Chapter I

Data Mining and the World of Commerce

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Introduction

Despite the research written, the software developed and the business applications that can be enhanced by it, the terms *data mining* and *multivariate modeling* continue to stoke uncertainty, complexity and sometimes fear in business managers and strategic decision-makers across industry sectors. Why is this? There are a number of reasons to cite, but probably the most common involves the complex nature of the methodologies incorporated in this analytic technique. The complexity we refer to involves the use of mathematical equations, sophisticated algorithms and advanced search and query techniques, not to mention statistical applications that are utilized in analyzing data. If that is not enough to throw management back on their heels, how about data acquisition, normalization, and model optimization, which are often involved in the process? Let's add one more attribute to the list, and that is the ability to not only understand these complex methods, but more

importantly, to understand when and where they can be used to enhance operational efficiency. Now is there any wonder why data mining continues to be this mysterious phenomenon in the world of commerce? No doubt; however, to dispel some of the uncertainties regarding this issue, the following book will provide the reader with expert input on how these quantitative methods are being used in prominent organizations in a variety of industry sectors to help enhance productivity, efficiency and to some extent, profitability. Before we get into the details of the applied material, the following chapter will provide some general information on what data mining and multivariate modeling is, where it came from, and how it can be used in a corporate setting to enhance operational efficiency.

Data Mining and Multivariate Modeling (What Is It?)

Before we begin a book entitled *IT Solutions: Data Mining, Advice from Experts*, we will need to provide some basic background of what the term *data mining* refers to. Without committing to a formal definition, let's initially focus on the big picture. In order to do this we need to begin with the first term, data, a word that should not be underestimated. Given the evolution of the Information Economy, where innovations in information technology have facilitated the ability to store, manipulate, organize and generally process data, organizations have increasingly become aware of the valuable information that is available to them. Data exist both within a given organization (e.g., operational, customer activity based) and also outside the boundaries of corporate entities (e.g., industry and market specific descriptive data). By combining elements of these resources and analyzing data variables with appropriate

Automated Identification of Child Abuse in Chat Rooms by Using Data Mining

Mohammadreza Keyvanpour, Mohammadreza Ebrahimi, Necmiye Genc Nayebi, Olga Ormandjievaand Ching Y. Suen (2016). *Data Mining Trends and Applications in Criminal Science and Investigations (pp. 245-274).*

www.irma-international.org/chapter/automated-identification-of-child-abuse-in-chat-rooms-by-using-data-mining/157462