Session 2 – UBI - Telematics in Motor Insurance

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UBI - Telematics in Motor Insurance

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- Background of Telematics in Motor Insurance
- Benefits to Insurers
- Implementations of Telematics in Motor Insurance
Background of Telematics in Motor Insurance

Traditionally, P&C industry is more advanced in Predictive modeling than Life, UBI is an extension of such modeling.

### True risk of the insured

<table>
<thead>
<tr>
<th>Car</th>
<th>Driver</th>
<th>Where the car is driven</th>
<th>When the car is driven</th>
<th>How the car is driven</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of the car</td>
<td>Age of the driver</td>
<td>Traffic density</td>
<td>Day or night</td>
<td>General adherence to laws &amp; regulation</td>
</tr>
<tr>
<td>Make and model of the car</td>
<td>Experience of the driver</td>
<td>Type of road</td>
<td>Weather conditions</td>
<td>Length of journeys</td>
</tr>
<tr>
<td>Condition of the car</td>
<td></td>
<td>Traffic enforcement (e.g. Speed cameras)</td>
<td>Seasonal use only</td>
<td>Acceleration and speed of car on different road types / traffic density</td>
</tr>
</tbody>
</table>

### Traditional insurance

Use the following as proxy of the true risk:

<table>
<thead>
<tr>
<th>Car factors</th>
<th>Driver factors</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of the car</td>
<td>Age of the driver</td>
<td>Socio demographic</td>
</tr>
<tr>
<td>Make and model of the car</td>
<td>Claims history</td>
<td>Geographic</td>
</tr>
<tr>
<td>Value of the car</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Telematics Data

- Devices can be installed by the insurer, self-installed.
- Or it come pre-installed by car manufacturers.
- New developments in smartphone apps can measure driving behaviour without the need for an onboard device.
- Data can be recorded and reported by the insured themselves or collected.
- Increasingly, devices automatically transmit data via satellite and GPS.

### Premium Pricing schemes

- Prepay mileage– pay for the miles you drive subject to a minimum premium (Pay-As-You-Drive).
- Further structured pricing models – peak/off-peak hours, monthly billing, highways/urban roads.

#### How does it work in Pricing?

- Devices
- Premium Pricing schemes

The use of data to manage, design and price motor insurance with specific tailoring to the policyholder.
Target customers of Telematics Motor Insurance

- High risks drivers (e.g. previously prosecuted and young)
- The low income class
- Weekend / day drivers
- The low income class
- Low mileage drivers
- Fleets
- Retirees
- Good drivers

Applications of Telematics to Motor Insurance

**Accident and Claims Management**
- Customer service
- Emergency response
- Accident management
- Claims validation
- Fraud Management
- Claims Management

**Pricing, product and customer segmentation**
- Driving habit data and claims link
- Better pricing and product design
- Customer segmentation (product & service management)

**Pay As You Drive (PAYD)**
Customers pay on how far he drives, pay as you go monthly or even daily, or annual adjustments on renewal

**Pay How You Drive (PYHD)**
Pay less or more based on:
- Driving style
- When you drive (day, night, rush-hour)
- Where you drive (city, motorway, rural)
- Restricted cover (young people cannot drive after midnight or 10pm at weekends until 5am)
# UBI - Telematics in Motor Insurance

- **Background of Telematics in Motor Insurance**
- **Benefits to Insurers**
- **Implementations of Telematics in Motor Insurance**

## Reduced accident rates, lower average cost per claim, better profitability

### Allianz
- 15% improvements in combined ratio
- 43% improvement in lapse ratio
- 83% improvement in cross-selling ratio

> Telematics - Introducing pay per use
> Allianz SE, Milan, 18 Jul 2012

### Zurich
- The trial group with the telematics systems installed saw a 66.4% reduction in their annualized accident rate for own damage claims and a 59.0% reduction in the cost per vehicle for these claims. 72.2% reduction in the annualized accident rate for ‘third party’ claims, and 83.1% reduction in the cost per vehicle for these claims.

