THE EFFECT OF ACQUISITION CHANNELS ON CUSTOMER LOYALTY AND CROSS-BUYING

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Acquisition channels are important predictors of customer loyalty in the first stages of a business–consumer relationship. Although some researchers have provided examples of the differences in the value of the customers businesses acquire via different channels, they have not considered the impact of acquisition channels on loyalty and cross-buying. Using probit-models we explored how retention rates and cross-selling opportunities differ among the various acquisition channels a financial-services provider uses. Our results indicate that the direct-mail acquisition channel performs poorly on retention and cross-selling, while radio and TV perform poorly for retention only. The firm's Web site seems to perform well for retention. The theoretical and practical implications of our results are discussed.

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The authors acknowledge the data support of a Dutch financial service provider and the research support of Sabrina Benaouda, Kenneth Gopal, Robin Nicolai, and Mahir Sari. They also thank two anonymous reviewers for their comments.

JOURNAL OF INTERACTIVE MARKETING VOLUME 19 / NUMBER 2 / SPRING 2005
Published online in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/dir.20033

INTRODUCTION

Firms use different channels to acquire customers. For example, they see customers using direct-mail, direct-response advertising in mass media (print, television, and radio), the Internet and telephone (Roberts & Berger, 1999). Analysts considered customer acquisition and relationship management to separate processes for a long time. Recently, they have acknowledged that the acquisition of customers also affects development of customer relationships (Blattberg, Getz, & Thomas, 2001; Thomas, 2001). For example, customers acquired with very attractive pricing offers are probably also inclined to defect when they receive attractive offers from competitors.

From the perspective of managing a customer relationship, a number of customer behaviors are important. According to Blattberg et al. (2001) customer defection and cross-buying (or add-on selling) are particularly important behaviors. Other researchers also have labeled these behaviors as essential (Bolton, Lemon, & Verhoef, 2004; Hogan et al., 2002; Reichheld, 1996). Customer retention as a measure of relationship continuation and cross-selling can be considered a measure of relationship development or relationship extension. In this sense Bolton et al. (2004) see cross-buying as an indicator of the breadth of the relationship and customer retention as an indicator of the length of the relationship.

Despite the acknowledgement that firms' acquisition tactics affect customers' behavior within the relationship, only a few researchers have investigated this issue empirically. Keane and Wang (1995) showed that the acquisition channel determines lifetime value of customers, while Thomas (2001) showed that the acquisition channel affects customer retention. Shankar, Smith, and Rangaswamy (2003) compared Internet-customers' loyalty with store-customers' loyalty in the travel market and concluded that the Internet reinforces loyalty and strengthens the positive relationship between satisfaction and loyalty. Bolton and colleagues (2004) put forward some general propositions about the effect of the acquisition channel on customer behavior. However, no empirical studies have considered a wide variety of acquisition channels and their impact on both customer loyalty and cross-buying.

We tried to fill this research gap. Our main objective was to investigate the impact of a wide variety of channels firms frequently use on customer loyalty and cross-buying in the early stages of their relationships with customers. We used data on 3,317 customers of a financial-services provider concerning the acquisition channel, their sociodemographics at the individual and at the zip-code level, customer loyalty and cross-buying. We used probit models to empirically establish the effect of the acquisition channel on retention and cross-selling. We then combined these two factors into a measure of total sales after the first year.

We structured this article as follows. We first discuss the theoretical impact that acquisition channels might have on customer behavior; following this we present our data and our econometric model. We then give our empirical results, and conclude with a discussion of the managerial implications, and issues for further research.

ACQUISITION CHANNELS

Firms use different channels to acquire customers. The fast developments in interactive communication channels (for example, call centers, the Internet, and e-mail) have increased the number of possible channels available (Forrest & Mizerski, 1995; Peppers & Rogers, 1999). Acquiring customers has become a more complex task than it used to be, because each channel has specific characteristics. In general, we can distinguish the following acquisition channels (Bolton et al., 2004; Coughlan, Anderson, Stern, & El-Ansary, 2001; Roberts & Berger, 1999):

1. Mass media (TV, radio, and print)
2. Direct marketing (direct mail and outbound telephone)
3. The Internet (e-mail and Web sites)
4. Personal selling (door-to-door and networks)
5. Intermediaries (agents, dealers, and retail chains)
6. Word of mouth (telling friends about the firm)

