesses and all government units as reported by Kushchu and Kuscu (2004).

Easton (2002) defined the developments in E-business and M-business areas as the factors determining the favorable reception of mobile technology by governments.

Meanwhile Kim et al., (2004) stated M-government can deliver other information and services to public such as information on civil affairs, small financial transaction, and electronic identification.

Huang (2006) pointed out that Mobile e-government should mainly solve two problems in the technical layer, the first of which is information transmission, and the second of which is information organization. Information transmission mainly corresponds to mobile communication technology, including aspects like the capacity of information channels, transmission efficiency, information safety, etc; Information Organization should mainly study how to obtain, integrate and express information.[3]

### III. PROBLEM STATEMENT

For countries such as the Saudi Arabia which is in an early stage of m-government, the possibility of incorporating m-government into e-government is higher than the countries that have significant experience with m-government. Providing services through electronic channels other than the Internet has the advantage that it enables the governments to reach a large number of people and interact with them.

The vision statement of KSA about m-government has the following goals:

1. To become a world-class M-government.
2. According to the support of Saudi Arabia government to use m-government technology and available mobile technology platforms infrastructure to the citizens, employee and customers. That wills increasing the interaction between government to reach all the services to citizen and customer at any time anywhere.

### IV. PROPOSED SOLUTION

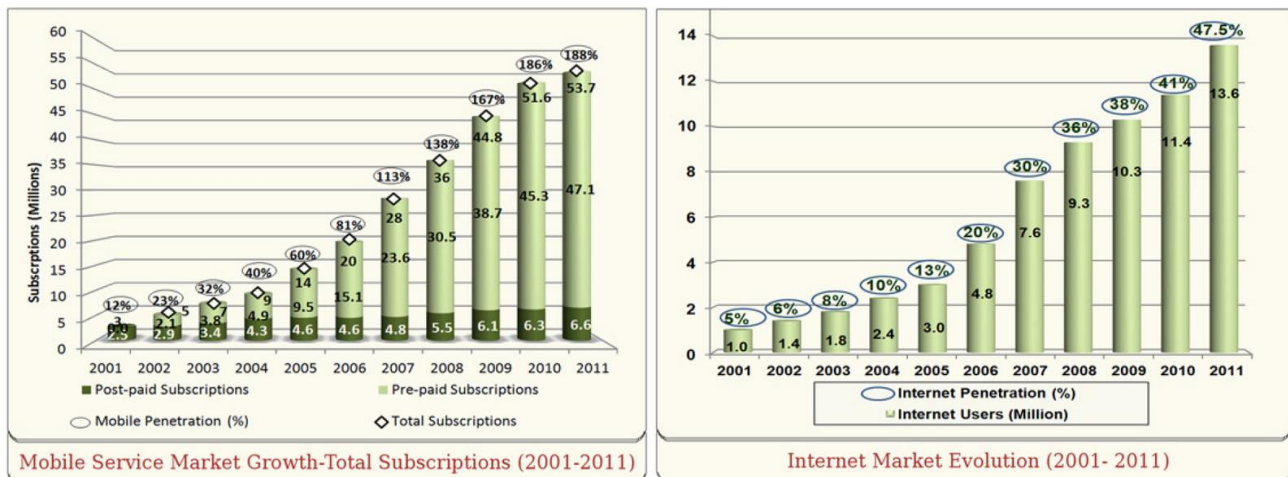
Our research will focus on M-government barriers and drivers in KSA government. We will discuss all barriers that face m-government application improvement in KSA government then we can make solution. Where partially implemented in some government sectors such as (SAHER system for traffic violations) (NOOR system for education transaction), and (SADAD for the financial operations). We will develop the drivers that drive the m-government in Saudi Arabia to development according to new technologies and support of the government. The key objective of the research was to identify success factors for M-government service delivery and model these. We believed such a model would prove useful for any government involved in either:

- The planning, development and implementation of M-government service delivery, or
- Reviewing the efficacy of a system that has already been implemented.

The three objectives of the research were to develop, identify and main factors for the successful delivery of M-government. They are to:

1. Develop a success factors through identification of those factors and classify into different types.
2. Determine the relative importance of these factors in promoting successful delivery of government services using M-government, at each stage of technology sophistication, and service delivery functionality.
3. Validate the usefulness of the model for those planning and implementing M government service delivery.

