The elusive returns of targeted marketing investments in customer relationships: evidence from a longitudinal case study

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Abstract

We study the effects of marketing investments on customer retention and customer profitability in a business-to-business setting. Using data from a company providing hygiene services, we look at the impact of a specific type of relationship-specific investment: the provision of free equipment to customers. Our data allows us to track the activities performed in some 4,500 customer relationships over four years. We find that providing free equipment to customers is associated with higher levels of retention. Furthermore, we are able to calculate the customer profitability at a detailed level: we have information on sales, product costs, and marketing activities for each individual customer. We use this information to explore the relationship between marketing investments and customer profitability development. We find that the effect is negative on customer profitability margins and development of absolute profits, but that targeted customers have higher total profits. The effects of this type of targeted marketing activities on retention, sales and profitability suggest that the pay-offs lie in maintaining, rather than developing, customer relationships.

Keywords: Customer profitability, relationship investments, customer retention, customer development

Introduction

Organizations achieve their objectives through exchanges with other actors (e.g., suppliers, customers) in a network (Ford et al. 1998). The extent to which organizations achieve their objectives is dependent upon the positions they manage to obtain within the network. These positions are built on the basis of the investments organizations make in their relationships with other actors (Johanson and Mattsson 1985). Suppliers for instance, will invest resources in specific customer relationships, with the aim to create structural bonds so that profitable customer relationships are developed and maintained (Turnbull and Wilson 1989). Marketers should make decisions about such investments within their total portfolio of customer relationships, and evaluate such investments vis-à-vis the profitability of those customer relationships (Turnbull and Zolkiewski 1997).

At the same time, there is a growing sense in marketing practice as well as in literature that the financial accountability of marketing expenditures needs to be improved. Over the past years, we have witnessed the emergence of new marketing concepts such as 'Customer Equity' (Blattberg and Deighton 1996), 'Customer Asset Management' (Berger et al. 2002), and 'Return on Marketing' (Rust, Lemon, and Zeithaml 2004). Central to these ideas is that marketing expenditures are seen as investments that produce improvements in one or more drivers of customer lifetime value, such as customer attraction, customer retention, or customer development (Rust, Lemon, and Zeithaml 2004; Srivastava, Shervani, and Fahey 1998).

Rust, Lemon, and Zeithaml (2004) identify three marketing investment categories: investments in perceived value, investments in brand equity, and investments in relationship management. Investments in either of these three categories should generate returns in terms of customer attraction (producing cash flows from new customers), customer retention (increasing the length of the customer lifetime), and/or customer development (increasing cash flows from existing customers). This paper is about investments in the customer relationship.

Investments in customer relationships can take various forms, such as customer loyalty programs, after-sales service, or social ties. In a business-to-business situation, a particular type of relationship investment is the seller's investment in assets at the customer's site. The effect of such relationship investments on the attraction of new customers can be assumed to be negligible, so the return of these investments should come from increased retention and/or development of existing customers. In other words, this kind of investment in customer relationships should lead to reduced customer defection and/or increased customer spending, either as a result of buying more products, or as a result of buying higher margin products (cf. Hogan et al. 2002).

In the absence of hard data, marketing managers are left to make decisions about investments in customer relationships on the basis of experience and intuition. A fact-based evaluation of the returns of relationship investments would require longitudinal customer profitability data, i.e., data on sales revenue, cost of goods sold, transaction costs and service costs for each individual customer over multiple years. We have customer profitability data from one firm in a business-to-business setting, that allows us to track revenues, cost of goods sold, marketing costs, service costs, and discretionary marketing investments for more than 4,500 customer relationships over four years. The firm provides hygiene services to business customers, and the data allows us to identify to what extent the service provider invests in customer relationships by placing free equipment (e.g., soap dispensers) at customer sites. This data enables us to track the impact of such targeted investments on customer retention and customer development. In this paper, we address the question: what is the economic return on marketing investments in a customer relationship?

The impact of targeted marketing investments

The relationship between marketing and accounting has long been difficult. Marketing activities generally are not well-defined, and therefore not easily measured with respect to their costs. The revenues associated with marketing activities are even more problematic. Estimating the effects of a single advertising campaign can in principle be done by looking at the increase in sales, but the effects of ongoing sponsoring and advertising are difficult to measure. The effectiveness of marketing activities aimed at increasing the perceived value of a product, which should enable a firm to ask higher prices is even more difficult. How much of the revenue from a Mercedes comes from the quality of the car?

