

ELECTRONIC GOVERNMENT IN BANGLADESH: PROSPECTS AND APPROACHES

Paul Jackson ✽

Introduction

There is currently much debate surrounding the proposed benefits of using new technologies in making Government more effective. Several countries in the West, including Australia, the USA, Canada and the UK have made it a central policy pillar of their approaches to the new millennium. In addition, two governments in Asia, Singapore and Hong Kong, have been amongst the leaders in e-Government and several other countries within the region are now taking rapid steps to gain benefits from information and communication technologies (ICTs), including Thailand, the Philippines, Malaysia, India and Indonesia.

This paper begins by asking the question: what is e-government? It then moves on to look at several related issues of direct relevance to governments introducing these technologies and, in particular, it looks at three inter-related and, in fact, sequential strategies for providing e-government frameworks developed by Scott-Morton (1996). This discussion is followed by a brief analysis of the main drivers and barriers of e-government development and finishes with a discussion based around the prospects for e-government in Bangladesh and some possible ways forward.

✽ *International Development Department, School of Public Policy University of Birmingham, Birmingham, B15 2TT, UK.*

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Given this analysis, the main conclusions are that key structural changes are required within government if all of the benefits of ICTs are to be realised. It is asserted that early gains are relatively simple in terms of automising repetitive tasks, but that e-government involves far more than that. In particular, governments need to utilise technology to work across organisational boundaries, both within and outside of government, and then to develop mechanisms for examining their own ways of working once the technology provides the link. Perhaps, unsurprisingly, the paper concludes that e-government means more than just buying computers.

Why e-Government?

The world is becoming increasingly digitised. In the last two years in the UK, private internet usage has more than trebled. Once we include internet, email, mobile phones, geographical information systems and other ICT use and access at work, the vast majority of the UK population is now 'on line'. The UK is not alone in this, and is in fact, behind in many ways. The US, Singapore, Hong Kong and a host of other countries are far in advance of the UK in terms of e-commerce, e-government and e-governance. We will come on to the key question of what the drivers of these changes actually are in discussion below, but for now, we need some idea of the context of these changes.

Firstly, one of the main contextual drivers is not technologically focussed at all. Governments have been under virtually pressure on three main fronts: cost reductions, increased citizen expectations and a fall in democratic legitimacy. Governments have always been under pressure to reduce costs. New ways of doing this are always welcome, and computers are perceived as one way of achieving this aim. The second issue is, perhaps, a little more complex, but no more new. Citizens are always more demanding, no more so than when they believe that there are direct benefits for them in introducing particular ways of working. The ICT revolution has not

escaped many people across the world and prospects for developing wider consumer choice through e-commerce, for example, have been widely publicised in the press. Lastly, and perhaps more pertinent after the last US Presidential election, is the issue of declining democratic legitimacy. Many governments, including the UK are seeking to 'bring voters back in', by providing alternative voting systems. ICT use is perceived as a straightforward means of achieving these aims.

How can we define e-Government?

Like many features of the Information Age, e-Government has proved somewhat difficult to define in a completely satisfactory way. The Gartner Group (2000) defines e-government as:

'The continuous optimisation of Government service delivery, citizen participation and governance by transforming internal and external relationships through technology, the internet and new media.'

The advantage of this particular definition is its inclusivity. Whereas many definitions explicitly relate e-government to the internet only, this broadens the definition out to include alternative ICTs, such as call centres, information kiosks and even face to face contact. In other words, although the internet is mentioned here, the designation 'ICT' applies to more than just computers and is concerned with the use of technology in building relationships, as well as just electronic service delivery.

There are several elements of e-government and related issues that require further clarification. In particular:

Electronic governance: the link up of government, citizens, NGOs, communities and business. In other words, a network of all stakeholders involved in governance.

Electronic service delivery: the securing and provision of government services by electronic means. For example. buying government services on-line, paying taxes, purchasing licenses, etc.

Knowledge societies: the idea that a society can gain competitive advantage internationally through using ICTs in a creative and productive way. This again reinforces the linkage element across government and non-government organisations and individuals.

E-Commerce: Frequently used and a subject in itself, e-commerce refers to firms that buy and sell electronically, i.e. instead of going to a physical marketplace, a consumer can purchase from a virtual one.

Electronic data transfer (EDT): frequently forgotten, but increasingly important, EDT led to many multinational firms becoming multinational. The advent of EDT and computers means that huge organisations (including governments) can co-ordinate and share data across boundaries.

