

E-Government

Benchmarking and KPI's

A concept paper compiled for the

Saudi e-Government Program - yesser

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Executive Summary

Governments must regularly evaluate the progress and effectiveness of their e-government investments to determine whether stated goals and objectives are being met on schedule.

Calculating the value and progress of e-government investments is a difficult but necessary step if governments want to maintain support for projects. Benchmarking can include quantitative or subjective measures. Benchmarks can include: number of agencies and functions online, reduction in average time for processing citizen requests or applications, reduction in number of complaints about the level and quality of government services, increased voter registration and/or turnout, increased citizen participation in consultations and comment proceedings, lower costs to government in delivering services, and increased revenue.

Rather than re-inventing the wheel, we have based this concept paper on The Handbook of E-Government for Developing Countries prepared by [infoDev](#) for The World Bank. To assist policymakers in devising their own plans and initiatives, the handbook divides the process of e-government implementation into three phases. These phases are not dependent on each other, nor need one phase be completed before another can begin, but conceptually they offer three ways to think about the goals of e-government. The various definitions and recommendations for each phase as stated in the handbook are listed in detail to set the background scene and understanding for the development of country specific benchmarks and KPI's.

The concept paper proposes adopting the Benchmarking recommendations as outlined in the handbook *and localizing* them to fit the requirements of the Saudi e-Government Program– *yesser*. The handbook lists the following general recommendations:

- ◆ Create measurable goals during early planning stages.
- ◆ Designate an office to oversee e-government implementation.
- ◆ Make sure the office is sufficiently funded and is recognized by all relevant agencies and departments.
- ◆ Conduct regular audits to ensure progress is being made to achieve stated goals.
- ◆ Review benchmarks regularly to ensure that accurate measures are appropriate for rapidly changing technology.
- ◆ Create a data collection system to support program operations and “before and after” surveys of knowledge, skills, and applications among participating organizations to assess program impact.
- ◆ A common IT infrastructure and architecture standard is key to ensuring that ongoing development takes place in a coherent and integrated way.
- ◆ Advanced planning of common IT infrastructure standards result in shortened development time and system compatibility.
- ◆ Quantitative measures can be as beneficial as qualitative ones.

It is proposed to develop three independent sets of benchmarks and KPI's together with a mechanism for collection, classification and periodic reporting of the various sub-components of each set:

- Set 1 Benchmarks and KPI's for the overall efficiency and performance of the [Saudi e-Government Program – yesser](#) as compared to international standards of advanced countries.

- Set 1 Benchmarks and KPI's for the overall efficiency and performance of the [Saudi e-Government Program – yesser](#) as compared to similar implementations in regional countries.

- Set 3 Benchmarks and KPI's for the overall efficiency and performance of the each and every institution forming part of the collective [Saudi e-Government Program – yesser](#).

A detailed description of the proposed KPIs as adapted from various international standards and recommendations specific to the [Saudi e-Government Program – yesser](#) are discussed in Section 5 of this Concept Paper. The abundance of KPIs and the various methodologies for measurement dictate a filtering and selection process for the most "implement able" KPIs relevant to [Saudi e-Government Program – yesser](#).

1 The Three Phases

E-government is not simply a matter of giving government officials computers or automating old practices. Neither the use of computers nor the automation of complex procedures can bring about greater effectiveness in government or promote civic participation. Focusing solely on technological solutions will not change the mentality of bureaucrats who view the citizen as neither a customer of government nor a participant in decision-making.

Understood correctly, e-government utilizes technology to accomplish reform by fostering transparency, eliminating distance and other divides, and empowering people to participate in the political processes that affect their lives. Governments have different strategies to build e-government. Some have created comprehensive long-term plans. Others have opted to identify just a few key areas as the focus of early projects. In all cases, however, the countries identified as most successful have begun with smaller projects in phases on which to build a structure.

The three main phases of e-government are Publish / Interact / Transact.

1.1 Publish

Governments generate huge volumes of information, much of it potentially useful to individuals and businesses. The Internet and other advanced communications technologies can bring this information quickly and more directly to citizens. "Publish" implementations of e-government diverge widely in their design and content, but developing nations generally can start the process of e-government by publishing government information online, beginning with rules and regulations, documents, and forms. Enabling citizens and businesses to readily access government information without having to travel to government offices, stand in long lines or pay bribes can be a revolutionary advance for nations wracked by inefficient bureaucracy and corruption.

Publish sites seek to disseminate information *about* government and information compiled *by* government to as wide an audience as possible. In doing so, publish sites serve as the leading edge of e-government.

1.2 Interact

Publish sites, however rich in content, are just a first step. E-government has the potential to involve citizens in the governance process by engaging them in interaction with policymakers throughout the policy cycle and at all levels of government. Strengthening civic engagement contributes to building public trust in government.

Interactive e-government involves two-way communications, starting with basic functions like email contact information for government officials or feedback forms that allow users to submit comments on legislative or policy proposals.

