e-Government Implementation and Leadership – the Brunei Case Study

Hazri Kifle[1] and Patrick Low Kim Cheng[2]
[1]Universiti of Brunei Darussalam Brunei
[2]University of South Australia, Australia
hazri@fbeps.ubd.edu.bn
patrick_low2003@yahoo.com

Abstract: Electronic (e) government is now deployed by many governments around the world in order to achieve the promise brought by the advancement of Information and Communication Technologies (ICT). The implementation of many e-government projects, however, seems to have failed to achieve its full potential due to the complex nature of e-government. It is now realized that ICT diffusion is much more than just technological adoption and adaptation. There are many soft issues particularly one that deals with the human side of technological implementation. This paper examines the core factor of leadership, which according to the findings of this paper, is of paramount importance to the successful implementation of e-government. The implementation process of e-government in Brunei is first discussed and then analysed from the leadership's perspectives. Case studies on the experiences of implementing e-government projects in all the ministries in Brunei were conducted. Interviews with key players from each ministry were also conducted. This paper shows that poor identification of a champion in e-government resulted in inertia in initiating the e-government, silos (compartmentalization) among the government agencies, duplication of projects, poor change management strategy, lack of incentives to take risk, and the emergence of rank and file rather than top-down innovation approach. Several key learning points on leadership have been proposed in this paper with regards to all the identified leadership issues in implementing e-government.

Keywords: e-Government, leadership issues, public sector innovation process

1. Introduction

The use of Information Communication Technology (ICT) by Government or e-government (electronic government) is not a new phenomenon as it has been used since the 1950s to cover a wide range of services from government to the government (G2G), business (G2B) and citizens (G2C). E-government is defined as '*the utilization of Information Communication Technology (ICT) in serving the priorities of a government in meeting the specific social, economic and political endeavors of the state*' (Kifle, 2008). It is the emergence of the information society and the significant potential of ICTs that have influenced governments to approach ICT differently. There is an increasing belief among policy makers that they should exploit on the full potential of ICTs by innovating their policy and practices to transform the relationship with the citizens and businesses. The public sector is now trying to emulate the success of ICT revolution in the private sector in the form of e-government.

However, the ICT innovation so far has been less than successful when compared to the private sector. The implementation of ICT projects is very challenging and many have shown prominent failures. According to Stoltzfus (2004: 2), e-government programme not only present challenges in preparation, but are also difficult to execute successfully. In one survey by Heeks (2003), only 15 percent of e-government projects in developing countries are successful, 35 percent are total failures and 50 percent partial failures.

Poor leadership is considered by this study as one major e-government failing factor. The objectives of this paper are to demonstrate the impacts of poor leadership and discuss why a strong leader is fundamental in determining the success of an e-government implementation. Leadership lessons are drawn, and the case study of e-government in Brunei is used to represent and assess the importance and relevance of leadership in leading and managing technological innovations in both the public sector and the country. Brunei is chosen as it is in a part of the world not often reported and is therefore envisaged to provide fresh or new perspectives on e-government implementation.

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2. Research methodology

A case study is carried out when there is a need to understand complex social phenomena, and hence this paper takes a qualitative approach in a case study form. Yin (2003: 13) defined a case study as: *'an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident*.' The case study method will provide in-depth and detailed information on Brunei e-government that eventually permits the construction of realistic and fresh insights into the leadership issues. Another important implication of the use of case study is that it provides a framework for data collection and data analysis. This ensures that the study keeps to its boundaries and maintains a strong focus (Chaiklin, 2000) on the topic being investigated. Eisenhardt (1989: 544) further added that a case study involves asking what is similar to, what does it contradict, and why. In this way, it is possible to unpack the complexity of the e-government implementation process which eventually brings this paper to identify the important variables, factors and issues of leadership.

The subject and focus of investigation is the government ministries in Brunei and their experiences in implementing the e-government projects. All twelve ministries were selected to explain the processes in implementing their flagship e-government projects. The analysis mainly unfolded on how e-government was conducted in order to identify the issues of leadership. The key instrument used by the case study method is semi-structured interviews. The set of questions for the semi-structured interviews is given in Appendix 1. The twelve ministries (which hold a total of about 44,000 civil servants in Brunei) selected in this case study are:

- Ministry of Finance (MOF)
- Prime Minister's Office (PMO)
- Ministry of Religious Affairs (MORA)
- Ministry of Education (MOE)
- Ministry of Health (MOH)
- Ministry of Communication (MOC)
- Ministry of Foreign Affairs and Trade (MOFAT)
- Ministry of Development (MOD)
- Ministry of Defence (MinDef)
- Ministry of Home Affairs (MOHA)
- Ministry of Industry and Primary Resources (MIPR)
- Ministry of Culture , Youthand Sports (MCYS)

The study period was from September 2007 to March 2008, a seven months' time frame. The interviewees included a minister, Chief Information Officers (CIOs), project managers, Director of IT, and operational staff in each ministry. Thirty-seven individuals were interviewed – three per ministry (please note that CIOs in some ministries were also the IT Director and project manager) and the minister. The experiences of implementing e-government in each ministry within the period 2000 to 2008 were the focus. This eight-year window was selected as it provided the opportunity to gather and string all the events that took place at the start of e-government initiative before a new Brunei e-government strategic plan which is expected to be launched in the year 2009.

