

# What do your customers secretly tell you about how to treat them?

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How InShared built an online insurance company with Data Analytics



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How InShared built an online insurance company with Data Analytics

In 2009, InShared was founded. As a new player in the Dutch insurance market, the mission of InShared was to distinguish itself from other insurers by building a fully online operating company. In cooperation with MIcompany, InShared used the power of Data Analytics to understand how to create value by learning from the behavior of their customers.

When looking at the history of InShared, we see that their growth is largely driven by Data Analytics. More specifically, InShared has always put effort into understanding value creation by learning from prospective and current customer behavior. As we will see, this has proven to be key in all phases of the development of InShared.

The development of InShared can be divided into three phases. Firstly, there is the company's youth, which was all about using insights from data to grow and to get stronger. Secondly, InShared reached its puberty, and for the first time encountered some grown-up problems, which were solved using advanced analyses. Finally, maturity was reached when InShared built analytical tooling in a self-service model.

#### Youth – Using Data Analytics to grow

As a start-up company in a mature market, it is of great importance to create a solid customer base, so acquiring new customers was our first priority. We realized that, to really stimulate inflow, we needed to understand what people are doing before becoming a customer.

People that are searching for an insurance product at InShared are called prospects, and their orientation process might involve multiple online visits. In order to understand this process, it is important to connect the separate visits of each prospect. We created an algorithm to make this connection, and thereby recognizing unique prospects, based on customer characteristics. With this algorithm, we were able to monitor the number of unique prospects, instead of the number of unique visits.

Furthermore, we combined the resulting set of unique prospects with our sales database, so that we could connect each sale to a unique prospect. This provided us with the insight that there is a lag between offline exposure (i.e. TV campaigns), online prospect behavior and sales: offline exposure generates a flow of prospects, and these prospects need multiple touchpoints in their online journey, which often spans more than a month.

This insight soon found its way into business. Two months earlier, we stopped our TV campaign. In the consecutive month, sales reached an all-time-high, so it appeared stopping our TV campaign did not cause any harm. However, in the month thereafter, sales dropped. After analyzing the online behavior of our prospects, we found that after stopping our TV campaign, the number of prospects decreased, but due to the lag in the online journey of our prospects we only saw this reflected in sales two months after stopping our TV campaign. Based on this insight, we decided to implement an 'always-on' strategy for TV campaigns and other ways of offline exposure, in order to consolidate a constant flow of prospects.

Not only did our 'always-on' strategy generate a constant flow of prospects, it also helped to substantially lower our acquisition costs. Whereas in our first year our acquisition costs greatly exceeded the acquired gross CLV (Customer Lifetime Value), after some time we managed to stabilize the average acquisition cost per customer just below the average gross CLV per customer, which led to a positive ROI. By being always 'visible' to the market, we improved our

- InShared is an online insurance company in the non-life industry. While a sound business model for any insurer is built on controlled risks and adequate volumes, InShared goes a step further, leading to four drivers that make the business model excel.
- On the cost side, we aim for low costs by leveraging two drivers
- Focus on an attractive target group which is self-directed and has a low-risk profile
- Utilizing a virtual network organisation by working in a cost effective, flexible and seamless way
- On the revenue side we aim to boost sales by choosing two key drivers for growth
- Simplicity and transparency in order to attract the right clients and boost sales
- Customer satisfaction in order to generate high cross-sell ratios, high loyalty and active ambassadors
- The aim for customer satisfaction is reflected in one of InShared's USP's: together with its customers, InShared actively puts efforts in to claim prevention. If the claim ratio in a year is low enough, InShared gives back a piece of the paid premium to its customers.

brand awareness which made our marketing efforts more effective.

#### Puberty – Easing the transition to maturity using Data Analytics

While InShared experienced a happy youth, the transition to maturity came with some challenges. The growth and profitability of the customer base were threatened, and action had to be undertaken to overcome these problems.

#### Profitability issues

The first challenge we encountered had to do with the profitability of our car insurances. While going through the financial results, we noticed that claims and costs exceeded incoming premium, thus creating a non-profitable business.

What happened here? As a young, innovative company, InShared had decided not to use bonus-malus in its pricing model, but instead use a combination of the number of past claims and the number of years a customer has his or her driver license. However, all our competitors did use a bonus-malus system, and therefore our inflow consisted mainly of customers with low bonus-malus levels. Moreover, the fact that we did not differentiate our premium with bonus-malus level resulted in the fact that customers with low bonus-malus level had a high (>100%) loss-ratio.

Once we understood what was happening with our profitability, we started a pricing project in which we introduced bonus-malus level as a factor in our tariff structure. We used data about our own price level and the price levels

of peer competitors to analyze price differences for all bonus-malus levels, and to combine this with profitability data in order to optimize our new price level. This resulted in a more balanced loss-ratio for various bonus-malus levels, and a decrease in loss-ratio for the entire customer base towards a profitable level, while maintaining a competitive price for each bonus-malus level.