The mass media channel concerns television, radio, and print (newspapers and magazines). To acquire customers, firms usually use direct response commercials (Tellis, Chandy, & Thaivanich, 2000; Verhoef, Hoekstra, & Van Aalst, 2000). Traditional

direct-marketing acquisition channels include direct-mailings and outbound telephone (telemarketing). Internet acquisition channels usually consist of e-mail campaigns and Web sites. Like direct-mailings, e-mail messages are usually originated by firms. To visit Web sites, customers take the initiative to communicate with the firm (Hoffman & Novak, 1996). Personal selling takes a number of forms, for example, door-to-door selling and network selling (for example, Tupperware parties). The different types of intermediaries include agents (for example, insurance agents), dealers, and retail chains (Coughlan et al., 2001). Word of mouth, or customer referrals, is a special type of acquisition channel: Current customers of the firm acquire new customers for the firm by informing their network (friends, relatives, or colleagues) about the firm. Some firms try to stimulate customer referrals by running member-get-member programs (Verbeke, Peelen, & Brand, 1995). However, in many cases, customers make referrals in a nondirected way, mainly because they have had positive experiences with the firm (Anderson, 1998).

We focused on the acquisition channel as a medium. In each acquisition channel (or medium), the firm may communicate different messages (content) which might also affect customer behavior. We did not explicitly take the message content into account. However, in our discussion of the theoretical effect of acquisition channel on customer loyalty, we argue that some channels are more suited, or more used for certain messages than for others.

In our study we considered four of the six categories of acquisition channel:

1. Mass media: Direct-response advertising on TV and radio, and direct-response print advertising
2. Direct marketing: Direct mail; outbound telephone, and an in-house magazine
3. Web sites: The firm's Internet Web site
4. Word of mouth

Firms could rely on empirical data in choosing channels. The data we used in our study came from a direct writer in the financial-services industry that does not use intermediaries and personal-selling methods. Thus, we are not able to include these channel types. The firm's magazine is an in-house publication it sends to customers and to some prospects.

ACQUISITION CHANNELS AND CUSTOMER LOYALTY

Essentially, two theoretical explanations are possible for the impact of acquisition channels on customer loyalty. Similar explanations hold for subsequent customer decisions, such as decisions to cross-buy. First, the channel characteristics may cause this impact. Second, the characteristics of customers using the channel may cause the impact.

Bolton and colleagues (2004) propose two important channel characteristics that may explain why some channels create more loyalty than others. First, they argue that acquisition channels that focus heavily on price (rather than brand image or service quality) will create less customer loyalty. Second, acquisition channels that offer a firm opportunities to create economic or social bonds with customers during the start of the relationship will create more loyal customers faster than those that don't. Based on these principles, Bolton et al. (2004) argue that direct mailings especially attract customers who will not be loyal, because direct mailings often focus heavily on low prices. Conversely, mass media channels that emphasize brand-related information will attract loyal customers. Word of mouth can also be expected to attract loyal customers. Some researchers have argued that the Internet can provide social benefits in addition to its marketing function, which should lead to customer loyalty. Besides the social benefits of the Internet, researchers have pointed to possible lock-in effects of the Internet (Reichheld & Schefter, 2000). Recently, a number of researchers have empirically tested the impact of the Internet on customer loyalty (Degeratu, Rangaswamy, & Wu, 2000). Shankar, Smith, and Rangaswamy (2003) investigated the difference in customer loyalty between store customers and Internet customers in the travel industry. They argued that Internet customers should be more loyal than non-Internet customers because of the lock-in effects and because the Internet provides extensive information, which should lead to less dissatisfaction. In their empirical study, they showed their ideas to be true. However, the Internet may also cause customers to focus on price because it increases market transparency (Sinha, 2000).

The second explanation for differences in customer behavior relates to the type of customers attracted via

a channel. Customers attracted via different channels may differ in their sociodemographic, psychographic, and other characteristics. For example, in the early days of the Internet, the user population consisted mainly of young, well-educated, high-income people. These customers are known to be less deal-prone and more loyal than other customers (Blattberg & Neslin, 1990). Now that the Internet has been widely adopted, the Internet population resembles the total population more closely. In our empirical model, we controlled for some customer characteristics by incorporating sociodemographic customer information.

Although one can imagine that the acquisition channel would affect customer retention, its effect on cross-buying is perhaps less straightforward. Cross-buying can be considered an extension of the relationship. Verhoef, Franses, and Hoekstra (2001) showed that cross-buying is affected mainly by the marketing instruments applied during the relationship, such as targeted direct mailings and loyalty programs. They also showed that satisfaction has no effect on cross-buying, while customers that perceive the firm as offering low prices are more likely to cross-buy. These results have three important implications for the effect of the acquisition channel on cross-buying. First, the effect might not be very strong, because marketing efforts during the relationship are the main drivers of cross-buying behavior. Second, the finding that satisfaction does not increase cross-buying indicates that channels that improve customer satisfaction do not necessarily increase cross-buying. Third, channels that improve price perceptions might increase the probability of customers' cross-buying. Thus, channels with attractive prices may increase cross-buying. However, the downside of these channels is that they may attract more price-sensitive customers.

