



CASE STUDY

New Business (Real-Time) and Renewal (Batch) Pricing



The Earnix Auto Insurance Solution: Advanced Pricing

Case Summary

Industry: Insurance

LoB: Motor Insurance

Project Focus: New Business (Real-Time) and Renewal (Batch) pricing

Challenges

Improve the business performance for the motor insurance division through adjustments in pricing

Business Results

- Profitability increased by over 1.6%
- Company's market share has increased by 0.3%
- Deeper analytical perspective on company's current pricing process

Background

The company is a large insurance company in Europe, with a significant market share in motor insurance. It has a network of over 20,000 agents and brokers and offers products geared towards a diverse group of individual and corporate clients. The auto book is over \$450M and includes over 1 million policies.

Business Process

The company sells motor insurance policies through a network of agents and brokers. The insurance products are also sold via a network of outlets of the company's business partners that include banks and financial intermediaries. In early 2010, the company merged with another insurer, thus multiplying the number of total customers. Retail insurance policies continue to be sold under both brands. This was challenging as each company had a different type of business and pricing strategy.

In general the company has two main motor insurance covers, TPL (third party liability insurance) and Casco (comprehensive car insurance), in addition to a number of add-ons.



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Project Process The Earnix way

Project preparations



Define business goals

e.g. Improve performance, increase market share



Define project constraints

e.g. Range of price changes



Determine base line

e.g. Regenerate existing pricing models and methodologies



Data cleansing and analysis

Gathering, cleaning and analyzing data



Statistical modelling

Build models to predict business processes



Pricing



Extensive scenario analysis and testing

Exploration of what-if scenarios



Optimized pricing strategy recommendations

Support decision - making process



Business Needs

The company wanted to achieve the following:

- To optimize the pricing strategy for their two main covers (TPL and Casco) in order to improve business performance.
- To optimize their price strategy as a step in their competitive strategy. This was mainly due to the more competitive nature of the market they do business in.
- Understand how pricing analytics could help improve their understanding of the price/customer relationship.
- To find an online solution that minimizes IT resources and simplifies their update pricing process.
- Improve time-to-market of pricing strategies.

Business Goals & Constraints

The company's business goal was to maximize earnings using sophisticated adjustments in prices. More recently, due to market change, they were willing to lose some market share in order to increase profitability.

There were no constraints imposed on the project as the company trusted Earnix's reputation to deliver the best results and wanted to give the necessary freedom to achieve these goals.



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Historically, the company had very few price changes, making it far more challenging to estimate the customer's elasticity to price changes and to predict future results.

The Earnix Solution

The project implemented was twofold: testing for business results and a parallel project dealing with their online environment.

1) Online project

The online project focused on integrating the Earnix Solution with the company's core systems in order to become the rating engine. The Earnix Professional Services team took the company's existing pricing scheme for new business (and implemented it into the Earnix environment). The Earnix online environment was linked to the company's pricing execution system making Earnix online fully functional within seven months.

2) Analytical pricing strategy project

The Earnix project process includes the following steps:

- Data analysis and preparation
- Statistical modelling
- Pricing
- Monitoring

The process culminates in a detailed analysis of results which forms the basis of the Earnix solutions report. A regular monitoring cycle is setup so that every month the results are evaluated. If needed, the models are then re-estimated and new pricing scenarios are created.

The timeline for the project was short and demanding due to the internal scheduling of the company. From the kick-off meeting to implementation, the project took six weeks and then another two months of waiting for project results.

Challenges and Solutions

As each company is unique, different challenges are encountered during the project process. Below are the challenges that were encountered with this company.

1) Complex company structure

The company wanted to optimize their pricing strategy for their two products. As the data was ready early, the Earnix team started modelling immediately. Earnix decided to estimate 3 demand functions as follows:

- customers with only TPL products
- customers with only Casco products
- customers with both products



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The company didn't know how to account for changes such as agent discounts, marketing discounts and coverage changes. Earnix found a solution to this challenge.

2) Data quality issues

> Data assumptions

Most of the data was made available before the kick-off meeting, although due to the tight deadline certain assumptions were made regarding the data e.g. general loading and commissions. For renewals it was assumed that customers would continue with the same riders and with the same product (TPL products, Casco products and a combination of these two products) thus the Earnix team did not create analytical price scenarios for new add-ons.



Manual processes

At times, the company worked with manual processes which led to data entry errors. Because this accounted for less than 5% of the population, this data was excluded from the optimization.



Lack of price variations

Historically, the company had very few price changes making it far more challenging to estimate the customer's flexibility to price changes and to predict future results.

3) Unrealistic elasticity

For the individual products, the elasticity was as expected. However, for the combined product the elasticity was very low. This result did not reflect reality in terms of Earnix's knowledge of their specific market.

Due to the lack of price variation (as mentioned above) and after discussing this with the company, it was decided to manually adjust the elasticity parameters.



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**Earnix
concluded
the project
by achieving
an uplift in
profit over
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Key Success Factors

The Earnix team worked closely with the product team for close to 20 weeks. The following are the key benefits from the project:

1) New pricing strategy

A set of new pricing strategies were developed for the company as follows:

- The price will be allowed to vary in the range of +/-7% from the previous premium for those customers that either never had claims or had previous claims but bought claim protection.
- The price will be allowed to vary in the range of +/-9% from the original premium for those customers had previous claims (This was a small group of 5% of the entire population).

2) Adherence to the project deadline and catering for the company's needs

The project was delivered on time, despite the tight deadline imposed by the client. Due to the time constraints and the quality of the data, the Earnix team at the beginning of the project discussed with the customer that the result could be lower than expected. When developing models according to a tight schedule, some level of accuracy is diminished as there is less time to spend on the data and the model.

In addition, usually a price test is performed before progressing but in this case due to the time constraints, there was no price test done and instead a calculated risk about customer sensitivity to price was made. Any challenges that occurred along the way were communicated and agreed upon with the customer. The customer was pleased with this open communication and transparency.

3) Earnix met the company's business goals within the given business constraints

The first implementation of the Earnix solution yielded an uplift in profit over GWP of 1.2%. As the models were improved over time, the project concluded with achieving an uplift in profit over **GWP of 1.7%**.



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About Earnix

Earnix provides advanced analytics solutions designed for the financial services industry, which deliver significant results by integrating data-driven decision-making into the business process. We enable financial institutions to better compete in a new environment of highly personalized services by using advanced analytics to determine pricing and other offer components. Our integrated technology platform provides users with the most comprehensive set of tools, including machine learning capabilities, and is often connected to real-time production systems. Earnix has extensive experience providing solutions to the most sophisticated insurers around the globe, and has a track record of empowering executives to act quickly and confidently, making a direct and measurable impact on their key performance indicators.

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