Whilst **this is by no means an exhaustive list of electronic-related activities** surrounding e-government, it does begin to construct a picture of the changing international face of 'doing business'. E-government implies a mixture of all of these elements, and implies a broad approach based on the development of relationships across all groups in society and a belief that these relationships can be enriched or enhanced by the use of ICTs.

Key drivers of e-government

There is a potentially huge list of factors that could drive a government to begin looking at ICT solutions to organisational improvement. This paper will concentrate on four main areas, originally identified by Ferguson (2000):

- Rising consumer expectations
- Globalisation
- Technological change
- Reform or re-invention of government

One of the contextual changes affecting government in their drive for democratic legitimacy has been an increase in consumer

expectations. Rising education and skill levels, better media and information available to citizens and an increased awareness of citizenship have all led to demands from more responsive, flexible and effective government. In many countries this has led to relatively straightforward demands for increases in access times and for faster response times to queries. The advent of ICTs in terms of providing information around the clock has meant that in many governments can now provide access to electronic documents twenty-four hours a day. In the UK, if you wish to pay your taxes on a weekend or at three o'clock in the morning, this is now possible. You also no longer need to stand in a queue for most forms for government controlled documents such as driving licenses - you just need access to a computer and a printer.

It is one of the great ironies of development that the more information people have, the more information they want, and since governments cannot choose their customers in the same way as a private company, there is a duty on government to facilitate citizenship, through providing relevant information on their representatives. ICTs have revolutionised government in many countries through doing just that: publishing records of the activities of government. Of course, one of the current problems now facing these governments, is the reaction to those documents and the demand for more. The Hong Kong government has addressed this problem by developing their e-government capability further at the request of local media. The South China Morning Post said of e-government in Hong Kong that:

'People should be encouraged to give their opinions via the internet. ...the [Hong Kong government's] web site should be used as a forum, polling station and survey engine instead of a passive information provider.'

Flexibility in government requires interaction, not just one way communication.

Globalisation, under whatever definition, has created a pressure

on governments and other organisations to introduce ICTs as a means of increasing compatibility. The development of global industry, including so-called 'grey trades' such as arms and drugs smuggling, has led many governments to develop parallel globalised systems to enhance co-ordination and carry out electronic data interchange. Many of these systems are currently under consideration for the regulation of international firms currently attempting to circumvent environmental regulation for example. However, it is not just in these more extreme examples of government to government communication that ICTs have a role to play, but in the everyday administration of an increasingly globalised economic system. The more advanced economies in this role have been in Europe, where the drive to integrate political and economic systems has also driven the convergence of ICT systems.

The technology itself has also been a driver. Historically, many IT-based projects were driven by the IT itself rather than a desire for meaningful change, this changed during the 1990s and the idea of change now tends to come first, then the desire for IT to support that change. The development of multinational companies cannot be solely laid at the door of ICTs, since there were (and still are) very good economic reasons for this development, but it is clear that some of the pace of their development was controlled partly through available technologies. The computer has eased the whole process of reducing the spatial aspects of manufacturing and co-ordinating production and markets on a global scale.

Last but by no means least, there have been a series of pressures placed on governments, which I am sure all readers will be familiar with. Government reform has been with us for some time, and is likely to remain with us for a while longer. It is not the purpose of this paper to discuss government reform in any great detail, so I will concentrate on the issues as they affect, or have been affected by ICTs around five main areas of reform identified by Heeks (1999). In brief, they can be summarised in the form of Table 1:

Table 1: Reform of government and ICTs

| Reform Demand | ICT effects |
|--|--|
| Increasing efficiency | Reducing transactions costs through faster times, improving access and developing shared databases across boundaries |
| Decentralisation | On one level, decentralising decisions down to individuals desks, but' also reducing the spatial demands on having government in one geographical space |
| Increasing accountability and transparency | Networks exist, but are transparent (you can trace email), citizens have direct access to civil servants and politicians |
| Improving resource management | Shared databases across organisations reduce duplication and allowed better use of collective resources |
| Marketisation | Increasing consumer choice, increasing the government's ability to manage, grant and evaluate contracts and facilitating access by citizens to government services. In addition, facilitating relationships between government and outside organisations, including business |

Strategies for ICT induced change

Following Scott-Morton (1996), there are three basic strategies for introducing ICT-induced change into organisations: automisation, informatisation and transformation. In reality, all three consist of closely linked activity types, and are best viewed as

an overall framework consisting of three stages. Examples of each of these stages are provided in Annex A.