We believe that there is a positive correlation between the level of technology sophistication and the level and range of service delivery. We also believe that the relative importance of each factor can vary according to the level and range of service delivery. Whilst it would be useful to look at a user perspective, this paper is targeted for the implementers and reviewers of such programs and does not accommodate the user perspective. In our research we can depends on the following figure that has new statistics about number of mobility services users and Internet market evolution in Saudi Arabia.



This figure shows the number of mobility services users and Internet market evolution in Saudi Arabia [4].

#### A. Main focus on Mobile government in Saudi Arabia

There is a need for gradual transition from E-government to m-government services. M-government can act as a powerful concept for the dissemination of public services in order to provide better services to its citizens and residents. The concept of m-government in Saudi Arabia is still in its early phase and the government of Saudi Arabia should pay more attention towards the introduction of M-government in public sector services for the convenience of its nationals and to achieve its goals. This paper discusses the current state of ICT in Saudi Arabia and also reviews the M-government implementation in Saud Arabia.

M-government and E-government are not a two unlike or not two different concepts, but M-government is an advance set of E-government. M government endures is to use the mobile wireless communication technology between the government organization and in distributing of services and information to citizens and industrial enterprises . M-

government services growth will be higher benefited by the recent progresses of the networks and mobile technology due to they are suitable condition for accessing information, real time access to information and personalization of information access in which they must be ensured its utilization in order to maximize benefits of expending information and called on further advanced E-Government services. The main purpose of M-government is to assure mobility for public, business, and government with the help of wireless technology. M-government is very effective at operation and services level by allowing for real time and up-to-date information and by offering citizens a less specific selection of alternatives of interaction. With the help of M-government citizens are able to save time and energy further by accessing the internet and government networks through mobile phone and other wireless devices. The successful implementation of M government differs between government's and is dependent on the nation's technological and information infrastructure, mobile device penetration, user adoption, reliability, security, effectiveness and privacy. [5]

### **B. Some of M-government application Examples in KSA government**

Noor mobile application as one example: to serve 10 million users (Launching the first e-learning application mobile and tablet devices) The Ministry of Education last month in application of e-learning on mobile according to platform and Windows 8 new, to take advantage of applications mobile and tablet devices, to serve all users Noor management educational throughout the Kingdom, through a system of information and a central database. The system is expected to serve light more than 10 million users, of whom 5.5 million students in 34 thousand schools and teachers and administrators and decision-makers and parents. The move comes from the ministry to keep up with the rapid developments taking place in the world in the areas of technical experiencing an overwhelming response from users of mobile devices and tablets, and felt the ministry to develop the application to run smoothly on these devices to get the login by the user immediate and easy, and this application for service students and teachers, parents and administrators alike, where students are allowed to follow their progress and their findings and check schedules quotas, in addition to the possibility of its use by teachers to increase their productivity through quotas and provides an opportunity for parents to follow their children and communicate directly with teachers.

Said Dr. Jarallah Ghamdi Chancellor and General Supervisor of the National Information Center of Educational Ministry: The increasing use of modern technology in the world created an urgent need for the development of line with the rapid developments around us, especially the education sector, which is the basis for building future generations, adding that the ministry is always striving to provide the latest technology for students and all employees of the ministry to achieve the transition to a knowledge-based society, and the conversion system of technical work in the ministry of systems serving the Central comprehensive services involved in the benefit from all segments of the educational work and education, pointing out that the application of «Noor» is the first application of e-learning developed for Windows 8 on the local and global level.

For his part, Nabih Hamza director education sector at Microsoft Arabic that the application of «Noor» which works through the system EduWave includes 2,700 of features and functions that have been applied many of them on mobile and tablet devices through the Windows platform 8, including research developer and alerts, reports and many other benefits.

