

E-Governance Projects in Malta and Cyprus

MALTA

In 2000, the Maltese Government developed policies that recognised that ICT was a strategic tool that could better the lives of its citizens, and adopted the concept of the information society in relation to government ministries and business. As a follow-up, Malta developed an e-government strategy in 2001 and completed a national ICT strategy between 2004 and 2006. The result has been a series of e-government projects in government departments. The Government of Malta is very advanced in its e-government practices, providing a wide number of services to Maltese citizens. In 2003, an e-Government Act was passed that mandated guidelines for ministries. The government's strategic goal is to join up ministries and make e-government services available across government. Its key objectives are:

- A one-stop shop for all e-government services
- A seamless environment and ease of use
- A single point of entry for all e-government services
- Increased cost effectiveness
- Better management of information

The Mobile Government of Malta project

Malta is providing mobile (wireless telephony) technology and services to connect the public with the government. An outline of this project follows.

Minister's brief⁵⁶

The rapid developments in information and communications technology are re-engineering economies, re-inventing governments and radically transforming cultures. This technology is becoming a fundamental pillar of social change, with a positive effect on education, economic growth and global competitiveness. Such transformations, within the setting of the spectacular rate of global change, are opening a window of digital opportunities for countries like Malta that are recognising their role in this new and exciting time.

Electronic service delivery is a key source of innovation. New digital channels can deliver better quality services to citizens that are available 24 hours a day, 7 days a week, and are faster, more convenient and more personalised. As an integral part of the e-government programme, the Malta's Ministry of Justice and Local Government is now offering e-government services via a variety of service delivery channels, besides the internet. In this new scenario, government services are available for users of mobile telephones. Mobile phones give users unique opportunities to receive services and information literally from any place, at any time. The Ministry of Justice and Local Government wants everyone to participate; a wide choice of channels ensures total social inclusion.

The Government of Malta strongly believes that citizens should have a choice of electronic channels for accessing government services; one of these innovative service delivery channels is mobile telephony. Wireless working and mobile access to public services are opening up new frontiers for e-government development. This channel became even more relevant as a result of the 2006 public opinion survey in which 43 per cent of respondents expressed their inclination to use e-government services via their mobile phone. This statistic, coupled with the impressive rate of mobile phone ownership and SMS usage, had only one natural consequence – m-government.

About m-government⁵⁷

As an integral part of the e-government programme, the Ministry for Information Technology and Investment – the champion and leader of Malta's e-government programme – aims to offer e-government services via multiple service delivery channels, apart from the world wide web. One of these is mobile telephony. Sixty-four per cent of Malta's population own a mobile phone. The m-government project brings together the two mobile telecoms providers in Malta, the telecoms regulator and government IT agencies. An important factor in favour of the adoption of mobile telephony as a channel for e-government is its popularity in Malta.

Mobile phone users will be able to access a number of government services via their phone and both Vodafone and Go Mobile subscribers will be able to receive notifications and service information. A series of common m-government numbers will be established and during the first few months of pilot testing both operators' customer care centres will be empowered to handle queries. Subscribers can call the usual customer care numbers – 247 for Vodafone Malta or 146 for Go Mobile.

How it works⁵⁸

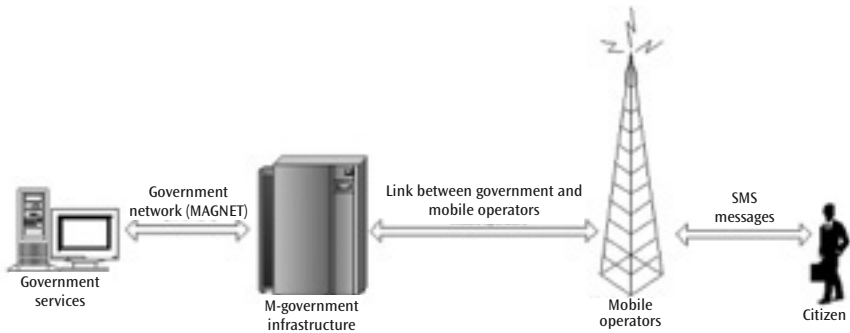
In the e-government strategy and programme drawn up in 2000, mobile communications was identified as a principal means of reaching citizens. The use of mobile phone technology as an additional means of communication grew out of the large demand for it. The introduction of a competitive mobile communication sector presented citizens

with a number of new methods of communication. Of these methods SMS is definitely the most popular.