How much from its image? How much from sponsoring and advertising? How much from the quality of services? The difficulty in finding cause and effect relations between marketing expenditures and firm performance has led to a situation where financial evaluation of marketing activities is often completely foregone. Since it is so hard, why try it anyway?

More and more, this approach to evaluating marketing expenditures is deemed unacceptable. Like any other activity, marketing activities need to recover their expenses, and more than that. The accountability of the marketing function is frequently criticized (Doyle 2000; Sheth and Sisodia 2002). One of the answers to this issue is found in looking at the marketing expenditures as an investment in a customer relationship, which should be recovered by the future cash flows generated by that customer (Mercer 1996; Sheth and Sisodia 2002). This requires multiple periods over which to evaluate the impact of the investment.

To evaluate the impact of marketing expenditures, we first need to define them. In the management accounting literature, Foster and Gupta (1994, p 45) present a categorization of marketing costs based on a questionnaire sent to marketing managers. They identify four main categories of marketing costs: sales force management, advertising, sales promotions (including discounts), and catalogues and brochures. This corresponds to the selling concept of marketing (Kotler 1997). Surprisingly, despite Webster's (1992) observation that the focus of marketing has changed transactions to relationships, recent descriptions of marketing expenditures still emphasize the selling concept (e.g., Rust, Ambler et al. 2004).

Consistent with Webster (1992), we define marketing expenditures as all costs that are made to start and maintain a customer relationship. We limit these expenditures to those for which the company does not directly receive a compensation. Marketing expenditures therefore include the ‘standard’ categories such as market research, sales force and advertising, but they also include acquisition costs such as free products, discounts and cash-backs, the costs of loyalty programs (e.g. frequent flyer miles), and the costs of freely available service and support (e.g. toll-free help-desks). Marketing expenditures do not include product and delivery costs, or services that are offered at a market price, for example service support that is charged at full cost to the customer. Basically, we view a marketing expenditure as one that does not generate a direct revenue stream from customers. This is in line with Foster and Gupta (1994), who maintain that a salient characteristic of marketing costs is the absence of a clear cause-and-effect relation between the inputs (the costs of the activities) and any resulting increase in sales revenue.

In order to evaluate the effect of marketing expenditures at the customer level, we have to consider those expenditures that can be attributed meaningfully to single customers. Evaluating the impact of large scale advertising campaigns on customer profitabilities is not very useful, so we have to look at targeted marketing activities. This could be the visit of a salesperson, the provision of a replacement car when a car breaks down during the warranty period, or the offering of freezers free of charge to retail outlets that sell ice cream (McDowell 1996).

It is important, however, to make a distinction between two types of targeted marketing expenditures: investments in service and support offered to all customers (but not necessarily used by all customers) and service and support offered to selected customers. Investments of the first type are part of the value proposition to all customers, i.e. market-specific investments (Johanson and Mattsson 1985). Not all customers will make use of this offer. And for those customers that do request this service, it is not necessarily to be expected that the expenditures will have an effect on these customers' sales revenue or profitability. For example, a customer dialing a toll-free help line which is part of his internet subscription will probably not take up more subscriptions. A customer requiring support from service mechanics to repair faulty equipment will not buy more equipment on the spot. Just like advertising and sponsoring, however, providing these services can improve the perceived quality of the company and its offerings. Since the costs of these activities are caused by a specific customer, they can be allocated to that customer, thus affecting its profitability. These expenditures are aimed at increasing overall profitability, while accepting that the costs are not necessarily recovered from the specific customers that consume the offering. On the other hand, customer specific marketing expenditures, such as the provision of freezers free of charge to selected customers, are aimed at increasing the profitability of these specific targeted customers. These investments are relationship-specific investments (Johanson & Mattsson 1985) and are expected to have a pay-off in that specific customer relationship.

Thus, targeted marketing investments need to be recovered from improved customer profitability. There are two important dimensions to improvements in financial results from existing customers: improvements in customer retention, leading to an increase of the number of periods over which the investment is recouped, and improvements in sales and profits per period. We study these impacts with real-life customer data from a business-to-business supplier.