The authors would also like to indicate that some of the projects being investigated by this study are still developing. This could be one limitation of this study as some issues or findings may change over time and influence the results of this study.

This paper will first explain the process of e-government in Brunei Darussalam beginning from the initiation to the implementation stage. A detailed account of the real scenario of e-government is crucial before this paper can analyze the issues of leadership.

3. The journey and steps of e-government in Brunei

In 2000, His Majesty Sultan Hassanal Bolkiah in his '*Titah*' (speech) expressed his wish to see the establishment of e-Brunei (www.bit.gov.bn). Aiming for a paperless society by guiding Brunei into the mainstream of global Information Technology, His Majesty emphasized the implementation of e-government and e-Business to develop Brunei's economy beyond oil and gas. The Government's seriousness in considering ICT has seen an initial allocation of B$526 million in the 8th National Development Plan being increased to nearly B$1billion (about US$690 million) for the development and implementation of infrastructure for the e-government (Brunei Darussalam Public Sector Journey towards e-government, 2003). Some examples of the e-government projects in Brunei are given later in this paper (see Figure 1).

Initiation Stage

The announcement to embark on e-government was made in 2000 but it was not until 2003 that the actual planning started. There was almost a three year delay in starting e-government despite a B$1billion budget allocated in the year 2001 (interviewees input – mentioned by all i.e. 36 times). The reason for the delay is explained below. The CIOs intimated to the authors that when the e-government initiative was launched, each ministry had little knowledge about what e-government was, and they had little experience in IT (information technology). It was very difficult for them to prepare a proposal as requested by the e-government Program Executive Council (EGPEC) within a short period of time when there was limited knowledge and resources available. Confusion then occurred when some ministries limited their e-government plan only to buying computers. A few ministries prepared their tender by 2002 (interviewees input – the CIOs and IT staff; mentioned 12 times), but did not have the courage to let it out. They were highly cautious because this was something new or "unexplored". Eventually, the EGPEC noticed the slow start and requested the Prime Minister Office (PMO) to kick start the e-government initiatives. In 2003, the Prime Minister Office (PMO) then awarded Accenture (a well known global management consulting, technology services and outsourcing company) to help identify the potential projects in each ministry, prioritize them and conduct a cost-benefit analysis. The Accenture project lasted for one year in which four to five Accenture employees were attached to assist each ministry.

The design and development stage of the e-government is next discussed.

Design and Development

Although a few ministries had prepared their e-government proposals in 2002, all ministries followed the 2003 Accenture IS (information system)/IT plan (based on a few months' workshop conducted by Accenture) as the blueprint of their e-government projects (interviewees input – by all; mentioned 36 times). It was during this workshop that the mission and vision, scanning of the ministry's IT capabilities, and project identification and prioritization were conducted. It appeared that the completed IS/IT plan was, however, not final and was still subject to further changes after the workshop. It was also during this time that various steering and technical committees were formed in each ministries to deal with the IS/IT plan. Basically, three approaches were taken by the ministries in designing and developing their e-government projects, and they were:

a. Some flagship projects were identified by the e-government Strategic Framework for certain ministries to carry out. Flagship projects such as e-payment and SIMPA (Civil Service Information System) were allocated to the Ministry of Finance and the Prime Minister's Office respectively. The designs of the projects were then carried out by the Ministry with the help of the selected IT consultants.

b. The IT Department together with the steering committee of a ministry identified the projects to be implemented at the ministry and departmental level. Upon approval from the top-level management, the EGPEC and other various levels of e-government bureaucracy (such as the State Tender Board and Internal Security Department), the project was put out to tender for an IT company to be selected to work together in the design and implementation of the project. In this way, project identification was centralized at the IT departmental level. Ministries involved in this approach were: the Ministry of Defence, the Ministry of Religious Affairs, the Ministry of Foreign Affairs and Trade, the Ministry of Finance, the Ministry of Industry and Primary Resources, and the Ministry of Health.

c. The departments in each ministry were asked to propose their own IT projects. The projects were then selected and prioritized by the IT Department and also the steering and technical committee of that ministry. They then followed the tendering procedure before a vendor was awarded to carry out the project. Ministries involved in this approach were: the Ministry of Home Affairs, the Ministry of Education, the Ministry of Development, the Ministry of Culture Youth and Sports, the Prime Minister's Office, and the Ministry of Communications. It can be seen from the explanation so far that the implementation of Brunei e-government is more bottom-up. However, it is interesting to note that innovation in Brunei Public Sector comes from the lower and middle level. This is a positive indication that they can be creative and there is strong leadership potential from within the ministry. How were the e-government projects implemented?

