Chapter 5
Collaborating Decision Support and Business Intelligence to Enable Government Digital Connectivity

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ABSTRACT

Many governments around the world are actively engaging in digital transformation, aiming to turn themselves into digital governments. Here, innovation management is one of the most critical factors for such transformation. One approach is to implement business intelligent (BI) and decision support systems (DSS). Collaboration of these two technologies is essential to bring out the best within the organizations, by way of allowing the management to make timely, effective, and correct decisions, including better processing in terms of knowledge and data that the organizations hold. Evidence suggests that implementation and collaboration of DSS and BI results in a positive impact on businesses, organizations, and governments, as well as on other related aspects of the workforce. This chapter proposes and discusses a novel implementation of innovation management approach showcasing the use of DSS and BI in achieving more open digital and connected governments.

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INTRODUCTION

In today's world, it can be clearly seen that the information technology has been actively used as the core strategy for growth and progress of many organizations. As businesses have remodelled themselves around digital technologies, people are expecting governments to do the same. The digital revolution has caused citizens to expect their governments to reshape the way they deliver their services and engage with the public. These services include governmental processes as well as updates through the use of latest digital technologies. Because of such digital transformations, governments can be referred to as digital government.

Digital government refers to the use of digital technologies such as the Internet, Mobile applications, Internet of Things (IoT), Cloud Computing, and smart devices, as well as data analytics to satisfy public requirements for services that are fairer, well organized, satisfying, open and effective. It involves all parties such as organisations, businesses and individuals to interact with the government to gain access to data, services and content. The common objective of digital governments is to send valid, timely and relevant information to the citizen e.g. information about holidays, regulatory services, and other citizen centric services. However, as information technology keeps on advancing and the Internet is becoming increasingly prevalent, governments are trying to pursue more than just disseminating information. They are also allowing citizens to engage and participate in the functioning of digital governments through online transaction, digitally accessing and responding to electronic services and other relevant applications. (Almunawar et al., 2015; Almunawar et al., 2018a; Almunawar et al., 2018b).

In other hand, it is common for governmental organizations to compete with each other to fight for dominance to gain control and power in the government services today. However, due to the high numbers of competitive services, it is difficult for the employer and employees to cope with the complexity and fast changing trends in making wise decisions making, in addition to the high business environment pressures. As evident in the process of decision-making, managers face several difficulties due to various levels of uncertainties which indicate the importance of fuzzy logic to deal with decision situations more effectively. In this context, most businesses, organizations, and also governments, are beginning to use both Decision Support Systems (DSS) and Business Intelligence (BI) as the mechanisms to support the organizations in making better and effective decisions. Thus, the purpose of the following literature review, and the sections that follow, is to discuss the collaboration between Decision Support and Business Intelligence systems.

A DSS is a useful tool to assist businesses, organizations, and governments in making better and accurate decisions. This is in order to enhance the actions taken as a result of effective decisions. Decision Support Systems function by combining the data resources from individuals with technology-based capabilities to improve the quality of decisions and actions. There are generally five types of these systems:

- Communication-driven: Organizations usually use these mainly for internal purposes along with their partners for activities such as having meetings and conferences through web or client server. Hence more than one person can share the same tasks at the same time. These systems have features such as chat, video call and voice call collaboration software.
- Data-driven: This type of Decision Support Systems target specific jobs and tasks aimed at managers, staff and the suppliers. These are usually used to search for solution for specific inquiries from databases or data warehouses according to certain requirements. These are used on mainframe computing system.