

An economic analysis of customer selection and leveraging strategies in a market where network externalities exist

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Abstract

When a firm implements analytical CRM, the value of a customer is assessed by profitability analysis. In a sense, a firm retains profitable customers but “fires” unprofitable ones. In this paper, we show that this typical customer selection strategy is not appropriate for a firm of goods and services that exhibit network externalities because of the strategic network value of unprofitable customers. In addition, we verify that this strategic value of customers also affects customer leveraging efforts through operational and collaborative CRM for such a firm. Under certain conditions, demarketing efforts based on simple profitability measures may prove counter-productive to the firm and even socially undesirable.

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1. Introduction

Rapidly evolving information technologies give firms an array of tools to enhance their relationships with customers. A new marketing paradigm has arisen, customer relationship management (CRM), which is a management approach that enables organizations to identify, attract and increase retention of profitable customers, by managing relationships with them [1,36].

From its inception, implementation of CRM involved the deployment of CRM technologies [1,23]. These technologies are designed to automate sales and service functions, aggregate customer information into data

warehouses, and manage collaboration with customers. These technologies are often formally classified into three parts of the application architecture of CRM systems: operational, analytical and collaborative CRM [33,34]. These three components of CRM systems are discrete, but interrelated in that they perform activities related to identifying, attracting and increasing retention of profitable customers.

Nowadays, many companies make use of CRM systems to serve customers selectively by optimizing their customer portfolios [35]. Based on sales and service data, firms can analyze customer profitability and determine profitability distribution within the customer base [25]. In measuring customer profitability, the lifetime value (LTV) analysis – the present value of the sum of the expected margins over time less the cost of serving the customer [8,28] – has typically been used. The

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activity-based costing (ABC) model is also frequently employed in measuring customer profitability with high levels of precision, providing a firm with a picture of the gross margins and cost-to-serve components that aggregate into individual customer profitability [14]. It is suggested that based on customer profitability analysis, firms need to select profitable customers and maintain long-term profitable relationships by imposing a return on investment (ROI) hurdle [36].

After selecting target customers, firms create loyalty among them through various CRM activities. Many studies report strict positive relationships between customer loyalty and firm profits [4,11,27,26]. For example, Reichheld [26] showed that a 5% increase in the customer retention rate results in an enormous 25% to 95% increase in profits. This is explained by the fact that retaining customers is less costly than acquiring new customers via advertising and price promotions [26]. In addition, loyal customers allow firms to charge higher premium prices for products or services since they are less sensitive due to customer loyalty [7,17,27]. Previous studies have verified that CRM efforts increase customer satisfaction and loyalty toward firms [10,22].

While firms with CRM systems retain profitable customers and attempt to create more profit from them, they try to reduce loss caused by unprofitable customers by “demarketing” [20,19] or “firing” [24,36] them. For example, with CRM systems, one major home shopping company detects unprofitable customers through analyzing their purchasing patterns, reasons for returning purchased items, and timing of returning items for refund. Given this information, the firm maintains a “black list” of those who abuse its “money back guarantee” policy. Its call center software directs calls from those on the list to specialized call center personnel to deal with these risky customers. Purchasing by highly unprofitable customers can even be blocked by these personnel. In addition, catalogs are not sent to those customers [21]. Similarly, online auction sites deprive users of membership rights if they tend not to purchase the objects that they knock down [21].

When firms cannot refuse to serve customers outright, either for legal reasons or fear of bad publicity, they search for other subtle or indirect means to discourage unwanted customers, such as price increases and decreases in product or service quality [19], which is termed “soft demarketing.” An often cited example of “soft demarketing” from enhanced knowledge on customer profitability is Progressive Insurance [9]. The company requires the installation of Autograph, which is a bundle containing a GPS device, a cellular phone and a crash data recorder, in the user’s car. A recorder in

the Autograph device tracks the car’s movements. Then this data is collected once a month by the company’s computer through wireless communications. This information is then used to set the premium for the month. By collecting the user’s driving behavior in real-time, the company can estimate the user’s profitability with unprecedented precision. With this information, the firm could develop a different pricing strategy for each customer. That is, users with much higher risk receive bills that charge them much higher premiums. This drives out unprofitable customers from the company. From previous studies on CRM, the key message of customer portfolio optimization is very clear: “Retain and leverage profitable customers, but fire unprofitable ones.”

On the other hand, the literature on network externalities has drawn seemingly contradictory conclusions regarding the size of the user base. That is, the greater the number of customers, the better in a network externality environment. There are many products or services for which the utility that a user derives from consumption of the goods or services increases with the number of other people also using them [16]. Economists say that these products or services exhibit “network externalities.” Katz and Shapiro [16] noted several possible sources of network externalities as follows:

- 1) Externalities may be generated through a direct physical effect of the number of purchasers on the quality of the product or service.
- 2) There may be indirect effects that give rise to network externalities when some second-round effect of an increasing user base increases the value of the product or service.
- 3) Positive network externalities arise for a durable good when the quality and availability of post-purchase service for the good depend on the experience and size of the service network.

Recent studies report that many industries in the digital economy show network externalities. They include IT products or services, and electronic commerce. For IT industries, direct network effects matter for communication technology companies. Indirect network effects arise in the relationship between hardware and its compatible software or between computer operating systems and compatible application software. Direct network effects are important to e-commerce companies such as eBay that provide transaction or communication services or platforms for consumers to interact with others. Indirect network effects arise from market interaction [30]. Schmitz and Latzer [30] note

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