Implementation

Ministry	Status
1. Prime Minister Office	PMONet (Prime Minister's Office Net) is still being deployed to agencies under the Ministry.
2. Ministry of Home Affairs	Most projects started in 2007 (except e-Immigration in 2005). Interestingly, projects such as biometric passport (e-passport), Autogate (e-gate) system and Frequent Travellers Card (FTC) have been launched in the year 2008. 'Scan & Go' also speeds up the border traffic and the queues, where citizens pass through the country's immigration control posts to East Malaysia/ Miri, move faster (Mohd., 2008: 1).
3. Ministry of Industry and Primary Resources	e-MIPR (e-Ministry of Industry and Primary Resources) started implementation in August 2007.
4. Ministry of Communications	e-Mincom (e-Ministry of Communications) has completed the infrastructure components but no e-services are available yet. The project is mainly a service portal.
5. Ministry of Culture Youth and Sports	The project is still at the tender evaluation stage.
6. Ministry of Finance	Many projects are currently undergoing planning and some are being implemented. TAFIS (Treasury Accounting and Financial Information System) and other projects such as DMS (Data Management System) and e-mail systems have been completed.
7. Ministry of Defence	Some have been completed and some are being implemented. 18 out of 23 projects have been completed. The completed projects were small projects such as hardware installation and providing Internet access to staff.
8. Ministry of Foreign Affairs and Trade	Some have been completed and others are currently underway.
9. Ministry of Education	60% of projects were awarded and implemented. It is known as e-Education.
10. Ministry of Development	One project (PROMISE – Project Management Information System) completed, five projects (eMAP, eSIKaP - Housing Development's Information System, eBIS – eBilling Integrated System, IDPS - Integrated Document Production System and eIMMS - eIntegrated Maintenance Management System) are being implemented, three (Data Centre, eCitizen and eEnvironment) are being tendered.
11. Ministry of Religious Affairs	Completed: Infrastructure Networking and Data Centre; Ongoing: Islamic Information Kiosk, Tithe Collection System, SISMI (Islamic Information System).
12. Ministry of Health	Still at the tendering stage. One positive aspect is that the interviewees acknowledged that a system called the HARIIS system is now a useful management tool for the ministry's human resource development.

Figure 1: Implementation stage of e-government in each ministry source: Interviews conducted during the period September 2007 to March 2008

At the end of the interview period (March 2008), several e-government projects had been rolled-out and were being implemented (see Figure 1). This paper would like to point out that that the implementation stage of Brunei e-government merely refers to the first stage of implementation. The readers may now understand the implementation stage is largely referring to only planning and tendering.

4. Analysis and discussion

An analysis of leadership and e-government in Brunei is based on the aforementioned stages of e-government implementation. The process can be generally categorized to four phases of initiation, design and development, implementation and evaluation.

Initiation Stage:

The initiation stage of e-government in Brunei can be described as chaotic, slow and uncertain. The ministries were at lost as to what should be done and three years were taken to start e-government in Brunei. This section analyses the factors that contributed to this scenario:

Lack of clear objectives: When each ministry was asked to embark on e-government in the year 2001, they were not certain of what to do. There was no clear mission at the national level and each ministry was asked to prepare their own plan. Proper guidelines were not provided and there was no emphasis on what and how the e-government should look like. As a result, there was a very long period of uncertainty and confusion, and hence, a three years' delay in initiating the project. Only in the year 2003 was the Accenture IS/IT plan workshop held to help initiate the projects in each ministry.

Poor IT capabilities and experiences: the Brunei Public Sector had very little experience in IT development and deployment. Consequently, the e-government project suffered from lack of capabilities in terms of IT knowledge and resources. Non-IT officers were asked to participate in the e-government projects in many ministries and were even nominated as the CIOs (Kifle, 2008: 156).

Pressure to implement: Since a B$1billion budget has been allocated, there was a pressure on everyone to start the project. Even a simple project such as buying computers was considered sufficient to start to fulfill the move towards e-government.

Absence and lack of champion: There was no 'lead agency' that was responsible to lead by example and to push the ministries to embark on the e-government projects immediately. The EGPEC was merely a committee with little authority to break down the silos in the ministries. The only statement mentioned in the e-government Strategic Framework (2001) on the leading agency is that the Prime Minister's Office was to be the lead agency in *coordinating* the EGPEC; coordinating a committee is very different from leading the whole of e-government implementation in the public sector (Kifle, 2008: 156).

Leadership Lessons: There exists a critical need for a champion, and leadership helps ensure a strong focus while directing, pushing or encouraging the public sector constituents to move forward and hasten the implementation process of e-government. In other words, leadership is defined in terms of directing and completing the whole implementation of e-government, getting the results as well as winning the people over in the cause and actions. The champion can help not only to influence, gain the people's support and mobilize the e-government stakeholders, but also to follow-up and monitor the implementation process.