The product that is purchased on the first purchase occasion also has a role in determining the impact of the acquisition channel on customer loyalty. For instance, Peterson, Balasubramanian, and Bronnenberg (1997) found that the attractiveness of purchasing products or services on the Internet depends on the type of product. Some channels may be used more frequently for the purchase of certain services than others. For our financial-services provider, customers might use the company Web site more readily to buy automobile insurance than to obtain loans. More important, however, is that the impact of a channel may differ across services. For homogeneous or simple products or services (products whose attributes are easy to compare) the Internet may increase customers' switching opportunities by improving market transparency (Sinha, 2000), while for heterogeneous or complex products or services, the information provided and the customization of the Web site may increase switching barriers. We accounted for these two product-related effects by incorporating the purchased service in our model and by estimating separate models for each service considered.

Based on the literature, we found it difficult to come up with specific hypotheses on the effects the various acquisition channels have on customer loyalty and cross-buying. Substantial evidence shows that the acquisition channel affects customer loyalty. Its effect on cross-buying is less straightforward. For some channels, we could construct a specific hypothesis on expected effects. For instance, we would expect direct mailings to attract less loyal customers than other channels. For the other channels we considered, the effects are less clear. Another complicating factor is that the acquisition channels differ in their characteristics and in message content. When the message content differs among the channels, it may obscure the effect of the channels' characteristics. Unfortunately, although firms have started to store data on acquisition channels, they seldom store the message content of each channel. Hence, it is generally not feasible to disentangle these two effects. We therefore have not come up with specific hypotheses for each of the channels. Instead we advance one general hypothesis:

> **H1:** The nature of the acquisition channel influences (a) customer loyalty and (b) cross-buying in the early stages of the customer relationship.

DATA

Our data includes 3,317 customers acquired by a Dutch financial-services provider between January 1, 1999 and July 1, 1999. The financial-services provider, a direct writer, offers a wide variety of financial services, including automobile insurance, housing insurance, health insurance, and loans. It relies on a number of acquisition channels, using them differently for different services.

We observed the behavior of these 3,317 customers during the first year after the date of their acquisition; for example, a customer acquired on March 1, 1999 was observed through March 1, 2000. Thus, although we followed customers for one year, the time period on the calendar differs across customers. In our analysis, we considered three possible changes in purchase behavior over the year:

1. Customer defection: Customer does not purchase any service at end of observed year.
2. Customer retention—no cross-selling: Customer continues to purchase the same service(s).
3. Customer retention—with cross-selling: Customer continues to purchase the service and also purchases one or more additional services.

Besides the customers' purchase behavior, we observed the acquisition channels for these 3,317 customers. During the first 6 months of 1999, the firm recorded the acquisition channel of each customer as it acquired the customer. For some channels this was rather straightforward (for example, direct mailings). However, for other channels this was more complicated (for example, word of mouth). In these cases, the firm asked customers via which channel they had entered the relationship. In addition to the six usual channels, the firm used a specific acquisition channel, called co-insurance. It offered employers or large interest groups special arrangements (for example, price reductions) for their employees or members on certain types of insurances (for example, health insurance for employees and housing insurance for members of a homeowners interest group). In general, the customers get a good deal and incur high switching costs, which should promote customer loyalty. For this firm, the co-insurance channel and word of mouth are its most important means for acquiring customer. Moreover, the acquisition channel used is correlated with the type of service purchased (Table 1).

Besides customers' behavior and the acquisition channels, we collected the following data. From the firm's database we collected the sex and age of customers and the type of services they initially purchased. From a commercial database, we obtained zip-code level information on 11 ordered customer characteristics: home ownership, income, urbanization level, car penetration, car age, car price, social class, type of health insurance, credit percentage, saving percentage, and education. To reduce the data, we used principal-components analysis to reduce these 11 characteristics to a small number of underlying dimensions. Based on the eigenvalue criterion, we selected two principal components: wealth (income, house ownership, car price, social class) (PCWEALTH) and urbanization level (urbanization) (PCURBAN). We formed these principal components at the zip-code level. In the Netherlands, data at the zip-code level is highly disaggregated; a unique zip code contains 25 households at most and 17 households on average. Using the zip-codes of the 3,317 customers, we merged these principal components with the customer database. For confidentiality reasons, we provide no descriptive statistics on our sample.

