



Optimization of distribution channels using statistical techniques

Benny S. S. Yuen
Marina Ashiotou

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Use of statistical techniques

- ▶ Prevalent use of analytics in many functional areas to improve performance
- ▶ Statistical analysis, multi-variate analysis, and predictive modeling are examples of analytical methods
- ▶ Examples of functional areas that use analytics:
 - ▶ Pricing/actuarial
 - ▶ Underwriting
 - ▶ Claims
 - ▶ Operations/customer service
 - ▶ Human resources
 - ▶ Sales/marketing

Functional areas

(examples)

Pricing/actuarial:

- ▶ Most well known and used area
- ▶ Multi-variate analysis - increase in pricing sophistication and better segmentation
- ▶ Predictive modeling – external information as powerful predictors
- ▶ Innovative pricing tool/variables – Use of GPS

Underwriting:

- ▶ Statistical analysis – multiple underwriting tiers
- ▶ Predictive modeling – Refined underwriting guidelines
- ▶ Identification of target customers

Claims:

- ▶ Claims performance measurement – average paid, salvage/subrogation performance
- ▶ Impact of “days to close” on average paid
- ▶ Staffing model
- ▶ Predictive modeling - Fraud detection in WC and PL

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Functional areas

(examples)

Operations/customer service:

- ▶ Call centers performance
- ▶ Call routing strategy
- ▶ Hold time analysis
- ▶ Staffing model
- ▶ Use of automated answers functions

Human resources:

- ▶ Pre-employment testing
 - ▶ Performance attributes
 - ▶ Personality attributes

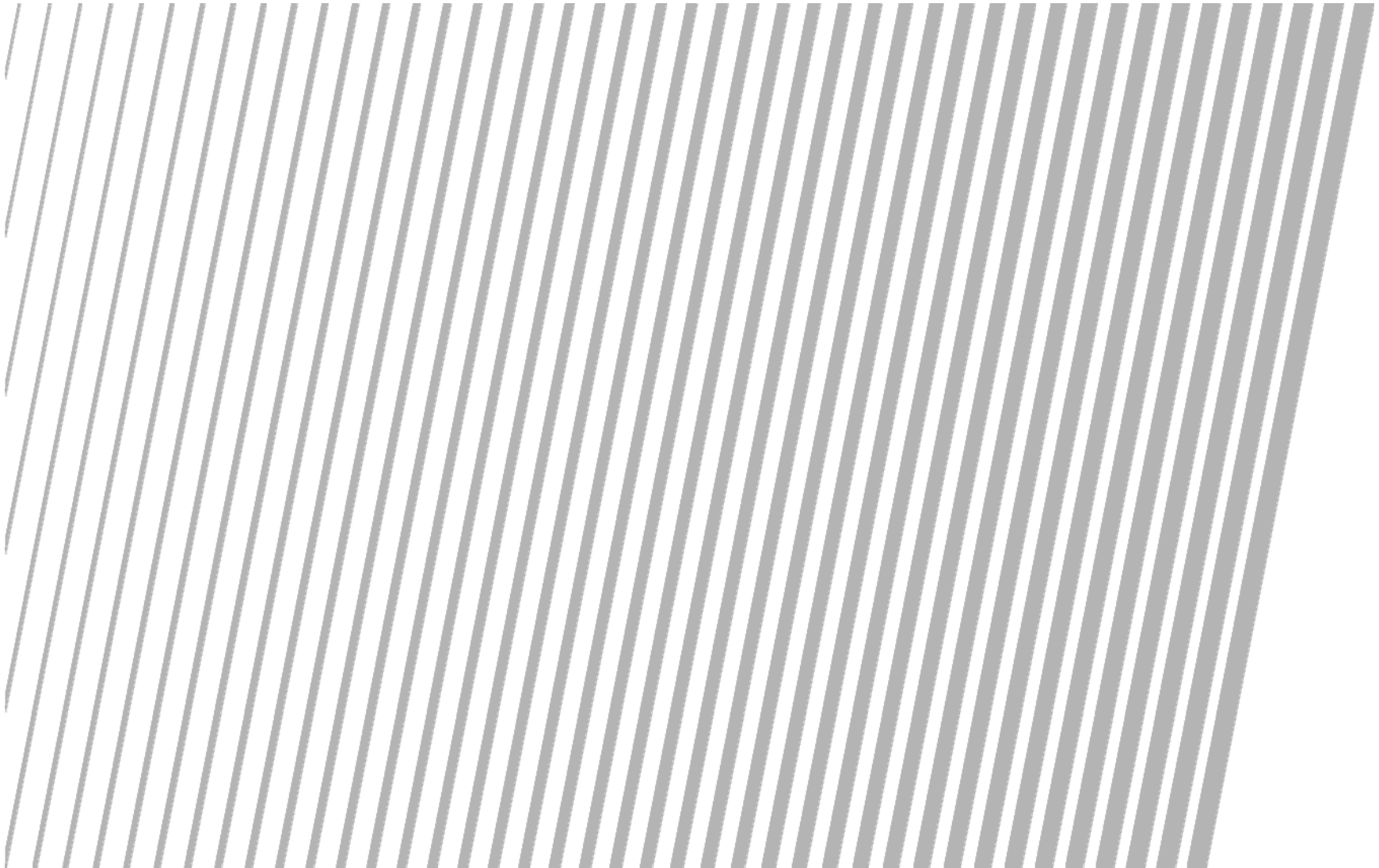
Sales/marketing:

- ▶ Beginning to use more statistical analysis
- ▶ Capturing more data: quotes information
- ▶ Win rate analysis
- ▶ Competitive analysis
- ▶ Distribution management – traditionally more subjective

Optimization of distribution channels

- ▶ Use of statistical techniques to improve distribution channel performance
- ▶ Besides the use of additional data, has other advantages:
 - ▶ Structured and consistent evaluation
 - ▶ Objective evaluation
 - ▶ Ability to handle multiple key factors
 - ▶ Distillation of volumes of data
- ▶ Two examples today
 - ▶ Identify and maximize agency potential
 - ▶ Direct marketing campaigns performance measurement

Identifying and maximizing the potential of agencies



Production drivers

Traditional measurements

- ▶ Written premium
- ▶ New business count / Inforce count
- ▶ Retention

More sophisticated measurements

- ▶ Number of quotes
- ▶ Conversion rate
- ▶ Average premium
- ▶ Allow for better focus and specify accountability

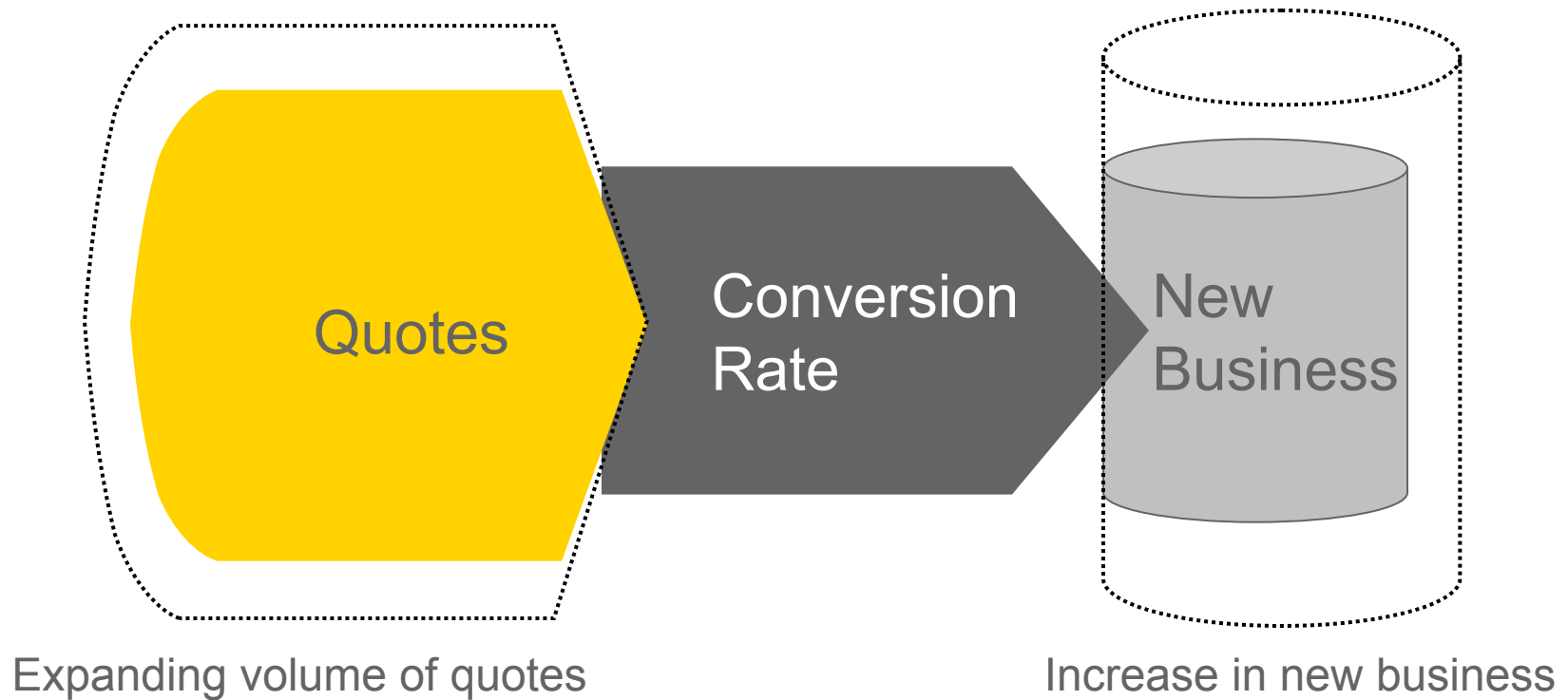
Actuarial/product management have concentrated on conversion rate and average premium