Design and Development Stage:

In eight of the ministries, it was uncovered in the present study, the projects were not clearly identified by the IT Department and/or the other departments. It seems that the top-level management assumed that their task was more to endorse the mission and vision of their ministry while prioritizing the proposed projects.

In other words, the leadership and innovation were to be 'settled' by the rank and file rather than with a top-down approach. This has had some implications in terms of the speed of the innovation adoption and the success of the e-government projects. The rank and file approach tends to have a slow approval process. More so, the departments or the project managers need to work hard to get the top-level management to buy in their ideas, not to mention the frequent rejections, and changes of project scope requested by the ministry itself and also by the EGPEC. Some of the IT Directors and CIOs lobbied for the projects by themselves, and became discouraged, and perhaps de-motivated due to lack of support from the top.

Another important issue that is worth examining here is the fact that most of the projects were designed by the IT consultants. Lack of IT expertise in the ministries caused this to happen. The TAFIS project for example, is using off-the-shelves software and is not tailored to Brunei. The case was made to ensure that Brunei adhered to the International Accounting standard and also to avoid difficulties in maintenance and support. Interaction with the stakeholders, especially the public should have occurred when identifying and designing the projects. Design of the system was rather done internally or based on study reports conducted by the IT consultants.

Leadership Lessons: Leadership needs to not only endorse the projects, but also to proactively involve and monitor the projects throughout the entire process (Low and Theyagu, 2003). Such is the nature of leadership even in project management.

Implementation Stage:

Interestingly, many ministries are now at the stage of infrastructure upgrading with projects done both at the departmental and ministry levels. As it is the requirement of the State Tender Board to allow one vendor per project in order to encourage open competition, different systems were implemented. This would create a big difficulty of integration at a later stage when each system was to be incorporated into the respective ministry's portal. This happened to the Ministry of Industry and Primary Resources and the Ministry of Communications. This study strongly anticipates that this problem is very likely to occur in the other ministries that are still at the planning and implementation stage. It is then easy to anticipate what is going to happen next i.e. difficulties in merging the various systems later on.

Leadership Lessons: Different ministries should co-ordinate with each other in this e-government implementation. There should be more flow and communication between ministries. As seen from the Brunei case study, the presence of a champion would fulfill the role of coordinating, match-making and negotiating while bringing the ministries closer and most importantly, integrating the entire e-government systems and processes. Moreover, to paraphrase Chapman (1991: 116-118), champions and successful leaders, with their positive force, can generate waves of e-activity, pulling the entire group into involvement, activity and confidence; and this is certainly needed when implementing the e-government systems and processes.

5. Critical leadership Issues in e-government implementation

This section discussed the critical leadership issues that have been identified from the analysis of the journey (process) of e-government in Brunei. The issues are ranked and discussed according to the authors' views of their level of importance.

Lack of or No Champion

The problem of poor or absent leadership has actually been experienced at every level. There is no champion in Brunei e-government. EGPEC is seen as an approval committee only, with little influence in overcoming the issue of silos and policy problems of e-government. Only the presence of very strong leadership could change the silo culture and move the IT implementation away from the TEMA[1] (Information Technology) style. There is yet a committee to be formed to forecast the future requirements and developments in Brunei and how ICT can help to achieve them. It is crucial to

[1] In 1995, the TEMA programme was introduced by Ministry of Finance. The aim of TEMA was to encourage each ministry to identify the IT requirements of all its departments in order to consolidate them before proposing a request to the IT Unit. This was to prevent any department from going directly to the IT Unit. It was believed this would ensure better management and efficient distribution of personal computers (PCs) in the public sector.

'foresee' the future to better prepare the government in meeting the rapid changes in demand and development of the Information Society.

The leadership at present is through committees such as the BIT Council and the EGPEC. The leadership of e-government should at least come from the ministerial level. There is also a need to have a formal technical authority. The Technological Infrastructure Working Group (TIWG) set up under EGSPEC (e-government Strategic, Policy and Coordinating Group) is not considered to be very politically legitimate or efficient. A stronger technical authority would be needed to look at the issues of integration of systems, the duplication of projects and the making of policy on standard architecture[2].

Leadership to encourage the sharing of information across the ministries was lacking. All ministries created their own systems to suit their needs as opposed to the needs of others. Strategic planning was done on a ministerial basis rather than on a countrywide basis. Ministries were reluctant to change their processes to make it more accessible to others. Leaders should have coordinated and pushed their ministries to integrate with each other, to avoid the 'compartmentalization' of innovation in the silos.