TABLE 1 Distribution of Acquisition Channels and Service Types (N = 3,317)

	TYPE OF SERVICE				
CHANNEL	**AUTOMOBILE**	**HOUSING**	**HEALTH**	**OTHER**	**TOTAL**
TV and Radio	7	3	**56**	2	**15**
Print	3	1	1	**23**	**3**
Direct Mail	**13**	**13**	**16**	**25**	**14**
Outbound Telephone	1	1	2	2	**1**
Magazine	1	2	1	1	**1**
Web Site	3	5	7	7	**5**
Word of Mouth	**39**	**23**	3	**22**	**26**
Co-Insurance	**33**	**52**	**14**	**17**	**35**
Total	100%	100%	100%	100%	100%

ECONOMETRIC MODEL

Because customer retention is a binary variable (0 = defection; 1 = retention), we used the probit model to estimate the effect of the acquisition channel on customer retention (Franses & Paap, 2001). We also considered the type of service purchased, sex, age, and the zip-code-based sociodemographic information as explanatory variables. In our analysis, we considered the four categories of insurance most important to the company: automobile insurance, housing insurance, health insurance, and other types of insurance.

Because only customers who stay loyal to the company cross-buy, we estimated the effect of the acquisition channel on cross-buying only for retained customers. For these customers, cross-buying is also a binary variable (0 = no cross-buying; 1 = cross-buying). We therefore used the probit model to estimate the effect of the acquisition channel on cross-buying. We included the same explanatory variables as used in the customer-retention model.

The probit-model is formulated as follows:

$$\text{Prob}(Y_i = 1) = \Phi(X_i\beta) \quad (1)$$

where Y_i is the value of the dependent variable for customer i (retention or cross-selling), and X_i is a vector of explanatory variables, β is a vector of regression parameters, and Φ the cumulative normal distribution function. In this specific case,

$$X_i\beta = \beta_0 + \beta_1 Acquisition + \beta_2 Service + \beta_3 Sex + \beta_4 Age + \beta_5 PCWealth + \beta_6 PCUrban \quad (2)$$

In this equation, β_1 and β_2 represent vectors of parameters on the effect of the different acquisition channels and the effect of the different service types.

We included acquisition channels as dummy variables in the probit models. We used the special case of co-insurance as the base category. These dummy variables have the value 1 if the firm acquired the customer via that particular channel and the value 0 otherwise. Customers can be acquired only via one channel. Because of the specific nature of the co-insurance we might expect that most of the other acquisition channels would perform worse than co-insurance. Therefore, we would expect negative signs of the dummies of the acquisition channels. To further assess the differences among the acquisition channels, we used Wald-tests to determine whether the coefficients of the different acquisition dummies differ significantly.

In our original probit model, we pooled the data for the different service types. However, because the effects of our explanatory variables may differ across service types, we used a pooling test to assess whether this was the case. Because pooling was rejected, we report the empirical results of the probit models for the different service types. In these separate models, we did not include service type as an explanatory variable.

CUSTOMER LOYALTY

Overall Model

The probit model explains a significant amount of the variance in customer loyalty ($p < 0.05$), and the pseudo R^2 of McKelvey and Zavoina (1975) is approximately 16% (Table 2). To avoid identification of the firm's overall retention rates, parameter estimates on the intercept are not reported. In general, the results support the idea that acquisition channels affect customer retention. Of the seven acquisition channels we considered, five have a significant effect on retention. In line with our expectations, all coefficients are negative, indicating that, compared to the co-insurance acquisition channel, the regular channels perform worse in terms of their retention rates. Among the six regular channels, we found that direct mail, TV and radio ($p < 0.05$) perform similar to each other ($p > 0.10$). A second group of acquisition channels (co-insurance, outbound, and magazine channels) perform better than the other channels. Finally, a third group (Web site, print, and word of mouth) showed intermediate performance with respect to the retention rates achieved. However, these results for the effect of the channels may be affected by their use for different service types. Finally, we found that women are less likely to defect than men ($p < 0.05$), and wealthy, older people and people in less urbanized areas are less likely to defect than their opposites ($p < 0.05$). We also found that customers buying housing insurance were less likely to defect than those who purchased other types of insurance.