> Online interview with Andy Price, practice leader, motor fleet at Zurich Risk Engineering, 13 Feb 2012

### Telematic statistics
- A 20% drop in crashes involving young drivers.
- In general, telematics users have fewer serious accidents.
- Average claims from drivers using telematics can be 30% lower.

### Ageas

> Ageas Business report 2012

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...telematics solutions can reduce collisions by up to 20%, operating costs by up to 10%, and fuel consumption by up to 11%.

> Zurich news release, Zurich Risk Engineering, Zurich Fleet Intelligence, UK, 30 September 2010
High risk, young drivers – significantly fewer accidents

“20% drop in car accidents thanks to Telematics Insurance”
- average cost of a claim is 30% lower
  - news release, Co-operative Banking Group
  12 April 2012: an analysis of 10,000 young driver claims

The use of telematics to encourage better driving reduces accidents involving young motorists by 35%-40%. The conclusion follows analysis of more than 300 million miles of driving data from the company’s customers.
- Insurethebox Press release, 8 April 2012 (Leading telematics motor insurer in the UK)

A third of customers aged 18–23 are saving at least 40% on their premiums and, more importantly, accidents have been reduced because the scheme encourages young drivers to stay off the roads at high-risk periods, such as at night. Claims by young drivers have fallen by over 30%.
-Aviva CSR report 2008

When we trialled it (telematics system) with 1,500 young drivers, limiting night-time driving, car accidents in this group fell by 20% and premiums by approx 30%.
-Aviva CSR report 2007

Telematics offer significant first mover advantages

Aggressively acquire market share
- Offer discounts
- Major ad campaigns

Better pricing & persistency
- Better understanding of customer and operational data to offer better pricing and improve persistency—taking them out of the market for other players

Capture “Self Selector” market
- First to come are intrinsically safer drivers
- System ad as placebo, while allowing data collection for future pricing

Lower claims & improve profitability to fund growth
- Improved portfolio of risks drive financial performance and create the profitability to fund further growth

Improved data, customer and market knowledge
- Build scale from collected data and experience in serving customers
Benefits summary (1/2)

Better data and insurance management

1. Provide accurate driving information, facilitating accurate evaluation of the risk exposure from the driver and better pricing – reject/accept, specific loadings, premium bands
2. Claims – a faster and more informative claims process, including crash analysis, objective and timely information for claim officers
3. Control over risks – driving time/location restrictions give the insurer control to manage risks

Behavioural improvements

1. Cost conscious policyholders drive less > lower chance of accidents
2. On-board monitoring/feedback improves driving leading to behaviour change
3. Short-term Hawthorne effect of better driving as “I’m being watched”

Benefits summary (2/2)

Increased quality and volume

1. An insurance policy designed and marketed to reward and lower premiums for better drivers will attract drivers of higher quality with lower accident rates
2. Telematics insurance is becoming more and more popular with drivers seeing it as a fairer approach to car insurance, especially with younger drivers and increasing pricing in the market

Increased opportunities

1. Increased cross-selling opportunities, more interaction with policyholders
2. Increased retention rates from better pricing and renewal adjustments
3. Early movers are able to benefit most from the improvements in loss ratios with lower competition pressures
4. The high quality drivers will most likely move first to take-up telematic motor insurance, increasing the risk of adverse selection for the rest of the market
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**Implementations of Telematics Motor Insurance**

- **Norwich Union**
  - started a PAYD trial for 5000 customers in 2004, using data from vehicle GPS tailormake insurance policies for each policyholder. Policyholders receive monthly bill according to their car usage, including time, road section and mileage driven. This is the first time premium rates are calculated like phone bills.
  - For drivers between the age of 24-65, during non-rush hours, highway starts from £0.01 per mile, urban roads start from £0.04 per mile.
  - For young drivers between the age of 18-23, during accident-prone hours (11pm – 6am) £1.00 per mile, during non-rush hours, £0.05 per mile, 100 miles will be granted for free each month.
  - (Since Jan 2005 when Norwich Union first started this program for young drivers, accidents caused by young drivers have decreased by around 20%, proving the positive impact brought by this type of insurance)

- **Coverbox (Wunelli Limited)**
  - a delegate specialized in providing PAYD products, helps the customers install GPS in order to collect driving information such as time and location. Customers can also check their own driving records online by themselves. This product, after launched in Jan 2009, was provided by several insurers. This company only sells comprehensive motor insurance, bills are settled during renewal. This type of products usually have minimum mileage or premium requirement, for example, premium rates are more or less the same for mileage below 3000 miles.