Modeling the customer profitability effect of targeted marketing expenditures

When is a marketing expenditure profitable with respect to individual customer profitabilities? When the expenditure is a large scale advertising campaign, allocation of costs and revenues at the individual customer level is not possible. However, these high-level marketing expenditures are relatively easily evaluated, by looking at aggregate numbers such as revenue increase in the targeted customer segment, possibly relative to competitors' performance (see Healey and Palepu (1995) for a practical firm-level example, and Hill, Piggott, and Griffith (2001) for an industry-level example). Looking at a more diffuse expenditure like increase in quality, the identification of the attributable effects is much more difficult, and consequently the evaluation of the expenditure is more problematic (Rust, Zahorik, and Keiningham 1995).

The analysis is simplified considerably if the marketing expenditure is targeted at a specific customer. For example, the offering of freezers to retail outlets by the company H.B. Ltd, as described by McDowell (1996), leads to truly customer specific expenditure. The costs of the freezer have to be recovered from an increase in sales revenue from this specific customer. Since costs and revenues are linked, we can model the impact of the marketing expenditure on this customer's profitability.

To do this, we consider a one-product firm. Its product has production costs of c per unit, and it is sold at price p. An individual customer i buys q_i units per period. In the customer relationship, all costs with respect to production of a unit are variable, so before customer specific activities (i.e. marketing activities) there are no fixed costs. The cost price c is given, so no customer-specific costs are incurred during the production process. The total profit per customer CP_i before any customer specific costs is

$$CP_i = q_i \cdot (p - c) = m_p \cdot S_i = m_{c,i} \cdot S_i$$

Customer profit is equal to the product margin m_p times sales revenue S_i. If no customer specific costs are made, the customer profit margin $m_{c,i}$ is equal to the product margin.

Now the firm incurs marketing costs for a specific customer: for example, it offers the customer the use of a vending machine. Offering this machine will lead to extra costs of E per period. The profit of the customer arises from p and q, so marketing expenditures can be aimed at increasing a customer's sales volume and at extracting a higher price from the customer. Considering these issues separately, we first look at the increase in sales. Suppose the investment results in an increase in sales of f percent. Denoting the new value of a variable with a prime and dropping the customer subscript i, the customer profit will become

$$CP' = m_c \cdot S' - E = m_c \cdot q' \cdot p - E = m_c \cdot (1 + f)q \cdot p - E$$

When marketing expenditures are aimed at increasing sales (in this case an increase with a percentage f), dollar customer profitability CP will increase if the extra contribution margins from f exceed the costs of the targeted marketing activity. This means that the percentage increase in sales has to be larger than $E / m_c S$, the marketing expenditure as a percentage of current customer profit. Looking at customer profitability margins, we get

$$m_c' = \frac{CP'}{S'} = \frac{m_c \cdot S' - E}{S'} = m_c - \frac{E}{S'}$$

We see that the customer profitability margin will always fall if the price remains constant.

In the same vein, we analyze the case where marketing expenditures allow a price increase of δ percent, while having no effect on units sold. Following the previous case, we get

$$CP' = m_c' \cdot S' - E = q \cdot (p' - c) - E = q \cdot ((1+\delta)p - c) - E$$

Total customer profit *CP* will increase when the increase in sales revenue δS exceeds the costs. The impact on the customer profitability margin is not immediately gauged. Some rearranging and substitution leads to the following:

$$m_c' = \frac{CP'}{S'} = \frac{q \cdot (p' - c) - E}{qp'} = \frac{q\delta p + q \cdot (p - c) - E}{q\delta p + qp} = \frac{\delta S + m_c S - E}{\delta S + S}$$
$$= \frac{m_c(\delta S + S) + (1 - m_c)\delta S - E}{\delta S + S} = m_c + \frac{(1 - m_c)\delta S - E}{\delta S + S}$$

The customer profitability margin will rise when $(1 - m_c)\delta S$ exceeds E. This is the case when δ, the price increase, is larger than $E/((1 - m_c)S)$. Whereas dollar profit increases whenever δ is larger than E/S, for the customer margin to increase this number has to be corrected by $1/(1 - m_c)$. In general, this is a small adjustment.

