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Lessons Learned from the Implementation of a Malaysian eGovernment Project

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ABSTRACT

eGovernment is the delivery of government services and information to the public using electronic means. eGovernment, which makes use of information and communication technologies (ICTs), brings with it the promise of greater efficiency and effectiveness of public sector operations. However, behind the hi-tech glamour of these initiatives, lies a more sombre reality – numerous eGovernment projects face failure, at a high price to the respective governments, especially for those from the world's poorer countries. This paper aims to reveal possible reasons for the delay in the implementation of one Malaysian eGovernment project and suggests Critical Success Factors that must be addressed to ensure successful implementation of similar projects in the future.

INTRODUCTION

In recent years, many countries around the globe have formulated ambitious plans for implementing eGovernment to improve democratic processes, services for citizens and businesses, and activities of public sector organisations, with associated cost savings advantages (OECD, 2001; McClure, 2000). The use of ICTs promotes more efficient government by allowing better access to information, and making government more accountable to the citizens (Dawes, 2002; Deloitte and Touche, 2000; Langford, 2002; Silcock, 2001; Wescott, 2003; West, 2002; World Bank Group, 2003). Furthermore, it is thought to support good governance, which may facilitate progress in developing countries (Heeks, 1999; McClure, 2000; Silcock, 2001). Consequently, an increasing number of eGovernment projects are being implemented in developing and transitional economies.

eGovernment in Malaysia

In 1997, the Multimedia Super Corridor (MSC) project was launched to propel Malaysia into the Information Age. The eGovernment initiative aims to transform internal government operations, as well as delivering electronic services to the Malaysian people by improving convenience, accessibility, quality of interactions with citizens and businesses; improve information flow and processes within government to improve the speed and quality of policy development, as well as coordination and enforcement (MAMPU, 2003).

This paper investigates a Malaysian Human Resource Management (HRM) eGovernment project. To date, HRM functions at governmental agencies in Malaysia have predominantly been paper-based, with any current computer-based systems mainly concerning capture and storage of individual employee records. At the Public Service Department level, personnel records are based on paper forms, or on diskettes submitted by operating agencies, which are then stored in a central personnel database.

The Human Resource Management Information System Project

To modernise the existing system, the Human Resource Management Information System (HRMIS) project was initiated as a pilot eGovernment application to provide a single interface for government employees to perform HRM function effectively and efficiently in an integrated environment. It is intended to centralise human resource data capture, enabling better access of strategic and consolidated HR information for government agencies and contributing towards better planning and management of human capital. The HRMIS aims to achieve the following objectives (MAMPU, 2003):

- effective staffing and rightsizing of the civil service through better availability of HRM information;
- automated HRM operational processes which are currently done manually;
- provide up-to-date consolidated HRM information for effective HRM planning among agencies;
- achieve better communication, horizontal integration and more streamlined processes through establishing a richer collaborative systems environment among the agencies so as to provide a single window access to HRM transactions which usually cuts across agencies;
- improve paper-less HRM capabilities among agencies such as electronic distribution of human resource policy manuals and circulars electronically; and
- provide an open and flexible system to fulfil and improve the information needs of operational and managerial processes at different level of agencies.

The HRMIS project covers strategic formulation and review, resourcing, development, career management, performance management, separation, remuneration, benefits and rewards, employee communication and behaviour management, competency assessment and personnel record management. Given the scope of this task, it was decided to outsource the project and on the 1st of April 1999, the Government of Malaysia and a local consortium signed an agreement to design, develop, procure, install, test and implement the HRMIS.

Since this project is considered a major Malaysian eGovernment undertaking, one would expect that it would be thoroughly managed and closely monitored to achieve the government's objectives, but unfortunately, the HRMIS project has been beset by a number of problems.

HRMIS RESEARCH PROBLEM

The project was scheduled to be implemented in two phases. *Phase 1* involves the development of the HRMIS core application and implementation at 10 pilot agencies which represent a cross-section of the Malaysian government structure at the Federal, State and Local Government level with a 24 month deadline to meet (Government of Malaysia, 1999). *Phase 2* entails the roll-out of the HRMIS application to the rest of the Government agencies nation-wide which involves a total of 696 agencies and over 900 thousand government personnel and was given a period of 18 months. Thus, the overall project period was 42 months, with a completion date of September 2002. However, this has not been achieved and the project cannot at this time be considered

to be a runaway success. This research studied the possible reasons for the delays, and it is in this context that the HRMIS project has been examined. A literature review was conducted to highlight successes and to bring to light potential causes of failures of eGovernment initiatives. It was also felt necessary to evaluate critical success factors necessary for the implementation of an effective eGovernment project.