This phase of e-government may also include the creation of citizen/government forums, such as one set up by the Armenian government. Such forums constitute online communities where people can exchange ideas, broaden public awareness of issues, and establish new opportunities for activism not constrained by distance. In the Armenian case, citizens are encouraged to communicate on issues ranging from political participation to environmental protection.

1.3 Transact

Governments can go further, by creating websites that allow users to conduct transactions online. Just as the private sector in developing countries is beginning to make use of the Internet to offer e-commerce services, governments will be expected to do the same with their services. Potential cost savings, accountability through information logs and productivity improvements will be important drivers.

A transact website offers a direct link to government services, available at any time. In the past, government services such as land registration or the renewal of ID cards required long waits, confrontation with stifling bureaucracy and the occasional bribe. Innovations such as citizen service kiosks located in shopping centers in Brazil or portable government computers that can be carried into rural pockets of India bring e-government directly to the citizens of of developing nations.

Perhaps the biggest incentive for governments utilizing and providing ICT services is to streamline currently bureaucratic and labor-intensive procedures, which can save money and increase productivity in the long-run. Furthermore, by automating and revamping procedures and processes, especially in revenue-generating areas such as tax and fine collection, governments hope to stem corruption and graft, improving revenues while elevating trust in government at the same time.

2 Transformation Via e-Government

E-government is about transforming the way government interacts with the governed. The process is neither quick nor simple. It requires a coherent strategy, beginning with an examination of the nation's political will, resources, regulatory environment, and ability of the population to make use of planned technologies. The success of e-government requires fundamentally changing how government works and how people view the ways in which government helps them. There is no "one size fits all" strategy in implementing e-government, but we have identified five essential elements in the transformation process.

The primary motivation for e-government reforms should not be focused on saving money or cutting staff. While those can often be valuable results, the savings incurred from e-government initiatives most often benefit businesses and citizens utilizing the improved system, and not necessarily the government agencies that invested in ICT.

In order to realize efficiencies, moreover, governments must develop a citizen-centric model that involves key stakeholders outside of government – businesses, trade associations, scientists, academics, and NGOs. Without their input, e-government projects are unlikely to succeed, because citizens will not use a system that does not respond to their needs. Once a consensus has been reached, leaders must fully communicate the vision to the public.

The Five Elements of Successful E-Government Transformation are:

- ◆ Process Reform
- ◆ Leadership
- ◆ Strategic Investment
- ◆ Collaboration
- ◆ Civic Engagement

2.1 Process Reform

Critical to the success of e-government transformation is the understanding that e-government is not just about the automation of existing process and inefficiencies. Rather, it is about the creation of new processes and new relationships between governed and governor. The use of ICT is not merely a cost or labor saving tool, to be achieved simply by giving government officials computers or automating manual records. Rather, if conceived and designed correctly, e-government is a solution that can genuinely revolutionize the process of government itself. Therefore, government leaders planning e-government projects should first examine the function or operation to which they want to apply

Governments should use ICT to bring transparency to problems, where transparency represents a new way of addressing the problem.

Or, to take another example, if the subject of an e-government project is procurement, officials and companies that do business with the government should first examine the entire process by which the government publishes solicitations and qualifies bidders and the requirements for filing bids.

2.2 Leadership

In order to achieve the e-government transformation, elected officials and administrators are needed at all levels of government who understand the technology and the policy goals and who will push reform. E-government requires strong political leadership in order to succeed. Strong leadership can ensure the long-term commitment of resources and expertise and the cooperation of disparate factions. Leadership can also articulate a unifying theme that can propel the e-government initiative through all the necessary steps.

2.3 Strategic Investment

Governments will need to prioritize some programs over others to maximize available funds in view of tightly limited resources. This will necessitate clear objectives for programs and a clear route to those objectives. Developing nations must choose projects carefully in order to optimize their investment of time and resources. Projects should have clear value in terms of enhancing transparency, increasing citizen participation in the governance process, cutting bureaucratic red tape, or saving money. Standards and benchmarks must be established to measure the relative success of these projects.

2.4 Collaboration

Governments will have to explore new relationships among government agencies as well as partnerships with the private sector and NGOs to ensure quality and accessibility of e-government. Agencies may have to overcome traditional reluctance to work with each other to maximize benefits of scale in e-government projects. Collaboration among government entities, private enterprises and NGOs can assist policymakers in crafting meaningful reforms and can expedite the implementation of e-government. Private sector experts, who deeply understand topics such as e-commerce, information technology, marketing, and management, can advise government policymakers. The private sector may have considerable expertise that can help meet the challenges of increasing efficiency, capacity, and "consumer" (that is, citizen) satisfaction.

