BALANCING MARKET SHARE GROWTH AND CUSTOMER PROFITABILITY: BUDGET ALLOCATION FOR CUSTOMER ACQUISITION AND RETENTION

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Abstract. *This study adds to the knowledge of budget allocation for customer acquisition and retention spending in an inertia segment. The results indicate that when retention spending surpassed the optimal budget allocation, increased spending did not grow the expected value of customer equity. Since the inertia segment is comprised of loyal customers, an examination of brand equity and its role in customer loyalty and its influence on customer equity are discussed.*

Key words: *customer equity, brand equity, theory of reasoned actions, retention spending.*

Introduction

It is the goal of every organization to increase shareholder value. Determining exactly how to undertake such a task is the primary objective of strategic planning and the subsequent managerial decision making and budgeting that derive from planning efforts. Brands are essential components of this strategic development, and the firm's marketing strategy relies heavily on choices related to brand strategies since the possible damage to brand value, brand equity, and customer equity has enduring implications for

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shareholder value (Crittenden, 2010). Therefore, an in-depth understanding of both brand equity and customer equity are necessary when determining how to budget for customer acquisition and retention spending.

The purpose of this article is to offer a decision-calculus model that balances the objectives of short-term market share growth and long-term customer equity. The results of the proposed model and its subsequent testing offer evidence contrary to the commonly accepted thought that it costs more to acquire a new customer than to retain a customer (Blattberg & Deighton, 1996). In fact, the results show that additional spending does not increase the expected value of customer equity when retention spending exceeds the optimal budget allocation.

Brand Equity

The difference between a good brand and a great brand lies in the depth of importance of the brand to the consumer, as well as the constant pursuit to understand the consumer (Crittenden, Keo, & McCarty, 2011). Strong brands have an advantage when consumers initiate their search with familiar and respected brands that have the potential to fulfill their needs (Hoeffler & Keller, 2003). As such, the most robust brands, those with tremendously high brand equity, will have a large number of loyal customers (Aaker, 1991).

As defined by Aaker (1991), brand equity is "a set of brand assets and liabilities linked to a brand, its name and symbol, that add to or detract from the value provided by a product or service to a firm and/or to that firm's customers" (p. 15). These brand assets are of five general types: brand loyalty, brand awareness, perceived quality, brand associations, and other proprietary brand assets. Loyalty and awareness are considered the cornerstones of brand equity and, thus, have a substantial impact on customer equity.

Measurement of Brand Equity

In order to manage brand equity, a marketer must be able to measure it. The measurements can be categorized into three diverse levels: consumer-based, product-market, and financial-market (Keller & Lehmann, 2006). The consumer-based level is contingent upon consumer perception of brand knowledge structures. This level is comprised principally of hierarchy of awareness, association, attitude, attachment, and activity. The value of the brand is, thus, a consequence of the actions of the consumers. It is this customer-based brand equity structure that recognizes the presence of marketing benefits for strong brands (Hoeffler & Keller, 2003).

The product-market measurement looks at activities related to the traditional marketing mix (Hoeffler & Keller, 2003). Extension-related activity is the ability of the brand to extend the product lines offered by the parent brand. Price-related activity encompasses the consumer's reaction to price changes, as well as the role of advertising on price sensitivity. Communication-related activities address the varying ways that consumers process information. Finally, the channel-related activity is the method in

which the consumer is able to obtain the brand. Taken together, these activities capture the price premium attributed to the brand.

The financial-market level of measuring brand equity allocates a monetary value to the brand. Various studies have reported a positive relationship between stock prices/return and brand value (Aaker & Jacobson, 1994; Barth, Clement, Foster & Kasznik, 1998). For example, Lindenberg and Ross (1981) studied the connection among accounting data and financial market data by using Tobin's q ratio as a measure of the monopoly rents of a firm. The findings indicated that the areas of the economy that have q ratios on the high side of the range are typically those with somewhat unique products or unique elements of production that augment monopoly and/or quasi-rents. When examining financial market performance, the market value that is not explained by the financial assets is attributable to the value of the brand (Bick, 2009).