Automisation comprises the 'first wave' changes that automate the basic operations of governments. Primarily concerned with increasing efficiency and cutting costs, it is automisation that leads to developments such as computerising day-to-day routine tasks such as calculating the payroll, or maintaining a financial accounting system. In short, British Council (1999) summarises automisation as 'informing the citizen, representing the citizen and enabling the citizen'. This is achieved through publishing information, interacting (usually through email), and transacting, where payment can be made for goods and services.

Informatisation moves the focus away from internal processes and on to external relationships. These 'second wave' reforms concentrate on using ICTs as knowledge generators and managing knowledge as a resource. Within the public sector this implies managing collective knowledge across organisational boundaries between agencies and departments. Typically, informatisation implies a flattening of organisational hierarchies, working across boundaries and moving decisions closer to information flows. It implies organisational, as well as technological decentralisation, with a decentralised control system.

The third stage is transformation, where re-engineering processes and services is central. In short, this stage takes into account the previous two developments and acts to further engage citizens in reforming government processes. This involves the development of e-democracy, which in turn involves more than just casting votes. It implies constant interaction and engagement in on-going debate, either through electronic means or through mobile phones or related technology. 'Doing new things and doing them differently' becomes the motto of the transformed government. It is at this stage that governments begin to take on the characteristics of learning organisations, developing feedback loops and removing the boundaries between citizens and civil servants. As Deloitte Research (2000) states:

'E-government is not just another way of doing things; it is a transformation on a scale that will fundamentally alter the way public services are delivered. It does not have a time-line; it is evolutionary.... The relationship is no longer just a one-way, us-versus-them proposition; rather, it is about building a partnership between governments and their citizens.

An impossible target? Perhaps in its entirety, but it certainly provides something to aim at, and several governments are currently devising strategies aimed at developing transformed governments. The most common e-government innovation, however, remains automisation and the computerisation of internal management processes. The patter usually begins with government to government services, then moves on to government to business and then, finally to government to citizen. Government to citizen developments'are easily the most risky and complex to introduce and they involve considerable political will. Consequently, they are difficult, messy innovations. The experience of various countries can be summarised in tabular form as in table 2, below:

Table 2: E-Government Maturity

| Early Leaders | Cautious Implementers |
|--|--|
| <ul style="list-style-type: none"> • Australia • Canada • Singapore • USA | <ul style="list-style-type: none"> • Italy • Japan • Netherlands • South Africa • India |
| Visionary Followers | Slow Starters |
| <ul style="list-style-type: none"> • France • Germany • Hong Kong • New Zealand • Norway • Spain • United Kingdom | <ul style="list-style-type: none"> • Belgium • Brazil • Ireland • Malaysia • Mexico |

Source: After Anderson Consulting (2000)

Those countries that are placed in the Early Leaders or Visionary Followers boxes have effectively moved beyond the automisation stage and into an informatisation period. Portugal's 'Gateway', Singapore's 'E-citizen gateway' and New Zealand's experimentation with on-line citizen consultation are all examples of attempted transformation, with provision of single portals providing access across a wide variety of government services, optimising the resources of multiple organisations, including interactive queries and shared databases.

Transformation is an elusive concept and involves restructuring government in the light of interaction with citizens and the use of ICTs. In addition, this involves the recognition of new skills and new ways of working. An example of this at a local government level, is provided by Leeds City Council in the UK. This city government has **developed a call centre, where citizens can interact** with government officers and politicians through a wide variety of mediums, including world wide web, email, information kiosks, mobile phones, WAP technology, digital television, telephone and face to face contact.

At central government level, there are several current examples of E-government strategies. Typical of them is that developed by Hong Kong as the 'Digital 21' Strategy. This basically consists of four central pillars:

- ➡ Developing a high capacity communications infrastructure
- ➡ Establishing an open and secure interface
- ➡ Empowering citizens with know-how
- ➡ Developing creative culture which welcomes information technology

None of these are perhaps surprising given the above discussion, so if e-government is so desirable, what are the barriers to its introduction?

Barriers to the Introduction of e-Government

There are several reasons why many governments around the world have not been quick to adapt wholesale e-government. Some of the specific issues in relation to Bangladesh are discussed below, but in this section, I will outline some of the generic barriers. In particular, I want to outline four main areas: social and cultural factors; institutional and political factors; funding and infrastructure factors; and, technological factors.