It is evident that analyzing the customer profitability effects of targeted marketing expenditures in this manner requires a number of assumptions. It is very difficult to identify marketing activities that would allow a price increase, would not have any effect on the units sold, and would also be aimed only at specific customers. However, the case of targeted activities aimed at increasing the sales volume of specific customers seems more realistic. For example, the previously mentioned provision of freezers by H.B. to retail outlets involved this very condition: H.B. made its ice cream available to retailers at the same price, whether or not these retailers used a freezer provided by H.B. (McDowell 1996, p 199). In this setting, we see that targeted marketing expenditures always lead to lower profit margins. Total profit will increase if the percentage increase in sales is larger than the marketing expenditure as a percentage of current customer profit.

Research site

We have access to the customer data of NNN (pseudonym), a firm active in the hygiene industry. NNN develops, markets, and services its products. The products are sold to industrial customers, either directly or through wholesalers. NNN is a business unit of a large diversified firm, and the production facilities are separate cost centers within the diversified firm. NNN pays standard transfer prices to the production facilities. As a consequence, the actual production costs are not relevant with respect to the current research project.

The products of NNN are used in a variety of settings: for example, in the kitchens of restaurants, by commercial contract cleaners, in the process installations of breweries. Depending on the application, customers receive extra advice on how to organize their hygiene, get support from service mechanics, and are sometimes offered free equipment to be used in conjunction with the hygiene products.

NNN's marketing and sales force is organized around market sectors. The classification of customers in sectors is specific to NNN, and is not based on SIC-codes. Typical sectors are contract cleaners, breweries, restaurants, and lodging. From discussions with company management, it became clear that the market for hygiene products is very competitive. There are two major players in the market, but management estimates that together they only hold a third of the overall hygiene market. Most of the competition comes from specialized companies, that cater specifically to the individual sectors of NNN.

Some years ago, NNN started a customer profitability project. The use of support and service activities is very different across customers, suggesting that profitability at the customer level may vary considerably. Costs were not well known at the individual customer level, but kept growing at the firm level. Together with the decreasing growth in sales revenue, this lead to pressure on NNN's results. A customer profitability project was initiated to provide more insight into costs and revenues, and help in

improving the results. The added insights proved valuable and prompted NNN to implement customer profitability analysis in day to day management. The data underlying this study covers the first four years of CPA data, extracted from NNN's sales database. Over these years, some changes were made to the customer profitability model. For example, the customer administration costs were first allocated based on orders, but this was not maintained throughout all years. Conversely, at first the sales force costs were allocated based on revenue, but later the sales force started recording sales visits, enabling the direct allocation of sales costs to customer relationships.

In our analyses, we use only those items that have been measured consistently over the four years that our study runs. This leads to the following customer profitability model:

(a) revenues: the net revenue (after discounts, rebates, and bonuses) is known per customer. Unfortunately, gross revenue per customer is not known, so the use of discounts as a marketing tool cannot be evaluated.
(b) product costs: the products bought by the customer are recorded at the intra-company transfer prices. As explained above, product costs cannot be influenced by NNN. There are no customer specific costs within the product costs (no tailor-made products).
(c) equipment: some customers are offered equipment free of charge. This equipment is recorded as an expense for the customer if it is a small amount; more expensive equipment is recorded as an asset and subsequently depreciated. Relevant costs are known for each customer.
(d) service: service mechanics record the time of all visits they make to customers, and the costs of the service department are allocated based on this time.

The customer profitability numbers that result from this model cover a substantial part of customer-specific costs. For example, knowing the product costs per customer allows the calculation of individual gross margins. In this respect, the model improves upon recent work such as Reinartz and Kumar (2000; 2003) and Venkatesan and Kumar (2004), who use average gross margins in performing customer profitability analyses.

Empirical results

We want to establish first, the effects of targeted marketing activities on customer retention, and second, the effects on customer profitability. From the customer profitability model, we have two items that can be viewed as customer specific marketing activities: service and equipment. Of these, equipment is truly a targeted marketing activity. Visits from service mechanics can be induced by complaints from the customers, but the provision of equipment is a decision that lies solely with NNN.