Models Per Service Type

We used the likelihood ratio test to examine whether pooling over service types was the appropriate modeling strategy. This test revealed that not pooling the data over the four service types results in a significantly better model fit ($p < 0.05$). We therefore also examined the effect of acquisition channels for the four service types. We excluded some channel types from these separate models, because we have few observations for that channel per service type (Table 1). Again we found significant effects for the acquisition channels in the

TABLE 2 Probit Model Estimation Results for the Effect of Acquisition Channel on Retention ($N = 3{,}317$)

	TYPE OF SERVICE				
CHANNEL	**POOLED**	**AUTOMOBILE**	**HOUSING**	**HEALTH**	**OTHER**
TV and Radio	−0.68**	−0.88**	0.04	−0.88**	—
Print	−0.44**	−0.75**	—	−1.63**	−0.03
Direct Mail	−0.71**	−0.53**	−0.89**	−0.87**	−0.03
Outbound Telephone	−0.16	−0.60	−0.07	−0.22	—
Magazine	−0.34	−0.45	0.10	−1.13**	—
Web Site	−0.32**	−0.54**	0.04	−0.51	0.07
Word of Mouth	−0.39**	−0.79**	−0.04	−0.96**	−0.71**
Sex (0 = Female, 1 = Male)	−0.21**	−0.31**	−0.05	−0.27*	−0.55
Age	0.01**	0.02**	0.00	−0.01	0.02**
PCWealth	0.23**	0.19**	0.32**	0.19**	0.24**
PCUrban	−0.07**	0.01	−0.16**	−0.02	0.06
Service Type: Housing	0.34**	—	—	—	—
Service Type: Automobile	0.12	—	—	—	—
Service Type: Other	0.11	—	—	—	—
McKelvey & Zavoina R^2	0.16	0.18	0.35	0.13	0.51
LR Test Model p-Value	0.00	0.00	0.00	0.00	0.00

** $p < 0.05$; * $p < 0.10$.

four models. Thus, we found further support for our hypothesis that the acquisition channel affects customer retention.

For automobile insurance our results showed negative effects for all the included channels, although the effects for the magazine and outbound telephone were not significant. Thus, again most channels performed significantly worse than the co-insurance type of acquisition. We tested which coefficients differed significantly from each other and found that TV and radio, print, and word of mouth had significantly larger coefficients than Web site and direct mail ($p < 0.05$).

In the case of housing insurance, we found significant differences between the acquisition channels, although only direct mail performed significantly worse than the co-insurance channel. Again we found negative coefficients for all the channels considered compared to the co-insurance channel. In testing for differences in the coefficients of the different acquisition channels, we found that direct mail performs significantly worse than Web site and word of mouth. With respect to the other explanatory variables, we found a positive effect for age and wealth. Urbanization reduces the loyalty of customers who entered their relationship with the firm buying housing insurance.

For health insurance, we found that the co-insurance channel outperforms all other channels, with five of the seven differences significant at the 5% level. The worst performance is provided by the TV and radio, print, magazine, and word-of-mouth channels ($p < 0.05$). As with the other service types, we found that the wealth principal component had a significant positive effect ($p < 0.05$).

The probit model of our last service category (other) showed that word of mouth had a significant negative effect. We found no significant effects for the other channels. The differences between channels were not significant. We found that age had a positive effect ($p < 0.05$) and wealth had a significant positive effect ($p < 0.05$).

Simulation

A difficult issue with interpreting the coefficients of the probit model is in understanding the net effect on the dependent variable. Using the estimation results (Table 2), we calculated the retention probability for each customer. We then averaged these predictions for all the customers acquired through a given channel, who purchased a particular type of insurance. These predictions therefore include the direct effect of the channel and account for heterogeneity in, for instance, demographics across the channels. In particular, the Web site might attract young customers, who, according to our model estimates, are less loyal than old customers.

We calculated the average predicted retention rate for each insurance type, in deviation from the average retention rate for that insurance type. The insurance company does not allow us to reveal actual retention rates, but in this industry these are rather high. For example, the −0.6 for automobile insurance in Table 3 indicates that the retention rate on customers acquired buying automobile insurance is 0.6 percentage points below the average retention rate for all acquired customers. Similarly, the predicted retention rate for a customer purchasing automobile insurance, who was acquired through co-insurance, is on average 8.2 percentage points higher than the retention rate for the average customer who purchases automobile insurance. In this way, we corrected for the effects of the product being purchased. The predicted retention rates differ substantially across the acquisition channels. The retention rates of the acquisition channels also differ across the various types of insurance. It was rather difficult to decide on the effect of each channel, except for the co-insurance channel. Its performance is above average in all categories and has the best performance for three of the four insurance types. For the other acquisition methods, we found that direct mail, TV and radio performed poorly. The Web site performed well for health insurance, close to the average for housing and other insurance, but poorly for automobile insurance. The reason for its poor performance for automobile insurance could be that people can easily compare automobile insurance policies on the Web site and incur low search costs. In general, comparing insurance policies for the other types of insurance is less straightforward. We expected that customers acquired via word of mouth would be loyal. Our results indicate, however, that word of mouth performs below average for almost all services and has the worst performance for health and other insurance.