Customer Equity

While brand value has long been a critical aspect of strategic planning efforts, customer equity has only recently joined the strategic arena. While brand value is focused on the firm's product(s), customer equity is focused on the firm's customers. Therefore, customer equity is the total of all (both existing and future) of the "customer lifetime values" (Blattberg & Deighton, 1996). According to Gupta, Lehmann and Stuart (2004), customer lifetime value (CLV) is "the discounted future income stream derived from acquisition, retention, and expansion projections and their associated costs" (p. 7).

Firms can grow customer equity by increasing the CLV, which is composed of three components: customer acquisition, customer retention, and profit margin (Stahl, Heitmann, Lehmann & Neslin, 2012). The growth, therefore, is a natural progression from the three components of CLV. A firm can increase CLV by increasing the *lifetime* of the customer, increasing the *sales* to a customer, or by reducing the *costs* to serve a customer (Pitt, Ewing & Berthon, 2000). In conjunction with clarity on organizational goals, a clear understanding of the drivers of customer equity is necessary in order to determine both a strategic path and budgeting allocation.

Drivers of Customer Equity

Brand equity and customer equity are not segregated. In fact, brand equity is one of three drivers of customer equity (Lemon, Rust & Zeithaml, 2001). The brand is vital in two ways for growing the value of the customer asset (Hogan, Lemon & Rust, 2002). First, brands provide the opportunity to increase sales to current customers through supplemental purchases of the brand or through sales of brand extensions. Second, the power of a brand's image can enable the company to acquire new customers.

A second driver of customer equity is value equity, which is the customer's unbiased evaluation of the effectiveness of a brand, substantiated by what is offered versus what is received. There are three primary aspects of value equity: quality, price and convenience (Lemon et al., 2001). Value equity is critical when apparent differences occur

among rival products. Thus, firms can grow customer equity through value equity by enhancing their products and services via new features or product revitalizations.

The final driver of customer equity, relationship (retention) equity is: (1) the perceived benefits the customer links with the firm's loyalty program, (2) the motivator for the customer to return to fulfill future product needs from the firm, (3) the driver for community association related to the product or service, and (4) the bond between the firm and the customer (Lemon et al., 2001). As evident in its name, this final driver is instrumental in the retention aspect of customer asset management. Thus, not only is brand equity critical for customer acquisition purposes, relationship equity is equally important in retaining customers.

Reasoned Actions yet Double Jeopardy

The theory of reasoned action states that attitudes and subjective norms are the precursors of outcome behavior (Ajzen & Fishbein, 2008). Within this theory, it is the normative influence that explains the unpredictability between attitude and intention (Ha, 1998). By examining attitudes and subjective norms, an understanding of customer loyalty and purchase behavior can be obtained and aid in increasing a firm's customer equity. Yet, according to the Double Jeopardy theory, high share brands enjoy the double benefit of higher market penetration and higher buying frequency and loyalty, whereas less popular brands are disadvantaged not only because of fewer buyers but also because the customers are less loyal to the brand (McPhee, 1963). This theory also argues that marketing activities are not likely to enhance loyalty toward a brand unless the brand's market share increases (Ehrenberg et al., 2004).

The question of how short-term acquisition and long-term retention programming can achieve an increase in a brand's market share poses a considerable problem (Leeflang & Wittink 2000; Tsao et al., 2010). That is, while the net short-term effect of customer acquisition can be positive in market share or acquisition rate, its long-term effect on brand market share can be negative because of the possible adverse effects on brand equity. Therefore, among the various types of promotional budgets, only those budgets with models that quantify the long-term effects of retention programming and the variables of acquisition (pricing, coupons, and shipping fees) are promising to firms wishing to make wise choices (Deighton et al., 1994; Lewis, 2004).