The effect on customer retention

To examine whether marketing investments improve customer retention, we look at the year-to-year retention rates. We do not have data on shorter intervals. Since this results in 4 periods on which we have customer data, application of advanced models as performed by e.g. Reinartz and Kumar (2000) to estimate customer lifetime is not possible. In Table 1 we segment the customers on their receiving free equipment. We see that 75% of all year 1 customers are still active in year 2, but that the retention rate differs significantly between the two segments: whereas 85% of customers receiving equipment in year 1 record sales in year 2, only 73% of non-targeted customers do so. For year 2 and year 3, the pattern is the same, with customers receiving equipment showing significantly higher retention rates.

equipm	yr1	yr2	%	yr2	yr3	%	yr3	yr4	%
yes	590	502	**85.1	724	571	**78.9	653	524	**80.2
no	2522	1837	72.8	2343	1592	67.9	2012	1356	67.4
	3112	2339	75.2	3067	2163	70.5	2665	1880	70.5

Table 1 Year-to-year retention rate of targeted versus non-targeted customer. For example, in yr1, 590 of 3112 customers received equipment; of these 590 customers, 502 recorded sales in yr2. ** denotes retention rates differ between the two segments at the 1% level according to a chi-square test.

To gauge the long-term effect on customer retention, we also examine the behavior of year 1 customers over the sample period. In Table 2, we see that of the 590 customers receiving equipment in year 1, 71% are still active in year 4. For non-targeted customers, the survival rate over 4 years is much lower at 45%. Again, all year-by-year retention rates are significantly higher for targeted customers. Thus, the use of free equipment as a targeted marketing investment is associated with higher rates of customer retention, both on the short and on the long term.

equip m	yr1	yr2	%	yr3	%	yr4	%
yes	590	502	**85.1	454	**76.9	421	**71.4
no	2522	1837	72.8	1462	58.0	1141	45.2
	3112	2339	75.2	1916	61.6	1562	50.2

Table 2 Long-term survival rates of customers. For example, of the 590 customers who received equipment in yr1, 421 were still active customers in yr4 for a survival rate of 71.4%. ** denotes survival rates differ between the two segments at the 1% level according to a chi-square test.

Targeted investments and profitability margins

We have data on 4,721 different customers. Not all customers are active in every year. The following four tables show descriptives for the four years. We present the mean and median of product costs, service costs, equipment and customer profitability (all as a percentage of sales). We also include bivariate correlations. We use non-parametric Spearman correlations, because the service and equipment variables are non-normally distributed. The significance of the correlations follows from $z = r\sqrt{(N-1)}$, with *z* the critical value for the required two-sided significance and *N* the number of observations (see e.g. Siegel and Castellan 1988, p 243). For all years, a correlation coefficient is significant at 5% if the absolute value of *r* is greater than .035, and at 1% for absolute values greater than .041.

	mean	median	sales	prod	serv	eq
sales	100					
prod%	33.17	30.33	.20			
serv%	7.41	0.00	.26	–.08		
equip%	3.21	0.00	.25	–.10	.68	
cp%	56.21	64.87	–.17	–.64	–.53	–.44

Table 3 Characteristics of customers in year 1. Total number of customers with sales in year 1 is 3112. Of these, 909 customers (29.2% of active customers) have incurred service costs; 590 customers (19.0% of active customers) have incurred equipment costs.

	mean	median	sales	prod	serv	eq
sales	100					
prod%	34.70	32.10	.16			
serv%	6.44	0.00	.27	–.05		
equip%	3.75	0.00	.22	–.09	.65	
cp%	55.11	62.49	–.13	–.66	–.54	–.46

Table 4 Characteristics of customers in year 2. Total number of customers with sales in year 2 is 3067. Of these, 969 customers (31.6% of active customers) have incurred service costs; 761 customers (24.8% of active customers) have incurred equipment costs.

	mean	median	sales	prod	serv	eq
sales	100					
prod%	34.02	31.67	.19			
serv%	4.01	0.00	.29	–.04		
equip%	3.42	0.00	.22	–.10	.65	
cp%	58.55	63.74	–.15	–.74	–.45	–.40

Table 5 Characteristics of customers in year 3. Total number of customers with sales in year 3 is 2665. Of these, 816 customers (30.6% of active customers) have incurred service costs; 654 customers (24.6% of active customers) have incurred equipment costs.

	mean	median	sales	prod	serv	eq
sales	100					
prod%	31.05	28.23	.19			
serv%	8.54	0.00	.24	–.01		
equip%	5.27	0.00	.21	–.03	.69	
cp%	55.14	65.84	–.14	–.60	–.63	–.58

Table 6 Characteristics of customers in year 4. Total number of customers with sales in year 4 is 2474. Of these, 843 customers (34.1% of active customers) have incurred service costs; 672 customers (27.2% of active customers) have incurred equipment costs.

