CASE STUDY: SINGAPORE E-GOVERNMENT

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Executive Summary

On the last twenty years, Singapore has made tremendous strides in exploiting IT in its bid to remain competitive in challenging regional and global arenas. Led by the government, the nation prides itself as a reference model for showcasing how technology can be successfully assimilated into our daily lives of the population. The progressive and meticulously crafted national ICT programs

have established a strong foundation as Singapore leaps into a new frontier while embracing technologies.

The Journey has not been without its shares of bumps and potholes. Among the successes were also a number of failed experiments and initiatives. The failures in some of these projects did provide valuable feedback and were instrumental in shaping the design and implementation of subsequent e-government initiatives.

The write-out is divided into 3 parts:

- The first part, offers the understanding of what Singapore e-Government is. An overview of Singapore e-Government journey is briefly highlighted.

- The second part focus on the overall vision, business model, strategies, as well as on the key challenges and lessons that was learned.

- The Third and final part, the focus on critical success factor of Singapore e-government now and future.

1.Overview

The action plans for Singapore e-Government have evolved in tandem with each National IT Plan to bring about exciting changes to the way Singapore Government works, interacts and serves the public.

Singapore's e-Government journey begun with the Civil Service Computerization Program (CSCP) in the early 80's. The CSCP was conceived with a clear direction of turning the Singapore Government into a world-class exploiter of IT. It

marked the beginning of computerisation in the public sector that focused on improving internal operational efficiencies through the automation of traditional work functions and reducing paperwork.

In the late 90's, the convergence of IT and telecommunications transformed the concept of service delivery. This required a paradigm shift in the way government services were delivered and the first E-Government Action plan was launched in 2000. Adopting a customer-centric approach to delivering public services, it laid the foundation for the current e-Government Action Plan II (eGAP II).

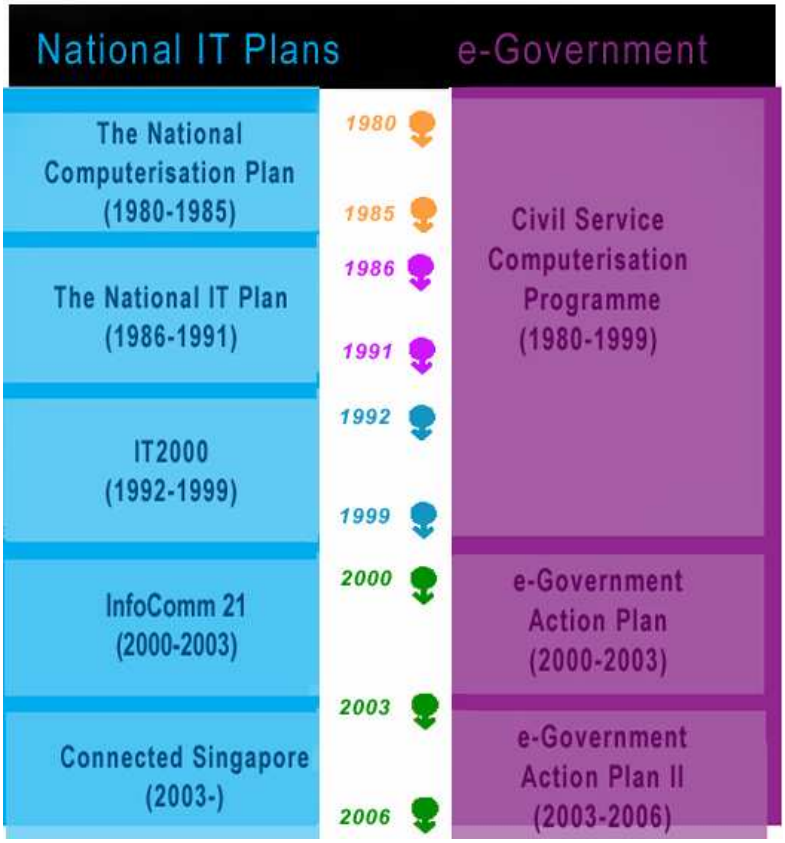

Diagram 1. illustrates the Singapore Government Journey e-Government

2. Model of Singapore e-Government Business.

The first e-Government Action Plan has provided a strong foundation for the implementation of the second Plan. The vision of the e-Government Action Plan was to be a leading e-Government to better serve Singapore and Singaporeans in the new knowledge-based economy. A total amount of S$1.5 billion was committed to this plan.