Said Walid Thbasm CEO ITG, partner in the development of Noor company developed the application on the platform of Windows 8 fully that contributed to many of the goals of the project, the most important of getting reachability of the system and interact with its functions through mobile and tablet devices for all users of the system.[7]

### **C. M-government Benefits**

Benefits of m-government in Saudi Arabia:

1. Government agencies benefits: When talking about government agencies, we have to visualize the huge amount of communications going on between different agencies and the enormous costs associated with that. With the use of the m-government tool, we can reduce these costs dramatically. In a study conducted by the Australian Government Information Management Office (AGIMO) in 2003, it indicated that about 63% of government online programs surveyed are achieving cost reductions. The overall estimated reductions in costs were about \$100 million from surveyed programs. Using the information technology tools, like e-mails, intranets and the internet, will certainly have a heavy impact in reducing costs of communications. Another major benefit to government agencies is a general improve in services provided to individuals, including citizens, businesses and other government organizations.
2. Individual Economic Benefits: Nowadays, the time factor is a very important consideration to individuals. We are much more concern about "how long" than "how good" most of the time. Thanks to m-government, the time element is perceived as a major advantage to it. With the aid of m-government, there will be a 24 hour service through agencies websites. In addition, these services are provided on the basis of self-serve, therefore people can access information faster and easier through their mobile devices. Another advantage would be the existence of electronic search engines which makes it almost effortless to find information. As a final point, m-government expands the region of providing services to include people in rural areas by telecommunication companies.
3. International Trade Benefits: As the Saudi government proceeds to as WTO member, it has to fulfil certain conditions. One is the m-government matter. In the United Nations' Global M-Government Readiness Report 2005, Saudi was ranked 80th out of the UN's 191 member states. In order to be higher in the rank, Saudi government has been accelerating its efforts to provide a world-class electronic infrastructure. From that date tell now, we are seeing a much enhanced quality internet services.

4. Democratic reforms: Without a doubt, the use of the M-government technology is going to open up the way for an enormous amount of information flowing in to the public. The information may include government policies, archival and historical information, and some useful statistics. This, in turn, will contribute more and more to government transparency.

#### **D. M-Government devices**

- Cell Phone: A cell phone is an electronic telecommunication mobile device. Cell phones commonly named as mobile phones or cellular phones. A cell phone supports voice communication and SMS. The cellular phones from the higher class can access internet via WAP or GPRS technologies. They also can be used to send and receive MMS. A cell phone prices are decreasing continuously.
- PDA: A Personal Digital Assistant (PDA) is pocket-sized computers that fits in hand and has a touch screen or a small keyboard. PDAs support voice communication, fax capability and email service via a wireless network connection. PDAs support software applications such as internet explorer (IE) and calendar. PDAs have evolved and incorporate cell phone and 3G functions. New PDAs can connect to internet with faster speed via 3G and WiFi or WiMax.
- Smart Phone: A smart phone is a mobile device which combines cell phone and PDA functions. They have smaller sizes than PDA and bigger than cellular phones. Smart phones include backlit color screen, Wi-Fi, Bluetooth, large RAM, large ROM and internet browsers. Smart phone use advanced operating systems (e.g. rich data capture and image manipulation features).

#### **E. Some cases in M-government around the world:**

Mobile and Wireless Services and Technologies for M Government Solution Proposal for Dubai Government: Electronic governments (e-governments) are fast emerging replacing functions performed by traditional governments. However, as new mobile and wireless technologies are penetrating even faster and more and more people prefer them than the landline connections, the governments are faced with a new challenge. The mobility of people and use of mobile devices necessitate the provision of anytime, anywhere access to government resources. As such, governments need to move to mobile governments (m-governments). In this paper, an m-government solution for the Dubai government is proposed by gathering and analysing the requirements of the public that visit the Dubai Police. For this purpose, quantitative and qualitative data were gathered using interviews and questionnaires and qualitative data were analysed using Thematic Content Analysis. Finally, the mobile and wireless service and technology components of m-Government solution for the Dubai government are presented [1].

A General Review of Mobile E-Government in China: As a new application model of e-government, mobile e-government provides a new approach to improve government's efficiency, effectiveness and economy of public services. This paper deals with the current development of China's mobile e-government. We first discusses the concept of m-government, introduces relevant technologies and application fields of mobile communication technology in government, along with several application cases. Following the analysis of mobile e-government's advantages and problems in its development [2].