2.5 Civic Engagement

The success of e-government initiatives depends on an engaged citizenry and, to that end, efforts to foster civic engagement are critical. The concept of e-government revolves around the citizen. E-government is not just a cost cutting or efficiency initiative, but rather is directed at bettering the lives of ordinary people. In order to develop this citizen-focused vision, policymakers must keep

the ordinary citizen in mind when designing systems. If at all possible, policy makers and designers should encourage stakeholders – both government and non government to participate in defining what their shared vision of e-government should accomplish. And once that vision is clearly defined, leaders must communicate it across all sectors, not just to those who will implement it.

3 Challenges & Opportunitites

All countries implementing e-government have struggled to develop a basic infrastructure to take advantage of new technologies and communications tools. Many developing countries, even if possessing the will, do not have the infrastructure necessary to immediately deploy e-government services throughout their territory. These governments, such as the Andhra Pradesh state in India, must include in their e-government strategies efforts to build out their ICT infrastructure, developing novel approaches to solving the problem of remote connectivity in order to support e-government efforts. Others, such as Estonia, have partnered with the private sector to invest in programs that increase access and create an e-ready society.

The Challenges and Opportunities of E-Government Implementation are:

- ◆ Infrastructure Development
- ◆ Law and Public Policy
- ◆ Digital Divide
 - E-literacy
 - Accessibility
- ◆ Trust
 - Privacy
 - Security
- ◆ Transparency
- ◆ Interoperability
- ◆ Records Management
- ◆ Permanent Availability and Preservation
- ◆ Education and Marketing
- ◆ Public/Private Competition/Collaboration
- ◆ Workforce Issues
- ◆ Cost Structures
- ◆ Benchmarking/Qualitative Methods

3.1 *Infrastructure Development*

All countries implementing e-government have struggled to develop a basic infrastructure to take advantage of new technologies and communications tools. Many developing countries, even if possessing the will, do not have the infrastructure necessary to immediately deploy e-government services throughout their territory. These governments must include in their e-government strategies efforts to build out their ICT infrastructure.

3.2 Public Policy

The application of ICT to government may encounter legal or policy barriers. Legislatures must ensure that laws are updated to recognize electronic documents and transactions. They must take proactive steps to ensure that policies support rather than impede e-government. Policymakers implementing e-government must consider the impact of law and public policy. Otherwise, any initiative will encounter significant problems. The effort must incorporate a holistic view, one that is not just focused on technology. Archaic laws, old regulatory regimes, overlapping and conflicting authorities can all greatly complicate or altogether halt a project. Legal reforms and new policy directives may have to be adopted before the online world can function smoothly.

3.3 Digital Divide

Class, race, ethnicity, geography and other factors could lead to groups of people being disenfranchised. In many countries, content must be provided in more than one language or dialect. E-government must also address the needs of those who are illiterate. The digital divide is the gap between people who have access to the Internet and those who do not. Those without access cannot learn essential computer skills, cannot access information that can provide economic opportunities, and cannot share in the benefits of e-government.

Bridging the digital divide means more than just addressing race and class issues. Successful programs will create new opportunities for those who are traditionally isolated from government programs. In particular, technology programs often leave women, immigrants and the elderly behind. An effort must be made to include these and other vulnerable groups.

There are two issues of special concern tied to the digital divide:

E-Literacy – ensuring e-government programs help to create opportunities by educating those who have not used, do not have access to, or feel uncomfortable with technology.

Accessibility - making e-government programs available to the physically disabled.

3.4 Trust

To be successful, e-government projects must build trust within agencies, between agencies, across governments, and with businesses, NGOs and citizens. When conceptualizing e-government, developers often do not realize the many boundaries, both physical and administrative, that the proposed project will cross. Yet, the success of e-government often comes down to building trust and common understanding with the variety of players early in the process. The biggest concern for most parties is that change brought about by a new system will negatively impact them.

Almost every successful e-government project is a case example in building trust. The issue of trust also involves two issues of special concern to any online service:

Privacy – protecting personal information the government collects about individuals.

Security – protecting e-government sites from attack and misuse.

3.5 Transparency

Government transparency should be embedded in the design of ICT systems. Citizens too rarely understand how government decisions are made. This lack of transparency prevents the public from actively participating in government and from raising questions or protesting unfair or ill-advised decisions. A lack of transparency can conceal official graft or favoritism.

3.6 Interoperability

Rather than adding new systems on top of outmoded legacy systems, e-government planners should develop systems and record formats that work together and across departments. Reliable e-government requires a comprehensive overhaul of legacy systems. Putting incompatible record formats online neither simplifies nor reduces the workload imposed on people and government officials, thereby saving no one time or energy in the long run.

3.7 Records Management

New technologies are being created to help manage information. Governments have unique needs in this field. Better information management can help officials identify barriers to more efficient government. Without an information management framework, policy makers could not derive useful analysis quickly enough to react to social and economic developments.

Accurate official records should provide the basis for the rule of law, economic development, and accountability. Governments should take advantage of technologies that facilitate the cataloguing of records and the flagging and retrieval of information.