HRMIS RESEARCH METHODOLOGY

Literature relating to the role of project management in IS projects and the learning cycle for an IS project formed the framework for the design of this study. Much has been written about the failures of Information Systems (IS) project initiatives, both in the public and private sectors, and for example, a study by the Standish Group (1995) estimated that just 28% of all US IT projects were successful with respect to budget, functionality and timeliness; 23% were cancelled, and 51% only partially succeeded, failing on at least one of the three counts. It is clear that failure on these scales must be avoided to realise the potential of eGovernment initiatives.

In 1979, Rockhart popularised identifying Critical Success Factors (CSFs) as a means of focusing systems activities on those areas that return the highest benefit to the business client and proposed this concept as:

"… the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation. They are the few key areas where 'things must go right' for the business to flourish. If the results in these areas are not adequate, the organisation's effort for the period will be less than desired". Rockhart (1979)

James Martin (1990) agreed that identifying CSFs is a valuable managerial technique which enables business strategy planning to be translated into information strategy planning. Thus this HRMIS study focuses on the three most important CSFs; top management support, user involvement, and clear project objectives.

The purpose of this research is to discover underlying causes for delays in implementation of the HRMIS project, and Gillham (2000) suggests a qualitative approach to explain why things happened and how they happened. Thus, the most applicable research methodology to capture the opinions and insights of the people involved in the development and implementation of HRMIS was a Small-Scale Case Study. Yin (1994) identifies 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." (Yin, 1994:13).

This case study used a mix of quantitative and qualitative evidence, and data was collected through survey questionnaires and selected interviews and used SSPS for analysis. This combination of techniques was intended to provide a certain degree of "triangulation", to maximise understanding of the topic being researched. Triangulation of methods often compares data collected through some kind of qualitative methods with data collected through quantitative methods (Patton, 1990).

DATA COLLECTION

Due to the fact that this research was conducted from the UK with Malaysian respondents, a web-based (online) questionnaire was used because, as suggested by Knight (2002), it was faster, more convenient to administer; cheaper since postage costs were eliminated; tedious data entry processes avoided, thus errors reduced, and most importantly, anonymity of the respondent maintained.

So as to gain a better understanding of the situation being analysed, the semi-structured questionnaire used "fixed-response" questions together with "open-ended" questions to enable respondents to express their opinion, unencumbered by a prepared set of replies (Oppenheim, 2000). However, of the eight questions posed to the respondents, only one question was open-ended as these can be quite difficult and time consuming to analyse.

Fifty questionnaires were sent to government and contractors representatives of the HRMIS project, including the Project Director, the Project Managers, Team Leaders and other members of the Project Team. Prospective respondents were invited to fill in the online questionnaire and to indicate whether they would be interested to take part in a further telephone interview on the same subject.

Out of a possible 50 total responses that might have been obtained from the web-based questionnaire, 22 responses were received, making it an overall 44% response rate. All questions in the questionnaire were answered by the respondents; therefore all feedback received was suitable for use in the data analysis. However, despite several attempts to encourage participation, there was a disappointing response rate from contractor's project team members, 15% (3 out of 20). However, it is thought possible that reluctance to respond may stem from a fear of "blame" for the project delay. Consequently, the contractors' responses were disregarded - a limitation recognised by the research team. Thus, SPSS analysis was conducted from the point of view of the Government project team members alone, with a response rate of 63% (19 out of 30). In total, eight government HRMIS project team members agreed to be interviewed; however due to time constraints, only four of the most senior people were selected for the interview.

FINDINGS

The discussion of research findings in this investigation is based on four main questions.

1. Why has the HRMIS project been delayed? What are the possible reasons or the causes for the delay in the implementation of the HRMIS project?

The analysis of the questionnaire and interviews indicate that the initial HRMIS project timeline had been overly ambitious. In fact, the Government project team members identified this as the top most important reason for the delay. The responses revealed that the original timeline had not taken into consideration some of the lengthy processes that the project had to undergo. These included review processes, testing cycles, training aspects, as well as the approval process, which had to go through the relevant authorities and various committees, before a module is agreed and signed off by respective authorities. All these accounted for the timeline not being met.

