Inter-Governmental Collaboration Through E-Document Computation: A Case Study of Provincial Budgeting in Thailand

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ABSTRACT

In the past government operations tended to be rather inefficient and time consuming; recent developments in technology have provided the medium for government offices to revamp their operations in an effort to improve the efficiency of the services they provide. This also provides the opportunity for interaction between various government agencies or organizations through implementing the use of ICT or in this case known as e-Government collaboration. Efficient and effective collaboration among different units of a government could lead to its efficient utilization of resources and better services; and, as a result, could enhance its economic, social as well as human development. This paper proposes an approach to improve e-Government collaboration by the employment of document standards and document computation. The document computation is materialized by means of ontology and rules checking. A case study of collaboration in provincial budgeting in Thailand is presented to verify the effectiveness of the proposed approach.

Keywords: Document Similarity, E-Government Collaboration, Ontology, Open Document Format (ODF), Provincial Budget Request, Thailand

1. INTRODUCTION

A critical factor influencing the successful operations of a governmental unit is collaboration, as certain number of governmental operations would not be accomplished without assistance and support from other agencies. The same holds true for the electronic Government (e-Government) applications. An e-Government collaboration, or online collaboration, describes the way in which the government operates online using Information Communication Technology (ICT) to accomplish more than the sum of their individual efforts (Werner, 2001). The benefits of e-Government collaboration include information sharing and integration, which positively influences decision making. Inter-agency communication promotes the

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reduction of duplicating or conflicting efforts among agencies. Decision making can be made effectively and efficiently based on information from several specialty sources thus will reducing cost, waste, fraud and abuse (Cloete, 2002; Werner, 2001; Navarrete, Gil-Garcia, Mellouli, Pardo, & Scholl, 2010; Australia Government Information Management Office, 2005; United States Government, 2009).

Major government collaboration requires sharing and exchanging information or documents between agencies (Wolter, Plate, & Herbert, 2007; Fairchild & de Vuyst, 2007) which, due to the huge amount of documentation originating from the various agencies, sometimes leads to great difficulties in collaboration. Conflicts can arise from the content of documents due to the overlapping areas of tasks from different governmental units, which could as a result bring about poor decision making. Verifying the content is not a simple task since each governmental unit has different ways of creating their own documentation, often using different applications to create the documents. It is also quite possible that the use of different terms and conditions to address similar issues will create difficulty for the central or main department in verifying the information and in gathering documents in order to utilize the content or to complete the tasks.

The objective of this research is to develop a system supporting the online inter-agency collaboration (government to government) via e-document exchange and computation. The system aims to increase the efficiency and effectiveness of collaboration by reducing duplication or conflict of efforts among government entities. It will also assist the user in reducing redundancy of data input as well as in reusing information; thus, enabling government officials to reuse and integrate the information exchanged, leading to improved decision-making.

2. PROBLEMS IN E-GOVERNMENT COLLABORATION

The means of collaboration is to share documents to increase the effectiveness and efficiency of government operations. However, several difficulties arise when dealing with online document exchange or submission. A significant concern is the differences in technologies, systems, or applications that are used to create documents since there are many document generators available. Some document generators might require specific platforms to be able to operate. Consequently, they might not be able to operate properly in different platforms, resulting in the delay in subsequent processes. Furthermore, different versions of the software employed can also cause backward/forward compatibility problems. As an example, let us consider the e-Budget application system of The Budget Bureau (TBB) of the Thai government. The application system was developed using Microsoft Access XP and can only work properly under Window XP. TBB uses the system to manage the whole budget of the country and to communicate with the other governmental departments. Problems arise when the application system becomes obsolescent. They cannot be replaced with revised systems due to the necessity to submit budget utilization reports and other information to the TBB, still using the obsolete system.

Following this is the content of the exchanged or submitted documents. As the areas or tasks of some governmental units might overlap with those of others, submission of redundant or replicated material could easily occur. This could be overlooked or undetected when manually dealing with a large number of documents submitted from various units. This entails not only a massive amount of labor time to review the content, but can also be difficult in deciding whether the documents are similar or