Very few analytical tools have been designed to address quotes

- ▶ Lack of data
- ▶ Lack of models
- ▶ Sales/marketing responsibility

Increase in new business/quotes

- ▶ New business counts driven by quotes and conversion rate



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Increase in new business/quotes

- ▶ Pricing lever including better segmentation will affect conversion rate
- ▶ Focus on increase in quotes today
- ▶ Two methods to increase overall number of quotes:
 - ▶ Expand agency force – add more agencies
 - ▶ Optimize agencies' quotes volume – Increase number of quotes per agency
- ▶ Levers that will increase quotes:
 - ▶ Commission – has expense implications
 - ▶ Underwriting – has profit implications
 - ▶ Pricing (higher conversion → more quotes) – has profit implications
 - ▶ Sales/marketing – can have minimal impact on expense

Identifying and maximizing an agency's potential

Need to define “potential”

- ▶ Most sales/marketing team provide anecdote answers
- ▶ The best ones provide consistent but yet subjective answers.
- ▶ Develop a systematic and analytical approach to supplement marketing team's knowledge

Classify agencies by potential

- ▶ Should compare to initial “subjective” view
- ▶ Agree on final ranking
- ▶ Create action plans – e.g., sales/marketing managers routing strategy

Internal factors

Potential can be defined by two sets of factors:

- ▶ Internal – Agency attributes that increase likelihood of success
- ▶ External – Outside the control of the agency

Examples of agency attributes:

- ▶ Years of experience
- ▶ Years with company
- ▶ Number of companies represented (Independent agency)
- ▶ Size of agency – premium volume; # of employees
- ▶ E&O limits
- ▶ Credit

Importance of each attribute will depend on individual company –
“alignment with company”

External factors

Rate competitiveness index

- ▶ Win rate analysis
 - ▶ Market baskets – Target consumers; inforce profile; census information
 - ▶ Quote/conversion information
- ▶ Market perception
 - ▶ Mystery shoppers
 - ▶ Surveys

Market size index

- ▶ Within a geographical area – rating territory; miles of radius
- ▶ Number of driving population per agency
- ▶ “Saturation rate” measurements
 - ▶ Number of agency per capita
 - ▶ Number of competitors’ agencies per vehicles

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External factors

Brand recognition index

- ▶ Win rate analysis
 - ▶ Winning when not as competitive
- ▶ Marketing spent
 - ▶ Advertisement costs
- ▶ Number of visits
 - ▶ Field force coverage
- ▶ Surveys

External factor indices

- ▶ Can begin with subjective judgment
- ▶ Enhance with statistics
- ▶ Development of more sophisticated modeling on each
- ▶ Additional factors to consider

Composite index - potential

Define “successful” agencies

- ▶ Define “successful”; start with production only; future enhancement would include profitability
- ▶ Identify successful agencies – e.g., top 10%