TABLE 3 Predicted Retention Rates (In %) Per Product

	TYPE OF SERVICE				
CHANNEL	**AUTOMOBILE**	**HOUSING**	**HEALTH**	**OTHER**	**TOTAL**
TV and Radio	**−14.2**	2.3	−2.8	—	**−9.8**
Print	**−7.4**	—	—	4.4	−0.4
Direct Mail	0.6	**−23.6**	−3.9	4.0	**−7.6**
Outbound Telephone	—	2.5	**10.7**	—	4.5
Magazine	**−5.2**	3.2	—	—	0.2
Web Site	**−11.3**	3.9	**6.1**	1.2	0.1
Word of Mouth	−2.8	1.6	**−7.3**	**−14.4**	−1.4
Co-Insurance	**8.2**	4.4	**15.5**	**3.8**	**8.2**
Total	−0.6	4.4	−6.7	0.9	

Note. For each channel deviations from the average retention rate per service type are reported.

CROSS-BUYING

Overall Model

We estimated the probit model for cross-buying only for customers the firm retained (Table 4). With this model, we explained only a small part of the variance (Pseudo $R^2 = 0.05$). The model's low-explanatory power is in line with the suspected weak effect of the acquisition channel on cross-buying. For the co-insurance channel, we found one significant positive effect for outbound telephone and a negative effect for direct mail ($p < 0.05$). Again, we found support for acquisition channels' impact on cross-buying in the pooled model, although weaker support than in the retention model. Finally, we found that some services have more cross-selling potential than others, with automobile and other insurance types having the least.

Model Per Service Type

We also used a likelihood ratio test to assess whether pooling of the parameter estimates over service types

TABLE 4 Probit Model Results for the Effect of Acquisition Channel on Cross-Buying

	TYPE OF SERVICE				
CHANNEL	**POOLED**	**AUTOMOBILE**	**HOUSING**	**HEALTH**	**OTHER**
TV and Radio	−0.15	−0.26	0.35	−0.45**	—
Print	0.01	0.39	0.09	—	−0.75*
Direct Mail	−0.29**	−0.31*	−0.13	−0.41*	−1.10**
Outbound Telephone	0.52**	—	0.98**	0.16	—
Magazine	0.37	—	0.80**	0.47	—
Web Site	−0.02	0.55**	0.03	−0.98**	−0.33
Word of Mouth	−0.04	−0.16	0.13	−0.03	−0.32
Sex (0 = Female, 1 = Male)	0.01	0.04	0.07	0.07	−0.30
Age	−0.00	−0.00	0.00	−0.01	−0.01
PCWealth	−0.03	−0.07	0.01	0.03	0.03
PCUrban	0.02	−0.07	0.17**	−0.15**	0.06
Service Type: Housing	0.10	—	—	—	—
Service Type: Automobile	−0.20*	—	—	—	—
Service Type: Other	−0.22	—	—	—	—
McKelvey & Zavoina R^2	0.05	0.29	0.05	0.16	0.51
LR Test Model *p*-Value	0.02	0.01	0.00	0.03	0.02

** $p < 0.05$; * $p < 0.10$.

is allowed. We found that not pooling leads to a significantly better model fit ($p < 0.05$).

The probit model for automobile insurance also explains a significant amount of the variance (Pseudo $R^2 = 0.29$). We found that the Web site had a significant positive effect and direct mail a negative effect. With one channel having a positive and one a negative effect and the other acquisition channels in between, acquisition channels for automobile insurance clearly vary in their effect on cross-buying behavior.

The probit model results for housing insurance showed that outbound telephone and magazine perform significantly better than the other channels. Furthermore, for this insurance type the results supported our hypothesis. We also found the acquisition channel had significant effects on cross-buying for health insurance. These effects were negative for the Web site, TV and radio ($p < 0.05$), and direct mail ($p < 0.10$) channels. Urbanization affects cross-buying for housing and health insurance.

In the last probit model, we also found that the acquisition channels we considered had some significant effects. The print and direct-mail channel have negative effects on customers' cross-buying behavior. Thus, also in the category other insurance we found some support for our proposition that the acquisition channel influences cross-buying.

Simulations

To illustrate the estimation results, we calculated cross-buying probabilities (Table 5) as we had predicted retention rates (Table 3). Because we found few significant effects of the acquisition channels, the provided probabilities often do not differ significantly. The results show that direct mail performs poorly for all insurance types, while outbound telephone and magazine perform very well, although we had a limited number of observations for these channels. Results were mixed for the Web site. It had the best performance of any channel for automobile insurance and the lowest cross-buying probability for health insurance.