The e-Government strategic framework was centered on three critical relationship dynamics:

- Government to Citizens (G2C)
- Government to Businesses (G2B)
- Government to Employees (G2E)

To move these three critical sectors towards the e-Government vision, the e-Government Action Plan prescribed the broad directions of ICT deployment with five strategic thrusts and six programs.

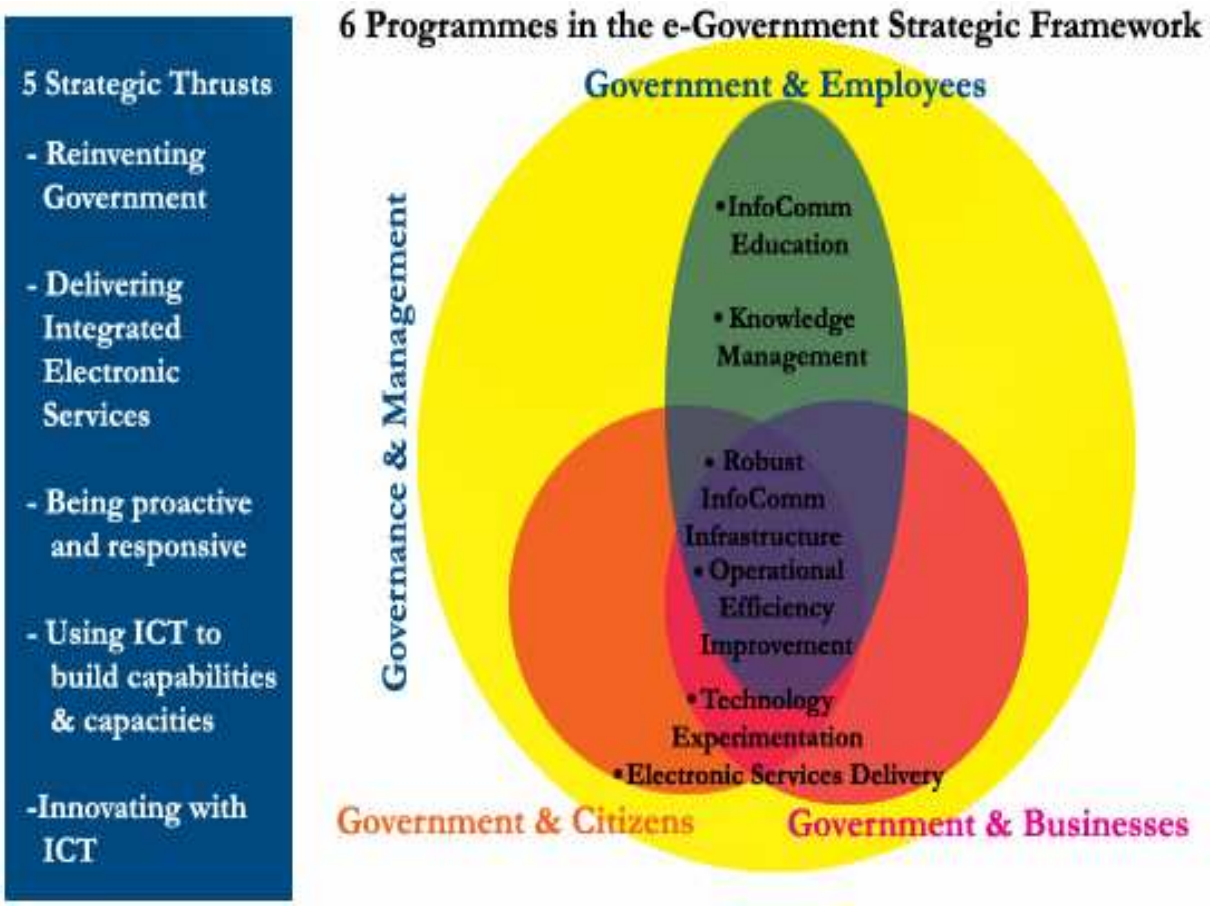

Diagram 2; Illustrates the 6 programs in the e-Government strategic framework and the 5 strategic thrusts