One critical point revealed by an interviewee (an IT Director) is that in Dubai and Korea, the head of e-government is considered to have the same position as the Minister and will report directly to the President or Prime Minister. In other words, there is a strong empowerment given to the selected individual to spearhead or carry out a project smoothly. This is similar to the UK where an Office of E-Envoy (OeE) was established in 2000 with a high profile head reporting directly to the Prime Minister and to marshal and direct the government electronic service delivery efforts (Dunleavy et al., 2003: 9).

Not only is there a lack of champion to co-ordinate the whole e-government at the national level, but also at the ministerial and departmental levels. A few interviews revealed that some CIOs have delegated their tasks to both IT and non-IT junior officers. These officers attended e-government meetings on behalf of the CIOs, and they have no authority in decision making. One IT project team member reported that their CIO perceived e-government as not his priority. Furthermore, some CIOs have poor project management skills. There were often communication breakdowns somewhere within the IT team. The junior officers were often under much stress, as in addition to devoting long hours in technology-related tasks, they also had to perform other administrative tasks. This informal structure at the internal department or even the ministry was problematic as it de-motivated the officers, causing delays to the IT projects.

Leadership Lessons: Strong leadership and power is needed to settle any arising issues or conflicts as e-government involves the co-ordination of various ministries. A good example is seen in Singapore where Lee Hsien Loong (Deputy Prime Minister cum Minister of Finance in Singapore, during the early days of e-government) championed the e-government himself (Kifle, 2008). Any resistance from the individuals or agencies would be channeled to the committee and the leader would get involved through the discussion and persuasion strategies.

b. Poor Change Management Strategy

Change management strategy is one area that has been overlooked in Brunei e-government. The government has no strategy prepared to handle the changes brought on by technology. Changes in technology bring changes in policy, culture, mindset, organizational structure and process. A number of projects; for example a simple application of using the email system failed as people still treated paper as the only official tool of communication (as it has signature in it): there is resistance to change and no trust in the system as there is no email policy formulated by the government to counter the resistance. This problem has so far been encountered by the Ministry of Defence and the Prime Minister Office. There should be a policy to accompany the email system that endorses email as an official and recognized way of corresponding. A change management strategy is crucial as technology does not only require the civil servants to equip themselves with new technology, but also to prepare them in accepting new changes to work practices, processes and cultures.

[2] It is important to note here that in 2008, one Chief E-Government CIO has been appointed with E-Government Leadership Forum (EGLF) and E-Government Technical Authority Body set up to better coordinates and spearheads e-government in Brunei. A deputy minister was appointed as the Chief CIO.

Based on the input of four interviewees, changing the attitude of the users in Brunei has been perceived to be the role of the IT Department. This is simply misleading. This should be the role of other heads of department and most importantly, the very senior officers in each ministry should take responsibilities of changing the mindset of the staffs. Enforcement to attend training and the consequences of not attending it, for example, must come from the top management.

Leadership Lessons: Leading change is critical in a global competitive environment. It is not something that is easy yet essential to ensure a smooth transition and implementation. Leaders need to relate with and get their people to embrace and accept changes (Low and Theyagu, 2003). Relationship is the x-factor to bring about and lead change, and the leaders should "connect" (talk to, hear, listen, and get feedback from the lower and middle level management), out-reach their people and "take care of the human side of change" (Low, 2001: 133 - 135).

Change management is needed to assist the transition of 'resisting subcultures', many individual civil servants, the groups and the organizations in the public sector in adapting to the changes brought about by new technologies. As indicated by Low, Almunawar and Mohiddin (2008: 7) the Bruneian civil servants and the public needs to change their thinking and accept the e-ways. Besides, Ndou (2004) points out that change management is divided into two: change management approach and management of resistance to change. The first one refers to change management procedures established within organizations. Identification of bureaucracy, silos and cultures in the public sector is considered a big step in bringing change to the traditional government. This helps as e-government should revolutionize and reinvent government processes and functions. The core of e-government is to bring change and hence change management strategy should have taken place as early as the policy initiation stage. Hence, among the first steps in e-government strategy is to identify the traditional processes, procedures and structures that must be revamped and integrated. Secondly, managing the resistance to change by the employees is vital as this is one of the biggest barriers to a successful change. Incentives and assurance for them to learn and change, and imbuing a sense of awareness and participation (to develop the employees' sense of responsibility in ensuring the success of e-government) must be prepared using well-structured plans and policy.

c. Risk-Averse Culture

A few CIOs which were appointed had no prior experience in managing IT. Consequently, their views on technology, willingness to take risks in implementing new technology, and ability to handle cultural clashes in the organization were quite low. ICT projects are very risky. According to sixteen interviewees, there were no incentives to risk takers and many preferred to 'play safe'. No one was willing to take personal risks due to fear and generally the civil servants were cautious of being too critical of the others. The risks and consequences of failure (for example being demoted) make some people less innovative. One interviewee (CIO) further added that, without any provocation to become innovative, the Brunei Government will not see anyone bold enough to initiate and take the burden of information systems projects and might eventually fail to see any major IS/IT initiatives successfully implemented. It is here the benefit of strong leadership or sponsorship helps in protecting the individual risk taker who is willing to take on the entrepreneurial burden of moving the new technology through organization (Katz and Allen, 2004: 461). Her Royal Highness Princess Hajah Masna has, in fact, emphasized on the need for Bruneians to become innovators and to learn from their own failures and always continue to move forward, with head held high (Hashim and Affendy, 2009).

