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Customer segmentation and strategy development based on customer lifetime value: A case study

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Abstract

The more a marketing paradigm evolves, the more long-term relationship with customers gains its importance. CRM, a recent marketing paradigm, pursues long-term relationship with profitable customers. It can be a starting point of relationship management to understand and measure the true value of customers since marketing management as a whole is to be deployed toward the targeted customers and profitable customers, to foster customers' full profit potential. Corporate success depends on an organization's ability to build and maintain loyal and valued customer relationships. Therefore, it is essential to build refined strategies for customers based on their value.

In this paper, we propose a framework for analyzing customer value and segmenting customers based on their value. After segmenting customers based on their value, strategies building according to customer segment will be illustrated through a case study on a wireless telecommunication company.

Keywords: Customer lifetime value; Customer segmentation; Data mining

1. Introduction

Customer Relationship Management (CRM) has become a leading business strategy in highly competitive business environment. CRM can be viewed as 'Managerial efforts to manage business interactions with customers by combining business processes and technologies that seek to understand a company's customers' (Kim, Suh, & Hwang, 2003). Companies are becoming increasingly aware of the many potential benefits provided by CRM. Some potential benefits of CRM are as follows: (1) Increased customer retention and loyalty, (2) Higher customer profitability, (3) Creation value for the customer, (4) Customization of products and services, (5) Lower process, higher quality products and services (Jutla, Craig, & Bodorik, 2001; Stone, Woodcock, & Wilson, 1996). When evaluating customer profitability, marketers are often reminded of the 80/20 rule (80% of the profits are produced by top 20% of profitable customers and 80% of the costs are produced by top 20% of unprofitable customers) (Duboff, 1992; Gloy, Akridge, & Preckel, 1997).

The core parts of CRM activities are understanding customers' profitability and retain profitable customers (Hawkes, 2000). To cultivate the full profit potentials of customers, many companies already try to measure and use customer value in their management activities (Gloy, Akridge, & Preckel, 1997; Rosset, Neumann, Eick, Vatnik, & Idan, 2002; Verhoef, & Donkers, 2001). Therefore, many firms are needed to assess their customers' value and build strategies to retain profitable customers.

This paper aims at suggesting a new LifeTime Value (LTV) model and customer segmentation considering customer defection and cross-selling opportunity. We will also propose marketing strategies after segmenting customer base. This paper is organized as follows. Section 2 reviews the previous studies related to segmentation of customers based on their value. Section 3 presents a conceptual framework. Section 4 proposes a calculation model for measuring customer value applicable to a wireless telecommunication company. Next, we apply the real data of a wireless company to the model and perform customer segmentation with the result of customer value derived. Section 5 develops marketing strategies based upon the result of customer analysis. Finally, Section 6

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concludes this paper with the remark on future research directions.

2. Related works

2.1. Customer segmentation based on customer value

Customer value has been studied under the name of LTV (Life Time Value), CLV (Customer Lifetime Value), CE (Customer Equity) and Customer Profitability. The previous researches define LTV as the sum of the revenues gained from company's customers over the lifetime of transactions after the deduction of the total cost of attracting, selling, and servicing customers, taking into account the time value of money (Dwyer, 1997; Hoekstra & Huizingh, 1999; Jain & Singh, 2002).

Customer segmentation methods using LTV can be classified into three categories: (1) segmentation by using only LTV values, (2) segmentation by using LTV components and (3) segmentation by considering both LTV values and other information.

In the first method, the list of customers' LTV is sorted in descending order. The list is divided by its percentile. In this case, we segment customer list by only LTV, however, other information like socio-demographic information or transaction analysis may be used together for a better marketing practice. For instance, after segmenting a highly profitable customer group, a firm may recommend popular products to the targeted group at a discounted price. Fig. 1 briefly depicts the concept of segmentation using only LTV.

The second method performs segmentation by considering components used in LTV calculation. Hwang, Jung, and Suh (2004) considered three factors: current value, potential value, and customer loyalty to calculate LTV and present the method to segment the three factors for customer segmentation. Fig. 2 shows segmentation using factors in calculating LTV.

The last method is to segment the customer list with LTV value and other managerial information. In this case, LTV is an axis of the segment in n-dimensional segment space and other information, such as socio-demographic information and transaction history become another axis. This approach is more meaningful for segmenting the customer list than the first method. Fig. 3 shows a segmented customer list with LTV value and other managerial information.

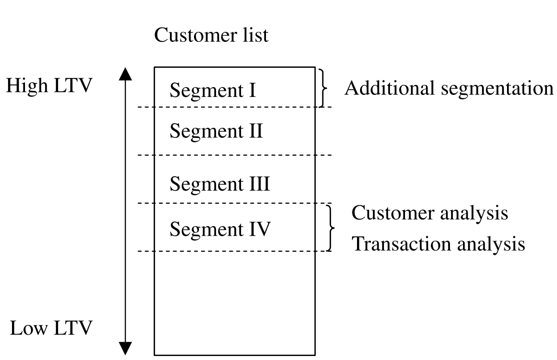

Fig. 1. Customer segmentation using LTV.

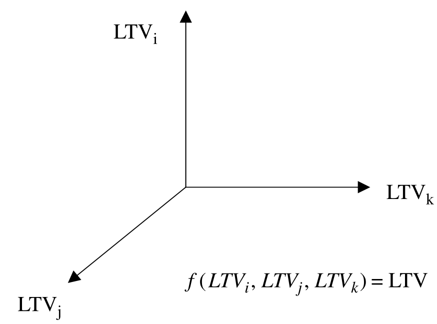

Fig. 2. Customer segmentation using LTV components.

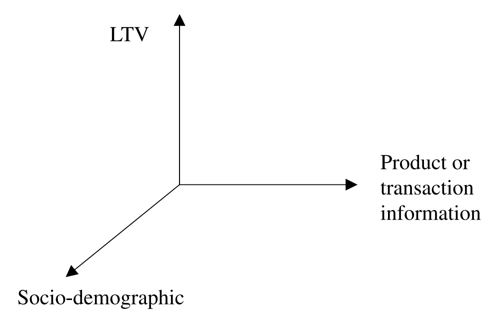

Fig. 3. Customer segmentation based on LTV and other information.

Most discussions on the marketing literature and textbooks describe behavioral segmentation in terms of usage volume such as heavy users, medium users, and light users (Kotler, 1997) or brand-buying behavior such as brand loyals, other brand loyals, and brand switchers (Rossiter & Percy, 1997). Customer profitability can serve as another important basis for behavioral segmentation because of the central importance of profits (Mulhern, 1999).

Several segments may be formed by using customer profitability. For instance, the most profitable segment consisting of the highest-profit customers should be retained through loyalty and retention program. Another possible segment is the most unprofitable customer group who generate more costs than profit. This segment is arguable since unprofitable customers seem to have no worthy of marketing efforts.

Verhoef and Donkers (2001) used two dimensions, current value and potential value, to segment the customers of an insurance company. In this study, we use three dimension, current value, potential value and customer loyalty, to consider the customer defection. The current value becomes a measure of customers' past profitability, potential value becomes a measure of the possibilities of additional sales and the customer loyalty can be a measure of customer retention. After calculating three customer values, we perform customer segmentation by using the values.

3. A Framework for building managerial strategies based on customer value

A framework for building managerial strategies based on customer value is organized into three phases. Phase I explains the preparation steps to be conducted before defining