2.1 Government to Citizens (G2C)

Individuals can interact online with the Government on a vast range of matters. Available 24 hours a day, seven days a week, the **eCitizen Portal** provides a single access point to government information and services. These are organized and integrated in intuitive categories. The portal has been popular with individuals and businesses. The hit rates of the portal have increased from

240,000 per month in October 2001 to 14.4 million hits per month in June 2003. Behind the success of eCitizen is the **Public Service Infrastructure (PSi),** a central facility that allows quick and efficient deployment of e-services.

Launched on 1 March 2003, **SingPass**, or **Singapore Personal Access**, establishes a nation-wide personal authentication framework for e-services. With just a single identification and password to remember, SingPass makes it more convenient and easier for users to transact online with the Government. All Singapore residents above the age of 15, employment pass holders and their dependents are eligible for SingPass.

2.2 Government to Business (G2B)

For the business community, transacting online with the Government is now becoming the norm. Having easy and convenient online access to government agencies at all times means savings in time and money for the businesses. This is in line with national drive to promote a pro-enterprise environment, to facilitate business growth in Singapore.

The **G2B Portal** is the first entry point for all local and international businesses to access a full suite of aggregated and integrated G2B information and services. For easy navigation, e-services are presented according to business and industry topics. Pertinent topics such as government assistance programs, protecting business ideas and market research provide useful information to businesses.
Whether registering a new business entity or reporting of changes to business particulars, **BizFile** enables the online filing of such forms in a manner that is both faster and easier.

The e-services are integrated across agencies to simplify procedures and improve turnaround time for businesses. By going online, a businessman no longer needs to liaise with multiple agencies or fill up multiple forms when requiring government services. The **G2B Portal and Construction and Real Estate NETetwork (CORENET)** are examples of such cross-agency e-services that involve extensive business process redesign to provide one-stop convenience.

Government Electronic Business (GeBIZ) is an integrated, end-to-end online procurement system for the Public Sector. Local and international suppliers can check out or participate in business opportunities with the Government in a more efficient, transparent and secure environment. Todate, the cumulative transaction value of procurement through GeBIZ amounted to about S$800 million.

2.3. Government to Employees (G2E)

Public officers remain key to any successful e-Government strategy. They play an important role ensuring that the Singapore Government benefits from fresh

opportunities emerging from new technologies. Singapore e-government portal continue to equip public officers with the relevant skills needed to operate in the context of a government that must be increasingly collaborative, customer-centric and consultative.

The **InfoComm Education Programme (IEP)** ensures that public officers are equipped with new ICT skills and competencies to take advantage of the growth in Infocomm capability to revamp internal processes and external service delivery. The IEP facilitates learning, and enables public officers to appreciate and work towards the objective of a "Networked Government".

3. Key Strategies of Singapore e-Government.

The e-Government Action Plan was focused on five strategic thrusts:

3.1. STRATEGY 1: Delivering Integrated Electronic Service Delivery

Adopting the tenet of “Many Agencies, One Government”, the emphasis is on delivering services from customer metric perspective. Citizens will be able to access greater public services delivered on line, anytime anywhere. The eCitizen portal launched in April 1999 is one such example. As of March 2003, more than 1600 public services were enabled for online delivery.

3.2. STRATEGY 2: Using Infocomm Technologies to Build New Capabilities and Capacities

The public sector leverage using infocomm technologies to continually innovate and adapting business and operational processes. To create new value and make quantum leap in service delivery, radical re-engineering and transformation are considered and applied. Examples include the use of Infocomm technologies to enable collaborative knowledge management; and to provide instant knowledge and processing capability.