Score the rest of the agency plant based on internal attributes

- ▶ Similarity modeling

Assign an index on each external factor for every agency

- ▶ Rate Competitiveness Index
- ▶ Market Size Index
- ▶ Brand Recognition Index

Model/retro-fit the composite scores of successful agencies

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Composite index – potential

Create composite score for each agency

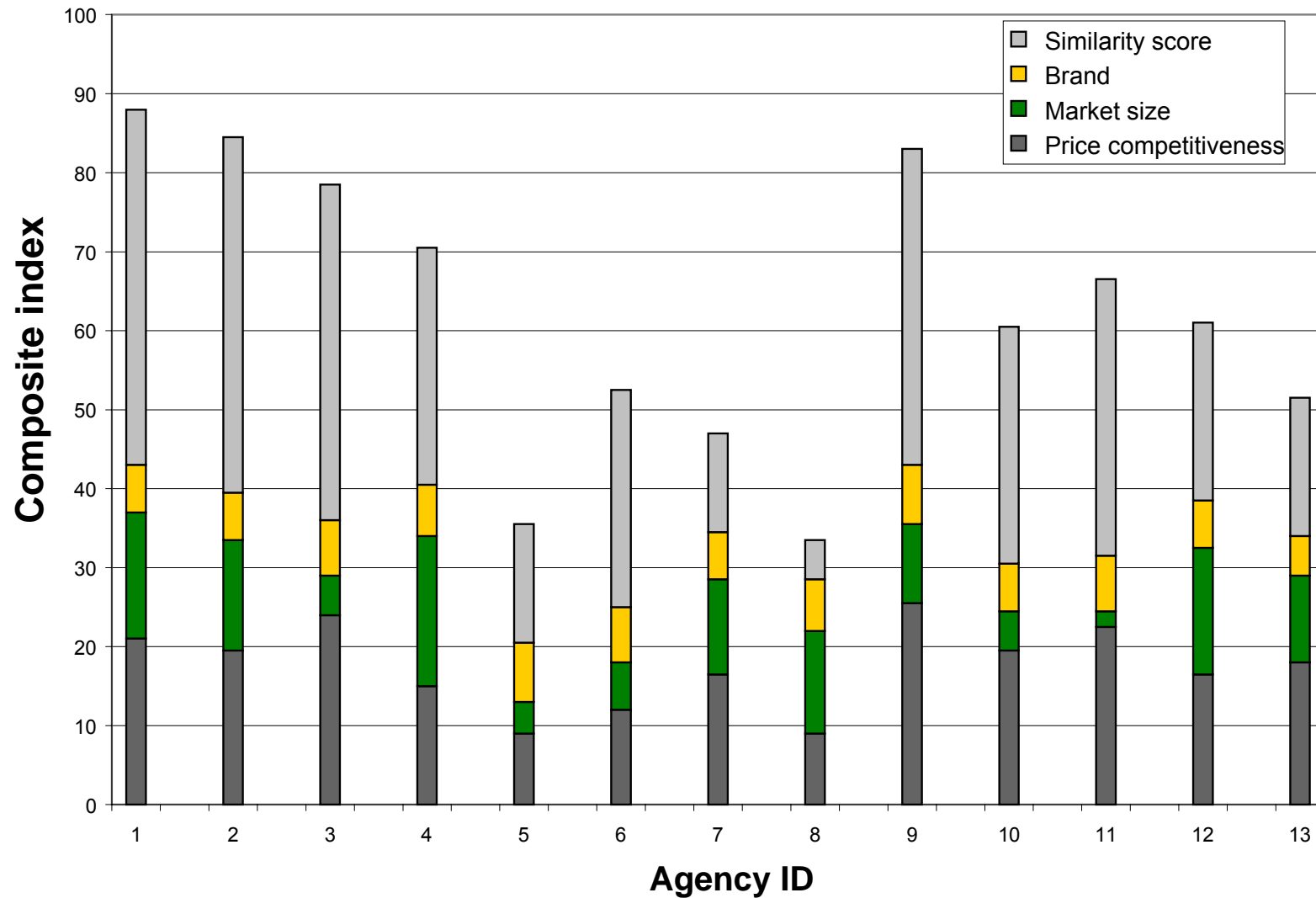
Rank composite score against agency volume

The composite score = the objective definition of “potential”

