



Chapter XII

Understanding Decision-Making in Data Warehousing and Related Decision Support Systems: An Explanatory Study of a Customer Relationship Management Application¹

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-

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)

21 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/understanding-decision-making-data-warehousing/6073

Related Content

Multi-Echelon Supply Chain Modeling With Dynamic Continuous Review Inventory Policy

K. Narayana Rao and K. Venkata Subbaiah (2011). *Electronic Supply Network Coordination in Intelligent and Dynamic Environments: Modeling and Implementation* (pp. 146-167).

www.irma-international.org/chapter/multi-echelon-supply-chain-modeling/48908

Luxury or Necessary Goods?: Analysis of Household Demand for Communication and IT Products in OECD Countries

Yanbin Tu (2020). *International Journal of Business Analytics* (pp. 30-43).

www.irma-international.org/article/luxury-or-necessary-goods/258269

National Intellectual Capital Stocks and Organizational Cultures: A Comparison of Lebanon and Iran

Jamal A. Nazari, Irene M. Herremans, Armond Manassian and Robert G. Isaac (2010). *Strategic Intellectual Capital Management in Multinational Organizations: Sustainability and Successful Implications* (pp. 95-118).

www.irma-international.org/chapter/national-intellectual-capital-stocks-organizational/36458

Credit Rating Classification Using Self-Organizing Maps

Roger P.G.H. Tan, Jan van den Berg and Willem-Max van den Bergh (2002). *Neural Networks in Business: Techniques and Applications* (pp. 140-153).

www.irma-international.org/chapter/credit-rating-classification-using-self/27264

Social Media Mining: A New Framework and Literature Review

Vipul Gupta and Mayank Gupta (2016). *International Journal of Business Analytics* (pp. 58-68).

www.irma-international.org/article/social-media-mining/142781