3.3. STRATEGY 3: Innovating with Infocomm Technologies

Going beyond tried and tested ways of deploying technology, the public sector has experimented with new technologies to learn and develop capabilities, at times taking leadership role in promoting new technological trends. Procurement

and project management practices has been kept flexible to avoid deploying obsolete technology while maintaining practicality and pragmatism.

3.4. STRATEGY 4: Being Proactive and Responsive

Adopting the " Sense and respond" Approach to anticipate new trends, services are delivered at "Internet Speed" with continuous fine tuning in response to customer needs and feedback. The public sector has harnessed the power of infocomm technology to policy delivery, simplify regulations and improve service levels.

3.5. STARTEGY 5: Re-inventing Government in the Digital Economy

The public sector has also systematically cultivate a better understanding of the impact of infocomm technologies to make meaningful decisions in all aspects of governance and to continually innovate to harness the benefits of infocomm technologies in its public services.

4.1 SWOT-Analyses Singapore e-governance

Singapore e-government can be viewed as operating within four inter-related context: **Political, Public services, Economic, Technological and Socia**l. These contexts are shaped by both past and present policies, culture, structures and process

Four SWOT analyses are presented, with a focus on the following aspects of Singapore e-governance:

a. Political
b. Social
c. Economic
d. Technological

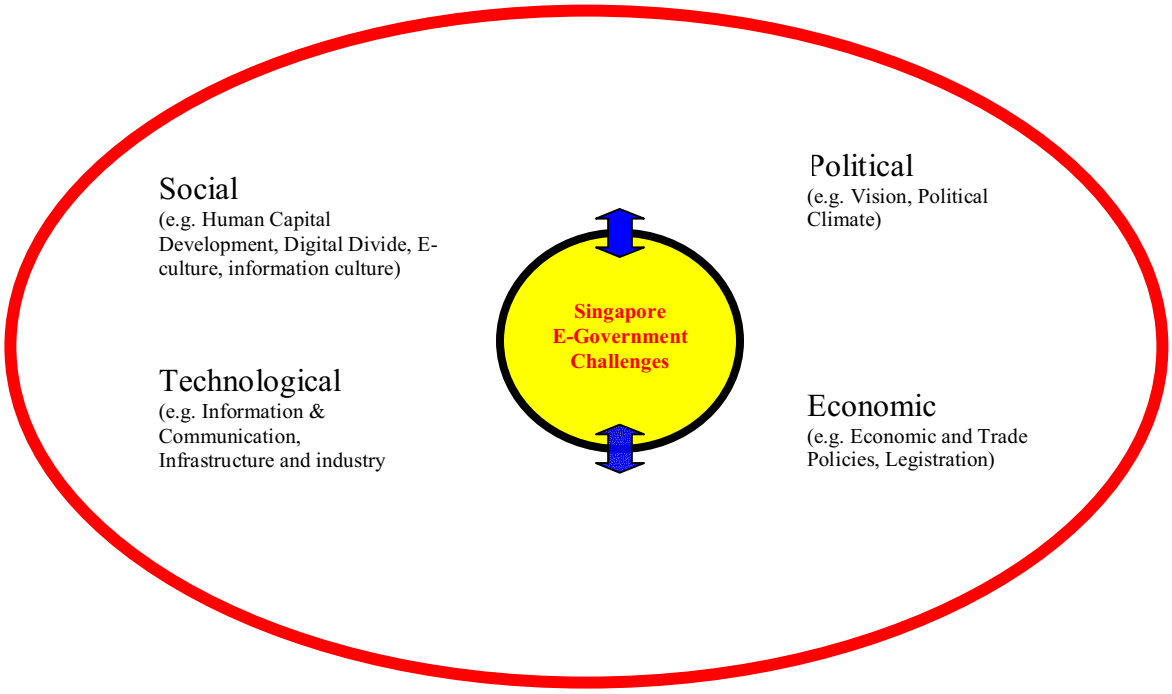

Diagram 3; illustrates Singapore e-government can be viewed as operating within four inter-related context: **Political, Public services, Economic, Technological and Socia**l.