#### Decreasing inflow

At one point in time, the most important driver of our successful youth, customer inflow, started to decrease rapidly. An analytics project was started, focusing solely on the decreasing inflow. Several hypotheses were investigated, and in the end, it turned out that the allocation of marketing budget was the main reason for decreasing inflow. Up until this time, InShared used to work with affiliates and aggregator websites among others to generate online traffic. The price focus in these channels resulted in an inflow of low-value customers. Because of this we decided to stop temporary the inflow through aggregators. While this prevented us from acquiring too much low-value customers, it was also the reason for the decrease in inflow.

The solution to this problem was twofold. Firstly, we needed to make sure that our pricing and our acceptance criteria would better 'filter out' the low-value customers. Especially when premiums were directly compared. Secondly, we needed to improve our understanding of CLV. Based on this understanding, we could allocate our marketing budget to inflow channels based on the CLV of customers acquired through each channel.

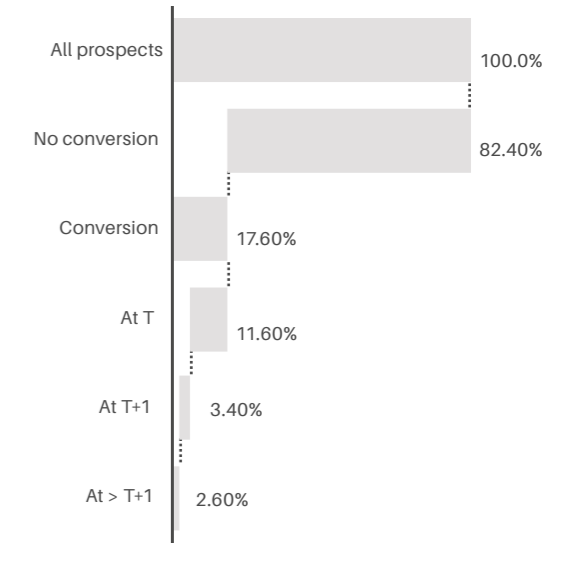


Figure 1. Conversion of individual InShared prospects

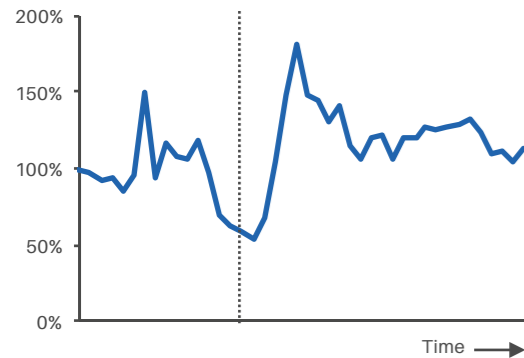


Figure 2. Inflow at InShared through time

In order to understand the value of our customers, we put effort into analyzing cross-sell and churn behavior of our customers. More specifically, we analyzed the correlation between which products a customer uses on the one hand, and cross-sell and customer lifetime on the other hand. We saw that there are product combinations that come with high cross-sell and high lifetime, and therefore high CLV. Based on this model, we decided to pay our distribution partners based on the CLV of acquired customers, and we optimized our position in organic search. Using this channel optimization, we were able to allocate our marketing budget as effective as possible, and generate valuable inflow. Soon after our new initiatives, the impact was visible in our sales database. After a firm inflow decrease, the moment in time at which we introduced channel optimization showed to be a turning point, after which the inflow grew to an all-time-high and eventually stabilized slightly higher than the average level before the decrease.

#### Increasing outflow

After our customer base had grown, we started to experience an increase in outflow. Still, the inflow exceeded the outflow, but the size of the outflow was not matching the fact that InShared's key focus was to obtain satisfied customers with a long-term relationship.

At first, we needed to understand outflow. How could we interpret this number? Is it really all about customers leaving, or is it more subtle? A strong hypothesis was that a substantial amount of the resigning policies were due to an object replacement, so we developed a set of

business rules for defining these replacements: for instance, if a customer has one car insured in a certain month, no cars insured in the next month, but again one car insured within four months, this is called a replacement instead of outflow succeeded by inflow. As it turned out, a substantial amount of portfolio migrations appeared to be a replacement. In fact, around 50% of cross-sell and product churn, and around 10% of outflow was identified as a replacement by our set of business rules. However, the net outflow was still a substantial amount of our customer base and continued increasing, so we had to undertake action.

In order to fully understand the drivers of outflow, we decided to not only analyze our transaction database, but also the online behavior of our clients at our website. By combining these offline and online data sources, we built a prediction model for customer outflow. In our model, it became clear that outflow (and therefore customer lifetime) correlates strongly with product combination, online behavior, customer characteristics and object characteristics. We translated these insights into actions by adjusting product offers and focusing our marketing efforts on specific product combinations and inflow channels. Again, understanding customer behavior proved to be key for creating valuable growth.

