



**Enhanced Decision Making using Data Mining:
Applications for Retailers**

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ABSTRACT

*As the economy has tightened, retailers have been challenged in recent years to be **be** more strategic in their planning. They struggle to find answers to:*

- *Who can I consider a loyal customer?*
- *What kind of marketing strategy is most likely to increase sales?*
- *What can customer-purchasing patterns reveal about improving inventory control?*
- *What is the most effective way to manage customer relations to increase revenues? (Rabinovitch, 1999).*

With the exponential growth in the amount of data being collected, improvements in technology, and research in machine learning, retailers are now able to reduce the ever growing difficult and complex decision making process by recruiting the efforts of data mining (Barry & Linoff, 1997). Data mining is a computerized technology that uses complicated algorithms to find relationships and trends in large data bases, real or perceived, previously unknown to the retailer, to promote decision support. Currently being utilized by such retail giants as Federated Department Stores, Nordstrom, and Wal-Mart, Inc., data mining is touted to be one of the greatest technologies to hit the retailing industry this decade (Rabinovitch, 1999). The purpose of this study is to critique data mining technology in comparison with more familiar analytical tools for strategic decision making by small to medium size retailers. The context for this study includes current and future industry applications and practices for research performed in data mining applications within the retail sector.

KEYWORDS: data mining, retailers, decision making, marketing strategy, strategic planning, technology

Today's retail customer has changed from the typical customer of the past. Customers are becoming increasingly more

informed and therefore more demanding. They are confused by too many choices and, for the sake of time, limit the businesses