4.1 Political Aspects

Strength

- Singapore has built up a reputation for political stability with a clean effective public administration. The government places strong emphasis on economic development, fostering a sense of nationhood and social stability.

- There was very early recognition that IT would be needed to leverage Singapore's intellectual capital in order to move into the ranks of developed nations. A concerted effort to harness computing power begun in the early 1980s with the government taking the lead.

- There is visible and committed leadership within both political and administrative arms of government.

Weakness

- As Singapore e-government is reaching perpetual maturity(base on Accenture report (1)). The Political leaders need to define and communicate the drivers for e-government. Some of the drivers may be: responding to shrinking public service workforce (i.e. replaced by e-gov); high expectations of citizens, convenient and responsive public services.

Opportunities

- In lieu of Singapore Strong e-government, which almost all feasible services has been put on-line, the next step is to promote them. Some of the incentives of getting customers to change their behavior from traditional mode to online world include differentiating pricing, faster turnaround time and high quality e-services.

Threats

- With the new capabilities and possibilities presented by e-government solutions, discontinuities may arise within existing policies, jobs and skills.

- The resistance of minority whom will not use e-services (i.e. IT illiterate)

- The interest of conflicts taking place in transforming e-government between different departments and agencies can only be coordinated at the highest level. The resistance of changes brought by e-government transformation has to be overcome by top management.

4.2 Social Aspects

Strength:

- IT literacy and education plays a large important role in public attuning to e-services. Large part Singapore population is IT literate.

- There is also high awareness and acceptance of electronic gadgets and services among the Singapore population.

- Singapore government actively promotes e-lifestyle through promotions such as advertising, lucky draws and contest.

Weakness

- Not a lot of people exploits this “advantage” using the e-government portals

Opportunities

- E-government is a useful tool for government to disseminate and collect information to the citizen quickly without mammoth effort.

Threats

- Some individuals whom privacy is highly guarded, e-government may be received with suspicion or less enthusiastic.

4.3. Economic Aspects

Strength

- Strong commitment from political leadership.
- Governments plans to invest S$1.3 billion dollars over next 3 years to upgrade infrastructures, develop capabilities and further improve the electronic public services.
- For a small country, Singapore takes its ICT vision very seriously. The government strategy to transform its economy to net economy is comprehensive

Weakness

- E-Government typically involves in hefty national investments. Sustainable economic growth is required to fund new e-government initiatives over a extended period.

Opportunities

- Automating services, results in reduced administration. This will result in lower cost of services (i.e. more efficient government). Government employees can focus on their attention on higher value tasks.
- Integrating service, results in the elimination of duplicated efforts and greater cost-effectiveness. To Government, duplicated efforts means wasted resources.

Threats

- Unforeseeable Economy downturns (i.e. Asian Crisis) or tragedy (i.e. 911 or SARS) would have no choice to scale back, review priorities and take stock of the funding for e-government programs.

4.4.Technological Aspects

Strength

- Government has invested large skill information infrastructures; removed barriers for private sector participation; nurture skilled workforce; create a fertile policy environment has hastened the acceptance for e-government

- Network services that link online businesses have been expanded with the introduction of Singapore's one broadband network access providers.

- In pursuit to establish Singapore as a "trusted global e-commerce hub" , the government has established framework and guidelines for more conducive e-commerce. This includes technical standards, legal framework and various incentives scheme.

Weakness.

- Access to ICT skilled workers is a major issue for Singapore. The demand of such skilled worker projected to grow at 10%. Currently a survey conducted by IDA (2), Singapore has 92800 skilled ICT professionals, Singapore requires about 114000.

Opportunities

- To meet growing demand, Singapore made considerate efforts in recruiting foreign talent. The offer of permanent residency and citizenship and also reducing bureaucratic red tape given to attracting this foreign talents.

- Singapore can also increase the skilled levy paid to employer to fund approved IT training cost.

- Nurture IT Skilled workers through collaboration with local institution and industry to train students and workers currently in the work force.

