



CARIBBEAN ACTUARIAL ASSOCIATION



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2013 Conference

“Risk, Recovery & Real Growth”

23rd Annual CAA Conference

Secrets Wild Orchid Montego Bay,
Jamaica.

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Developments in Motor Insurance Pricing

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1970's

- Base Rates (by coverage, by territory)
- Rating Factor (based on risk classification, type of vehicle, amount of coverage)
- Safe Driver Insurance Plan (discounts/surcharges based on driving experience)



Discounts

- Good Student
- Driver Training
- Defensive Driving
- Multi-Car



Credit Score

- 1990's
- Fair Isaac (FICO)



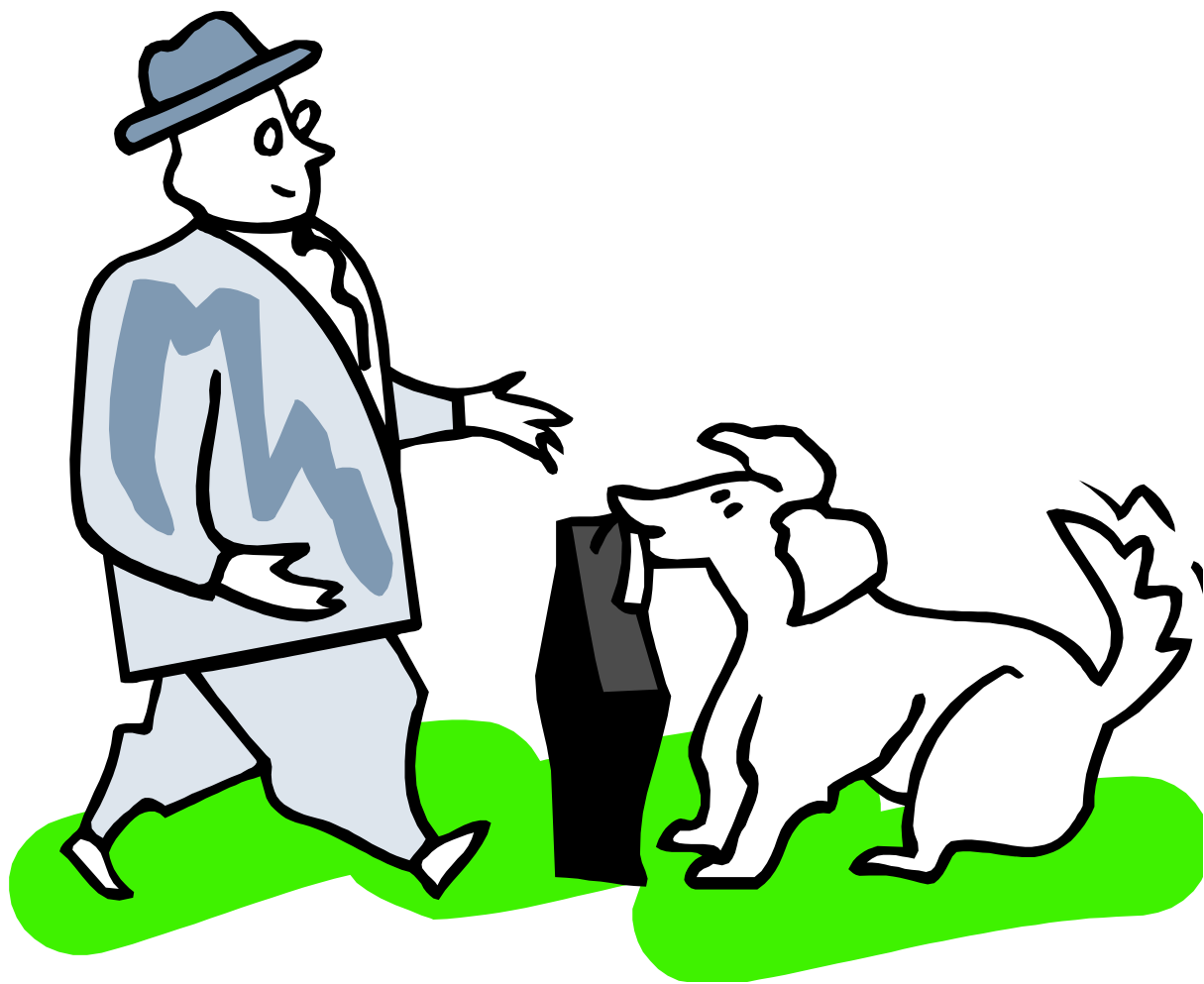
PREDICTIVE MODELING



New Discounts

- Years insured
- Number of other types of policies with company
- Occupation
- Education
- Air Bag
- Anti Lock Brakes
- Anti Theft Devices





Refined Risk Classifications

- Combinations of risk characteristics that predictive of claim costs
 - choice of payment plan
 - years at current address
 - number times renewed
 - number of cars, number of drivers, age of oldest driver
 - prior insurance, occupation, education



Tier Rating - Example

Risk Factor	Points		
	One Car	Two Cars	Three or More Cars
<u>Chargeable Claims in Last 3 Years</u>			
1	5	3	2
2	15	8	6
3	20	10	7
Each Additional	10	5	4
<u>Major Violations in Last 3 Years</u>			
1	8	5	3
2	3	2	1
3	1	3	5
Each Additional	6	6	6
<u>Inexperienced Driver on Policy</u>	3	4	5
<u>Number of Years Insured with Company</u>			
< 3 Years	1	1	1
3 - 5 Years	0	0	0
5 - 10 Years	-1	-1	-1
10 or More Years	-5	-5	-5
<u>Each License Suspension in Last 3 Years</u>	3	2	1



Tier Scoring

High + 25%

Average Base

Low - 25%



Telematics (Usage Based Insurance)

- Voluntary - customers can opt in or out of the program as they wish
- Discounts only (up to as much as 30%)
- Customer selects vehicles to “enroll” and receives a modest (e.g. 5%) discount for doing so.
- Telematics device is installed in the enrolled vehicle for a period of time (varies by company from one month, to six months, to a year). Device records information such as time driven, speed, where driven, acceleration rate, braking speed, direction vehicle is turned, etc.



Telematics (Usage Based Insurance)

Collected information is used to calibrate the next year's premium (up to perhaps a 30% discount on that vehicle's premium):

- acceleration and braking (“hard events”)
- mileage driven
- where vehicle is driven (GPS coordinates)
- hours of operation (whether or not the car is driven during peak traffic times or at night)
- Each category is “scored” and score determines the discount.



Price Optimization

- Extension of predictive modeling...how customers will react to price changes
- Considerations
 - future profitability of the customer (lifetime value)
 - competitors' premiums for that risk
 - customers' behavioral characteristics
- Determine whether customer will accept/reject premium



Regulatory Issues



Actuarial Science

+

Technology

Soundness

Fairness

Affordability

Availability

Transparency

The Next Development?



Driverless Car