Table of Contents

Preface.................................................................................................................................................. xxvi

Volume I

Section 1
Fundamental Concepts and Theories

This section serves as a foundation for this exhaustive reference tool by addressing underlying principles essential to the understanding of business intelligence. Chapters found within these pages provide an excellent framework in which to position business intelligence within the field of information science and technology. Insight regarding the critical incorporation of global measures into business intelligence is addressed, while crucial stumbling blocks of this field are explored. With 14 chapters comprising this foundational section, the reader can learn and chose from a compendium of expert research on the elemental theories underscoring the business intelligence discipline.

Chapter 1
Text-Driven Reasoning and Multi-Structured Data Analytics for Business Intelligence ............... 1
    Lipika Dey, Innovation Labs, Tata Consultancy Services, India
    Ishan Verma, Innovation Labs, Tata Consultancy Services, India

Chapter 2
Implementing Business Intelligence in Contemporary Organizations ........................................... 33
    Kijpokin Kasemsap, Suan Sunandha Rajabhat University, Thailand

Chapter 3
Overview of Business Intelligence through Data Mining................................................................. 49
    Abdulrahman R. Alazemi, Kuwait University, Kuwait
    Abdulaziz R. Alazemi, Kuwait University, Kuwait

Chapter 4
Overview of Predictive Modeling Approaches in Health Care Data Mining .................................. 73
    Sunita Soni, Bhilai Institute of Technology, India
Chapter 5
Understanding the Influence of Business Intelligence Systems on Information Quality: The Importance of Business Knowledge

Aleš Popovič, University of Ljubljana, Slovenia & ISEGI, Universidade Nova de Lisboa, Portugal
Jurij Jaklič, University of Ljubljana, Slovenia & ISEGI, Universidade Nova de Lisboa, Portugal

Chapter 6
An Enterprise Ontology Based Conceptual Modeling Grammar for Representing Value Chain and Supply Chain Scripts

Wim Laurier, Université Saint-Louis, Belgium
Geert Poels, Ghent University, Belgium

Chapter 7
Trust-Based Knowledge Management System Building

Andrea Bencsik, Széchenyi István University of Győr, Hungary & Selye J. University Komarno, Slovakia
Irma Rácz, Széchenyi István University of Győr, Hungary

Chapter 8
We Have Good Information for You: Cognitive Authority and Information Retrieval on the Web...

Filipe Roseiro Côgo, Federal University of Technology at Paraná (UTFPR), Brazil
Roberto Pereira, University of Campinas (UNICAMP), Brazil

Chapter 9
Big Data and Service Science

Tu-Bao Ho, Japan Advanced Institute of Science and Technology, Japan
Siriwon Taewijit, Japan Advanced Institute of Science and Technology, Japan
Quang-Bach Ho, Japan Advanced Institute of Science and Technology, Japan
Hieu-Chi Dam, Japan Advanced Institute of Science and Technology, Japan

Chapter 10
Information Systems Innovations Using Competitive Intelligence

Phathutshedzo Nemutanzhela, Tshwane University of Technology, South Africa

Chapter 11
Business Intelligence, Knowledge Management, and Customer Relationship Management
Technological Support in Enterprise Competitive Competence

Ming-Chang Lee, National Kaohsiung University of Applied Science, Taiwan

Chapter 12
Competitive Advantage and Automated Sharing of Tacit Knowledge

Michael A. Chilton, Kansas State University, USA
James M. Bloodgood, Kansas State University, USA
Chapter 13
Biological and Medical Big Data Mining ................................................................. 246
George Tzanis, Aristotle University of Thessaloniki, Greece

Chapter 14
Rules Extraction using Data Mining in Historical Data ........................................... 263
Manish Kumar, IIIT, Allahabad, India
Shashank Srivastava, IIIT, Allahabad, India

Section 2
Development and Design Methodologies

This section provides in-depth coverage of conceptual architecture frameworks to provide the reader with a comprehensive understanding of the emerging developments within the field of business intelligence. Research fundamentals imperative to the understanding of developmental processes within business intelligence are offered. From broad examinations to specific discussions on methodology, the research found within this section spans the discipline while offering detailed, specific discussions. From basic designs to abstract development, these chapters serve to expand the reaches of development and design technologies within the business intelligence community. This section includes 15 contributions from researchers throughout the world on the topic of business intelligence.