- Work closely with industry to establish Singapore as e-commerce hub.

Threats

- New jobs created to foreigners instead of Singaporean.

5. Singapore e-Government Development

Based on the report by Accenture (1). Singapore has again proved its e-Government prowess, maintaining its number two position in ranking for the forth year in a row. Nine out of its services moved from publish or interact level to transact level.

The government's effort to provide valuable online services and encourage early adoption is clearly leading to high citizen satisfaction and impressive take-up. The government's own research reveals that 75 percent of Singaporeans who need to transact with the government do so through electronic means and that for those who transact online, four out of five were satisfied http://app.mof.gov.sg/pressrelease/speechdetail.asp?speech=87). Singapore Ecitizen portal, www.ecitizen.gov.sg, has received more that 4.2 million hits a month. An enhanced ecitizen site was launched in December 2003 that specially caters to customers' online behavior and preferences. Prior version allowed for only two ways to access services: via search engine and through 16 different subject categories. Additional and more streamlined access paths are expected in 2004, including My ecitizens, a personal homepage that allows customers to pick and choose e-services relevant to their particular lifestyle.

While Singapore continues to be a world leader, over the past two years there has been evidence that the Singapore e-government initiatives was reaching a plateau of maturity and needed to take a fresh approach.

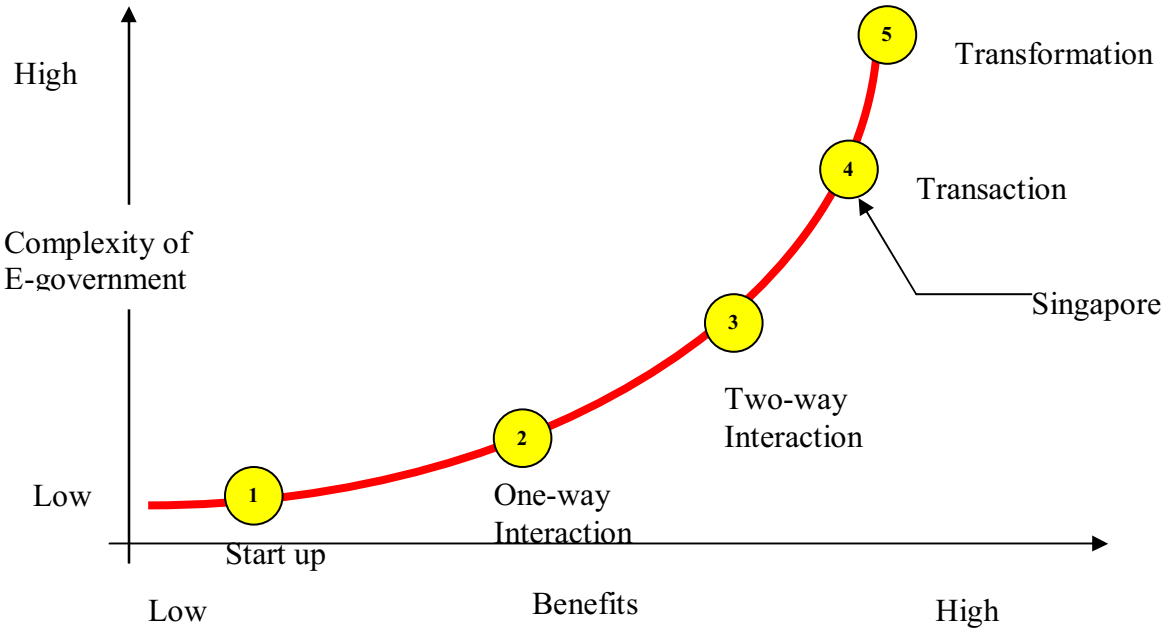

Diagram 4; illustrates the maturity stage of Singapore e-governance

6.Critical Success of Singapore e-government

The future success of e-Government is dependent on few key areas.