### **V. M-GOVERNMENT: SERVICES AND SCOPE**

As mentioned earlier, there has been huge growth of Mobile phone usage in Saudi Arabia. This section objective is to discuss major M-government services provided by Saudi Arabia Government. All actions related to the agency's M-Government, include the following:

- I. Government – Government (G2G):** Usage of Information and Communication Technology to conduct business internally and among other government agencies.
- II. Government – Consumer (G2C):** Usage of Information and Communication Technology to offer M-government services to consumers.
- III. Government – Businesses (G2B):** Usage of Information and Communication Technology to offer M-government services to the business sector.

Health Mobile - Ministry of Health provided an interactive service via mobile phones in Saudi Arabia to keep subscribers informed about the updates in medicine, health and disease prevention by receiving daily text messages (SMS). This service also provides specialized courses that will help to certain phase of their lives like pregnancy of living with chronic disease such as diabetes. To subscribe to these service users need to send an empty message to the particular numbers provided by their mobile operators. Tracking of Higher Education Information: Ministry of Higher Education provided this service. In order to get text messages about student education information and also browse through education information, after register Name and Mobile Number on Ministry of higher - education sites.

**SMS Service:** King Saud University provided this service to help Professors, Staff and Student to communicate each other regarding academic curricula and materials for studies. It also helps to know any event in university after it is activated by registering the Name and mobile number this service is activated.

**ITVTC Services:** This service provided by Technical and Vocational Training Corporation in order to help users to get training and any information, by download the free program smart mobile phone (Apple, Android), then activate mobile phone.

**Riyadh & Madinah Education:** This service provided by ministry of Education in order to help users to communicate with any department by sending text mobile messages and also sends some attachment file.

**Company's status:** Using the registered mobile number, users can send SMS in order to know the company's status. The Labor Ministry announced "The new service avoids the possibility of incorrect assumptions about a company's situation or having to go to the ministry or labor office".

**Notification about employment requests:** This facility is provided by Ministry of Labor to participating beneficiaries to be notified about status of their employment. For this service, user needs to have a "username" and "password" for online services.

**Employee inquiry:** Ministry of Labor provided this service in order to help beneficiary to inquire about being registered in the Ministry of Labor as an employee at any establishment, the service is offered by sending an SMS containing ID no.

**Inquiry about ISTIQDAM Request:** This service help Ministry of Labor Customers to know the number of issued resolutions relating to ISTIQDA requests submitted to the Ministry and also the total visas submitted and number of valid visas.

**IQAMA Information's:** This Service provide by Ministry of Labor to know information about your IQAMA or your dependents such as wife, kids and housemate. To get this service, users need to send service code 12 then \* then sponsor ID then \* then Resident ID number (IQAMA ID) by SMS to a particular number provider by their mobile service providers.

**Traffic Offence:** This service enables citizens and residents of the electronic query of traffic violations by sending SMS followed by IQAMA or National ID to the numbers designated by their mobile service providers.

**Communication with JADDAH chamber of commerce through SMS:** This service provided by Chamber of Commerce of Jeddah to facilitate the member review their membership details and events through SMS. Apply for mortgage loan "Moyassar" - This service facilitates the service application for a mortgage loan through a text message (SMS) to the following number 50111. M-government can contribute possible benefits for the public sector [8].

## VI. MAIN SUCCESS FACTORS FOR MOBILE GOVERNMENT

The Success Factors Model postulates a service delivery where the level of M government sophistication positively correlates with the level of service delivery functionality. We identified five levels of functionality in electronic service delivery (mobile and web presence). They are:

- Initial – provides basic wireless access with brochure ware, non interactive responses such as set answers to interrogation from citizens 351
- Enhanced – delivers updated information such as weather forecasts, traffic conditions, policy changes, or periodically enhanced material
- Interactive – allows formal interactions between citizens and government service providers. Providing a more sophisticated level of access enabling users to directly access information based on their specific interests or needs. Users can search specialized databases; download forms and applications or submit them from mobile devices or wireless connection; make appointments with officials etc.
- Transactional or mature interface – provides a single entity interaction for mobile and wireless users. Regardless of department or agency, a mobile wireless request is auctioned through a single government interface with disregard for time and place. It will provide non-critical transactions with payment.
- Fully-interactive – offers a secure mobile wireless transaction for payment, ordering and billing of services. Agency independent, anywhere access from a mobile wireless device with secure identification and authorization. It offers the ability to use critical data regardless of the device's size and susceptibility to loss or theft [9].

