



Chapter 6

Government

Can the investment in a mature South African e-government be justified?

*Kevin Kluijtmans, Desi van der Burgt
and Maarten Engberts*

Abstract

E-government is a concept noticed by governments worldwide. It has opportunities to offer, like a more efficient government, convenience for citizens and a more transparent government. However the chances of success can also be influenced by threats, like a weak government image and a high focus on cutting costs.

What can e-government offer to the developing country South Africa? Has got e-government something to offer to this country? We found that there are indeed opportunities, for instance in the fight against corruption, but we also found threats, like the gap between the rural areas and the cities and the weak communication infrastructure. Using a SWOT analysis, based on strong and weak points and opportunities and threats found during literature study and interviews, we concluded that the threats involved by e-government initiatives in this country outweigh the opportunities of e-government in South Africa.

We conclude with some recommendations on how the government can improve the situations so that a more mature e-government can be achieved.

Introduction

Internet offers a potential platform for various new and innovative services. Also, Dutch citizens often have a (broadband) Internet connection. 34,3% Of Dutch citizens have a broadband connection (ECTA, 2008) and another 8% has a 'classical' telephone or ISDN connection. Therefore it seems of no surprise that the Dutch government has found its way to the Internet. This development is displayed through a number of initiatives when it comes to e-government in the Netherlands: DigiD, the digital counters of the local governments, tax declarations via the Internet, and so on.

E-government seems to offer new opportunities to the Netherlands, such as more convenience for its citizens, a better communication between government and its citizens, which can improve the functioning of democracy, and a more effective and efficient government which can be better held accountable by its citizens. But what about South Africa and the concept of electronic government? Are there opportunities which can be enabled by e-government? And what threatens the success of this concept in South Africa? How is the chance of success or failure influenced by the strengths and weaknesses, giving a focus on e-government, of this nation? This has resulted in the following research question:

Can the investment in a mature South African e-government be justified?

It's an important question what e-government can offer in a country where only a small proportion of the, even sometimes illiterate, population has a (private) Internet connection, where the government is faced with problems like poverty, gaps between ethnic groups, gaps between the cities and rural areas and where skilled personnel is not sufficiently available. And these problems are just some examples of the problems South Africa contends with. Is mature e-government impossible given this difficult context, doomed to fail, or is the concept of great potential because, for instance, it can reach people for whom the government otherwise would be unattainable, for instance the civilians in the many remote and rural parts of the country?

Our research question answers whether the investments, in money, time and effort of the government and its citizens in e-government initiatives can be justified, are 'worthwhile'. These initiatives cost the government and its citizens time, effort and money, input of a developing country that can be used only once. This makes that it is important that the available 'resources' are critically assigned to those initiatives which benefit the country most.

There are some ambiguous words in our research question. First, when is an e-government 'mature'? We use the e-government readiness index 2008 as used in the UN e-government survey 2008 (United Nations, 2008) as a basis for a threshold to determine whether an e-government is mature or not. Our threshold for a mature e-government consists of three aspects:

- Web measurement: this measurement gives an indication of the technical advancement of the e-government situation in a given country.
- Telecommunication Infrastructure Index: this measurement gives an indication of the accessibility of the public communication infrastructure by citizens in a given country.
- Human Capital Index: this measurement gives an indication of the education level of citizens.

The criteria for a mature e-government are set by us, using the above-mentioned indexes as a basis, as follows:

1. The government has to be in stage IV as used in determining the Web measurement (United Nations, 2008). This stage is defined by UN e-government survey 2008 (United Nations, 2008) as:

‘Stage IV - Transactional: Governments begin to transform themselves by introducing two-way interactions between ‘citizen and government’. It includes options for paying taxes, applying for ID cards, birth certificates, passports and license renewals, as well as other similar G(overnment) to C(ivilian) interactions, and allows the citizen to access these services online 24/7. All transactions are conducted online.’

We think that is reasonable to expect a mature e-government to be able to interact with its citizens. Stage IV is the lowest stage requiring interactivity.