Social and cultural factors are frequently cited as barriers to e-government and this is a critical area. Gender, poverty, class, age and social exclusion can all be direct barriers to using computers in developing dialogue with government using ICTs. The main problem, however, is undoubtedly one of attitude. Many people are nervous of computers for a number of reasons, frequently to the point of opposing their use in basic tasks. In bureaucracies, the possibilities inherent in flattening hierarchies and decentralising access to information on to the desks of all staff, and the associated changes in power within organisations, are seen as a direct threat to many senior staff, who then block adoption. For many in government, the idea that citizens could have direct access to civil servants and politicians is a frightening one, and the additional proposal that they could take part in policy decisions is an anathema.

In addition, including all parts of society in e-government can be problematic and the issue of access for the mass of the population is a problem that does not only exist in poor countries. Even in more wealthy parts of the world, extensive programmes exist in order that specific groups can relate to policy. In Northern Ireland, for example, systematic attempts have been made to construct virtual communities aimed at including those that are traditionally excluded from the rigid community structures that exist along sectarian lines.

The interpersonal political effects have already been alluded to in terms of decentralising information down through the organisation and on to people's desks, but within government, some of the real issues challenge the institutional structure. Most traditional government structures are hierarchical. That is, each department operates as a separate 'silo', with no horizontal responsibility across many silos. One of the central gains from e-government is to construct an institutional matrix that not only integrates vertical structures in terms of computerising activities, but provides another matrix element in terms of integrating departments horizontally.

The stage of informatisation involves the development of inter-agency working facilitated by ICTs. One of the most common elements of this is the idea of shared collective information that can be drawn down through many outlets (or through a portal direct to a citizen). In the UK, the various departments associated with social security provision have now integrated their systems to such an extent that a claimant can 'optimise' his/her claiming strategy from a visit to one desk instead of several. In terms of investment, this can also bring direct benefits for potential investors. In Zimbabwe, for example, the Zimbabwe Investment Centre is itself a collection of all of the different departments concerned with licensing and promotion of investment opportunities for investment within Zimbabwe and operates a shared database with Zimtrade, the export promotion agency. This system of collecting information means that a foreign investor who wishes to locate an operation in Zimbabwe and who may then wish to export, just has to visit one of these institutions to access all of the relevant rules and regulations and access a database of opportunities.

Funding, particularly in relation to infrastructure, is a major problem with many ICT projects because of the up front nature of the investment. E-government is only likely to work where there is

sufficient infrastructure in place to facilitate networking and transfer of digital information. In addition, the issue of access is exacerbated in national contexts where these are not large groups within the population that have easy access to a computer. Many governments, such as Canada, Australia and Hong Kong, have facilitated this partly by providing free or subsidised access to computers in public places such as local government offices, designated information centres (or kiosks) and through public library services. Telecommunications infrastructure is, however, more problematic, although there are examples of significant public intervention. In Sweden, for example, several municipal governments have facilitated the development of high speed network cables, fibre optics and public access in order to develop the digital economy.

Lastly, there are a group of issues surrounding the technology itself. The development of ICT technology is extremely rapid and is constantly changing. There is a common problem of buying a computer and six months later finding that it is obsolete. At the same time, there is always a tendency to buy the latest technology regardless of what it will be used for. These two issues need careful balance in most public technology developments. Speed of processing is essential for connection, but complex software is not, certainly in terms of its interface with the public. Complexity is likely to put more people off than almost any other element.

Overcoming the Barriers: What are the Enablers?

Apart from the benefits alluded to above, there are several active elements in overcoming these barriers. There is insufficient space to develop a complex discussion of these enablers, but a brief introductory list is provided in table 3, below:

Table 3: Enablers of E-Government

| Enabler | Comment |
|----------------|--|
| Leadership | In particular, vision and strategy. E-government will only be successful if different agencies are integrated into the same, agreed strategy, and it is critical that leaders provide an example of using the technology |
| Partnership | A 'collective leadership' is important in getting departments and individuals' to 'buy into' the idea of e-government. Email and databases may be there, but will people use them fully? |
| Investment | Funding for infrastructure, but also for innovation and new development and uses of ICTs |
| Legislation | Authentication of signatures, validation of electronic contracts, safety and insurance of on-line payments, copyright and 'privacy are all critical to e-government development |
| Standards | This is essential in the shift from automisation to transformation, i.e. moving from internal activities to external processes. Information can only be shared on compatible systems |

Bangladesh and E-Government

So what side of the digital divide will Bangladesh find herself on, and what are the possibilities for Bangladesh to develop e-government? This section covers a multitude of factors, but for ease of analysis I have divided them into four core groups: planning; skills; payment infrastructure; and exclusion.

