The term Data Mining continues to be an elusive concept to many business managers as it is often imbedded in the idea of searching through vast amounts of data records that reside in organizations across industry sectors. The purpose of this book is to help reduce the uncertainty as to what data mining really is and more importantly, illustrate how prominent organizations incorporate it in order to enhance their operational efficiency. Without going into great detail at this stage, data mining can help augment operational efficiency or enable decision makers to better manage business processes by empowering users to gain a greater understanding of the critical factors that drive corresponding operational activities. Through the combination of data, data management, business modeling and finally applying mining methodologies such as logit regression, segmentation or neural networks, managers can identify not only which variables impact such operational measures such as Sales, Customer Response Rates, Default Propensities but also estimate a quantifiable connection between them. The resulting models provide decision makers with ability to perform “what if” simulations or simply forecast into the future.

Data Mining is not limited to just a few prominent business applications but can provide a value add to a variety of operational activities of organizations across industry sectors. The information in the following chapters will provide a much clearer understanding of some prominent business processes in which it can be utilized as a strategic component to
enhancing productivity. More specifically, Chapter I provides a more detailed description of what data mining is, what is entailed in conducting a robust mining analysis, why mining has become so much more popular over the past decade, what are some prevalent business processes that mining is utilized and how Data Mining complements and augments existing strategic initiatives such as Six Sigma.

Chapter II entails our first detailed analysis of a prominent business process as it addresses how mining and multivariate modeling can help augment the decision making process in the world of finance, more specifically, how decision makers can better manage the risk associated with lending activities. The chapter was written by two modeling experts from Citigroup who describe the activities entailed in generating multivariate models to help measure risk of both corporate and consumer borrowers. This high level concept is addressed in more detail in Chapter III, where a leading Data Mining consultant describes the process by which quantitative modeling techniques are used to help manage risk in lending to small businesses. The section provides an overview of the lending industry, inherent risks that are involved in it and the types of models (Credit Scoring, New Application Scoring and Behavior Scoring) that can reduce risk. It ends off with a small case study which helps drive home the concepts highlighted in the section.

The book then turns its focus towards the realm of Customer Relationship Management, initially in the Insurance industry. Chapter IV is written by a senior business strategist at Chubb Insurance. This section describes key concepts that are involved in applying analytics to better understand customer behavior and preferences and how to best make a connection with them through effectively managing the sales force. Through the effective incorporation of Data, Data Mining & BI, along with sound management policies, organizations can better understand the various needs that correspond to particular consumer groups and with this
information, can better direct sales force initiatives in order to make a clearer connection with them. Chapter V extends the description of sales force management but takes a more detailed look at the characteristics of sales representatives. An expert consultant in the field of Data Mining provides a thorough illustration of how to utilize detailed data that describe the activities of sales representatives along with leading quantitative techniques in order to better identify the type of sales reps that are likely to perform well in selling a company’s products or services.

Chapter VI diverges from sales force applications but continues to address Customer Relationship Management and organizational operating efficiency. Two experts from one of the largest Health Insurance companies (Blue Cross Blue Shield) describe the process by which firms can incorporate Data Mining and the “high-level” strategic methodology of Six Sigma to help manage product and service costs and corresponding prices in a rising cost industry. Chapter VII continues to focus on the Health Care industry and Customer Relationship Management but concentrates on a different type of business application and consumer. A group of Health Care experts from American Healthways Corp. describe the process by which decision makers can utilize the power of Data Mining to enhance the process of managing potential diseases/illnesses that exist in patients. With this information, health care providers can better allocate resources to reduce potential development of chronic illnesses and better manage overall operational costs.

Chapter VIII takes on a whole new focus as it addresses the world of advertising. A senior partner of a subsidiary of one of the worlds largest advertising organizations (Omnicom Group Inc.) offers some expert insights on how Data Mining and Econometric modeling can better estimate the returns to different strategic initiatives involved in the advertising industry. These include such topics as promotional effectiveness, medium effectiveness and brand awareness. We all know that an organization can
have one of the best products on the market, but if no one is aware of it, its sales may suffer. Our next chapter extends the analysis of advertising but shifts towards the world of e-commerce. An expert analyst at Neilsen’s/Netratings provides some background on the Internet marketplace and then addresses such topics as online audience measurement, tracking advertising activities and then describes a model of analyzing consumer online activities. The section then provides a few case studies to drive home concepts more clearly.

Our last chapter delves into the complex task of managing operational risk in an evolving and volatile industry. The recently deregulated Utilities industry, which involves the process of supplying power to a variety of consumers, many times incorporates sophisticated quantitative methods in order to help mitigate the uncertainty in allocating enough power to the marketplace. An expert from Con Edison provides some insightful background information describing the evolution of the industry and then illustrates how decision makers can use quantitative techniques to better manage such variables as price, supply and demand of electricity over various time horizons. This last chapter concludes the content for “Data Mining: Advice from Experts” but highlights an important point to remember regarding the utilization and power of Data Mining techniques, and that is, the quantitative (mathematical and algorithmic) methodologies that comprise this analytic space can be applied to a variety of business applications. Through the use of Data Mining, decision makers can help reduce the uncertainty as to what drives particular business processes, and with this enhanced knowledge, can more efficiently allocate available resources to bring a good or service to market.