2. The country has to score at least 31.20 points on the Telecommunication Infrastructure Index (United Nations, 2008).

This means that the total average score (every category represents 20% of the total score) of the following five figures surpasses 31.20 points:

- Internet Users /100 persons (maximum score 99,33)
- PCs /100 persons (maximum score 88,87)
- Main Telephones Lines /100 persons (maximum score 96,41)
- Cellular telephones /100 persons (maximum score 151,61)
- Broad banding /100 persons (maximum score 31,73)

We chose the threshold of 31.20 points by taking 1/3th of the best possible score on this index (the maximum score for each figure is described in UN e-government survey 2008 (United Nations, 2008)). We chose for 1/3th of the maximum score, because we think that at that level a reasonable access for citizens to communication technology is ensured.

3. The country has to score at least 83.1 points on the Human Capital Index. This index is defined by the UN e-government survey 2008 as follows (United Nations, 2008):

‘The human capital index is a composite of the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio, with two thirds weight given to the adult literacy rate and one third to the gross enrolment ratio.’

We choose to set our sub-threshold for the adult literacy rate on 90%. 84 Of the 166 countries, who’s adult literacy rate 1995-2005 (United Nations Development Programme, “Human Development Report 2007/2008 - Adult literacy rate (% aged 15 and older)”, 2008) is stated, scored in the 90% to 100% bandwidth.

The combined primary, secondary and tertiary gross enrolment ratio (United Nations Development Programme, “Human Development Report 2007/2008 - Combined gross enrolment ratio for primary, secondary and tertiary education (%)”, 2008) of 172 countries, who’s ratio is stated, score an average of 69.3%, therefore we choose this as a sub-threshold.

Given the above definition of Human Capital Index, this leads to a threshold on the Human Capital Index of 83.1 ($2/3 * 90$ plus $1/3 * 69,3$).

Secondly, when can the investment in a mature e-government be justified? We use the following criteria: the investment can be justified if the expected advantages (opportunities) are greater than the expected disadvantages (threats). We measure this with the use of a SWOT-analysis (Strengths Weaknesses Opportunities Threats), a technique which has proven itself successful and valuable. Using this technique will give us the ability to weigh the strong and weak points of South Africa as a nation, given the viewpoint of e-government, against the opportunities and threats of the concept of e-government in South Africa. The individual strong and weak points can influence the opportunities and threats either, positive, negative or don't influence them. All influence indicators will be added up, and if the negative score outweighs the positive score, we conclude that a mature e-government will not be possible. If the positive score outweighs the negative score, we conclude that a mature e-government is possible in South Africa.

The SWOT-analyses

SWOT-analysis: literary stage

The table below shows our initial SWOT-analysis, constructed on basis of literature, as listed in the top part of the literature overview found at the end of this article, and an interview with prof. dr. Carel Jansen. This initial analysis is discussed in more detail in the short description.

Notes:

- The underlined terms are categories.
- The choice has been made not to fill in the relations between strong and weak points on the one hand, and opportunities and threats on the other. This would require more information than available at that time.

Strong points	Weak points	Opportunities	Threats
<u>Resources</u>	<u>Resources</u>	<u>Democracy</u>	<u>E-government</u>
Relatively rich country	Exodus talent	E-democracy	Content does not fit to users
<u>Government</u>	Little skilled personal	<u>Strategic</u>	Failure of projects
Solid government finance	<u>Culture</u>	Improving quality of services	<u>Political</u>
<u>Political</u>	Racial gaps	More services	Little communication about projects
Political stability	Language barrier	Fight theft and corruption	Other priorities
Strong will	Division of roles men/woman	Legitimize government position	<u>Public infrastructure</u>

Strong points	Weak points	Opportunities	Threats
Strong influence on region	<u>Strategic</u>	More effective en effecient government	Weak communication infr.
<u>Government infrastructure</u>	Copying western models and concepts		Too high tech. requirements
ICT building blocks available	<u>Political</u>		<u>Strategic</u>
Some kind of foundation is available	Dominance UNC		Wrong use of “private” partners
Much experience with ICT	Weak image government		No improvement cycle
<u>E-government</u>	<u>Education and training</u>		Agenda defined by other parties
Succefull concept	Too little investment by government		Costs-focus
	No motivation of a career in ICT		Non-focus on citizens
	<u>Public infrastructure</u>		<u>People</u>
	Weak communication infrastructure		Little trust in government
			Wrong people in function
			Mentality problems
			Skills citizens
			<u>Culture</u>
			Resistance against change
			<u>Context</u>
			Understanding of structure and processes
			<u>ICT</u>
			System not tuned to user capabilities
			Security unsatisfactory
			Risk vendor-lockin