Government immediately recognised the potential of this service and sought to transmit information from its existing services to the end user through SMS.

Figure 6.1 shows how information flows from government servers to the citizen who has requested a service.

Figure 6.1. Information flow from government server to citizen



After a citizen has registered for a mobile government service through this website the department or entity concerned validates the citizen's request. If it is accepted, the citizen is registered to receive SMS notifications.

Once the information the citizen has registered for is available, the government department or entity triggers a notification via SMS. This is processed between the government servers and the m-government infrastructure through the government network (MAGNET). Once complete, the notification is sent to the mobile operator with whom the citizen is registered. The operator, in turn, packages the notification and sends it as an SMS to the citizen.

Conclusion

This project is well underway, and is placing Malta at the leading edge of the deployment of mobile technology in the service of e-governance.

CYPRUS

The Republic of Cyprus does not as yet have cross-jurisdictional functions across all government ministries. However, many e-government services are now online and are proving to be of value to citizens and businesses. In this phase of e-government development, the main focus is on improving these services. The following example illustrates one of the country's advances in e-government.

Telemedicine in Cyprus

One of the aspects that most distinguishes the modern world from earlier societies is its capacity to empower wider and wider segments of society to seek and achieve a better quality of life. The demographic revolution is a dramatic instance of this. More and more people worldwide are now living longer and healthier lives. Between the sixteenth and first half of the twentieth centuries, the main contributors to this trend were better nutrition and public health practices. In the second half of the last century, the main developments in improving the quality of life shifted to genetics and medicine. Governments are increasingly playing a role in this by disseminating information via the internet.

Throughout the Commonwealth, the delivery of health-related information and knowledge is becoming one of the primary responsibilities of e-governance. This reflects a worldwide trend. Those who track the content and use of the internet report that websites devoted to medical information rank amongst the top five types accessed. In response to this trend, government health departments and public medical institutions are increasingly supplying health-related information. On the one hand, e-governance for health service delivery represents a response to grassroots demand. On the other, it is an opportunity for governments to assure the provision of quality information and knowledge, and counteract misinformation and unreliable reports.

Since Commonwealth governments now involve themselves in a growing number of health issues and services, the need arises to plan for the future financing, staffing and equipping of health-care facilities if they are to meet expectations about health care. This situation has led to the growth of a new capability: health-care futures forecasting. Demography and epidemiology are being cross-referenced to anticipate how public and individual health needs will develop as populations age and technologies, in the form of medicines, diagnostics and treatments, expand.

The internet is playing a significant role in this process. Consultations and conferences are being organised online to speed the deliberation process and cut costs. When face-to-face meetings do occur, the internet is also helpful. Using websites and e-mail, the pre-planning gives participants an opportunity to share material before it is presented and get feedback on suggested changes. Meeting agendas can also be posted online, as can the accommodation and transportation provisions for the meeting. After meetings have taken place, the papers presented and decisions taken can also be posted online, enabling both professionals and the public to be apprised of the issues covered and the actions planned.

This combination of websites and e-mails provides the public and governments with links to each other and to hospitals, research groups, extended care organisations and special interest groups.

This case study gives an overview of how Cyprus's Ministry of Health is using electronic

infrastructure to promote the health of the country's population. Firstly, an outline is given of the government's business case for a transition to a new health information system that can better meet the needs of both patients and health-care practitioners. Following that, some of the specific steps in implementation are discussed.⁵⁹

The business case

The clinical objectives of the new health information system include the following considerations:

- Pre-hospital level (pre-hospital health emergency management system)
- Primary health care (health-care information and telemedicine)
- Home care (wireless patient monitoring and telemanagement)
- Hospital care (common framework, standards and services)
- Information and collaboration services (WebOnColl platform and shared data)
- Integrated electronic health record (records and knowledge management)

The Ministry of Health has aimed for greater efficiency and productivity in its IS/IT system. This involves, among other things, a better integrated system, so that technology and people can work together to provide better services. To accomplish this, the Ministry of Health needed:

- An adequate definition of a health information system;
- A new organisational design
- Better health-care provision procedures
- Standards for procedures and forms

The business case then considered the implementation requirements to achieve these goals:

- Appropriate project management
- Appropriate software for record-keeping
- Efficient infrastructure networks
- Internet access
- Relevant procurement procedures
- Effective training programmes
- An appropriate legal framework

The tasks of the new organisation that resulted from this project were to apply new standards, compile medical records, classify symptoms and diagnoses, devise new forms and filing systems, and work within a new set of technical policies.