3.8 Availability and Preservation

Historical documentation is of special importance for governments. ICT not only allows for quick and cheap dissemination of data, but also for its compact and convenient storage. Instead of warehouses filled with paper documents that can take days to search through and require an army of bureaucrats to keep track of, governments can preserve and make readily

3.9 Education and Marketing

E-government services are only useful if people know about them. Education and outreach programs will be needed. Developing a good website is not enough. Successful projects also will require good marketing to encourage citizens to make use of them. People, especially if they are unfamiliar with technology, may be reluctant to try e-government services out of distrust or belief that online services will not meet their needs or due to lack of understanding of the technology. People must be coaxed into using these services, provided, of course, that these services were designed with members of the public in mind.

3.10 Workforce Issues

Human resources must be structured and managed with e-government goals in mind. A well-trained and motivated workforce is critical to e-government success. Civil servants need training and leadership in order to integrate themselves into the new information structure. Policymakers need to expect that civil servants will feel threatened by e-government, either because they fear being caught for corruption or simply because they fear a loss of power. Leadership can play an important role and create a positive atmosphere for change by ensuring adequate training and rewarding those who support e-government changes.

3.11 Public Private Collaboration

Issues of public vs. private collaboration and competition are already part of an international debate on governance. New rules may be needed to govern the relationship of the public and private sectors. The question of where government controls end and the private sector takes over in e-government efforts is a difficult one to answer. Many governments are loath to cede power and authority to any private entity. The best way to proceed in joint or cooperative projects must be considered carefully, with public and private interests working together as partners, and not necessarily for political or economic gain. New partnerships and alliances can have unforeseen consequences, so it is important to be able to review new relationships frequently to ensure that both parties are pleased with the arrangement.

To foster public/private cooperation, the World Bank has created the "Country Gateways" portals, based on locally-owned and managed public-private partnerships whose mission is to facilitate innovative and effective use of the Internet and other ICTs to reduce poverty and promote sustainable development.

3.12 Cost Structures

While planning and budgeting in a changing climate is difficult, governments should seek to invest in sustainable programs that can produce savings. In order to implement a successful e-government program, policymakers need to develop specific and reasonably attainable goals and understand what resources are

available to achieve those goals. Only then will they be able to formulate a plan that can be implemented in full, rather than being cut short before any gains are realized due to lack of resources.

3.13 Benchmarking

Governments must regularly evaluate the progress and effectiveness of their e-government investments to determine whether stated goals and objectives are being met on schedule.

Calculating the value and progress of e-government investments is a difficult but necessary step if governments want to maintain support for projects. Benchmarking can include quantitative or subjective measures. Benchmarks can include: number of agencies and functions online, reduction in average time for processing citizen requests or applications, reduction in number of complaints about the level and quality of government services, increased voter registration and/or turnout, increased citizen participation in consultations and comment proceedings, lower costs to government in delivering services, and increased revenue.

4 Recommendations

The handbook tables general recommendations specific to each phase and component of the e-government program.

4.1 On the Three Phases

4.1.1 Publish Projects Recommendations

- ◆ *Begin with a strategy to get information online, with appropriate milestones.*
- ◆ *Post information of value to people in their daily lives, and emphasize local language content.*
- ◆ *Consider a mandate that all agencies publish a specified range of information online.*
- ◆ *Seek attainable results using available resources.*
- ◆ *Design sites so they are easy to maintain, and sustain funding to ensure that information is updated regularly.*
- ◆ *Focus on content that supports other goals, e.g. economic development, anti corruption, attracting foreign direct investment.*

4.1.2 Interact Recommendations

- ◆ *Show citizens that their engagement matters, by informing them of the outcomes of their online comments.*
- ◆ *Break down complex policy issues into easy-to understand components.*
- ◆ *Be proactive about soliciting participation; use traditional media to publicize online consultations.*
- ◆ *Engage citizens collaboratively in the design phase.*

4.1.3 Transact Projects Recommendations

- ◆ *Target audiences that will have immediate use for the online services.*
- ◆ *Enlist the support of those who will be using the site and address the concerns of government workers whose role will change as a result of the innovation.*
- ◆ *Integrate e-government with process reform, streamlining and consolidating processes before putting them online.*
- ◆ *Recognize that initial investments in transact systems can pay off over time in terms of cost savings and increased revenue.*
- ◆ *Create a portal for transact services.*

4.2 *On Transformation*

4.2.1 **Process Reform Recommendations**

- ◆ Plan carefully - streamline and consolidate offline processes before putting them online.
- ◆ Don't automate inefficiencies - eliminate them.
- ◆ Respond to local needs draw on the ideas of those who will use the system and enlist their support.
- ◆ Try to focus projects from the user perspective.
- ◆ Dispel resistance of civil servants by training and incentives to support reform.
- ◆ Ensure commitment of resources for the long term.