Often referred to as loyal, potential switcher, and switcher, customers with repeat purchase behaviors are critical to both short- and long-term success (McCarthy et al., 1992). The three elementary customer attitudes of emotive, inertial, and deliberative provide the foundation for a brand's loyalty profile among its customers (Coyles & Gokey, 2005). Emotive customers (i.e., loyal customers) have the greatest loyalty and feel strongly that their purchase is the right choice for them. The emotive customer is a primary target, as research has shown that emotive customers normally spend more on their product purchases and are less likely to migrate to another product or brand. Inertial customers, similar to emotive customers, seldom reevaluate their purchases ei-

ther due to high substitution costs or a lack of connection with the product and, as such are considered loyal. Customers with the deliberator attitude, however, review their purchase standards regularly and base choice on factors such as price, performance, and ease of doing business with the company and comprise the switcher and potential switcher purchase behaviors.

A Model for Spending between Acquisition and Retention

While several seemingly seminal works have addressed the question of optimizing customer equity by balancing customer acquisition and retention costs, little explicit research has simultaneously addressed the question of dividing spending between acquisition and retention and balancing the objectives of market share growth and customer equity. Blattberg and Deighton (1996) used a decision-calculus approach to construct a simple model, the BD Model, which helps managers find the optimal balance between spending on acquisition and retention. Using the BD model, Berger and Nasr-Bechwati (2001) later proposed a model for allocating a budget between acquisition and retention to optimize customer profitability (i.e., customer lifetime value (CLV) or customer equity (CE)).

Continuing on this vein, the current study develops a model and methodology to analyze the relationship between an optimal spending budget that meets the short-term market share growth objective and the long-term customer profitability objective. The segment-based market share model (SBMS) introduced here describes how spending on customer retention and customer acquisition affects the size of three customer segments (inertia, potential switcher, and newly acquired) and how this spending and size effect results in market share growth.

This work then combined the SBMS and the BD models to devise a method for conducting nonlinear programming and sensitivity analysis to balance the short-term objective of market share growth and the long-term objective of customer equity so as to arrive at the optimal spending allocation for customer acquisition and retention. The differential unit costs of the marginal effect for customer acquisition and retention and the size of the inertia segment on the focal brand were then manipulated to explore the allocation effect on the two objectives.

Model Development

For the purposes of this study, emotive and inertial customers are classified as the inertia segment and the deliberators are classified as the potential switcher segment. The proportion of emotive and inertial customers is represented in the model by f_i for the ith brand. Customers of this type are retained in the absence of retention spending. They may be styled members of the inertia segment (Odin, Odin & Valette-Florence, 2001). Deliberators are open to switching brands after promotional exhortation but have a marked desire to stay loyal. This type of customer likely chooses to repeat purchase of a product but is always open to switching. Customers of this type may be

styled members of the potential switcher segment (Kahn et al., 1986; McCarthy et al., 1992; Yim & Kannan, 1999; Tsao et al., 2009).

A related aspect of the program for customer retention spending is marketing mix activities to persuade consumers to repurchase the ith brand on the next occasion; this retention rate is represented in the model by r_i for the ith brand. The spending program for acquisition aims to provide marketing mix activities to persuade consumers to switch from purchasing other brands to purchasing the ith brand; this acquisition rate is represented in the model by a_i for the ith brand. Thus, the market share of the next period t for the ith brand Mks_{it} is a compound of inertia, potential switcher, and newly acquired segments as follows:

$$Mks_{it} = Mks_{it-1} * f_{it} + Mks_{it-1} * (1 - f_{it}) * r_{it} + \sum_{j=1}^{N} Mks_{jt-1} * a_{it}, (i \neq j) \tag{1}$$

