PREFACE

Retail Sales management is a significant field of study. The scope of retail logistics is much wider in its reach than simply a concern with the movement of goods - a commonly held view of physical distribution. In the logistics scheme of things, we are as much concerned with the plant and depot location, inventory levels, materials management and information systems as we are with the transport. There are many specific aspects of retail logistics management, each requiring complex and ongoing decisions which are difficult to make with human expertise alone.

In the recent past, artificial intelligence (AI) has made a remarkable move from research environment to industry and business. A significant innovation associated with this transition is the knowledge-based approach to solving problems. Expert systems or knowledge-based systems are designed to represent and apply factual knowledge of specific areas of expertise to solve problems. The potential power of these systems to replicate valuable human knowledge has led to a worldwide effort to extend and apply this technology.

Human expertise in decision making has limitations in terms of speed and the quantum of information it can take into account. One advantage of artificial expertise is its performance. Human expertise can quickly fade, regardless of whether it involves mental or physical activity. An expert must constantly practice and rehearse to maintain proficiency in some problem area. Any significant period of disuse can seriously affect the expert’s performance. Another advantage of artificial expertise is the ease with which it can be transferred or reproduced. Artificial expertise produces more consistent, reproducible results than does human expertise. Human expertise is susceptible to distractions because of time pressure or stress and an expert system is not susceptible to any such distractions.

Identifying the problems in business that can become the right candidate applications for development of an expert system, considering the time and effort budgets into
consideration, is the first step towards its development. The main aim of this research effort is to prove that are several areas in business where modest amounts of expertise and intelligence if built into the computer, will contribute great amounts to the quality of decision making. The quality of decisions made is a basic determinant of success in any enterprise. The applications identified are in the area of retail marketing of a downstream oil industry i.e. HPCL as its retail sales constitute 63 % of its total sales. The applications have been grouped into the following areas: 1. Sales maximization module 2. Indent execution scheduling module and 3. Transportation Cost Minimization module.

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