Chapter 15
A Perturbation Method Based on Singular Value Decomposition and Feature Selection for Privacy Preserving Data Mining ................................................................................. 281
Mohammad Reza Keyvanpour, Alzahra University, Iran
Somayeh Seifi Moradi, Ports and Maritime Organization, Iran

Chapter 16
Business Intelligence Strategy: A Utilities Company Case Study .................................. 305
Paul Hawking, Victoria University, Australia
Carmine Sellitto, Victoria University, Australia

Chapter 17
Alignment of Knowledge Sharing Mechanism and Knowledge Node Positioning .......... 318
Mei-Tai Chu, La Trobe University, Australia
Rajiv Khosla, La Trobe University, Australia

Chapter 18
Implementation of Mining Techniques to Enhance Discovery in Service-Oriented Computing ...... 338
Chellammal Surianarayanan, Bharathidasan University, India
Gopinath Ganapathy, Bharathidasan University, India

Chapter 19
Predictive Analytics and Data Mining: A Framework for Optimizing Decisions with R Tool ........ 359
Ritu Chauhan, Amity University, India
Harleen Kaur, Hamdard University, India
Chapter 20
Infrastructures of Knowledge Sharing Countrywide .......................................................... 375
Leila Nemati-Anaraki, Iran University of Medical Sciences, Iran

Chapter 21
A Hybrid Analysis of E-Learning Types and Knowledge Sharing Measurement Indicators: A
Model for E-Learning Environments .............................................................................. 395
Davood Qorbani, University of Tehran, Iran
Iman Raeesi Vanani, University of Tehran, Iran
Babak Sohrabi, University of Tehran, Iran
Peter Forte, France Business School, France

Chapter 22
The Role of Knowledge Sharing on Organisational Innovation: An Integrated Framework .......... 406
Kijpokin Kasemsap, Suan Sunandha Rajabhat University, Thailand

Chapter 23
Data Mining Models as a Tool for Churn Reduction and Custom Product Development in
Telecommunication Industries ....................................................................................... 430
Goran Klepac, Raiffeisenbank Austria, Croatia

Chapter 24
A Layered Parameterized Framework for Intelligent Information Retrieval in Dynamic Social
Network using Data Mining .......................................................................................... 458
Shailendra Kumar Sonkar, National Institute of Technical Teacher's Training and Research, India
Vishal Bhatnagar, Ambedkar Institute of Advanced Communication Technologies and Research, India
Rama Krishna Challa, National Institute of Technical Teacher's Training and Research, India

Chapter 25
Lessons from the Private Sector: A Framework to Be Adopted in the Public Sector .................. 476
Jamie O'Brien, St. Norbert College, USA

Chapter 26
BISC: A Framework for Aligning Business Intelligence with Corporate Strategies Based on
Enterprise Architecture Framework ................................................................................ 501
Atieh Dokhanchi, Shahid Beheshti University, Iran
Eslam Nazemi, Shahid Beheshti University, Iran

Chapter 27
Evaluation of Clustering Methods for Adaptive Learning Systems .................................... 519
Wilhelmiina Hämäläinen, University of Eastern Finland, Finland
Ville Kumpulainen, University of Eastern Finland, Finland
Maxim Mozgovoy, University of Aizu, Japan
Chapter 28
Application of Data Mining and Analysis Techniques for Renewable Energy Network Design and Optimization ..................................................... 543
   Tianxing Cai, Lamar University, USA

Chapter 29
Applications of Data Mining in Software Development Life Cycle: A Literature Survey and Classification .................................................. 558
   Naveen Dahiya, MSIT, India
   Vishal Bhamagar, AIACT&R, India
   Manjeet Singh, YMCAUST, India
   Neeti Sangwan, MSIT, India