The Minister of Communication mentioned to one of the authors that to encourage a risk-taking culture in the public sector, the civil servants must be intelligent enough in taking or calculating the risks. In Brunei, he admits that there is a Malay culture of not being keen to take risks compared to the Chinese people. He referred to a keynote address by Dr. Mahathir Mohamed, the former Prime Minister of Malaysia where he admitted that the Chinese people were keen risk takers and that it was in their culture compared to the Malays. Hence, the Malays need more encouragement and education on how to take risks.

Leadership Lessons: Leaders can promote such a risk-taking culture by providing incentives and rewards. To reinforce success, team learning is encouraged (Senge, 1991; Low, 2003). Leaders can also celebrate successes with their people whenever a particular project succeeds (Low, 2001: 132). A learning environment would encourage risk-taking among civil servants; this is where Senge (1990)

speaks of a mistake tolerant environment or culture. In other words, innovation would have taken place, if flourished, in a more forgiving environment.

d. Innovation in Silos

Since each ministry was ordered to prepare its own IS/IT plan, it was inevitable for silos or compartmentalization to emerge. During the long months of the Accenture IS/IT workshop, it was not clear whether the findings of the plans from all ministries were ever consolidated into one plan or vision. It was mentioned in one interview that consolidation was in fact done by the EGPEC in 2004, but unfortunately duplication of projects still happened. According to the interview, this was because the EGPEC was more concerned with aligning the IS/IT plan of each ministry with the ministry's own strategic mission rather than the national agenda. There was also an opinion at the top-level management (i.e. the Permanent Secretaries in the EGPEC committee) that any ministry that was considered capable of moving forward should not be hindered as the e-government initiatives was already three years behind the 8th National Development Plan. Duplication hence occurred and it can be argued here whether the top-level management really understood what is meant by consolidation. Does it mean binding all the reports together but not trying to see how the IS/IT plans should be integrated in order to avoid duplication and to prioritize the important projects in order to meet the national agenda?

This is actually one crucial role of the EGPEC and EGSPEC at the beginning of the e-government implementation. Giving the luxury of proposing the IS/IT plan to each ministry also indirectly gave the opportunity for each ministry to become more isolated and less conscious about the need to integrate. The presence of leadership or champion is all the more critical during the initial stage of implementing e-government.

Leadership Lessons: It is obvious that lateral or team leadership is necessary to overcome such silo or attitude, and head of departments need to avoid duplication while working closely together. Top leadership needs to ensure the co-ordination and cohesion of the whole implementation process.

e. Leadership Results/outputs

The EGPEC members who were mainly Permanent Secretaries appeared to be not familiar with IT and needed, in fact, to consult the IT officers on e-government policy matters. As the case may be, e-government in Brunei seems to lack the actual governance practices, that is, it appears that the IT officers were more focused on the technological rather than the human side (integrating the services, providing one-stop agency/portal and servicing the citizens) of e-government. Not surprisingly, most of the ministry flagship projects were just automation of processes rather than re-engineering of business processes that could meet the expectations of the citizens and businesses. There was a myth that 'e-government is an IT project and it should be handled by IT people'. In fact, there should have been an 'upstream force' or top-level management in the government, to set the e-government direction at a policy level and a 'downstream force' or the technical experts who can translate these policies into action. Instead the IT officers were more concerned with the latest, best and most expensive technology available in the market to be implemented in the public sector without considering the real value and costs of IT as applied to the government sector.

Leadership Lessons: Leadership encompasses both results/outputs and relationships aspects, each without the other would make a lop-sided leadership style. E-government should look and factor-in the people aspects of technology during its implementation. This ties-in with what Low, Almunawar and Mohiddin (2008: 1) have highlighted: "e-government is not mere "technologizing" of government. It is not simply a matter of automating some manual processes or a simple introduction of technology where none existed. E-government needs a basic re-thinking of governance itself".

f. Leadership Style

E-government in Brunei is more rank and file, bottom-up rather than top-down in its implementation. Such a way can be favorable in the private sector for incremental innovation but not for major change in public sector. Bottom-up innovation has small scale impact when implemented as compared to top-down style. To gain support for new ideas has been difficult, and this has prevented the officers (especially CIOs) from being more creative and risk-taking. Getting support and approval from the top-

level management has been a long, uncertain and challenging journey for the officers and has caused significant delays to the projects. Innovation in the public sector has to be top-down first (strategic) and followed by bottom-up (implementation). If this happens, a strong political will is present to support the anticipated innovation proposed by the officers. Only then, according to one interviewee, can innovation achieve a breakthrough as the top-level management has direct interest and knowledge in it. Common understanding of the agenda of the projects can be achieved at both levels making it easier to design and formulate the projects.
Leadership Lessons: Leadership requires both grass-root contacts and inputs, be street-smart as well as top-level direction, support and initiatives: for innovation to flourish within the public sector both rank and file and top-down implementation should be encouraged and be in-place.