TABLE 5 Predicted Cross-Buying Rates (In %) Per Product

	TYPE OF SERVICE				
CHANNEL	**AUTOMOBILE**	**HOUSING**	**HEALTH**	**OTHER**	**TOTAL**
TV and Radio	−2.5	**7.1**	−1.4	—	−1.9
Print	**11.0**	—	—	**−5.5**	−1.2
Direct Mail	−3.8	−1.1	−2.4	**−7.0**	−4.2
Outbound Telephone	—	**30.0**	**11.5**	—	**17.4**
Magazine	—	**21.4**	—	—	**12.6**
Web Site	**15.9**	−1.2	−7.3	4.6	1.9
Word of Mouth	−0.9	1.4	**10.9**	4.2	−0.1
Co-Insurance	0.9	−1.2	**6.6**	**8.7**	1.5
Total	−2.7	4.2	−0.6	−3.4	

Note. For each channel deviations from the average cross-buying rate per service type are reported.

COMBINING CUSTOMER LOYALTY AND CROSS-BUYING

In addition to the channels' effects on customer loyalty and cross-buying, a firm might be interested in the various channels' effects on the value to be derived from the customer. In many cases, a trade-off exists between retention and cross-selling. Customers acquired through the Web site and purchasing automobile insurance are less likely to stay, but, when retained, they are more likely to cross-buy. The reverse is the case for customers buying health insurance through the Web site. We therefore calculated the predicted average number of insurance policies purchased after one year, an indication of customer loyalty and cross-buying. Assuming that the customer buys only one additional product in the case of cross-buying, the mathematical formulation for the average number of products purchased is

$$\text{Pred}(\#\text{Serv})_{i,t} = \text{Prob}(\text{retention})_{i,t} \times [1 + \text{Prob}(\text{cross-buying})_{i,t}] \quad (3)$$

We consider this average number of insurance policies (Table 6) a proxy for the value extracted from the customers, assuming no differences in margin between services. We found that the cross-buying activities for outbound telephone and magazine cause these channels to perform very well overall, even better than the co-insurance channel, although these estimates are based on a low number of observations for these two channels. The TV and radio and direct mail channels produced substantially lower sales levels a year after acquisition. Print advertising, word of mouth and the Web site performed close to the average, with word of mouth having a poor performance for other insurance types. We notice also the large differences between the insurance types, with housing having much more upward potential than health insurance.

LONG-TERM EFFECTS OF ACQUISITION CHANNELS

We have considered whether different acquisition channels resulted in different customer behavior during the first year, in particular different degrees of loyalty and cross-buying probabilities. An interesting question is whether the acquisition channel also leads to differences in behavior after the first year. To analyze this, we estimated the same models for the second year of the relationship. We included only customers who did not defect in the first year. It turns out that much of the heterogeneity across the various

TABLE 6 Predicted Average Number of Insurances Purchased

	TYPE OF SERVICE				
CHANNEL	**AUTOMOBILE**	**HOUSING**	**HEALTH**	**OTHER**	**TOTAL**
TV and Radio	**−0.174**	0.090	−0.043	—	**−0.121**
Print	0.003	—	—	−0.005	−0.018
Direct Mail	−0.026	−0.305	−0.062	−0.022	**−0.122**
Outbound Telephone	—	**0.307**	**0.218**	—	**0.215**
Magazine	—	**0.235**	—	—	**0.110**
Web Site	−0.008	0.034	0.005	0.052	0.014
Word of Mouth	−0.038	0.031	−0.002	**−0.130**	−0.017
Co-Insurance	0.098	0.040	**0.234**	**0.117**	**0.106**
Total	−0.031	0.087	−0.079	−0.018	

Note. For each channel deviations from the average per service type are reported.

channels disappeared after the first year. For customer retention, we found the acquisition channel had a significant effect because the co-insurance channel has such a high retention rate. The other channels do not differ significantly. For cross-buying, the result is even clearer: The channels do not differ significantly. This finding implies that the differences in the predicted number of insurance policies will be persistent (Table 6). The only exception is the co-insurance channel, where retention is higher, so its relative performance will be even better for longer time periods.

DISCUSSION

We examined the effect of acquisition channels on customer loyalty and cross-buying. Assuming that acquisition channels affect customer behaviors, we found indeed that customer loyalty differs among channels. We also found the acquisition channels had some effect on cross-buying. However, these effects are weaker than those for loyalty. Cross-buying, requires a second step in the relationship, which is probably influenced by the firm's subsequent marketing interventions (for example, mailings or a loyalty program) (Verhoef, 2003).