## VII. MOBILE GOVERNMENT BARRIERS

Results indicated technical barriers and challenges facing m government services adoption in Saudi's government. Practically, these barriers can have a significant effect on the development of government organizations' capabilities to provide online services and transactions. According to the findings, these challenges include poor ICT infrastructure, security and privacy issues as explained in the following sections.

ICT Infrastructure:

Weak IT infrastructure in governmental agencies is considered as barrier number one to the adoption and diffusion of m government services. The ICT infrastructure including networks and servers is an essential part of M-government implementation and diffusion [9]. It enables government agencies to cooperate, interact and share work; facilitating the daily tasks and using the technology to save employee's time and effort.

Indications are that ICT infrastructure, particularly in e-government adoption and diffusion processing, is a most important challenge and one that must be carefully handled at both governmental and private levels. The importance of this factor was noted by several questionnaire respondents. The successful adoption of M-government systems will require a widespread, common and modern ICT infrastructure. In this case, the Yesser program must play its role to unify the ICT infrastructure standards in the Saudi public sector and provide recommendations for private sectors as well.[10][11]

Privacy, security and trust in M-Services: Security and privacy of information is another serious technical challenge identified in this research and is a well documented issue for e-government implementation all around the world [12]. More than (46.6%) of the respondents indicated privacy and security to be a significant issue, making it the third ranked barrier to M-government adoption and diffusion. Participants feel that using websites to transfer their personal information (such as name, picture, date of birth, ID number, and credit card details), sharing information with public

agencies online or electronically is not safe. They are afraid that M-services websites are not secure enough to protect their private information from being misused or distorted by hackers. They feared that confidential information can be exposed once transferred electronically, or viruses might destroy data. One participant said: "I do not trust these m-services. How can I get my needs when I sit in my home, I have to go to the right person and get what I want hand by hand". Another participant commented: "My friend used his visa card to buy a laptop from the Internet but because the lack of security he lost his money and did not receive any goods so, how can I trust the Internet". The participants' comments also include some security issues such as viruses, hackers, spam, Trojans and other electronic crimes activity that would be a major challenge for m-government adoption and diffusion at a society level. Unfortunately, this fear from a perceived lack of security has created disinclination or unwillingness within Saudi citizens to accept and use of m-government services or m-commerce [8]. In fact, security, privacy and confidentiality are significant and essential issues for all citizens and governments worldwide [13]. Citizens want to ensure that their information and all other data are safe when they are using m-services. The indications are that governments should provide a secure access point to their online services in order to develop citizen trust. In summary, security and trust in m-service systems seem to be a significant challenge for the government to deal with. It is indicated that an effort to address the combined technical and cultural impediments to adopting m-government may yield positive results.

Practically, an increase in public awareness and education initiatives through seminars, TV campaigns, brochures, etc., may be central to public acceptance and adoption and to generate trust in the secure use of networked systems. In technical terms Yesser may benefit from the building of a comprehensive portfolio of security techniques and development of an m-transaction security framework to protect all users' privacy and security.

**Organizational Barriers:** This section describes the organizational challenges revealed by the participants and includes the following barriers: lack of qualified personnel and training, resistance to change to electronic ways, lack of policy and regulation for usage and lack of partnership and collaboration between the governmental agencies.

**Lack of qualified personnel and training:** Lack of IT professionals and required computer training courses is a major issue [14] acknowledged by the participants and takes the fourth rank in the challenges list for m government adoption and diffusion.

One reason for that lack, as mentioned by one participant, is the moving of IT expertise from the public sector to the private sector because government salaries are relatively low by comparison. Moreover, another participant complained about the lack of IT staff at all levels such as computer technicians, programmers, engineers, web designers and professional managers. As such, the training of existing staff members is very important factor to accelerate the adoption and diffusion of any new technology. Many participants agreed with the importance of investing in training of existing staff members because they have strong workplace knowledge that will help them integrate the use of m-government services and applications. Supporting this, as revealed by the participants, This is an indication of existing commitment that will help to achieve a successful implementation and adoption of m government service at agencies level.

**Resistance to change to electronic ways:** M-government is a new phenomenon which in the (Saudi government) work place means the transformation from manual methods of work to M-electronic ones. These changes will create a new advanced environment completely different to what has been used over many years in government departments.