6. The way forward

The presence of a leader is critical particularly when the public sector is going through strategic change. These coincide with what Nadler and Tushman (2004) have argued, that is, a leader, say when implementing the e-government systems, should be both *charismatic* and *instrumental*. Here, a charismatic leader would normally be envisioning (articulating a compelling vision that is clear and worthy of pursuit), energizing (demonstrating personal excitement and confidence) and enabling (expressing personal support and confidence in people). As such, the leader must be charismatic so that they can *structure* (direct the process, build teams, setting goals, establishing standards, defining roles and responsibilities), *control* (create systems and processes to measure and monitor behavior and results) and *reward* (administer rewards and punishment). Similarly, Low and Theyagu (2003: 75-84) emphasized on a leader to be the role model, care for the people, reward good behavior, and develop high morale.

The leaders indeed need to influence, persuade, prepare or ensure that their respective constituents' (citizens, businesses and employees) acceptance of e-lifestyle. They need to also generate the availability and affordability of computers/ IT in households (reducing the low digital divide) while enhancing e-connectivity for everyone within the country. Additionally, creating greater awareness with greater e-government publicity and having workshops and training programmes among the employees of both public and private sectors are necessary to affect the necessary mind cum cultural change towards greater acceptance of IT as well as that of e-lifestyle.

The authors wish to also add that cultural change, as a way forward, is indeed a very critical factor for successful implementation of e-government systems and processes. This is apt and fitting as the organizational (national) culture is an important variable when it comes to change and cultural readiness such as initiating and implementing the e-government system (Scholl, 2007; Schein, 1999, 1985, 1969). Low (2008) interestingly discussed five supporting core values (risk and innovation, people orientation, education and training, resilience, efficiency and effectiveness) that can lead to successful implementation of e-government.

Finally, a champion must understand the purpose of e-government, have a strong interest in it, have power to access resources and most importantly, believe that the e-government is under their executive ownership. He must also understand the costs and benefits of technology in order to better explain to the stakeholders before, during and after the implementation period.

7. Conclusion

The findings in this study can be extended or generalized to all the ministries in Brunei as the core issue is similar i.e. lack of leadership. This, in fact, is not only true and relevant at the ministerial level but also at the higher (national) level. Strong leadership is a pre-requisite for the successful implementation of any type of e-government project, not only in Brunei but also to other governments (at both federal and local levels) involved in this ICT endeavor. The importance of leadership is a major, if not obvious, success factor and hence this study believes that the findings and conclusions are valid and not unique to Brunei alone (as shown by the Singapore's experience discussed earlier in this paper). It is possible to generalize the findings of this study to other cases or countries. Hence, it is worth to conduct future comparative studies on this leadership issue on other countries.

As can be seen from this study, there is certainly a need for strong leadership for e-government implementation, and the authors have every confidence that with an e-government champion, ICT investment in the Brunei public sector would bring more meaningful returns. From the Brunei case study, a strong leader is needed for efficient and effective e-government implementation. This leader

would then be able de-compartmentalize some government agencies in Brunei resulting in less duplicated projects while at the same time, ensuring an effective change management strategy.
On a different note, the authors however acknowledge that it is a huge task for Brunei to meet all the e-government targets within a few years period when there is poor infrastructure and experiences available. E-government is something that is definitely favorable for Brunei but to change the culture and mindset is definitely a time consuming and daunting task.

The authors are optimistic that Brunei e-government is heading in the right direction. More importantly at this juncture is the fact that "in 2007, the e-government initiative was given full accountability of ownership to the Prime Minister's Office" (Noor, 2008) and an e-government champion can advance the process of e-government implementation. The presence of a strong leader can overcome the resistance and inertia in the public sector to embark on this challenging e-government mission.

8. Appendix 1: Set of questions for the semi-structured interviews

1. Please describe in detail the project being implemented (or has been implemented), its nature, objectives and the amount of budget allocated to it.
2. How did the idea for the project start?
3. How was the planning of the project carried out? Who was involved in the design, original goals and setting up the target of the project? Is there any collaboration involved with other parties?
4. Describe in more detail the process involved in achieving the completion of this project such as people, resource usage, planning, management and innovation being implemented?
5. Has there been any evaluation done after the project was completed?
6. What is the sort of significant impacts or outcomes that has been made so far?
7. What are the key challenges in carrying out the projects (e.g. leadership, politics, budget, skills, teamwork, knowledge, support, risk-taking)?
8. What are the strengths that can be seen in implementing this project?
9. Are there any crucial factors that you think can lead to a better and smooth implementation of this project?
10. What policies or recommendations can be suggested based on the lessons gained from this project?

