Chapter X

Opportunities for Data Mining and Customer Knowledge Management for Shopping Centers

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ABSTRACT

Shopping centers are an important part of the UK economy and have been the subject of considerable research. Relying on complex interdependencies between shoppers, retailers and owners, shopping centers are ideal for knowledge management study. Nevertheless, although retailers have been in the forefront of data mining, little has been written on customer knowledge management for shopping centers. In this chapter, the authors aim to demonstrate the possibilities and draw attention to the possible implications of improving customer satisfaction. Aspects of customer knowledge management for shopping centers are considered using analogies drawn from an exploratory questionnaire survey. The objectives of a customer knowledge management system could include increasing rental incomes and bringing new life back into shopping centers and towns.
INTRODUCTION

Shopping centers are an interesting topic for knowledge management — relying on interdependency between owner, retailers and shoppers. Why are shopping centers important? Firstly, planned shopping centers comprise a substantial part of the UK economy, employing over three-quarters of a million people and playing a ‘key role in the investments of pension funds’ (Davies et al., 1993; OXIRM, 1999). Shopping centers are therefore important not just to customers, but also to employees and indeed to many others because of the investments of their pensions. Secondly, retail and shopping centers form the heart of UK towns and create a focus for the community. Shoppers tend to follow the provision of attractive shopping areas. Improving shopper satisfaction can lead to changes in population, expenditure, residence patterns and bring new life to run-down areas (Dennis et al., forthcoming 2002b). The findings of the research could be applicable to traditional high streets and towns as they are to purpose-built shopping malls — if there is in place some form of central administration such as Town Center Managers. This chapter considers the possibilities for shopping centers to make their offer more attractive using techniques of data mining and customer knowledge management.

DATA MINING AND CUSTOMER KNOWLEDGE MANAGEMENT IN THE RETAIL CONTEXT

Data mining has been defined as:

“The process of exploration and analysis, by automatic or semi-automatic means, of large quantities of data in order to discover meaningful patterns and rules.”

(Berry and Linoff, 1997)

Berry and Linoff (2000) list six data mining activities: (1) classification; (2) estimation; (3) prediction; (4) affinity grouping or association rules; (5) clustering; and (6) description and visualization. Retail studies have included many other techniques (e.g., sequence-based analysis; fuzzy logic; neural networks; fractal-based algorithms (Rao, 2000; Rensselaer Polytechnic Institute, 1999). Nevertheless, Berry and Linoff’s six categories serve our purposes here.

Data mining has many uses, but the aspect of most concern here is what is usually known as ‘Customer Relationship Management’ (CRM). Good CRM means: (1) presenting a single image of the organisation; (2) understanding who customers are and their likes and dislikes; (3) anticipating customer needs and addressing them proactively; and (4) recognizing when customers are dissatisfied and taking corrective action (Berry and Linoff, 2000).
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