To move forward required approval and authorisation of the study that would determine the specifics of the plan. A budget had to be approved, a steering committee created, personnel seconded, teams appointed and sign-off acquired, so that the work could begin. The business case also dealt with how specific components of the plan would be approached.

For the hospital system, a top-down method was recommended. The system is so large and complex that an effective and integrated design requires a holistic overview. However, it is recognised that a top-down approach entails pitfalls that designers of the system must be aware of: larger scope; longer project duration; more learning; higher costs and risks; ambiguous requirements; and a possible loss of momentum. It was pointed out that all these pitfalls would be guarded against during implementation.

The next issue was whether to make or buy in. This decision depended on the conclusions of the study that was the first step in implementing the plan. The guiding principles of the study are:

- Patient-centred information
- Provision of high quality services
- Integrated systems
- Sharing of information
- Management information
- Security and confidentiality
- Modular architecture
- Interoperability
- Adaptability
- Open standards

Finally, system architecture issues must be dealt with.

1. Should the system adopt a distributed approach or would central replication be preferable?
2. How should user requirements be defined?
3. How is it possible to ensure that all the system requirements are recognised and used?

The business case included an acknowledgement of the context within which the project will operate. A warning from Richard Heeks and his colleagues at the University of Manchester was invoked: ‘... the greater the change gap ... the greater the risk of failure’. There was also a focus on ‘humanware’ in the project – the recognition that people, with all their potential and limitations, are both the reason for and the means of building the new system. The project staff were therefore offered four options: fast total success, fast partial success, slow partial success and slow partial failure. It was felt that the third option, slow partial success, was the best that could actually be achieved – so it was pursued.

What follows are some of the steps taken to implement the objectives presented in the business case.

Vision of the Ministry of Health on information technology⁶⁰

The Ministry of Health envisages that over the next 3–7 years it will be able to introduce information technology into services and departments in order to:

- Provide better service through increased productivity and timely management of information;
- Move towards paperless and filmless hospitals through the introduction of electronic health record systems;
- Introduce a smart medical card;
- Provide remote medical services (via the internet, telemedicine and robotics);
- Provide access to external and internal data banks.

Roles and responsibilities of the Ministry’s IT section⁶⁰

The following are considered to be the major responsibilities of the IT section:

- Submit suggestions to its ministry or department and to DITS on relevant policy issues;
- Manage the implementation of the ministerial/departmental information systems strategy;
- Undertake or manage the study, development and implementation of non-strategic projects within the standards and guidelines set out by DITS, including the preparation and maintenance of the relevant project plans;
- Assist with the study, development and implementation of strategic projects;
- Perform all the system administration functions, namely:

- Ensuring that the ministerial/departmental systems are operational
- System tuning
- Identification of malfunctions and liaising with suppliers to correct them
- Provision of user support
- Maintaining the original versions of software and the relevant documentation
- Maintaining configuration records detailing the hardware and software used in the ministry or department, including serial numbers and/or version numbers, where applicable, and their location
- Installing new or updated versions of hardware and software
- Assigning authorisations for network resources
- Ensuring that satisfactory back-up procedures are in place;
- Be represented on the project boards of the projects of its ministry or department;
- Provide consulting services to its ministry or department;
- Provide second line support for the projects of its ministry or department (first line support will be provided by the expert users);
- Provide first line technical support;
- Conduct technical quality assurance reviews;
- Participate in technical committees;
- Organise and/or conduct appropriate IT-related training for users.

Conclusion

The Ministry of Health is moving forward with the deployment of its telemedicine system. A report on the project is posted on the Ministry of Health's website, to which readers may refer for details about progress on its various aspects.⁶²