The yearly descriptives show that only a minority of customers are targeted with free equipment, on average some 25%. We see that customer size has a negative correlation with customer profitability, implying that larger customers are less profitable. This is the result of larger customers receiving equipment and service more often, and of larger customers paying lower gross margins (note that the gross product margin is the inverse of product costs).

The effect on total profits and profitability margins

Customer profitability can be measured in profitability margins, and this reflects the essential interest in the concept: why is it that a dollar in revenue from one customer generates more profit than a dollar in revenue from another customer, to paraphrase Foster et al. (1996)? As is clear from the theoretical discussion, however, this is not necessarily the correct measure. The firm aims to increase total profit, not maximize the profitability margin. The effect of the marketing activity will only show up in the customer total profit, not the margin.

To analyse the impact of targeted activities on the profitability of customers, we examine the subsample of customers that are active throughout all four years of our study, segmented on their receiving equipment every year or never. There are 1,562 customers that record sales in each year. Of these customers, 320 receive equipment every year, and 939 do not receive equipment in any year. In Table 7 and Table 8, we present characteristics of these groups. In order not to reveal confidential profitability data, the sales and profit numbers are indexed to the median customer sales of the total customer group in year 1. Note the large difference between mean and median sales and profit in both monetary amounts and – to a lesser extent – margins, indicating a heavily skewed distribution. We see that targeted customers are much larger, both in sales and total profits; we also see that the profitability margin is much lower for targeted customers.

	yr1		yr2		yr3		yr4	
	mean	med	mean	med	mean	med	mean	med
sales	4720.4	670.7	4910.6	711.5	5200.3	614.8	5357.7	634.4
prod%	33.3	32.0	36.5	35.4	36.4	33.8	33.0	31.3
serv%	24.5	12.6	15.9	7.8	11.6	5.3	21.7	10.4
equip%	12.7	5.5	13.3	7.2	11.0	6.1	18.9	9.9
cp%	29.6	45.0	34.3	45.3	40.9	49.7	26.3	40.7
profit	2504.6	272.6	2425.1	262.6	2534.2	256.8	2385.7	186.5

Table 7 Characteristics of customers that are active in all four years, and receive equipment in all for years. Sales and profit are indexed to the overall median sales in year 1; other values are expressed as a percentage of sales. *n* = 320

	yr1		yr2		yr3		yr4	
	mean	med	mean	med	mean	med	mean	med
sales	662.1	158.8	654.8	172.1	714.7	163.7	683.1	147.7
prod%	34.1	31.3	35.3	33.0	34.2	32.4	30.3	27.8
serv%	1.5	0.0	2.0	0.0	1.0	0.0	1.9	0.0
equip%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
cp%	64.4	67.2	62.6	65.5	64.8	66.3	67.8	70.7
profit	411.6	99.0	394.0	107.9	437.1	105.7	420.4	101.5

Table 8 Characteristics of customers that are active in all four years, and never receive equipment. Sales and profit are indexed to the overall median sales in year 1; other values are expressed as a percentage of sales. *n* = 939. All values, except those in the shaded cells, are significantly different from those in Table 7 at the 1% level using a non-parametric Mann-Whitney test.

The median sales of targeted customers is some four times larger than that of non-targeted customers, the median profit is more than twice as big. The differences in mean are even larger: for example, the mean sales of targeted customers in year 4 is 5,358 as opposed to 683 for non-targeted customers. This indicates that the group of targeted customers has some very large customers. However, whereas the median customer profitability margin of targeted customers ranges from 40.7% to 49.7%, for non-targeted customers this is 65.5% to 70.7%. Also note that gross margins (the inverse of product costs) are somewhat higher for the smaller, non-targeted customers, with the difference in year 4 being significant at 1%, as indicated above. This can be the result of targeted customers buying lower margin products, or of these customers paying lower prices through obtaining discounts. What is clear, however, is that targeted customers do not generate higher gross margins.

