

THE RESEARCH OF SALES FORECASTING MODEL FOR CONVENIENCE STORES

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Convenience stores (CVSs) are an integral part of the retail industry. Merchandises are circulated from suppliers and CVSs to consumers. Therefore, if the goods which consumers desire are always out of stock, no matter how good the service, customer satisfaction will be hard to be improved. CVSs could provide differentiated service by offering a diversity of fresh foods. Due to the increasing number of customers, CVSs strive to earn market share. The speed of product development in which 2003 far surpassed the year before and quality control is also a key to improving competitive advantages.

The Point of Sale (POS) system provides the information analysis ability and can be used to analyze consumers' purchasing behavior as well as forecast needs. Therefore, managers of CVSs improve their revenues based on these data. No matter whether in the urban area, suburb or mountainous area, own the different characteristics of business circles. Therefore, business circles are important influencing factors. As Franchise Chains grow new operators increasingly join the business. However, it is difficult to train ordering operators in the short time. Therefore, some CVSs run out of stock and some may always order too large quantities. Only control each order precisely can meet customers' need. Therefore, how to control the order and stock of CVSs has become one of the important issues in the management of CVSs.

Due to the strong competition that exists today, most manufacturing organizations are in a continuous effort for increasing their profits and reducing their costs. Accurate sales forecasting is certainly an inexpensive way to meet the aforementioned goals, since this leads to improved customer service, reduced lost sales and product returns and more efficient production planning. Especially for the food industry, successful sales forecasting systems can be very beneficial, due to the short shelf-life of many food products and the importance of the product quality which is closely related to human health [1].

The purpose of this research is to discuss and develop a mechanism for controlling the order and managing the stock for CVSs. The theory of the buyer and seller exchanging system proposed by Kotler was modified to include the theory of consolidating loop structure. The 「Ordinary day and holiday moving average method」 and 「Back-Propagation Neural Network」 were proposed and tested based on the operating characteristics of business circle and sale forecasting. The method can be used to improve the ordering and discarding rate for achieving the goal of ordering the right items in the right amount. The result of the research reveals that “Ordinary

day and holiday moving average method” is better than “Back-Propagation Neural Network”. Toshifumi Suzuki (CEO of 7-Eleven) believes that the reliable single item management and precise order will achieve competitive advantage. If consumers can get what they want from the CVSs, they will be satisfied. Eventually, merchandises will e sold out and profit will be increased. However, business squares may change dramatically or slowly like boiling frog. Customers’ purchasing behavior must reflect on daily sales. Therefore, ordering merchandises according the change of sales is the way to improve consumers’ satisfaction and increase profit.

Keywords

CVS, Fresh Food Commodity Subscribes Controls, Sale Forecast, Artificial Neural Networks, Moving Average Method.

References

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