Short description

Prior to the execution of research in South Africa, we executed a literature study in the Netherlands. We used multiple sources of information on South Africa, e-government, e-government in South Africa, e-government in Africa and technology in South Africa. Our sources of information in this literature study mainly consisted of research papers, government information (mainly policies) and an interview with prof. dr. Carel Jansen, specialized in business communication and active as a professor in Nijmegen, the Netherlands and Stellenbosch, South Africa. These sources primarily described the current situation in South Africa in terms of (public/government) infrastructure, social and political cohesion, the education levels of the population, the current state of e-government (projects) in South Africa and how this state is influenced by various factors, subjects relevant to e-government (like technology in South Africa), the advantages of e-government and a short description about the functions of IT-organizations inside the government.

After the literature study completed, we developed a first version of the SWOT-analysis. With the information that resulted from the literature study, we identified the (most) relevant strengths and weaknesses, as well as a the most relevant opportunities and threats.

We now discuss the most important and/or remarkable points, as found and evaluated at that moment (in random order):

- Low skilled personnel: South Africa does not have enough skilled personnel. Talented employees/employers or students leave the country, and go working abroad for higher loans.
- A strong political will: the South African government is serious about e-government and is committed to making e-government a success. Plans are therefore in place, however execution stays behind with these plans.
- Weak public communication infrastructure and low technical skills of end-users: South African citizens do not have sufficient access to public communication infrastructure, especially those in the many rural areas of the country. Also the civilians skills to use ICT are lacking, so when infrastructure is available people lack the skills to use it succesfull.
- Other priorities: South Africa has to deal with big challenges like poverty, the gaps between cities and rural areas, ethnical gaps and more. That could present a problem for e.g. the available resources for e-government initiatives, administrative support and the priority that is given to these kind of initiatives on execution.
- Cost focus: focussing too much on cutting costs, can result in e-government products which are technicly good products, but are not tailored to the needs of the end-user. Note that this is a general risk for all government projects.
- ICT in government: South African government has a relatively strong infrastructure. They have ICT in place and have know-how on the use of ICT.

SWOT-analyses: corrected stage

During this stage we corrected the SWOT-model as constructed in the literature stage, with the use of interviews held in South Africa with a number of experts.

Fig. 1 - strong points versus chances

Strong points	Chances									
	Democracy	E-democracy	Strategic							
			Convenience and accessibility	E-government as a Marketingtool	Improving quality of services	More services	Fight theft and corruption	Legitimieren positie overhead	Better environment for business	More effective en efficient government
Resources										
Various channels for e-Bodies for intra-government support	+		+	+	+	+	0	+	+	+
Open for open - source			+	+	+	+	+	+	+	+
Relatively rich country	+		+	+	+	+	+	+	+	+
Government										
Solid government finance	+		0	+	+	+	+	+	+	+
Political										
Political stability	+		0	+	+	+	+	+	+	+
Strong will	+		+	+	+	+	+	+	+	+
Possible influence on region	0		0	+	+	+	0	+	+	+
Infrastructure government										
ICT building blocks and foundation available in government	+		+	+	+	+	0	+	0	+
Much experience with ICT	+		+	+	+	+	0	0	0	+
E-government										
Succesfull concept	+		+	+	+	+	+	+	+	+

Fig. 2 - weak points versus chances

Weak points	Chances									
	Democracy	E-democracy	Strategic							
			Convenience and accessibility	E-government as a Marketingtool	Improving quality of services	More services	Fight theft and corruption	Legitimereen positie overhead	Better environment for business	More effective en efficient government
Resources										
Exodus (leegloop) talent	-	0	-	-	-	-	-	-	-	-
Low rewards	-	-	-	-	-	-	-	-	-	-
Little skilled personal	-	-	-	-	-	-	-	-	-	-
Disadvantaged small towns	-	0	0	0	0	-	0	-	-	-
Weak communication infr.	-	-	-	-	-	-	-	-	-	-
Education and training										
No basis of a career in ICT	-	-	-	-	-	0	-	-	-	0
Wrong investment by government	-	0	0	0	0	-	-	-	-	-
Culture										
Racial gaps	-	0	0	0	0	-	0	-	-	-
Language barrier	-	-	0	-	-	0	0	-	-	-
Illiteracy	-	-	-	0	0	0	-	-	-	-
Division of roles men/woman	0	0	0	-	0	0	0	-	0	-
Strategic										
Copying western models and concepts	0	0	-	0	0	0	-	0	0	-
Political										
Dominance ANC	-	0	0	-	0	0	-	0	0	-
Gap Country/City	-	-	0	-	-	-	-	-	-	-
Weak image government	-	0	-	0	0	-	-	-	-	-
To much focus on costs	-	-	-	-	-	-	-	-	-	-
Positive discrimination	0	0	0	0	0	-	-	-	-	-
Governments compliance with its own rules	-	0	-	-	0	-	-	-	-	-