4.2.2 **Leadership Recommendations**

- ◆ Create an office and designate a senior official as a focal point for e-government innovation, planning and oversight.
- ◆ Signal Royal/Presidential/ Prime Ministerial support for the initiative to ensure that all relevant departments and agencies support it.

4.2.3 **Strategic Investment Recommendations**

- ◆ Define clear goals.
- ◆ Catalogue available resources, ranging from funding to personnel.
- ◆ Make short and long-terms plans, with expected expenditures, income streams and deadlines.
- ◆ Designate an officer or organizing body that will oversee planning and budgets.
- ◆ Consider multi-technology approaches. Some communities may not be ready for the Internet, but other technologies like radio may better serve their needs.
- ◆ Consultations with local communities will help ensure that they benefit from technology.

4.2.4 **Collaboration Recommendations**

- ◆ In the planning phase, establish a consultative process that includes opportunities to hear from and speak with business, NGO's and other government agencies. Explain the goals of the e-government initiative and solicit suggestions.

- ◆ Take private sector advice and experience into account when designing systems. Respond to identified needs.
- ◆ Create incentives for the private sector to become active participants in reform.
- ◆ Encourage cooperation and integration between departments/ministries of government.
- ◆ Local champions will help projects succeed. To decrease skepticism in local communities, directly involve local leaders by making them representatives, and by teaching them IT skills they can pass on to their communities.
- ◆ Create local ownership. In conjunction with the establishment of a local management committee or body, handover of e-government projects should occur as soon as possible.
- ◆ Federal agencies and state and municipal agencies and authorities need to partner to ensure a smooth reform in services.

4.2.5 Civic Engagement Recommendations

- ◆ Consult widely in designing systems.
- ◆ Design applications that are focused on the citizen.
- ◆ Combine e-government with legal reform efforts such as requiring public notice and comment in legislative and regulatory processes.
- ◆ Keep in mind differences in local culture when seeking to engage citizens.
- ◆ Design engagement opportunities that build on successful models.

4.3 *On Challenges & Opportunities*

4.3.1 **Infrastructure Development Recommendations**

- ◆ Develop projects that are compatible with the nation's telecom infrastructure.
- ◆ Use public access kiosks and mobile centers if teledensity/penetration is low.
- ◆ Introduce telecom competition and lift regulations on wireless and other digital technologies to accelerate their deployment.
- ◆ Build on the micro-enterprise model to bring connectivity to underserved areas and ensure sustainability.
- ◆ Consider the government's current use of technology and learn from past successes and failures.
- ◆ Establish an action framework at the beginning of the process to allow for a rational and coordinated investment effort down the road.

4.3.2 **Public Policy Recommendations**

- ◆ Consult with stakeholders to assess how existing laws may impede the desired results.
- ◆ Give legal status to online publication of government information.
- ◆ Clarify laws and regulations to allow electronic filings with government agencies.
- ◆ Reform processes by simplifying regulations and procedures.

4.3.3 **e-Literacy Recommendations**

- ◆ Ensure that content is in local languages and that interfaces are easy to use.
- ◆ Develop applications that use speech or pictures in addition to, or instead of, written text.
- ◆ Include an educational component in e-government projects.
- ◆ Provide aides at access points who can train citizens in basic computer skills.
- ◆ Create programs that include traditional media, like radio programs or newspaper columns, where citizens can learn about e-government.
- ◆ Special attention should be given to groups difficult to integrate (women, elderly, immigrants).

4.3.4 **Accessibility Recommendations**

- ◆ From the outset, design applications that accommodate the disabled, such as an audio option for the blind.
- ◆ Establish as a legal requirement that the government must adopt technology to assist the disabled.
- ◆ Set performance criteria and measure progress.

4.3.5 Trust Recommendations

- ◆ Map key internal and external partners and build a strategy to keep open lines of communications.
- ◆ Start with short-term projects that yield early results. This helps build trust and could help point to areas for larger scale ventures.
- ◆ Strong leadership can help build confidence in programs.

4.3.6 Privacy Recommendations

- ◆ Educate and train government officials on the importance of privacy.
- ◆ Design applications that integrate privacy protections.
- ◆ Follow "fair information practices." Minimize the collection and retention of personal information.
- ◆ Limit access to personally identifiable information - do not automatically allow employees to tap into databases of personally identifiable information.

4.3.7 Security Recommendations

- ◆ Designate a senior official responsible for computer security.
- ◆ Continually assess systems to make sure that security precautions are being implemented.
- ◆ Backup information regularly and store backups in a separate location.
- ◆ When it comes to personal information, keep information collection to a minimum and do not disclose personal information without express prior consent.
- ◆ Provide ongoing training to employees on computer security.
- ◆ Evaluate performance of system managers in adhering to sound security practices.

