Kellogg School of Management
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Home Alarm, Inc.:
Assessing Customer Lifetime Value

> *Marketers … have assembled vast databases identifying their customers and their buying habits. With such information, companies now believe it's as important to reach the right people as it is to reach lots of people.*
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> - *Business Week,* September 23, 1991

It was late one afternoon in May and Kevin Starke, the VP of Marketing for Home Alarm, had just returned to his office after listening to a presentation by a team of MBA students at the Haas School of Business at UC Berkeley. Home Alarm was one of the largest privately held alarm security services companies in the US. The company had grown rapidly over the last 10 years and now had more than 80,000 residential and commercial customers. Home Alarm offered customers a complete range of security solutions, including intrusion detection, fire detection, access control, and video surveillance.

Home Alarm had provided data to the students as part of a class project in which the MBAs were supposed to identify the major factors that seemed to be driving customer churn at Home Alarm. Due to its excellent customer service Home Alarm had a much lower customer churn rate than its publicly traded competitors. Nonetheless, Kevin Starke and Home Alarm's CEO were curious to see whether the students would be able to come up with ideas to further reduce customer churn.

Kevin reflected on the findings the students had presented to the executive team. Many of the results had confirmed what Kevin had known from experience. For example, customers with better credit ratings tended to be more long-term customers. However, one finding had sparked his interest because it was something that he could easily imagine operationalizing on a large scale. The students had found that residential consumers that were signed up for auto-pay, i.e. whose monthly payments were automatically deducted from a checking account or a

Professor Florian Zettelmeyer prepared this case to provide material for class discussion rather than to illustrate either effective or ineffective handling of a business situation. The names and the data used in this case have been disguised to assure confidentiality.

credit card, were less likely to cancel their service than consumers who received a monthly statement and paid by check.

The implication was clear to Kevin: perhaps new residential customers should be strongly encouraged to sign up for auto-pay; it might even be worthwhile trying to convert existing customers to auto-pay. Regrettably, while the students had presented evidence that customer on auto-pay were less likely to churn, the students had not been able to quantify how important the effect was. In particular, Kevin wanted to know: how much more profitable is a customer on auto-pay than one who does not use auto-pay? The answer to this question seemed key to Kevin because it would tell him how much he could spend on salesperson and customer incentives in order to sign up customers for auto-pay. Before he brought the idea to his CEO, Kevin wanted to make sure there was enough money in auto-pay to make it worthwhile for the company.

Kevin knew he had to calculate the added value of customer with auto-pay. However, if what the students had said about churn was true, he knew that it would not be enough to compare the current revenue of the two groups. Since the effect of auto-pay was to retain customers longer, any difference in the value of the customers would only become apparent over time. Clearly, the right approach was to calculate the LTV of a typical customer with and without auto-pay.

The necessary data would have to come from Mark Pohl, Customer Care Center Manager at Home Alarm, and the database guru at the company. Kevin asked Mark to get him information on all customers who signed up with Home Alarm during the month of June nine years ago. Kevin wanted to know:

- How many residential customers with and without auto-pay started service June nine years ago?
- How many customers with and without auto-pay were still active 1, 2, 3, 4, 5, 6, 7, 8 and 9 years after starting service?
- What was a typical installation charge and installation cost for customers with and without auto-pay?
- What was the average initial recurring monthly revenue (RMR) for customers with and without auto-pay?

Kevin remembered the key idea behind a LTV calculation: The LTV was the value of a customer going forward, taking into account that they might become inactive, and taking into account that (because of the time value of money) profits made further into the future were less valuable to Home Alarm than the same profits made closer to the present. The purpose of the historical data provided by Mark was to get an estimate of the churn rates by customers with and without auto-pay during their first, second, to ninth years after signing up for service with Home Alarm. The business was pretty stable, so the historical data would provide good estimates of future churn rates.

Mark delivered the data at the end of the next day:

Attrition rate during:	**Not on auto-pay**	**On auto-pay**
first year of service	8.4%	3.2%
second year of service	12.2%	7.0%
third year of service	16.2%	9.7%
fourth year of service	15.4%	10.3%
fifth year of service	13.4%	9.5%
sixth year of service	12.0%	7.8%
seventh year of service	11.1%	6.9%
eighth year of service	9.6%	5.9%
ninth year of service	8.6%	5.3%
Initial RMR	$30.63	$30.14

Kevin noticed that historically, residential customers with and without auto-pay had about the same initial RMR of $30. Hence, for the LTV calculation it would be safe to assume the same RMR for both groups. However, because of general rate increases the average RMR for customers was going to be $40 during the coming year, so that $480 would be the right number for the first full year of the LTV calculation. For each subsequent year the revenue from each customer could be assumed to increase by 3% due to general rate increases.

There were a few more decisions to make:

First, what discount rate should be used for the LTV calculation? Home Alarm had traditionally assumed an annual discount rate of 10%, so that was the right number to use.

Second, what were the costs of service? Kevin decided to use the rule of thumb that variable cost were 15% of RMR, i.e. $6 per month or $72 for the first full year and increasing at 3% per year due to general rate increases.

Third, Home Alarm had spent about 5% of RMR on marketing to each existing customer. This came to $2 per month or $24 for the first full year and increased at 3% per year due to general rate increases. Home Alarm did not assign any marketing cost to the time of sign-up.

Fourth, Kevin looked up a typical installation charge. In case that was needed for the LTV calculation, he would use $195 as what the firm charges customers for the installation. The cost to the firm of performing the installation was on average $492.

Finally, Kevin decided to be conservative by assuming that customers who churn during any given year of service all leave at the beginning of the year for purposes of calculating the LTV.

Kevin had scheduled a meeting with his CEO where he would present his findings. He how needed to do the LTV calculation so he would be prepared.