Fig. 3-1 - strong points versus threats

Strong points	Threats											
	E-government			Political		Public infrastructure		Strategic				
	Value of information not understood in small towns/cities stay behind	Content does not fit to users	Little communication about projects	Other priorities	Weak communication infr.	Weak electricity infrastructure	Wrong use of "private" partners	No improvement cycle	Agenda defined by other parties	Costs-focus	Non-focus on citizens	
Resources												
Various channels for e-	+	+	+	+	0	+	+	+	0	0	0	0
Bodies for intra-government support	+	+	+	+	+	+	+	+	+	+	+	+
Open for open - source	0	+	0	0	+	+	0	0	0	+	+	0
Relatively rich country	0	+	0	0	+	+	+	0	0	+	0	0
Government												
Solid government finance	0	+	0	0	0	0	0	0	0	+	0	0
Political												
Political stability	0	+	0	0	+	+	+	0	0	+	0	0
Strong will	0	+	0	+	+	+	+	+	+	0	0	+
Possible influence on region	0	0	0	+	+	+	+	0	+	0	0	-
Infrastructure government												
ICT building blocks and foundation available in government	0	+	0	0	+	0	0	0	0	0	0	0
Much experience with ICT	0	0	0	0	+	0	0	0	0	+	0	0
E-government												
Succesfull concept	0	+	+	+	+	+	0	+	+	+	+	+

Fig. 3-2 - strong points versus threats

Strong points	Threats		
	People	Culture	Context
	Little trust in government	Resistance against change	Understanding of structure and processes
	Wrong people in function		
	Skills citizens		
	ICT	Bureaucracy	System not tuned to user capabilities
			Security unsatisfactory
Resources			
Various channels for e-	0	0	+
Bodies for intra-government support	0	+	0
Open for open - source	0	0	0
Relatively rich country	0	0	0
Government			
Solid government finance	+	0	0
Political			
Political stability	+	0	0
Strong will	0	0	+
Possible influence on region	+	0	0
Infrastructure government			
ICT building blocks and foundation available in government	0	0	0
Much experience with ICT	0	0	0
E-government			
Succesfull concept	0	0	+

Fig. 4-1 - weak points versus threats

Weak points	Threats		
	E-government	Political	Public infrastructure
	Value of information not understood in small towns/cities stay behind Content does not fit to users	Little communication about projects Other priorities	Weak communication infr. Weak electricity infrastructure
	Wrong use of "private" partners No improvement cycle Agenda defined by other parties Costs-focus Non-focus on citizens		
Resources			
Exodus (leegloop) talent	- - -	0 -	- 0
Low rewards	0 0 0	0 -	0 0
Little skilled personal	0 - -	0 -	- -
Disadvantaged small towns	- - -	0 -	- -
Weak communication infr.	- - -	- 0	0 0
Education and training			
No basis of a career in ICT	- - 0	0 -	- 0
Wrong investment by government	- - -	0 -	0 0
Culture			
Racial gaps	- - -	0 -	- -
Language barrier	- - -	- 0	0 0
Illiteracy	- - -	0 0	0 0
Division of roles men/woman	0 0 0	0 0	0 0
Strategic			
Copying western models and concepts	- - -	0 0	0 0
Political			
Dominance ANC	0 0 0	0 0	- -
Gap Country/City	- - -	0 -	- -
Weak image government	0 0 0	0 0	0 0
To much focus on costs	0 - -	0 0	- -
Positive discrimination	0 0 0	0 0	0 0
Governments compliance with its own rules	0 - 0	0 0	0 0