The country's youthful age distribution and related ICT familiarity for this age group may account for this phenomenon. The implementation of m- government is thus easily acceptable and adoptable to more than half of Saudi society. Another reason for resistance to change may be the fear of losing jobs as the organization moves to adopt the new technology [15]. The goal of KSA's m-government project is to develop and improve the workplace, with an emphasis to the staff that they are not the target of change; as more development on the public sectors is done through m-government projects and systems. To summarize, resistance to change seems mostly to emerge from fear of losing privileges or jobs. At this stage, according to survey finding it does not represent a significant barrier to m government adoption and diffusion in Saudi Arabia.

**Lack of policy and regulation for m-usage:** The m-government systems are new technological revolutions for many countries around the world and to use this technology in an effective manner its needs supporting policy and regulation framework. To be effective, laws and regulations should cover all applications and related functionality such as e-payments, e-mail usage, copyright rules, e-crimes, e-business, e-commerce and others. The existence and effectiveness of these laws will give all users more confidence and assurance to use m-applications and recommend others to use them. Already the Saudi government has issued many government policies and regulations including m-transaction law, information criminal law, shift to electronic methods decision and many others. Although far from comprehensive, these laws and regulations are playing an important function in promoting effective communication between citizens, business and government to accelerate the adoption of m-government service on all levels. In summary, existence of these laws and regulations is a significant step in the m government adoption process. Improvements may be gained as it is expanded and widely promoted so that it becomes part of the community consciousness.

**Lack of partnership and collaboration:** The sharing of information, experiences and plans between various governmental agencies and organizations is a crucial phase in the adoption of m-government processing. Many benefits can be obtained through the sharing of information and data between governmental agencies and organizations [9]. There is no doubt that, each organization has its own data and information which it has to protect and keep safe but by using security tools with intranet and extranet applications it will become easy to share information especially with other governmental agencies safely and securely. It is apparent that Yesser has established excellent collaboration and coordination channels among the public sector in Saudi Arabia [16]. Currently, all private and personal information about all citizens in Saudi Arabia are stored in the National Information Center (NIC) which is under control of the ministry of

Interior. They have made an enormous partnership with Yesser program to share aspects of this information to progress the adoption and diffusion of m government in Saudi Arabia in the scheduled time frame [16]. Finally, the move towards widespread collaboration between different governmental agencies will play a significant role in acceleration of adoption and diffusion of m-government systems in Saudi Arabia.

Lack of programs to promote m-government benefits and advantages: Promotion is one of the most significant factors of successful of m-government systems. For any new technology there are many steps to convince and encourage people to use it [17] and adopt it so, government sponsored promotion and advertising will be a significant aid to accomplish this task. lack of programs to promote m-government benefits and advantages as one of the most important barriers of m government service adoption and diffusion and is ranked second in the challenges list. One participant commented: "I did not hear about any workshops or seminars about m government in the society I just read about it in the Internet websites" while a second said: "I heard only about the reward competition in local news letter and I did not know what is that competition". lack of programs to promote the m -government services benefits and advantages is considered one of the important barriers to the adoption of m-government in Saudi society.

From this it suggests that the Yesser program and all governmental agencies might benefit from the execution of a campaign to raise and promote awareness of m-government and other new m-services, along with their benefits and advantages. As has effectively been executed by m-commerce a program of cross channel marketing and advertisements could promote popular and high profile online applications from any m-government portal through a range of public advertising media. This will increase general awareness, acceptance and usage of m government services among the public. Cross-media advertisements might include newspapers, brochures, TV, messages on public transport and subway, banners in public places, road shows and seminars would also increase m government user population. Finally, there is an indication that initiatives could be taken by the Ministry of Information and Communication Technology (MICT) and the Yesser program to promote and advertise m-government services among society to promote better understanding and usage of e-government services in Saudi Arabia.

Lack of strategic planning: M-government projects are huge, costly and long term projects that therefore require a clear strategy and vision. It will benefit each agency and organization within the public sector to align its goals with the Yesser program and develop its corresponding long term plan to develop and adopt M government systems. Top management and leaders charged with implementing this plan need to support it at every level by dedicating appropriate budget and resources for the project each year. Without a clear plan and a consequent lack of clear objectives then progress will lack direction and inevitably falter. To summarize, it is important for each governmental agency or organization to develop its own strategic plan that is aligned with the national ICT plan and its vision. Efforts can then be united toward uniform M government systems readiness in a specific time frame aiming for the highest performance services.