- **Uniqua**
  - SafeLine (Uniqua), besides standardized GPS configurations, SafeLine added crash test devices. When accidents occur, this device will alarm the Austrian regulatory department (OAMTC) for timely rescue.
Implementations of Telematics Motor Insurance

- **Aryeh**
  - In Israeli model, mileage information is stored in a small vehicular radio device, and the information will be collected by gas station when refueling.

- **Progressive**
  - Snapshot is now widely used in 38 states in America. Information such as speed, time, and mileage are transmitted to insurers through Telematics. Because GPS is not used, this avoids violating the location privacy of customers.

- **Real Insurance**
  - PAYD (Real Insurance) – The Australian PAYD is not dependent on GPS data, instead, customers have to report the mileage by themselves and prepay the premium. Customers have to provide their initial mileage data, and insurers will reconcile the data to make sure they have paid enough for their mileage when claiming happens (or when they are required to report).

- **Liberty Mutual**
  - Onboard Advisor is a kind of insurance product priced according to vehicle usage. Given the drivers’ degree of safety within the fleet, the discount could be as high as 40%. In order to have a higher value added, this product is sold bundled with other products, a wide variety of tools helping improve the safety, lower fuel consumption and operating cost, have been provided. For example, Performance Advisor from Sensomatix (insurance and safety examine part), Mobile Advisor from GE (Fleet monitor part), Fuel Advisor from Voyager/US Bank (Fuel card), etc.

Implementations of Telematics Motor Insurance – CARBOX

[Image of CARBOX interface]
Implementations of Telematics Motor Insurance – CARBOX

Night Driving
- Before 10PM, 5Pts
- 10 – 11PM, 4Pts
- 11 – 12AM, 3Pts
- 12 – 1AM, 2Pts
- After 1AM, 1Pt
- Ignore Less than 1KM

Safe Driving
(Hard Breaks, Sharp Turning, Acceleration)
- None, 5Pts
- Once, 4Pts
- Twice, 3Pts
- 3 Times, 2Pts
- 4 Times, 1Pt

Fatigue Driving
- Less than 2 hours, 5Pts
- 2-3 hours, 4Pts
- 3-4 hours, 3Pts
- 4-5 hours, 2Pts
- More than 5 hours, 1Pt

Speeding Driving
(Highest Speed)
- Less than 120 KM/H, 5Pts
- 120-129 KM/H, 4Pts
- 130-139 KM/H, 3Pts
- 140-149 KM/H, 2Pts
- More than 150 KM/H, 1Pt

What does UBI mean for Customers and Insurers?

Opportunities
Better products
- Holistic protection
- Customized products
- More competitive offerings

Better pricing
- Reward good drivers
- Drive less, pay less
- Better reflect the true risk
- Reduce cross-subsidisation
- Promote better driver behavior

Reduce claim costs
- Speed up FNOL/claim handling
- Reduce fraudulent claims
- Reduce theft losses

Challenges
Distribution
- Partner with carmakers, roadside assistance, etc.
- Increase in the number of customer touch points
- Direct interaction with customers, increasing X-sell

Product development
- Customised products to meet customer needs
- Ancillary services to increase revenue and to improve overall customer experience
- Higher customer expectation to provide better products and pricing

Operations
- Data is bigger in volume, variety, and velocity
- IT system to manage and leverage telematics data
- Thorough understanding of risks, customer behaviour and needs
Key messages for today

✓ Telematics is still small but growing steadily across various markets

✓ Telematics penetration is expected to accelerate in the near/medium term given the right enablers

✓ Market is currently held back by several resistances

✓ Insurers who are able to overcome the resistances, are well positioned to win

Questions?

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