

Chapter 3

Business Intelligence Solutions for Decision–Making in Global Organizations

Yasemin BAL

Yildiz Technical University, Turkey

Mert BAL

Yildiz Technical University, Turkey

ABSTRACT

Organizations have started to compete in a challenging and competitive environment with the effects of globalization. In today's world, organizations must manage many environmental factors. Technological developments are one of those factors to which organizations must manage and adapt themselves to gain competitive advantage. With increasing data flow, it has become more difficult for organizations to store this data and gain useful knowledge to manage their business operations and functions. This explosive growth in data and databases has generated an urgent need for new techniques and tools that can intelligently and automatically transform the processed data into useful information and knowledge. This situation is especially more difficult for global organizations that have various branches in different countries around the world. Parallel with these developments in information technology for business applications, management information systems and business intelligence solutions have gained more importance. This paper investigates the importance of using business intelligence solutions and techniques for decision making process in the perspective of business functions in global organizations. Business intelligence solutions and techniques will be introduced, followed by explanation of the use of these systems in decision making processes within the context of global organizations.

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INTRODUCTION

Until the mid-1950s, organizations managed all the information they received from business functions, entities and environments, and related information flow via paper records. During the past 60 years, more and more business information and the flow of information among key business actors in the environment have been computerized (Laudon & Laudon, 2009). The 1990s brought a growing data glut problem to the world of science, business, and government. Capabilities for collecting and storing of all kinds have far outpaced abilities to analyze, summarize, and extract meaningful “knowledge” from this data (Fayyad, 1996). Depending on the increase of data stored in the databases of organizations, traditional statistical methods have become insufficient. Traditional methods of data analysis, based mainly on human dealing directly with the data, simply do not scale to handle large data sets. This explosive growth in data and databases has generated an urgent need for new techniques and tools which can intelligently and automatically transform the processed data into useful information and knowledge (Bal, Bal, & Demirhan, 2011).

There has also been a change in management thought to accept the importance of fast, effective provision of targeted information for management planning and control (Curtis & Cobham, 2002). Therefore, organizations have started to invest in information systems as a way to manage their internal production functions and to fulfill the demands of key actors in their environments. Firms invest in information systems for business objectives such as: achieving operational excellence (productivity, efficiency, agility); developing new products and services; attaining customer intimacy and service (continuous marketing, sales and service; customization and personalization); improving decision making; achieving competitive advantage; and ensuring survival (Laudon & Laudon, 2009). Parallel with the increase of data

stored in databases of organizations in business applications, management information systems have gained in importance. Information systems transform the data to knowledge which is collected from the internal and external environment of organization, then protect, store, and transmit the knowledge to all management levels in order to facilitate the strategic decision making process and support managers for planning, implementing, and controlling functions.

Briefly, the systems which provide essential processed information to managers are called “information systems.” Information systems have a vital role in organizations for eliminating uncertainty and providing efficiency in decision making. (Bal, Bal, Demirhan & Bozkurt, 2011). A Management Information System (MIS) is any system which provides information for management activities to be carried out within an organization. This information is selected and presented in a form suitable for managerial decision making and for the planning and monitoring of the organization’s activities. Figure 1 illustrates the reliance of the provision of information at strategic, managerial and operational levels of an organization according to the hierarchical system (Curtis & Cobham, 2002). As seen in Figure 1, MIS can be employed in different levels of an organization for operational, tactical, and strategic decisions. Raw data can be transformed to information with the help of MIS and this MIS- generated information is used as input for decision making process in managerial activities.

Information systems, especially those utilizing Business Intelligence (BI) techniques, developed for specific needs of business functions which can facilitate all the processes in organizations and coordinate functions to aid managers in decision making processes. BI aims to support better business decision-making. The concept of business intelligence and BI techniques will be explained in the sections below.

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