

Business Intelligence Techniques

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Murugan Anandarajan
Asokan Anandarajan
Cadambi A. Srinivasan
Editors

Business Intelligence Techniques

A Perspective
from Accounting
and Finance

With 53 Figures
and 18 Tables



Springer

Professor Murugan Anandarajan, Ph.D.

Department of Management
Drexel University
32nd and Chestnut Streets
Philadelphia PA 19104, USA
murugan.anandarajan@drexel.edu

Professor Asokan Anandarajan, Ph.D.

School of Management
New Jersey Institute of Technology
University Heights
Newark, NJ 07102, USA
anandarajan@njit.edu

Emeritus Professor Cadambi A. Srinivasan, Ph.D.

Department of Accounting
Drexel University
32nd and Chestnut Streets
Philadelphia PA 19104, USA

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The authors would like to dedicate this book to the memory of Rajapoopathy Anandarajan. Her Love has been a constant source of Encouragement and inspiration.

Preface

Modern businesses generate huge volumes of data and information on a daily basis. The recent advancements in information technology have given organizations the ability to capture and store these data in an efficient and effective manner. However, there is a widening gap between this data storage and usage of the data.

Accounting is fundamental to the success of a company. In today's environment, accounting has been revolutionized. If the accounting function cannot provide speedy, real-time data to business managers, the success of organizations in an increasingly competitive environment will be threatened. In order to stay competitive and develop far-sighted strategies, the accounting function must use business intelligence techniques for obtaining and processing relevant financial information quickly and cost effectively. These techniques include; the activities of decision support systems, query and reporting, online analytical processing (OLAP), statistical analysis, text mining, data mining, and visualization.

Our goal was to assemble chapters that would explain the fundamental concepts of business intelligence in the accounting arena. We have been fortunate to call upon expert contributors; all of whom have extensive practical and academic expertise in the field. While these chapters stand of their own, taken together they provide a comprehensive overview of how to exploit data in the business environment. This book is not purely technical in nature but is written from an accounting perspective.

The fourteen chapters of this book address many of the above-mentioned areas. Chapter One provides a broad sweep of accounting history and the technologies used throughout history. The second chapter identifies and discusses the importance of using all types of organizational data for decision-making. The third chapter describes the process of extracting, loading and transforming disparate data into the data warehouse. Chapter four discusses the concept of the accounting data warehouse.

The next five chapters discuss various types of business intelligence tools. Chapter five discusses the concept of XBRL and how it can be used to extract, analyze, publish, and then exchange information for financial decision-making. In Chapter six, on line analytical processing (OLAP) techniques as tools for multidimensional analysis of accounting data are discussed. Chapters 7 and 8 discuss how artificial neural network techniques can be utilized to mine accounting data warehouses. This discussion is followed by chapter 9, which discusses utilizing information visualiza-

tion technology to comprehend and analyze vast volumes of accounting data.

While obtaining and analyzing information is vital, a fundamental prerequisite is to design systems that are optimal to an organization's needs. In chapter 10, the concept of alignment between information systems and requirements is discussed. Chapters 11 and 12 examine methodologies for effectively developing and implementing business intelligence systems.

Once the system is set up, have we truly obtained the benefits that the system was designed to achieve? It is difficult to evaluate the benefits of a business intelligence (BI) system. Chapter 13 uses a balanced scorecard approach for evaluating the effectiveness of a BI system. The final chapter focuses on value creation through the design of BI systems.

We would like to extend our thanks to many people who helped with this book. First and foremost, we would like to thank the authors for sharing their expertise through their contribution to this book. We would also like to thank Dr. Werner A. Mueller, Publishing Director and Ms. Ruth Milewski, Economics Editorial at Springer-Verleg for their patience and invaluable guidance. Special thanks to Ms. Kate Wilson for her superb editorial work, Mr. Efosa Oyegun for recreating the figures, and Mr. Balakumar Arulgnanam for his invaluable help throughout the process.

Murugan Anandarajan, Ph.D
Asokan Anandarajan, Ph.D
C.A. Srinivasan, Ph.D

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