Using the segment-based market share model (SBMS), the BD model, and the optimization approach proposed by Pfeifer (2005), we propose a method that uses a spreadsheet to conduct nonlinear programming and sensitivity analysis of the simultaneous effects of the retention budget on the objectives of market share growth and customer equity. To examine the effects of budget allocation between acquisition and retention programs on the balance between the short-term objective of market share growth and the long-term objective of customer equity, the current study first assumes a preset objective of market share growth (g) during a specific period, in this case a year. We adopt the following equation as *the objective function*:

$$\text{MAX } CE = a[M + (M - R/r) * (r/(1 + d - r))] - A \tag{2}$$

or

$$\text{MAX } CE = a[ECLV] - A \tag{3}$$

and then adopt R as *the decision variable*. We have M (the margin the firm earns) and d (the discount rate for a specific period) as the *constant variables*. r is the function of R according to Equation (2). As advocated in Pfeifer's (2005) approach, we find the A based on equation (7) when the optimal solution of $ECLV$ is obtained. Then a is the function of A according to Equation (3).

However, in this study, the other preset objective of market share growth is constrained to a, that is:

$$Mks_{it} = Mks_{it-1} * g \tag{4}$$

$$= Mks_{it-1} * f_{it} + Mks_{it-1} * (1 - f_{it}) * r_{it} + \sum_{j=1}^{N} Mks_{jt-1} * a_{it}$$

Therefore, a_{it} is as shown in the following equation:

$$a_{it} = [Mks_{it} - (Mks_{it-1} * f_{it} + Mks_{it-1} * (1 - f_{it}) * r_{it})] / (\sum_{j=1}^{N} Mks_{jt-1}) \tag{5}$$

When the acquisition rate for focal brand i is determined, A is the reverse function of a_{it} (please refer to Equation (3)). Hence, the optimal solution for the objective function of maximizing CE can be obtained by nonlinear programming provided by the Microsoft Excel Solver.

Research investigating the effect of the unit cost of the marginal effect for acquisition and retention programs on consumer profitability and market share growth are rare. This study manipulates the differential unit cost of the above-mentioned marginal effect. The *control variable m* applied to the unit cost of the marginal effect for customer retention (R_{mc}) and acquisition (A_{mc}), varies during sensitivity analysis from five to one, and we let m

$$R_{mc} = mA_{mc} \tag{6}$$

$$\text{where} \quad R_{mc} = \frac{1}{k_r * (CR_r - r)} \quad \text{and} \quad A_{mc} = \frac{1}{k_r * (CR_r - r)} \tag{7}$$

For details of Equation (13), please refer to Pfeifer (2005).

Model Testing

Consumer panel data on leading brands of fast-moving consumer products were analyzed to obtain brand loyalty and brand switching patterns (Bhattacharya et al., 1996; Buckinx & Van den Poel, 2005; Winer et al., 1994). The data came from TNS Global Taiwan and covered the 12 months of 2010. To simplify analysis of the relative effect of acquisition and retention budgets on market share and consumer profitability, data for a shampoo product was the focus of the analysis. Table 1 provides the market share and loyalty data for the two leading shampoo brands. This study adopts the proportion of loyalty as the size of the inertia segment for the focal brand (Pert) in this study. The preset objective of market share is 0.55 due to the assumed growth rate of 1.10. The firm's earned margin is assumed to be US$50, while the discount rate is 0.1 in this study.

TABLE 1. **Initial Market Share and 100% Loyalty Effect**

Shampoo	Market Share	100%Loyalty
Pert	0.49	0.18
Head & Shoulder	0.51	0.17

Model Results

We take the SBMS and the BD model and use nonlinear programming and sensitivity analysis via the Microsoft Excel Solver to obtain the solution. We use spending on retention (R) as the decision variable and customer equity (CE) as the objective function. The control variable is the differential unit cost of the marginal effect of retention and acquisition (m), ranging from five to one. The ratio of customer acquisition cost to customer retention cost and the simultaneous balancing of the objectives of market