Within Bangladesh, infrastructure planning is a major problem. However, it should be pointed out that the telecommunications infrastructure is better within Bangladesh than in many other developing countries and many in Eastern Europe. Despite this, the infrastructure is inadequate for the purposes of e-government and is also surrounded by bureaucratic complexity. Internet services are slow and expensive and are controlled by a monopoly. Effectively, the Bangladesh Telegraph and Telephone Board (BTTB) buys internet services from overseas and then lets them on at a profit into Bangladesh. The biggest problem is probably the time and bureaucracy required to get connected at all (even for a telephone). In some cases, individuals can wait for years to get a telephone connection. Given this, e-government is unlikely to take off in the near future.

In addition, there are a number of problems surrounding the infrastructure itself. It is likely to take some time (and expense) to replace the existing copper cable with fibre optic or faster cable. Bangladesh is not alone in this, but the constraints of the existing network may prevent further development once it starts to fill up with internet traffic. Against this, there is a small fibre optic cable network within the country that is currently under-utilised. Negotiations are currently underway to secure the use of this facility and a successful outcome could give Bangladesh a head start in developing a new telecommunications network.

The payment infrastructure within Bangladesh also has problems for developments related to e-commerce, and payment over the network. In more advanced e-government networks, payment is either made through electronic transfer directly from a bank account, or, more commonly, via a credit card. In Bangladesh, the majority of the population do not have bank accounts and credit cards are strictly limited, effectively to those who have relatives overseas, or who only spend small amounts. This not only acts as a constraint on e-commerce, but also on e-government features such

as payment of license fees, fines and fees. On the international stage, the non-convertibility of the Taka is also a hindrance, since customers cannot purchase items from overseas in foreign currency.

From an e-government point of view an additional constraint is the poor state of official records, such as tax returns or even birth and death certificates. E-government can help in constructing all of these registries, but starting from scratch involves considerable time, effort and resources.

One of the main obstacles to e-government development in more advanced e-economies has been lack of know-how or skills, particularly in using computers. When systems were being introduced it was expected that groups such as the elderly would be reluctant to use the internet. Considerable effort has been made in **many countries to provide access to excluded groups such as the rural poor** in more e-advanced countries such as the UK, but such problems are magnified in economies such as Bangladesh, with large groups of unskilled, rural and urban poor. Whilst free services are relatively marginal in the US or Canada compared to private sector internet use, this is unlikely to be the case in Bangladesh where considerable public sector effort and resources would be required to facilitate free access to these groups. These problems will be worsened by the use of English as the linguistic medium of the internet.

A related question is whether or not the development of e-government deserves access to vast resources when there are more immediate problems such as poverty alleviation, nutrition and education programmes. There is no simple answer to this dilemma. The development of e-government services is a less immediate problem than many faced by the Bangladesh government, but that does not make it any less important. The first point to make here, is that taking a medium term stance in developing these techniques of service delivery may be more beneficial in the long term.

E-government can make the delivery of core services far more efficient and effective than the current situation. Consider the problems faced by isolated primary health care clinics for example. Coupled with a general lack of medical resources, including specialist doctors and a lack of transport to get to district hospitals, the internet could play a part in shrinking the distances between patients and treatment. Internet connections direct to specialist doctors could be used to enhance medical provision and to support the work of rural health care workers, ultimately improving the productivity of scarce resources within the health sector.

Conclusions

The conclusions regarding e-government in Bangladesh are perhaps unsurprising. There is currently a long way to go in terms of developing telecommunications and payments infrastructures for e-government, and that there are significant barriers in terms of social and economic exclusion. However, this does not mean that we should give up on e-government. We should, perhaps, follow Wittgenstein who asserted that just because something is complicated, this should not stop us using it.

E-government offers several opportunities to governments seeking to improve service delivery and flexibility in working across boundaries. In addition, ICTs provide a useful medium for interacting directly with citizens in terms of developing policy dialogue. The mass introduction of ICTs is a time consuming exercise involving vast up front costs, but bringing very large eventual benefits in terms of use of scarce resources, elimination of duplication, better services and cheap communications. In addition, the existence of a three stage process does not just involve placing computers inside offices. Automisation, as the first stage, involves introducing systems into existing processes within organisations. This then moves on to informatisation, where organisations begin to interact with each other and make significant gains from sharing

information and resources. Finally, the entire process moves on to re-examining government processes in the light of interaction with citizens, and through the use of ICTs to develop decentralised decision-making. Finally, governments are able to embrace change and become learning organisations - something which all of us would find desirable in a government.

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