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Chapter XII

Understanding Decision-Making in Data Warehousing and Related Decision Support Systems: An Explanatory Study of a Customer Relationship Management Application[1]

John D. Wells, Washington State University, USA

Traci J. Hess, Washington State University, USA

ABSTRACT

Many businesses have made or are making significant investments in data warehouses that reportedly support a myriad of decision support systems (DSS). Due to the newness of data warehousing and related DSS (DW-DSS), the nature of the decision support provided to DW-DSS users and the related impact on decision performance have not been investigated in an applied setting. An explanatory case study was undertaken at a financial services organization that implemented a particular type of DW-DSS, a Customer Relationship Management (CRM) system. The DSS-

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decision performance model has provided some theoretical guidance for this exploration. The case study results show that the decision-making support provided by these systems is limited and that an extended version of the DSS-decision performance model may better describe the factors that influence individual decision-making performance.

INTRODUCTION

The significant investments in data warehousing that began in the 1990s and continue today were motivated by the belief that more information would enable business users to make better decisions resulting in improved returns. Data warehousing-related decision support systems (DW-DSS) were built to assist business users in analyzing the vast amounts of data that originate from heterogeneous data sources. These business intelligence systems utilize tools such as OLAP, data mining, and query management, enabling businesses to pursue organizational strategies such as customer relationship management (CRM), business process management, and supply-chain management. While businesses have been eager to invest in DW-DSS applications, many appear to have overlooked the relationship between the efficient use of these investments and a user-oriented approach to developing and maintaining these systems (Gardner, 1998; Glassey 1998). Some companies investing in these initiatives have already noted that it is difficult to translate the information provided by these systems into positive business results (Hoffman, 2001). Obtaining the necessary information is an important hurdle, but how the information is presented and used for decision-making purposes is equally important.

The purpose of the research project reported in this chapter is to investigate the decision-making support provided in the complex, heterogeneous decision environment of DW-DSS and to focus on the decision-makers' perceptions of this support. An explanatory case study of a Fortune 500 company that is utilizing a CRM application, an instance of a DW-DSS, was conducted to understand these issues. While many organizations claim to have developed systems that support this customer-centric strategy, there has been little research on the functionality and decision support provided by these systems. An investigation of this decision-making support should extend the body of research on decision-making support systems in general, as well as the multi-billion dollar CRM sector. The goal of this case study is to investigate how DW-DSS provide decision support to individual decision makers by (1)