TABLE 2. **Ratio of R and A when m=5**

R	CE(m=5)	R%(m=5)	A%(m=5)
9.00	-3.68	0.16	0.84
12.00	5.22	0.27	0.73
15.00	9.16	0.39	0.61
18.00	10.40	0.51	0.49
18.07	10.41	0.51	0.49
21.00	10.10	0.62	0.38
24.00	8.96	0.71	0.29
27.00	7.41	0.78	0.22
30.00	5.76	0.84	0.16
33.00	4.21	0.88	0.12
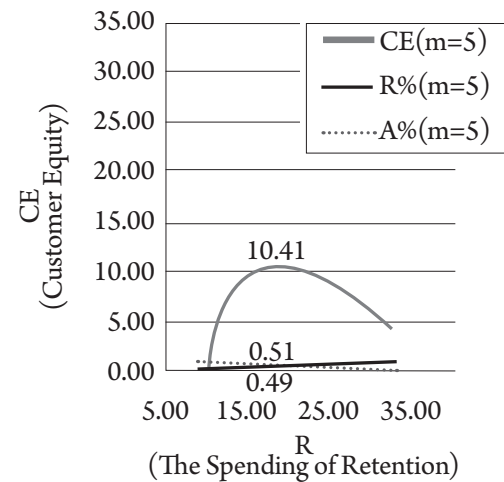
FIGURE 1. **Optimal ratio of retention and acquisition (m=5)**

share growth and customer profitability are shown in Table 2 and Figure 1. While the shaded row in Table 2 shows the optimal ratio of customer acquisition cost to customer retention cost and the balance between the preset market share growth objective and the customer equity objective, Figure 1 shows the optimal solution for *CE*, which is the percentage of spending on retention *R%* and acquisition *A%*.

Figure 2 shows that the larger the size of inertia segment, the lower the ratio of retention cost. The smaller the differential marginal effect of retention and acquisition costs, the lower the ratio of retention cost. Figure 3 shows that the larger the size of inertia segment, the larger the ratio of acquisition cost. The smaller the differential marginal effect of retention and acquisition costs, the larger the ratio of acquisition cost.
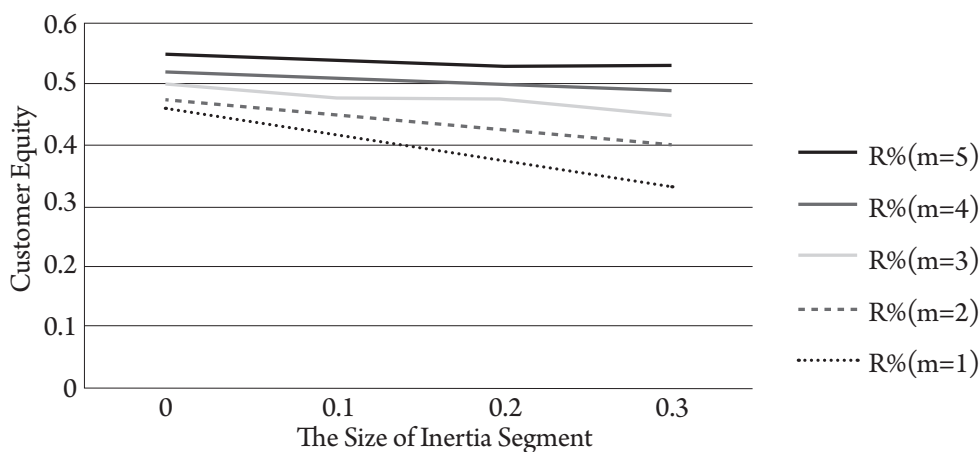