References

BIT Council. (2003) *Sultan Highlights Excellence in Brunei Civil Service*, [Online], Available: http://www.bit.gov.bn/archives/press/2003/oct/sultan-highlights-excellence-in-brunei-civil-service.htm [15 Feb 2009].

Brunei Darussalam. (2003) 'Brunei Darussalam public sector journey towards E-government', *12th ACCSM Main Conference*, Bandar Seri Begawan, 13-15 October.

Chaiklin, H. (2000) 'Doing case study research', *American Journal of Dance Therapy*, vol.22, No.1, Spring/Summer, pp. 47-59.

Chapman, E.N. (1991) *Leadership: What every manager needs to know*, New York: Macmillan Publishing Company.

Dunleavy, P. et. al. (2003) 'E-government and policy innovation in seven liberal democracies', London School of Economics and Political Science and School of Public Policy, *University College London: Paper for the Political Studies Association's Annual Conference*, 15-17 April, Leicester University.

Eisenhardt, K.M. (1989) 'Building Theories from Case Study Research', *The Academy of Management Review*, Oct, 14, vol. 4, pp. 532-550.

Hashim, M. and Affendy, S. (2009) 'Country needs innovators', *Borneo Bulletin*, 12 February, p.1.

Heeks, R. (2003) *E-government for development: Success and failure rates of e-government in developing/transitional countries: Overview*, [Online], Available: http://www.e-devexchange.org/eGov/sfoverview.htm [6 Jan 2009].

Katz, R. and Allen, T.J. (2004) 'Organizational issues in the introduction of new technologies', in Katz, R. (ed.) *The human side of managing technological innovation*, Second Edition, Oxford: Oxford University Press.

Kifle, Hazri. (2008) *Public sector innovation: The case of e-government in Brunei*, Unpublished PhD Thesis University of Manchester.

Low Kim Cheng, Patrick. (2008) 'Core values that can propel e-government to be successfully implemented in Negara Brunei Darussalam', *Insights to A Changing World Journal*, vol. 2008, Issue 4, p. 66 - 77.

Low Kim Cheng, Patrick. (2003) *Team success*, Singapore: BusinesscrAFT Consultancy™ and Humber Lincoln Resources.

Low Kim Cheng, Patrick. (2001) *The power of relationships*, Singapore: BusinesscrAFT Consultancy™.

Low Kim Cheng, Patrick and Theyagu, Daniel. (2003) *Developing true leadership potential*, Singapore: Booksmith.

Low Kim Cheng, Patrick, Almunawar, Mohd Nabil and Mohiddin, Fadzliwati. (2008) 'e-government in Brunei Darussalam – Facilitating businesses, creating the competitive edge', *The International Conference on Business and Managemen*t, Universiti Brunei Darussalam Brunei Darussalam, 8 - 9 January 2008.

Mohd, Liza. (2008) ''Scan & go' Speeds up border traffic', *Borneo Bulletin*, 19 April, p.1.

Nadler, D.A. and Tushman, M.L. (2004) 'Beyond the charismatic leader: Leadership and organizational change', in Katz, R. (ed.) *The human side of managing technological innovation*. Second Edition, Oxford: Oxford University Press.

Ndou, V. (2004) 'E-government for developing countries: Opportunities and challenges', *The Electronic Journal on Information Systems in Developing Countries*, 18, pp. 1-24.

Noor, Narissa. (2008) 'E-government target 'over ambitious', *Borneo Bulletin*, 13 November, p.1.

Schein, E.H. (1999) *The corporate culture survival guide: Sense and nonsense about cultural change*. San Francisco: Jossey-Bass Publishers.

Schein, E.H. (1985) *Organizational culture and leadership*. San Fransisco: Jossey-Bass Publishers.

Schein, E.H. (1969) *Process consultation: Its role in organizational development*. Reading, MA: Addison-Wesley.

Scholl, Hans J. (2007) 'e-government-induced business process change (BPC): An empirical study of current practices', in Norris, Donald F. (ed.) *Current issues & trends in e-Government research*, USA: Cybertech Publishing.

Senge, Peter. (1990) *The fifth discipline*, Great Britain: Century Business.

Stoltzfus, K. (2004) 'Motivations for implementing e-government: An investigation of the global phenomenon', *ACM International Conference Proceeding Series*, Vol. 89, Proceedings of the 2005 national conference on Digital government research, Atlanta, Georgia.

Yin, R.K. (2003) *Case Study Research: Design and Methods*, Third Edition, Applied Social Research Methods Series, Vol. 5, London: Sage Publications.