Firstly the ability to achieve personalization to user needs and preferences would likely to attract more citizens and businesses to come on board. It would likely to attract more citizens or business centric model where government activities are organized around the lives of citizens and businesses. Citizens can create their own My career, My Finance, My business, My Education, My Health, Etc. Similarly business can create their business application, loans, reports and licenses. Government can then organize and integrate services and activities around the needs of the citizens and businesses. The ability for different government agencies to cross deliver their services would enhance the experience of citizens and business with government agencies. The dreaded experience of being "bounced from one agency within the e-Government System" would be replaced by few seamless clicks within the e-Government system.

At the end of the day, the future success of e-Government is dependent on continuous value adding to the provision of public goods and services, and in reducing the distance between government and the people through the innovative use of technology.

7. Generic & Specific lessons learned

7.1. Challenges of e-government in Singapore vis-a vis that of private e-business initiatives

Singapore e-government initiatives pose challenges to its implementation. The way in e-business is implemented in the commercial world cannot be directly replicated to on-line government projects. E-business is generally market driven and, customer focus and profit motivated. In contrast, the e-government needs to be guided by economic and social objectives, citizen focus and political vision. Furthermore the investment and implementation is typically larger than that of commercial e-business.

7.2. Challenges of e-government in Singapore vis-a vis that of western countries.

Singapore is a small countries compared to most western countries and in most instances, these countries are likely to have levels of government while we only one. They have federal, state and local governments, and in that sense, the challenges are much greater. Whatever the situation, a critical aspects of successful e-government implementation lies in having strong "leadership" to drive the e-government. This would encompass appropriate governance and management to bring everybody together and work towards a common vision.

7.3 Business Model and Strategy

Having a good business model and high level strategy is inadequate. The challenge is in the implementation. In this respect, the government must have defined specific programs and set targets for each year to align with the changing economy. In these essences, it will assist the different agencies in achieving its set targets. These can be in the forms of creating new opportunities for information sharing, coordination and collaboration or providing central infrastructure and services.

7.4.Marketing and promoting e-Government

The challenges with the government services are the different form those of private sector in that private sector are free to choose their customers whereas government cannot. Similarly, for some of the services, the public can choose whether to use but they cannot do so for those hat are governed by regulatory requirement. Therefore, the promotion has to be broad based to reach out to the wide spectrum of public users.

7.5 Infrastructure support and infocomm education.

Singapore rapid convergence of telecommunication, broadcasting and information technology has opened many possibilities for networked government at lower cost. This well designed and reliable infrastructure is critical to support the e-government vision for the future.

ICT education programs must go beyond learning about systems and applications to harnessing ICT to improve work processes and services delivery, and to developing policies more relevant to in the new economy.

8 Conclusion

in the early years, Singapore government administration may have though that e-government was a fashionable to do, and went ahead with their initiative base on that basis. After all, most lead countries (i.e. USA, CANADA) were going in these directions. After several years of massive investments in time and money, most (i.e.Citizens) have a better appreciation of the value of their e-government undertakings.

How Singapore e-Government will evolve from depends largely on how the new government (i.e. Mr Lee Hsien Long and his cabinets) leadership takes on the initiatives that were examined.

A base scenario would see that government employing e-Government primarily at operational level, in order to benefit from productivity gains. The practice will largely be unchanged, just made some more efficient. It is certainly a sound step for any administration. Standing still while others are progressing would be to fall

behind. This strategy however may not fully leverage on the other possibilities that Singapore e-Government can offer.

Another scenario might be to use Singapore e-Government to focus on enhancing the relationship between governments and constituents. Depending on the degree to which approaches like CRM is adopted, and pervasiveness of e-government (through mobile and wireless technologies perhaps), this can lead to significant changes in G2C, G2B or even G2E.

An extreme scenario would see e-Democracy taken to such an extent that the government administration becomes bogged down by citizen participation at every steps, with e-voting on all significant issues. By definitions, that would be total democracy.

Singapore e-Government, with all its ranging possibilities, is simply a tool. It is one of the many tools that could help bring about elusive state we call “good government”. At the end of the day, it is up to the nation’s leader and public administrators to decide how they can make use of the tool.

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