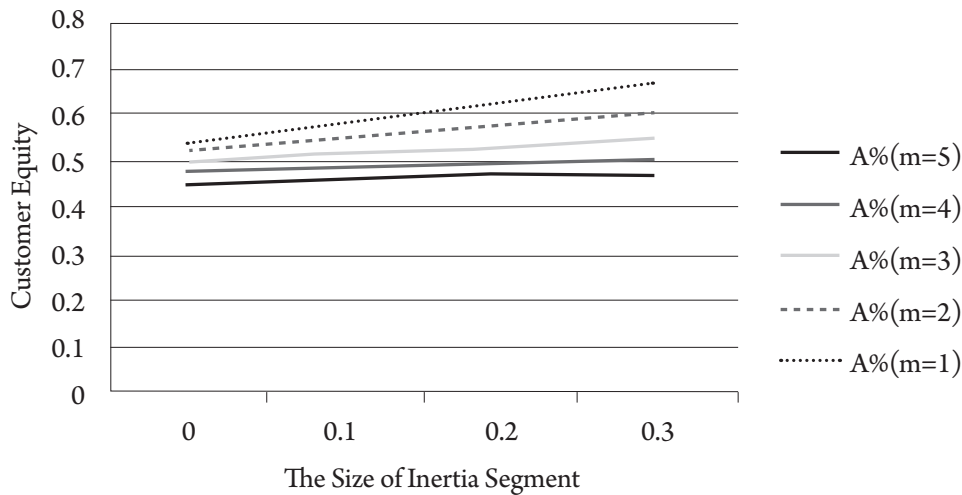FIGURE 2. **Size of inertia segment and the ratio of retention spending on customer equity**

FIGURE 3. **Size of inertia segment and the ratio of acquisition spending on customer equity**

Conclusions

The results for the focal brand in the shampoo category show that the value of CE increased when spending on retention increased. However, when the budgeted allocation for spending on retention exceeded 0.51, the greater the extra spending, the smaller the expected value of CE. That is, the value of CE increased when retention spending increased, yet this retention spending did not increase the expected value of CE when it exceeded the optimal budget allocation. These results are interesting as they diverge from conventional wisdom that holds that "it costs five times more to acquire a new customer than to retain a customer" (Blattberg & Deighton, 1996; Pfeifer, 2005).

The results also present a situation in which allocating some of the marketing budget to retention does not provide better customer equity. That is, firms should not devote more of their marketing budget to loyalty programs if the ratio is less than five. Hence, these findings offer a boundary condition of the ratio of customer retention to acquisition costs, while maximizing customer equity and preserving the objective of market share growth. Critically, this study developed a criterion for firms to judge the budget that should be devoted to retaining customers or acquiring new customers while promoting the objectives of market share growth and customer profitability.

In sum, the research confirms the relationship between inertia segment size
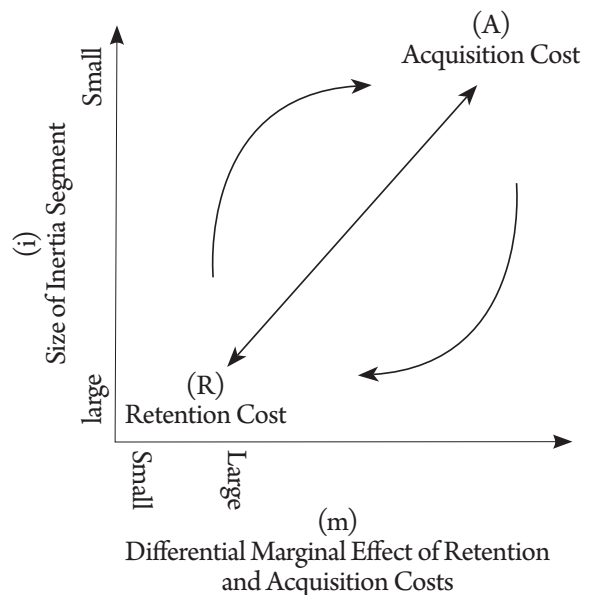

FIGURE 4. **Inertia segment size and the differential marginal effect of retention and acquisition on the optimal ratio of retention and acquisition**

and the differential marginal effect of retention and acquisition and between maximization of customer equity and preservation of the objective of market share growth. As portrayed by the downward curving arrow in Figure 4, the smaller the inertia segment size and the larger the differential, the greater the shift from acquisition spending to retention spending. In contrast, as portrayed by the upward curving arrow in Figure 4, the larger the inertia segment size and the smaller the differential marginal effect of acquisition and retention costs, the more the spending shifts from retention spending to acquisition spending.

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