4.3.8 Transparency Recommendations

- ◆ Post online rules, regulations and requirements for government services (such as requirements for obtaining a license) to minimize subjective actions by officials.
- ◆ Highly-placed public officials can expedite transparency and accountability efforts by making their offices positive examples of openness.
- ◆ When putting services online, give citizens the ability to track the status of their applications.
- ◆ Train civil servants and provide incentives to reform.

- ◆ Integrate transparency and process reform to simplify regulations and procedures.

4.3.9 Interoperability Recommendations

- ◆ Map and assess existing record systems.
- ◆ Identify and reform regulatory schemes that make interaction with the government onerous.
- ◆ Use common standards throughout the government, to shorten development time and ensure compatibility.
- ◆ Adopt a common IT infrastructure for the government.

4.3.10 Records Management Recommendations

- ◆ Encourage data sharing and cooperation between government departments.
- ◆ Streamline offline record keeping processes to make the transformation to online publication easier.
- ◆ Creation and standardization of meta-data is critical for conducting successful data searches across institutions and networks.

4.3.11 Availability and Preservation Recommendations

- ◆ Design applications according to need.
- ◆ Consider relevance, usability, language compatibility and affordability.
- ◆ Encourage cooperation between departments and with the private sector in collecting, storing and utilizing data, but proceed continuously with personally identifiable information.

4.3.12 Education and Marketing Recommendations

- ◆ Develop publicity and training campaigns that will engage the public about e-government initiatives.
- ◆ Conduct research to ensure that online services respond to actual needs and that the implementation suits the target audience.

4.3.13 Workforce Issue Recommendations

- ◆ Articulate a timeline for implementation in a step-by-step manner so the reforms will not seem overwhelming to the bureaucracy.
- ◆ Hold regular meetings between e-government policy leaders and the affected workforce so employees are active participants in the process.
- ◆ Create incentives by rewarding individuals and agencies that apply the reforms rapidly

4.3.14 Public Private Collaboration Recommendations

- ◆ Forge multi-sector partnerships.
- ◆ Review and reassess laws and policies that impede public/private cooperation
- ◆ Ensure that agreements with contractors and partners are equitable and can be reviewed and revised over time.
- ◆ Seek assistance and involvement from organizations that already have experience in providing services and information using the same or similar technologies.

4.3.15 Cost Structures Recommendations

- ◆ Avoid advertising-based or fee-based services. They have generally not been sustainable.
- ◆ Articulate functionalities clearly and try not to add details that will push budgets into deficit.
- ◆ Develop projects that are achievable with resources available.
- ◆ Consider the government's current use of technology and study past successes and failures.
- ◆ Designate an officer or organizing body that will oversee cost.

4.3.16 Benchmarking Recommendations

- ◆ Create measurable goals during early planning stages.
- ◆ Designate an office to oversee e-government implementation.
- ◆ Make sure the office is sufficiently funded and is recognized by all relevant agencies and departments.
- ◆ Conduct regular audits to ensure progress is being made to achieve stated goals.
- ◆ Review benchmarks regularly to ensure that accurate measures are appropriate for rapidly changing technology.
- ◆ Create a data collection system to support program operations and "before and after" surveys of knowledge, skills, and applications among participating organizations to assess program impact.
- ◆ A common IT infrastructure and architecture standard is key to ensuring that ongoing development takes place in a coherent and integrated way.
- ◆ Advanced planning of common IT infrastructure standards result in shortened development time and system compatibility.
- ◆ Quantitative measures can be as beneficial as qualitative ones.

5 Benchmarks for *yesser*

5.1 Background Documentation

The following country specific documents were reviewed during the process of preparing this Concept Paper:

Title Forms / Measuring Performance of Transformation to Electronic Transactions in Government

Source Kingdom of Saudi Arabia / Higher Economic Council

Title Regulations for the Implementation of Electronic Transactions in Government

Source e-Government Program

5.2 KPI's and Methodologies

Many countries have increasingly turned to business cases to justify ICT investments, present preliminary estimates of the aggregate costs and benefits shown by business cases, and provide an overview of the types of methodologies typically used.

We propose to prepare a report that lists and describes e-government indicators for identifying and measuring e-government costs and benefits, including those that measure the transformation of government business and processes. The report will complete the following tasks:

- ◆ Update Tables with the most recent business case methodologies being used by countries today; update the cost/benefit checklist
- ◆ Populate the checklist categories with specific examples (and references where possible) of measures that have been used by other countries (at the project, organizational, local or national level), data sources and results to date
- ◆ Select a limited number of good e-government business cases and use logical framework analysis to identify goals, indicators and metrics to show how to develop indicators for specific applications.

The report will focus on how the [Saudi e-Government Program](#) can measure costs and benefits of e-government projects; and how they calculate and measure value from these projects for government, citizens and businesses. The report will be based primarily on existing information sources, as well as responses to a

questionnaire that a consultant will develop in collaboration with the [Saudi e-Government Program](#). The consultant may also draw from existing studies of national, local and/or international approaches to measurement frameworks.