The second most important factor for the project delay is felt to be inadequate knowledge or skills. The contractor has insufficient skilled staff with expertise to do the job. The contractor also has a high personnel turnover, affecting the project in terms of continuity and consistency of work, and disrupting the project's progress. The contractor's proven track record and related experience prior to being awarded the HRMIS project contract is also questionable.

Additionally, the scope of the project was not very clear. This factor ranked as third most likely cause of the HRMIS project delay. Incidentally, various literature pointed out that having a clear project scope is an important CSF in an IS project. If at the outset, scope or coverage of the project has not been agreed, there is a high risk that the project may encounter problems in its implementation, and can lead to project delay, or even failure.

2. Findings from previous studies have observed that three factors consistently appear as top critical success factors (CSFs) for information systems projects. These are top management support, user involvement, and clear project objectives. Are the three CSFs present in the HRMIS project?

The Government project team members agreed these were critical success factors for an IS project and indicated that all three were present in the HRMIS project. However, although the initial HRMIS project objectives were clear, the detailed project scope has been disputed and contested by the contractors. The Government respondents also identified another important success factor with respect to their involvement and experience in the HRMIS project, i.e. the appointed

contractor must be competent, with expertise and skills to develop and implement an IS project. This suggests that inadequate knowledge or skills were one of the reasons for the project delay.

3. Bearing in mind that the HRMIS is one of the most important projects for the Government of Malaysia, what are the weaknesses in project management activities that can be highlighted?

Three main project management weaknesses were highlighted by respondents:

1. No contingency plans to cope with staffing problems;
2. Requirements and specifications not stabilised early on; and
3. Users weren't educated on impact of changes during the project.

According to Abdel-Hamid et al. (1999), accurate projection of required staff levels is crucial in an IS project. Overstaffing may lead to higher overheads, which translates into lower unit productivity. In the case of the HRMIS project, it is clear that the project's contractor suffered from understaffing, an issue which often leads to project delays, volatile priorities and inadequate testing. The respondents pointed out there were no contractor contingency plans to cope with a high-turnover of staff, to the detriment of the project's progress.

The second and third weaknesses are related. Cule et al. (2000) notes that many projects face uncertainty when the requirements are first stated, stressing the importance of user involvement as early as possible to assist definition and stabilisation of detailed requirements and specifications of the project. However, despite strong user involvement and participation, this has been insufficiently effective for HRMIS. This indicates that the detailed requirements and specifications of the HRMIS project were not confirmed sufficiently early with users. Additionally, with users unaware of the impact of changes during project development, the introduction of new requirements and business rules may have affected the project's progress.

What are the strengths in project management activities?

Alternatively, the strengths identified by the Government project team members were,

1. Ensure that there is a steering committee in place and meetings are scheduled regularly;
2. Ensure that there are regularly scheduled management meetings; and
3. Ensure that requirements are reviewed with the users, and get the user sign-offs.

This indicates strong management support and active user involvement, and these project management activities have been very well managed in the HRMIS project. According to Martin et al. (1994), the presence of an executive steering committee can be an effective means of ensuring management processes are established and maintained. Regular meetings are required to report the status and progress of the project, (Robert, 1997) as well as communicate concerns, issues and possible remedies (Martin et al., 1994). All these aspects are in fact, present and being practised in the HRMIS project.

Additionally, project has a well organised structure for the project's reporting and monitoring, from HRMIS project level to the highest level of authority responsible for overseeing all the eGovernment projects. Steering committee meetings and management meetings are held regularly in order to update on the project's progress, resolve issues, mitigate risks and concerns, as well as make major decisions. The involvement and support of the top management is garnered through meetings so relevant authorities can remain informed.

Respondents also indicated a committed involvement of users from the Public Service Department as well as all pilot agencies. Users are involved throughout all stages of the project; identification of systems requirements and review of detailed requirements and specifications before being signed-off for development.

What could have been done better so that the project could have been completed within the specified timeline?

On aspects that could have been improved, the government respondents seemed to be in agreement that the HRMIS project scope could have been clearly and explicitly defined. As such while the scope of work is being disputed and negotiated, valuable time is wasted and the project timeline is jeopardised.

Also mentioned was the scale and complexity of HRMIS, with an over-ambitious timeline. To make it manageable and achievable, the project should have been divided into controllable portions. Lubelczyk and Parra (1992) noted that while most managers know that large projects must be broken down into incrementally smaller work elements, few dissect them to the level necessary to effectively manage them in sufficiently distinct work elements. With regards to the project timeline, although it is acknowledged that it is difficult to estimate schedules accurately, there are several estimation tools and techniques to produce realistic and reliable project estimates.