In prior research, researchers have assumed that some channels will have a negative effect on customer retention, while others should create high retention rates. Our results provide some evidence for these assumptions. We found that the direct-mail channel leads, on average, to lower retention probabilities than other channels. This result provides some evidence for remarks by Bolton et al.'s (2004) opinion that direct mailings will attract less loyal customers, perhaps because they usually focus on price. This is the case for the mailings we considered. We also found that TV and radio performed poorly. Bolton and colleagues (2004), however, argued that mass-media channels providing brand-related information would attract loyal customers. Perhaps the brand-related information in a direct-response commercial is not enough to prevent customers from defecting early. We found that Web site had a positive effect on customer retention for three of the four insurance types; a result in line with previous research. At the beginning of the relationship, the Web site may create lock-in effects and lead to customer satisfaction because it provides extensive information (Shankar, Smith, & Rangaswamy, 2003). The exception turns out to be automobile insurance. For this product, customers can easily compare competitive offers. This information in combination with the low switching costs permits customers to switch frequently. This is in line with Sinha's (2000) findings that market transparency can hurt companies. Finally, we found that the customers the firm acquired via co-insurance have high retention rates because of the attractive conditions and switching costs. For the other channels, we found no clear effects on retention.

With respect to cross-buying, our results indicate that channels had less effect than they had on loyalty because cross-buying is affected mainly by marketing efforts during the relationship. However, we found some effects. Again, customers acquired via direct mailings performed poorly, confirming the ideas of Bolton et al. (2004). Customers acquired through outbound telephone calls or through a magazine that is sent out by the company are more likely to cross-buy. Finally, the Web site has a negative effect on cross-buying for the two service types for which it scored high on retention. Probably, the lock-in created with the Web site prevents customers from defecting but does not increase the firm's cross-selling opportunities. One explanation for this might be that Web site customers decide to visit the Web site and to become customers but they also decide whether to buy additional services; hence they are unlikely to be affected by marketing interventions. Instead, they may surf the Net for the best deals when they have new needs. Our results for automobile insurance, where low retention is combined with high levels of cross-selling, however, does not fit this picture. Clearly more research is needed in this area.

By combining our retention models and cross-buying models to estimate the total effect of the channel on sales per customer, we achieve some managerially interesting results. For instance, the cross-buying activities of customers acquired through outbound telephone calls and the firm's magazine make these acquisition channels very interesting. The opposite holds for TV and radio and for print advertising, which attract the customers with the lowest value for the company.

Finally, our results show that the effects of most regular acquisition channels hold only during the first year. In the second year of the business-consumer relationship, the effects are no longer present. We found a persistent effect only for the co-insurance channel, which has a specific nature. As the relationship persists, the customers' experiences with the firm increase in importance (Verhoef et al., 2001); it would be interesting to study how the channels used during the relationship affect both customer retention and cross-buying.

MANAGEMENT IMPLICATIONS

Many firms consider acquisition and relationship management to be separate processes. When considering an acquisition campaign, firms usually use the same expected revenues for all acquired customers. Thus, they value customers acquired via the Web site and those acquired via direct mailings in the same way. Our results show that this approach is wrong, because loyalty and cross-buying behavior depend on the acquisition channel used. The expected values of customers acquired via different channels differ. In establishing a firm's acquisition budget, this finding is important. Firms that assess the expected values of acquired customers by channel can improve their decisions on acquisition campaigns.

Our findings also have three implications on the use of specific channels. First, customers acquired through direct mailings or word of mouth are less loyal than those acquired through other channels. Firms should be aware of these negative consequences of mailings. Second, the Web site promotes customer loyalty, except for automobile insurance. Firms might try to transfer customers from traditional channels to their Web sites to both reduce costs and increase retention rates, although these positive effects might come at the cost of reduced cross-buying opportunities, again with the exception of automobile insurance. Third, direct-response TV and direct response radio have a negative effect on retention. Theoretically this effect might result from an excess of action-specific information in the commercials. Probably, firms should provide more brand-related information in these commercials, although doing so might reduce response rates.

LIMITATIONS AND FURTHER RESEARCH

Our research has the following limitations. First, we considered only the customers of one service provider for a short period, limiting our study's external validity. Second, for some acquisition channels, we had few observations per service type. As a result, we cannot come to strong conclusions about these channels. Third, we did not consider such channels as personal selling and intermediaries. Fourth, we only considered the channel as a medium, not their possible different messages. Future research could enhance our understanding of the effect of the acquisition channels on customer loyalty by incorporating these important aspects.

Other future research possibilities are the following. First, researchers could develop a decision support tool that includes retention probabilities, cross-buying probabilities, costs, and margins to determine the optimal mix of acquisition channels. Second, researchers could focus on the customer perceptions and preferences for each (acquisition) channel and the determinants of these preferences. Probably, they could then distinguish clusters of acquisition channels with similar characteristics (Inman, Shankar, & Ferraro, 2002).

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