Appendices

Appendix I – The Economic Case for e-Government

The simple framework for investigating the economic case for e-government:

$$(government\ benefits + user\ benefits) - (government\ cost + user\ cost) = cost/benefit\ impact$$

Checklists I.1 – I.4 document the constituent items of the above equation. These items should be considered in any investigation of the costs and benefits for established e-government projects. In addition, checklists for three risk factors – business impact risks, technical risks, and change and uncertainty factors – are provided in I.5 I.6 and I.7. These should also be included when developing assessment or business case for future e-government projects. The checklists were adapted from a number of sources.

I.1 Checklist of Benefits to Government

Direct cash benefits

- ◆ Greater tax collection, revenue
- ◆ Reduced fraud
- ◆ Reduced travel costs, field force expenditure
- ◆ Reduced publication and distribution costs
- ◆ Lower fines to government from international bodies
- ◆ Additional revenue from greater use of commercial services and data (e.g. use of electoral roll data)
- ◆ Additional revenue from newly available services and newly charged-for services
- ◆ Reduced need for benefits, e.g. through faster job searches
- ◆ Reduced costs due to reduced need for physical presence

Efficiency savings (monetary benefits)

- ◆ Time savings
 - Reduced processing through common standards for data and processes
 - Time savings for public servants
 - Reduced error rates, re-work, complaints
 - Reduced need for multiple collections of data from single customers
 - More flexible working hours
- ◆ Information benefits
 - More accurate, up-to-date and cleaner data and more reliable information
 - Capacity for greater information sharing across government
- ◆ Risk benefits

- Improved risk management
 - Improved security and fewer security breaches
- ◆ Future cost avoidance
 - Lower costs for future projects through shared infrastructure and valuable knowledge
 - Reduced demand for service (through better information provision), e.g. health
 - Reduced need for future government capacity expansion
 - Encouragement of increased takeup of other e-services
- ◆ Resource efficiency
 - Reduced redundancy through integrated systems
 - More effective use of existing (e and non-e) infrastructure, and reduced capacity waste

Other non-monetary benefits

- ◆ Improved service delivery
- ◆ Enhanced customer service
- ◆ Improved service consistency and equality
- ◆ Improved user satisfaction
- ◆ Improved communication
- ◆ Greater take up of entitlements
- ◆ Improved reputation and increased user trust and confidence
- ◆ Integrated view of customers
- ◆ Enhancements to policy process
 - Enhanced policy alignment and outcomes
 - Better information to facilitate policy making
- ◆ Enhancements to democracy
 - Increased user involvement, participation, contribution and transparency
- ◆ Allows more, greater and new data to be collected
- ◆ Improved security

I.2 Checklist of Benefits to Users

Monetary benefits

- ◆ Reduced prices for charged-for services, avoidance of future price increases
- ◆ Reduced cost of transmitting information – phone, post, paperless interactions, etc.
- ◆ Reduced travel costs
- ◆ Reduced associated costs, such as professional advice, software tools, equipment, etc. (predominantly for businesses)
- ◆ Revenue-generating opportunities for citizens, businesses and intermediaries

Time-based non-monetary benefits

- ◆ Reduced user time (hours saved)
- ◆ Reduced need for multiple submission of data for different services and events

- ◆ Reduced travel time

Value-based non-monetary benefits

- ◆ Quicker response
 - Reduced application processing time (elapsed time saving)
 - Improved response time to events
 - Improved interactive communication, particularly between government and remote communities
- ◆ Improved information
 - More reliable and up-to-date
 - Faster and easier access
 - Transparency (e.g. status of "live" applications)
 - Can be live or real time
 - Enhanced democracy and empowerment
- ◆ Improved reliability
 - Reduced error rates
 - Greater confidence and certainty of transaction
 - Service consistency
 - Overall reliability
- ◆ Choice and convenience
 - Range of access channels – increased choice and ease of access
 - Greater user convenience (24/7 service delivery)
 - Decrease in abandoned transactions and complaints
- ◆ Premium service
 - Extra tools and functionality for users
 - Improved customer service
 - Personalised service
 - Service integration

I.3 Checklists of Costs to Government

Market planning and development

- Business planning and options analysis
- Market research
- Due diligence and plan audit
- Tendering

System planning and development

- Hardware
- Software license fees
- Development support
 - Program management
 - System engineering architecture design
 - Change management and risk assessment
 - Requirement definition and data architecture
 - Test and evaluation
- Design studies
 - Customer interface and usability
 - Transformation or business process redesign
 - System security
 - User accessibility
 - Data architecture

- Network architecture
- Other development phase costs
- Facilities: offices, office equipment, etc.
- Travel

System acquisition and implementation

- Procurement
 - Hardware
 - Software
 - Customized software
 - Web hosting
- Personnel
 - Additional program management
 - Internal communications
 - Process redesign
 - System integration
 - System engineering
 - Test and evaluation
 - Data cleaning and conversion
- IT training

