

Analysis of Customer Characteristics for Customer Segmentation Classified by Share of Wallet: A Case Study of a Japanese Food Manufacturing Company

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Abstract

Fixed revenue accounting (FRA) is segmentation accounting, classifying customers according to the frequency of transactions. The FRA calculates the profit and cash flow for each customer segment. The accounting information of FRAs encourages employees to maintain and increase their fixed customers. However, the usefulness of FRA depends on the customer segmentation measurement. A previous study showed that Share of Wallet (SOW) for customer segmentation enabled the identification of fixed and variable customer segments. SOW is the percentage of total spending that a customer assigns to a particular firm in a specific category (Cooli et al. 2007). Customers with a high SOW and large transaction amounts have higher profitability and transaction continuity. However, this does not clarify the factors determining high and low SOWs. The purpose of this study is to clarify the factors that separate fixed customers from other customers, classified by customer segmentation based on SOW and purchase amount, using a classification and regression tree (CART). CART is a method proposed for regression, classification, and class probability problems. It generates successive new nodes from each node by decreasing the measurement of heterogeneity in the nodes with respect to the response variable in the growth process of a tree. We chose food manufacturing and sales company A in Japan as the research site and collected their customer purchase history data for their product brand. Additionally, we collected data on other companies' products in the same product category from April 2017 to March 2019. The following 18 attributes were collected for CART: age, gender, occupation, region, day of the week purchased, personal income, household income, family structure, unmarried, presence of children, number of household members, head of household or not, main shopper or not, product user or not, housing type, quantity purchased, container, and type of business purchased. The results of the CART analysis showed that there were four groups with a high SOW. The common factors among the groups were, based on region, the Tokyo metropolitan area, Hokuriku-Koshinetsu, and Shikoku, and based on occupation, technology company employees, managers and executives, homemakers, and the unemployed in terms of occupation. In terms of containers, PET bottles were the group with the highest SOW. Additionally, unmarried, married, and bereaved were found to have the highest SOW. Furthermore, based on the analysis results, we interviewed a marketing manager of Company A. Based on the interview, the company's performance evaluation system uses sales as a performance indicator. However, regional sales managers with a small amount of sales, but high SOW customers are not highly valued. Therefore, a revision of the performance indicators for Company A was considered.

Keywords

Fixed Revenue Accounting, Share of Wallet, CART, Customer, Performance Evaluation

Biographies

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Ayuko Komura is an assistant to the Department of Industrial Engineering and Management at Kanagawa University, Japan. Her research topics include operating profit stability and management controls. She earned her Master's degree in business administration at Meiji University. She received a fellowship from the Japan Society for the Promotion of Science from 2017 to 2019.

Hirohisa Hirai is a professor at the Department of Industrial Engineering and Management at Kanagawa University, Japan. He earned his Ph.D. in Engineering at Osaka University. His research is an empirical study in management accounting, firm analysis, and applied statistics, particularly firm valuation. He has received awards from several academic societies in accounting and management.