4. What are the lessons learnt from the implementation of this project that can be applied for future implementation of E-government projects in Malaysia?

Three important lessons can be learnt from the implementation of the HRMIS project.

Firstly, besides having the relevant experience and proven track record in delivering government IS solutions, a contractor's financial stability and capability needs consideration before appointing or awarding a Malaysian eGovernment project contract. Although no guarantee of success; at least contractors would have financial stability and people capable of sustaining themselves throughout the development of the project. With well-established companies, the likelihood of losing skilled people is less likely and project continuity can be assured.

Secondly, most HRMIS project structures and mechanisms in place have been proved effective, and ensure the top management and stake holder's awareness, involvement as well as support for the project. Likewise, future eGovernment projects should maintain well-organised reporting and monitoring mechanisms and structures.

Thirdly, continuous involvement of users at every stage of design, development and implementation is a very important project management activity, and should be encouraged in all future eGovernment projects.

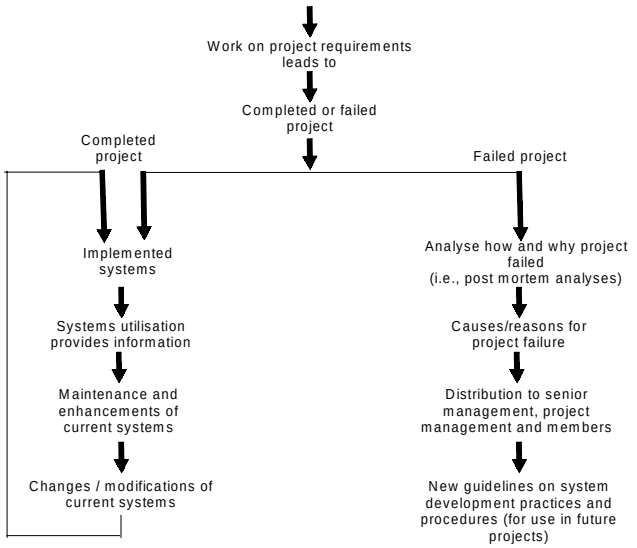
CONCLUSIONS AND RECOMMENDATIONS

Although poor contractor responses prevented a thorough and comprehensive view of the situation, this study revealed some of the possible reasons for the delay of the HRMIS project. This study may help the Public Service Department of Malaysia to understand problems affecting the progress of the project, or perhaps confirm some project team speculations about the cause of delays. It may also serve as a reference in future planning and development of eGovernment projects in Malaysia.

Interestingly, the reasons for the project delays are not very different from those identified in the literature; unclear project scope, inadequate knowledge and skills, ambitious timeline, inadequate contingency plans, etc. Although the HRMIS project has much to commend it, the model of learning cycle for IS projects, as proposed by Ewusi-Mensah (1997) in Fig.1, may well enable reflection and permit learning from past mistakes.

According to May (1998), most failed projects are never studied. Few organisations want to waste more time or money collecting and analysing additional data. Furthermore, data thus collected is often massaged or hidden in order to protect careers or reputations. Thus, the same mistakes are made repeatedly, wasting time, effort and money. Garvin (1993), quoted by Paton and McCalman (2000), insists that companies must review successes and failures, assess them systematically, and record them in an open and accessible form. Garvin commends the Post-Project Appraisal Unit at British Petroleum, responsible for writing project case studies, as an example of learning from the past and

Figure 1: Learning cycle for IS project (Ewusi-Mensah, 1997:9)



recognising the value of productive failure when contrasted with unproductive success. Other, less costly, methods to capture learning include enlisting the help of universities and business schools to bring a fresh perspective to an organisation.

Recommendations for Future Research

In order to have a more comprehensive and balanced views of the possible reasons for the delay in the HRMIS project, in line with the organisational learning approach mentioned earlier, it is recommended that a further study be conducted involving all members of the government's and contractor's project teams. Since this was an academic piece of research, it did not demand cooperation from contractor's project team members with other more urgent matters and project deadlines to meet. Feedback from the project contractors would probably have been forthcoming if this had been an official and formal study initiated by the Government of Malaysia. To ensure contribution from the contractor's team, this further study needs the endorsement and backing of relevant Malaysian authorities. The initial observations and findings from this study could serve as a basis for any future research, whether into the HRMIS project itself, or general other Malaysian eGovernment projects.

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