System operations and maintenance

- Hardware
 - Maintenance
 - Upgrades and replacement
- Software
 - Maintenance
 - Upgrades
 - License fees
- Telecoms network charges
- Operations and management support
 - Program management
 - Operations
 - Back-up and security
 - IT helpdesk
- On-going training
- On-going monitoring and evaluation
- Other operations and maintenance

Financing costs

- Market and process implementation
 - Personnel
 - Internal communications
 - Training
 - Redeployment
 - Customer helpdesk
 - Call centers
 - Marketing and communications
 - Customer inducements and rebates
 - Legal advice

I.4 Checklists of Costs to Users

Direct costs

Computer hardware and software
 Computer operations and maintenance
 Telecoms and Web access charges
 IT training and support
 Digital signature setup
 Printing forms and information

Time factors

Web search
 Reading time
 E-mail and form completion
 Phone time

I.5 Checklists of business impact risks

- ◆ **Impact on business processes (includes changed processes):** Impact that the project will have on the organisation (during development and after implementation).
- ◆ **Impact on government services at implementation:** Impact that the project will have outside the organisation, for example on other agencies, the public and businesses during development and after implementation.
- ◆ **Impact on other projects and changes:** Degree to which the project is dependent on and connected to other projects and changes.

I.6 Checklists of technological risks

- ◆ **Technological dependence:** Dependence on new technology or new methods.
- ◆ **Degree of innovation:** Extent to which the project involves innovative solutions and staff experience to deal with innovation.
- ◆ **Impact and integrity with legacy systems:** Degree to which the project will need to develop interfaces with existing systems and data.
- ◆ **Security:** Robustness of physical and technological security controls.
- ◆ **Scope of IT supply:** Extent of IT consultant and supplier activity, support and maintenance now and in the future.

I.7 Checklists of change and uncertainty factors

Change management	Uncertainty
Culture change required (e.g. working practices)	Inexperience in dealing with third-party suppliers
Leadership direction	Dependence on third-party suppliers
Management resistance	Use of untried methods
Lack of staff experience and inadequate training to accommodate change	Time constraints and critical deadlines
Lack of motivation	Economic or market changes
Poor communication with appropriate staff	
Lack of responsiveness to change	

Appendix II – e-Government Evaluation Activities

Country ¹	Active in e-government evaluation	Non-financial assessment methods ²	Financial assessment methods ²	Source
Australia	Yes	KPI	NPV, ROI, VA	NOIE (2003)
Austria	Yes	Benchmarking		Federal Chancellery (2004)
Canada	Yes	Capacity check	VA	OECD (2002)
Czech Republic	Yes	Benchmarking		e-Czech (2004)
Denmark	Yes		NPV	E-Government Workgroup of the Directors General (2002)
Finland	Yes	KPI	CBA	OECD (2003)
Germany	Yes	KPI		Information Society Germany 2006 (2003)
Italy	Yes		CBA	E-mail reply for this study
Japan	Yes			E-mail reply for this study
The Netherlands	Yes	KPI		www.elo.nl
New Zealand	Yes	KPI	NPV, Financial analysis	States Services Commission (2003)
Poland	Yes	KPI		ePoland (2003)
United Kingdom	Yes	Benchmarking	BA, NPV, CBA	OGC (2003)
United States	Yes	KPI	ROI, NPV, CBA, IRR, VA	IAB (2003)

1. Evaluation activities for Belgium, France, Greece, Hungary, Iceland, Ireland, Korea, Luxembourg, Mexico, Norway, Portugal, Slovak Republic, Spain, Sweden, Switzerland and Turkey not available.

2. BA = break-even analysis; CBA = cost-benefit analysis; IRR = initial rate of return; KPI = key performance indicators; NPV = net present value; ROI = return on investment; VA = value assessment methods.

Source: Various published studies and responses to OECD requests for information in 2003-04.

Appendix III – e-Government Evaluation Methodologies

Method	Description	Use
Transaction costs	Uses segmentation methods to calculate use and benefits to different user groups	Quick and easy way to estimate potential cost savings from the introduction of e-government
Net present value	A straightforward method that examines monetary values and measures tangible benefits	Relatively straightforward; use when cash flows are private and benefits tangible
Cost-benefit analysis	A flexible method that measures tangible and intangible benefits and assesses these against net total cost	Good consideration of all benefits, but can be expensive and time consuming
Cost effectiveness analysis	Focuses on achieving specific goals in relation to marginal costs	Good for considering incremental benefits against specific goals
Portfolio analysis	A complex method that quantifies aggregate risks relative to expected returns for a portfolio of initiatives	Good for consideration of risk, must use a consistent approach across a portfolio
Value assessment	A complex method that captures and measures benefits unaccounted for in traditional ROI calculations	Used by several governments to consider performance against all policy goals