Besides focusing on customers with high expected lifetime, we found two other important drivers for outflow which we could solve. Firstly, just as in our pricing analysis which we discussed earlier, bonus-malus proved to be important for outflow. While we implemented

bonus-malus level in our tariff structure after our pricing analyses, it was still only a static factor, the bonus-malus discount did not change throughout the customer lifecycle. When we investigated the importance of bonus-malus in our outflow model, we found that customers whose bonus-malus level increased had a relatively high outflow. Apparently, these customers expected an increasing discount, which they did not receive at InShared, but could get at our competitors. Based on this insight, InShared decided to implement a dynamic bonus-malus structure.

Secondly, when cancelling their insurance policy, customers can indicate why they cancel their policy, and analysis of these reasons for outflow showed that there were a lot of customers that replaced their insured object, but did not insure their new object at InShared. To stimulate customers to insure their new object at InShared, we automatized the online process of replacing insured objects. The customer is now able to perform an object replacement in our online platform, while all acceptance steps are performed behind the scenes.

After gaining these insights in outflow behavior and implementing initiatives to reduce outflow, the outflow started to stabilize.

#### Maturity – Building analytical tooling in a self-service model

As we have discussed, a lot of value was created for InShared by learning from customer behavior using Data Analytics. But the role of Data Analytics within an insurance company should not be confined to solving urgent

business challenges: instead, Data Analytics should play a major role in day-to-day business steering. To achieve this, InShared invested in developing analytical tooling, making insights from data available to the entire organisation.

As we have seen, understanding prospect and customer behavior is key in realizing valuable growth. Constantly monitoring and analyzing this behavior gives insight in which customers and product combinations have a high lifetime and a high cross-sell ratio. The analytical tooling which was developed for InShared contained these insights. From our transaction database, we created a longitudinal customer database in which we could follow prospects and customers through time.

On top of this database, we built a data transformation layer in which the most important analyses are automatized. Above that, we built a reporting layer to visualize the data, giving users the possibility to make analyses. In this reporting layer, tailor-made graphs were available on various pages, in which users could make analyses by applying filters on, for instance, customer segment, product, month of observation and customer mutation. The analytical tooling consisted of three modules:

1. Customer performance – understanding customer dynamics per customer segment
2. Claim performance – understanding claiming behavior per customer segment
3. Advanced insights – additional analyses for deeper understanding of customer behavior

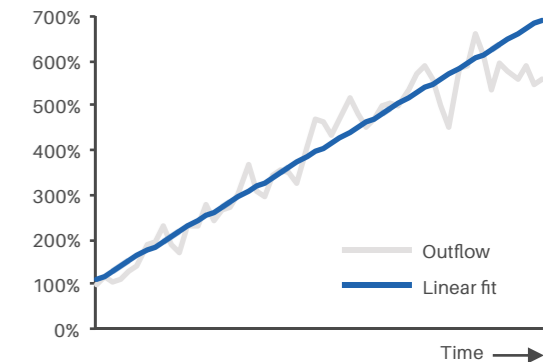


Figure 3. Outflow at InShared through time

The customer performance views showed the size of the customer base per month, measured in number of clients, number of insurance products and premium volume. Moreover, to better understand month-to-month changes in the size of the customer base, we included source-of-difference views, in which the difference between two months is explained along customer mutations (inflow, outflow, cross-sell et cetera). These insights were available for grand totals, but also for various customer segments, so users could analyze which customer segments showed the higher cross-sell and higher lifetime, in order to apply the correct focus in marketing efforts. For instance, when we saw that specific coverages in car insurances showed much higher lifetime, marketing focus shifted to these coverages.

The claim performance views were built to analyze the claiming behavior per product per customer segment. Various claim metrics were calculated, the most important ones being number of claims, average claim amount and loss ratio, and these metrics could be analyzed per month, per year and year-to-date. The resulting insights in claiming behavior per customer segment could be used to focus marketing efforts on customer segments and products with low expected loss ratio.

Finally, we included a number of advanced insights of which we knew they were important in making decisions for marketing focus. As discussed before, in the early days of InShared insight in online prospect behavior proved to be extremely important. Therefore, we included the most important insights herein, being the

number of prospects per month and conversion rate. We also built a cohort view, in which users could analyze the behavior of various inflow cohorts on a granular level. For instance: in the first year after inflow, which types of customers show the highest cross-sell and the lowest outflow? These insights served as a deeper understanding of customer behavior, and further improved our marketing decisions.

#### Creating valuable growth by learning from prospect and customer behavior

Looking back at the development of InShared, Data Analytics have played a great role in building a successful insurance company. From the start until now, we have used insights from a combined database of online and offline data to optimize our marketing efforts and create valuable growth. In this process, understanding the value of prospects and customers was key. By constantly analyzing customer behavior, and learning from this, we learned to understand value differences between customer segments and between products, meaning we could focus our marketing efforts on the most valuable ones. Of course, we do not know everything yet, and the insights we now have create new business questions. But by constantly pushing forward our analytics capabilities we can answer these questions, and continue improving our marketing efforts based on our continuously improving understanding of valuable customers.