Social Barriers: The adoption of M-government services faces significant social issues which must be considered and treated carefully by Saudi government in order to achieve its goals of M government adoption and diffusion. These issues include culture differences and digital divide which are explained in the following sections.

Culture: Overcoming cultural inertia is one of the main challenges to m-government implementation in developing countries [9]. The issue of culture includes social characteristics, backgrounds, languages, education, religion, experiences and different expectations of the m-government system. Looking within the government entities, the behaviours of governmental employees in public sectors can be seen as an added internal challenge to the implementation of m-government systems in many organizations. Therefore, it is necessary to develop the public sector in Saudi Arabia and train the employees to have a clear vision about the new nature of their public service including their job descriptions, tasks and application to customer service. Government can learn from the development of ecommerce and train employees to see citizens, businesses and other government agencies as their customers and focus on the needs of these customers.

To complement this, it is important to educate the public and bring to their attention the importance and advantages of m-government systems by many ways as mentioned on promotion in the last section. It is instructive here to talk about the education level in Saudi society as one important element of culture and its relation to technology adoption.

Financial Barriers: The most serious and significant barrier to the implementation of m-government is a lack of money. The financial barriers include the following three identified obstacles: limited financial spending on ICT, high cost of ICT and high-priced services of telecommunications [3], [23]. Based on a literature review, the limited financial spending on ICT is considered one of essential obstacles of m-government implementation around the world [23]. This barrier ranked as the lowest barrier for m-government services adoption in the challenges list from the citizens view. According to the Saudi m-government program (Yesser), the budget assigned to the program has been increased to 4 billion riyals (about USD 1.2 billion) for this year 2010 [24]. It is therefore clear that Saudi's public sectors have financial support from the government to publish their own m-services

## VIII. CONCLUSION

M-government has the potential to greatly improve how government operates internally and how it serves its customers. M-government is much more than a tool for improving cost-quality ratios in public services. It is an instrument of reform and a tool to transform government. Thus, m-Government is not primarily about automation of existing procedures (which may or may not be effective), but about changing the way in which government conducts business and delivers services. The main objective of this research is to draw upon current views of m-ready Saudi citizens regarding factors affecting the adoption of the m government program in Saudi Arabia. This is carried out in

order to support better decision-making by m-government stakeholders, and to improve the m-government services outcome for the Saudi society. Research findings are validated against current literature addressing m-government services adoption obstacles and challenges. As a pilot study this will guide further research into the perspectives of other significant stakeholders in the successful adoption of m-government in the Kingdom of Saudi Arabia.

#### **ACKNOWLEDGMENT**

The authors would like to acknowledge the director of Arab East Collages for helping to publish this work. Khairy Assar (*Arab East Colleges, Riyadh, Saudi Arabia* and *Faculty of Engineering, Al-Azhar University, Cairo, Egypt*)

#### **REFERENCES**

- [1] Mansoor Alrazooqi, Rohan De Silva, Mobile and Wireless Services and Technologies for M-Government Solution Proposal for Dubai Government (2010).
- [2] Chen Su & Ma Jing, A General Review of Mobile E-Government in China (2010).
- [3] Huang, pointed out that Mobile e-government should mainly solve two problems in the technical layer (2006).
- [4] <http://www.ethosinteract.com/2012/04/06/13-6-million-internet-users-in-saudi-arabia-q1-2012/>
- [5] Gang Song, Transcending e-Government: a Case of Mobile Government in Beijing (2005).
- [6] <http://www.yesser.gov.sa/en/mediacenter/events/Pages/MGC.aspx>.
- [7] <http://www.okaz.com.sa/new/Issues/20121216/Con20121216556116.htm>.
- [8] Alsenaidy, A.M. and Tauseef Ahmed, A Review of Current State M Government in Saudi Arabia (2012)
- [9] Geoffrey A Sandy, Stuart McMillan, A Success Factors Model For M-Government.
- [10] Mohammed Alshehri and Steve Drew, mobile government challenges, World Academy of Science, Engineering and Technology 42 (2010).