Fig. 4-2 - weak points versus threats

Weak points	Threats			People			Culture			Context			ICT		
	Little trust in government	Wrong people in function	skills citizens	Resistance against change	Understanding of structure and processes	Bureaucracy	system not tuned to user capabilities	security unsatisfactory							
<u>Resources</u>															
Exodus (leegloop) talent	0	-	-	-	-	-	0	-	-	0	0	0			
Low rewards	-	-	-	-	0	-	0	0	0	0	0	0			
Little skilled personal	0	-	-	0	-	-	0	0	-	0	0	-			
Disadvantaged small towns	0	-	-	0	-	-	0	-	0	0	-	0			
Weak communication infr.	0	0	-	0	0	-	0	0	0	0	0	0			
<u>Education and training</u>															
No basis of a career in ICT	0	-	-	0	0	-	0	0	-	0	0	-			
Wrong investment by government	0	0	-	0	0	-	0	0	0	0	-	0			
<u>Culture</u>															
Racial gaps	-	-	-	0	0	-	0	-	0	0	-	0			
Language barrier	0	0	-	0	0	-	0	-	0	0	-	0			
Illiteracy	0	0	-	-	-	-	0	0	0	0	0	0			
Division of roles men/woman	0	0	-	0	0	-	0	0	0	0	0	0			
<u>Strategic</u>															
Copying western models and concepts	-	0	0	-	-	-	0	-	+	0	-	+			
<u>Political</u>															
Dominance ANC	-	-	0	-	0	-	0	0	0	0	0	0			
Gap Country/City	-	-	-	0	0	-	0	-	0	0	-	0			
Weak image government	-	0	0	0	0	-	0	0	0	0	0	0			
To much focus on costs	-	0	-	0	-	-	0	-	-	0	-	-			
Positive discrimination	-	-	0	0	0	-	0	0	0	0	0	0			
Governments compliance with its own rules	-	0	0	0	0	-	+	0	0	+	0	0			

Validation of the SWOT-analysis

Social problems, such as the gap between the different ethnical groups in the country and the many languages in use, make it difficult for a widely used e-government to become reality. Some ethnical groups remain behind others. A portion of 18% (United Nations Childrens Fund, 2008), of the adult population is illiterate which makes the use of e-government difficult for these people. The South African government does not make use of partners in the semi-public or private sector to support their e-government initiatives and its own support centers are build but not in use.

The big differences between the city areas and rural areas make that only the rich city areas, with their skilled and relatively wealthy civilians and their good public communication infrastructure, have advantage of e-government systems. The the poorer areas, with their little finances, poor and unskilled citizens and weak public communication infrastructure don't have such e-Government systems. If the poorer areas don't get sufficient finance they cannot improve the infrastructure. The weak personal finance of the civilians of the people in these regions make these areas unattractive for businesses. The weak image of the government as being slow and unreliable, also threatens the success of e-government in South-Africa, for people need to have trust in government, before they will start using e-government systems.

The challenges of South Africa, by which the government is faced, make that e-government initiatives can fail short on the priority and resources given to these projects. We will come back to the priority point later, we will first focus on the resources. South Africa is relatively rich looking and other Southern African countries and has a solid government finance, which make it easier to acquire the needed resources. These are strong points of South Africa. However, there are many many other priorities which need the governments attention, for instance AIDS, education and poverty.

There's also a high exodus of talent. Skilled and talented people leave the country to earn more money in jobs abroad and to live in a more secure environment. Payment is low in South Africa compared to many countries abroad and public security is an issue. This has resulted in a, generally speaking, low skilled working population that remains in the country. The education in the rural areas is of poor quality, which causes that these areas are even further behind the levels in major towns, in terms of trained personnel.

The poor public communication infrastructure makes it difficult to communicate information, so also information about e-government is difficult to spread to all part of the country and all citizens, which makes it difficult to inform people and get e-government in the publics attention.

That there are many languages spoken in South Africa and that not all civilians speak the 'mainstream' languages like English, make it difficult to develop e-government systems and make the use of them a success. After all, it requires additional technology to translate messages on-the-fly, it requires information to be offered in many languages and creates difficulties for effectively supporting the end-user, think for instance of the multi-language need for supporting organizations.