Sales growth and profit growth

To see whether the provision of equipment leads to the development of customers in terms of increased sales and profits, we look at the median growth rates of the subsample used in the previous section. In Table 9 (Panel A), we see that the growth rates in sales do not differ substantially, but that gross profit and customer profit show a better development for non-targeted customers. Throughout the years, they show higher growth rates, with several significant differences. Most tellingly, the four year overall growth rate is substantially higher for non-targeted customers, with the customer profit having grown almost 8%, whereas the median change in customer profit for targeted customers is almost –40%. Because closer inspection reveals a very high variation in growth percentages for individual customers, we also look at the group totals in Panel B of Table 9. For example, the sales of all 320 customers that always receive equipment are summed together in each year, and growth rates are calculated from this. This is also done with gross profits, and customer profits. In this case, the picture is slightly less dramatic, with the sales of the always targeted group growing over 13% from year 1 to year 4, compared to 3% for the non-targeted group. However, gross profit and customer profit still show a decline for targeted customers.

	yr1 - yr2	yr2 - yr3	yr3 - yr4	yr1 - yr4
Panel A: median growth rates				
sales				
always	2.71	-6.06	-0.68	-5.26
never	2.44	1.67*	-3.09	2.41
gross profit				
always	-1.90	-5.80	-2.61	-3.44
never	0.39	3.60**	1.52	8.96**
customer profit				
always	-17.40	-10.89	-28.73	-39.67
never	.02*	4.01**	1.16**	7.85**
Panel B: group growth rates				
sales				
always	4.03	5.90	3.03	13.50
never	-1.10	9.16	-4.43	3.18
gross profit				
always	-2.35	0.07	2.29	-0.04
never	-4.05	10.34	-3.22	2.45
customer profit				
always	-3.17	4.50	-5.86	-4.75
never	-4.28	10.95	-3.82	2.14

Table 9 Year-to-year and four year overall median growth percentage (Panel A) and group growth percentage (Panel B) of sales, gross profit and customer profitability; 'always' denotes customers who are active for four years and receive equipment every year (n = 320), 'never' denotes customers who are active for four years and never receive equipment (n = 939). * indicates that the median of the group is larger than that of the other group at the 5% level according to the Mann-Whitney test, ** at the 1% level.

From the growth rate comparison, we can conclude that the use of targeted marketing investments in the form of free equipment has a mixed impact on sales growth: at the group level, sales do increase more than that of the non-targeted group, but at the level of the individual customer there is no positive impact. The effect on the bottom line in the form of customer profitability is negative at both the group and individual customer level.

Conclusions

We study the impact of targeted marketing investments (in this case the provision of free equipment to selected customers) on customer retention and customer profitability. On the basis of customer sales and service data over a period of four years in a business-to-business setting, we find that customers who are targeted with customer specific relationship investments show higher retention rates, and that these customers have higher sales and higher profits. However, both the product margin and the profitability margin of targeted customers are substantially lower than that of non-targeted customers. It is usually the larger customers, who generally also have lower product margins, who receive free equipment. The equipment costs depress the already lower product margins of larger customers into even lower profitability margins.

The development of customers in terms of sales and profit growth is much better for non-targeted customers than for targeted customers. The use of targeted marketing activities does not seem to help in developing customers with respect to profitability.

In all, the case suggests that targeted marketing activities are much more a tool for managing and maintaining customer relationships than for generating extra returns. The data shows that these investments are associated with lower levels of customer defection, although it does not allow us to claim a causal relationship between this type of investment and customer retention. It is important to note that the lower rates of profitability and growth of targeted customers reported in tables 7 to 9 do not look very good, but that the retention rates, and especially the total profit numbers of table 7 suggest that the marketing activities are worthwhile.

The type of investment studied in this case is an example of an investment that cannot be easily redeployed in another relationship. As such it is a token of commitment from the supplier to the customer. According to Rokkan, Heide, and Wathne (2003), such an investment can lead to a bonding effect between supplier and customer, strengthening the relationship and leading the customer to refrain from opportunistic behavior, provided that the relationship is characterized by a strong norm of solidarity. In the absence of such a strong norm of solidarity, targeted investments may lead to an expropriation effect: opportunistic expropriation of value on the part of the receiver (in our case the customer). Indications of such opportunistic behavior could be paying lower prices, or demanding more services from the supplier. Firm conclusions about whether the investments in our case lead to expropriation or bonding would require additional research, but it is striking that customers who receive free equipment have significantly lower product margins than customer who do not receive free equipment.

The outcomes of this study suggest that there is little ground for marketers to claim in this case that the provision of free equipment at the customer site will pay itself back through increased share of wallet, cross-selling or up-selling. This analysis clearly shows that the returns on marketing investments are more elusive than many marketers may assume in the absence of hard customer profitability data.

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