The Development of Electronic Government: A Case Study of Thailand

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Abstract. This paper examines the development of electronic government (e-government) in Thailand. The development of information technology (IT) projects in Thai public agencies was initiated in the early 1990s, albeit without developing a national IT master plan or establishing a national IT agency. However, when many problems arose in the use of IT in public agencies, the Thai government formulated in 1996 the first national IT master plan to cope with e-governance problems. This case study illustrates the Thai e-government's development experiences and examines e-government strategic approaches. The lessons may be relevant to and may be a learning experience for countries at similar stages of development.

1 Introduction

Electronic government (e-government) development strategic approach can be classified as distributed and centralized [1]. In distributed strategic approach, the government encourages each agency to develop its own information technology (IT) systems without intervention but will consider linking those systems after completion. For the centralized strategic approach, the government plays a central role in the development of IT projects in public agencies.

In the past decade, Thailand has experienced with both strategic approaches. Studying the Thai governments' e-government development experience, other developing countries may learn to avoid failure and be able rationally to apply the e-government development approach.

2 IT Development in Thai Public Agencies

The development of IT projects in Thai public agencies was initiated in the early 1990s, albeit without developing a national IT master plan or establishing a national IT agency, such as the population database by the Ministry of Interior and tax computerization by the Ministry of Finance [2]. In the mid 1990s, the government promoted the use of Electronic Data Interchange (EDI) to increase efficiency and effectiveness of the government services in various public agencies, such as the

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Customs Department and the Port Authority of Thailand [3]. The first national IT master plan "Towards Social Equity and Prosperity: Thailand IT policy into the 21st century" was introduced in 1996 [4] and in 2001, "the Thailand Vision toward a Knowledge-based Economy" was formulated to pursue the knowledge-based and sustainable economy/society [5].

3 The Development Experience

It is imperative to understand that in the development of IT projects in the early 1990s, Thailand followed the distributed strategic approach, under which each public agency individually initiated and developed its IT projects. This approach has bred many problems, to name a few [6]:

- Different types of legacy systems
- Different types of data standard
- Inability to directly exchange data because of differences in data formats
- Each public agency collects duplication data with other existing database systems
- Multiple efforts in software development, etc.

With the national IT master plan in place since 1996, public agencies have gradually adopted the "whole picture" approach to their own IT master plan (i.e. ministry level and department level). The main driving force of the evolution is the active role of the National Information Technology Council (NITC) and the National Electronics and Computer Technology Center (NECTEC), which serve as a catalyzed agency. The integration of various government IT systems and the sharing of IT resources such as applications, network, information, and knowledge, has become a top priority in the development process. The expected outcome of integration, such as a one-stop service portal, government data exchange, government information services aim to increase the efficiency and effectiveness of government services and decision-making, and reduce investment costs. With the formation of the national IT master plan, the e-government objectives and missions became well defined and has directed IT development in public agencies toward an integrated-government objective. The relationship between IT projects and the IT master plan can be illustrated in figure 1.

Guided by the IT master plan, the government used both distributed and centralized strategic approaches together with the central IT agency to the e-government development.

The government took the distributed strategic approach with well-established e-government projects by forming a workgroup e-government project development with the national IT master plan model and linking those systems together to consolidate information and services using EDI or XML. This approach is proven to be a cost-effective approach, as public agencies can consolidate their own systems, and share resources and knowledge in pursuing the same objectives.

The government has also attempted to utilize the centralized strategic approach, especially on the national data network infrastructure and software applications. This approach intends to reduce IT investment cost and create a common standard of IT use amongst public agencies. The national IT agency has played an active role in this approach.

It is not feasible to describe all the e-government projects in Thailand in a single paper. Nevertheless, the e-government projects in compliance with a national IT master plan can be categorized into three groups: a) individual e-government projects (for example, the Thairegistration.com initiated by the Department of Commercial Registration); b) group of e-government projects (for example, the agriculture information project by the Department of Agriculture); and c) national e-government projects (for examples, Government Information Technology Services, and Government Data Exchange Center).

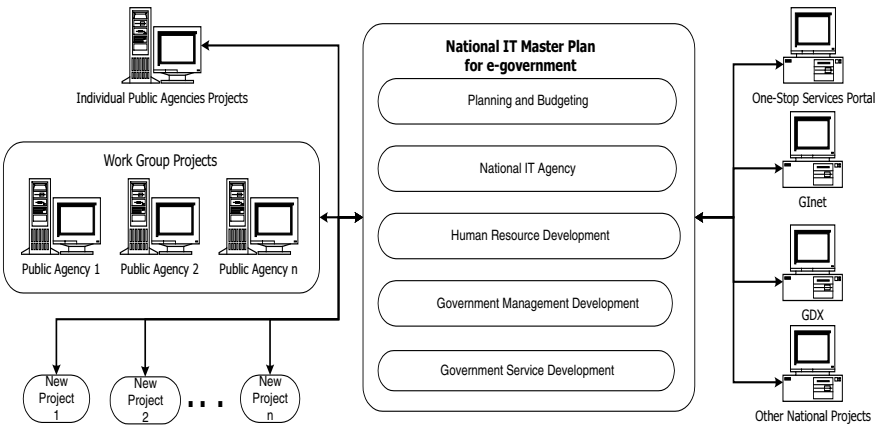

Fig. 1. The relationship between IT projects development and the national IT master plan.

4 Lessons Learnt

There are three main lessons learnt from Thailand's experience.

- Firstly, an individual e-government development without the national IT master plan and the establishment of the national IT agency can cause a chaotic mess. The national IT strategy provides a road map of where the e-government is at present and where it will be in the future. The wide range of subjects covered in the high-level national IT master plan must include all critical issues starting from vision, strategy, IT plan, re-organization framework to budget allocation scheme, human resource development, government management, and government services. The e-government developments must be routinely assessed to evaluate the impact of the national IT master plan and adjust it accordingly.
- Secondly, the catalyst role played by the national IT agency is vital to the process of e-government development in public agencies. The central national IT agency should be mandated and equipped with a power equal to ministerial level. Without such power, the national IT agency will not able to accomplish the tasks, which requires full co-operation with other public agencies. The national IT agency must also work closely with agencies and provide guidance so that the agencies explore

their own innovative and creative potential in redesigning their own work processes using IT as a means to achieve the end.

- Finally, the formation of IT projects needing collaboration between various public agencies must start with a clear objective and vision together with advice and guidelines from the national IT agency. The collaboration tasks are not only in the area of technology but also in altering and updating the outdated laws that each of the public agency has or enacting new electronic support laws and regulations that facilitate the proliferation of e-governance, such as electronic signature, and security protection law.

5 Conclusions

This paper has shown that the e-government development approach used together with the national IT master plan and the national IT agency is the correct mix that supports and sustains the e-government project development, particularly in the context of a developing country. In Thailand, there are many individual autonomous, independent legacy systems located in various public agencies, which resulted from an absence of a national IT master plan. The need to integrate those systems has become a top national policy agenda. It should be noted that, the formation of the national IT master plan and the national IT agency is vital to the success of e-government development. Eventually, Thailand adopted the hybrid e-government project development with the central IT agency, which integrated both the centralized and distributed approach to the e-government development [1].

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