Political stability and the will to address (certain) issues, is crucial for all the opportunities and threats in South Africa as mentioned in our SWOT-analysis. There is a strong

political will to make e-government a success in this country, which resulted in many plans. However the execution of those plans stays behind, for various reasons as mentioned in this report. There's also a strong financial back-up of the education system, however funds are not always spent effectively, in the rural areas infrastructure has to be lifted to a sufficient level before education can be provided. The possible growing influence of the government in the Southern Africa region could be a threat to the success of e-government in South Africa, because this can result in a non-focus on the actual end-users (civilians and other end-users, like officials) needs. However it seems that this is not currently the case, see for instance their Batho Pele initiative (Batho Pele, 2008). This initiative which seems to take an important place in any e-government initiative puts the end-user central, "putting people first". It is a positive sign that the South African government focuses on the civilians, and not on cutting costs, something which can threaten the success of e-government initiatives.

The South African government realized their mistake to copy western models without adapting them to the South African context, which has been practice in the past. Models need to be adapted to the South-African culture, the western models won't work when not translated to the specific context of South-Africa. The South African government has a solid government ICT infrastructure to its disposal and there is a lot of experience in the field of ICT. This offers great potential in the field of services and the implementation of an (mature) e-government system. Besides, e-government, as a global concept, has proven itself as a successful concept, which makes that knowledge and solutions are more widely available, and probably makes e-government a prestige project and therefore attractive.

The South African government has established supporting organisations which help other government divisions to realize e-government. This is important for the success of e-government, because these organizations can provide these divisions with much needed expertise and experience. The governments use of various channels for e-government, for instance radio, is also a strong point, especially for the rural areas, with their weak public communication infrastructure and poor civilians.

There are some typical goals for e-government initiatives like a more effective and efficient government, convenience and accessibility, more services and improving the quality of services. All of these are attractive strategies for South Africa, but more specifically for countries like South Africa, are the possibilities to fight corruption with tools like e-government. This is an interesting possibility, it can be an effective tool because of the transparency that it provides.

A threat for developing countries is that their e-government agenda can be defined by other parties, like vendors and Western consultants. However we found no indications that this is a problem for South Africa.

Conclusion & recommendations

Conclusion

We start this conclusion with the result of the corrected SWOT-analyses. As said, if there are significantly more positive influences of strong and weak points on the opportunities and threats, than we will conclude that the South African investment in e-government is justified. If there are more negative influences than positive, then we will conclude that the

investment is not justified.

The total of the scores are as follows:

- Positive score: 161 points
- Negative score: 252 points

There are more negative than positive points. This means that the answer to our question 'Can a mature e-government in South Africa be justified?' is answered negatively, a mature e-government can not be justified.

Recommendations

It is most important that the government invests in a effective education, especially in the rural areas. Although the government is spending high amounts of money on education, it is not always effective, because the rural areas have a serious arrears, so that much (most) money has to be spend on setting up a decent infrastructure for education. To realize better chances on prosperity for these areas, technical skills and basic skills need to be developed by the citizens. This enables them to participate in e-government. First of all, participate in skilled labor. Until that moment the government has to invest in a good relations with private or semi-public organisation that can help citizens to use ICT and e-government. Perhaps the government can help in developing these much needed basic skills. This can also stimulate business activity in those areas, after all business needs workers. Providing better education would also help to lower the language barrier which makes it more difficult to realize a successfull e-government.

The second version of the SWOT model has shown that it is important to use as many resources as knowledge and finance as there are available. This can offer many possibilities regarding the services in the direction of the citizens (convenience) and businesses. This can also be a good weapon in the battle with corruption and theft, especially because IT has the potential for a better, more open communication. Also in the area of existing knowledge and finance, threats can be eliminated. Other threats in the field of E-government like little knowledge in the rural areas, the central government can be addressed. With a good investment in E-government, it is possible to improve communication regarding other projects.

It is also most important to invest in a solid public communication infrastructure in the rural areas. Providing good infrastructure is much needed to stimulate business activity in these areas, which should contribute to the prosperity in these areas.

The government needs to stimulate government departments, on all levels of government, to work together, integrate their efforts, knowledge and data. Viewed from, among others, that point of view, it's important to stimulate departments to make use of the government services that can support them in the implementation of ICT. They can provide that knowledge and experience, that is not always sufficiently available.

Stimulating private companies to take part in e-government, and using their services, would also stimulate business activity and help these companies to develop themselves. This maybe could stimulate these companies to train people.

The government also needs to improve their public image. For e-government to be success, people need to put trust in their government. The government therefore has to be

more strict about following their own rules (this also includes fighting corruption), political stability needs to be secured and the general prosperity needs to be increased.

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