Compare objective rating to subjective view

Want to cultivate the high composite score/low volume agencies

Composite index example



Purposes/usage

Sales/marketing resource allocation

- ▶ Getting more with the same resource
- ▶ Add resources

Action plans

- ▶ Low rate competitiveness rating may suggest price adjustment

Track effectiveness of levers

Benchmarking

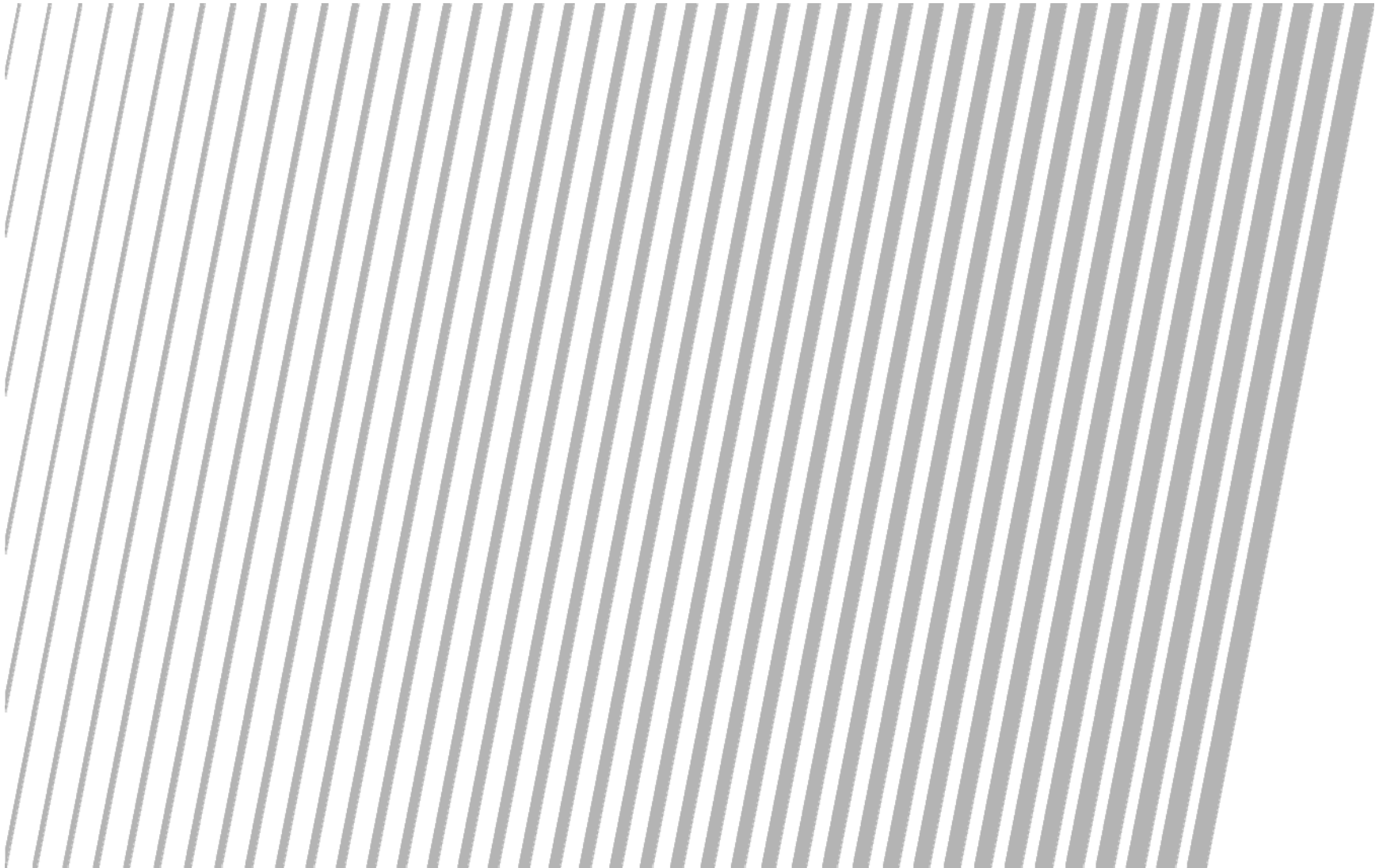
- ▶ Allow for easier comparison of agency performance

More robust business plan

- ▶ Better bottom-up planning

Supplement existing sales/marketing knowledge

Direct marketing campaigns performance measurement



Direct marketing campaigns

- ▶ Identify, isolate, and communicate with target customers
- ▶ Have higher conversion rates and profitability and be more cost efficient than mass marketing campaigns
- ▶ Direct marketing can be used to
 - ▶ Test new markets, new products, or a new customer base
 - ▶ Reward existing customers
 - ▶ Collect information for future campaigns
 - ▶ Segment the customer base
- ▶ Achieve results quickly and adjust easily to improve results
- ▶ Customize different messages depending on the recipients

Designing a direct marketing campaign

Identify desired product to be marketed

Identify a target customer base

- ▶ Profitability
- ▶ Conversion rate
- ▶ Growth opportunities based on existing penetration rates and changes in demographic characteristics

Define metrics to assess direct marketing campaign effectiveness

- ▶ Short term
 - ▶ Conversion rate = number of wins per quote
 - ▶ Number of quotes per direct marketing campaign dollar spent
- ▶ Long term
 - ▶ Loss ratio

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Designing a direct marketing campaign

Identify areas to focus direct marketing efforts

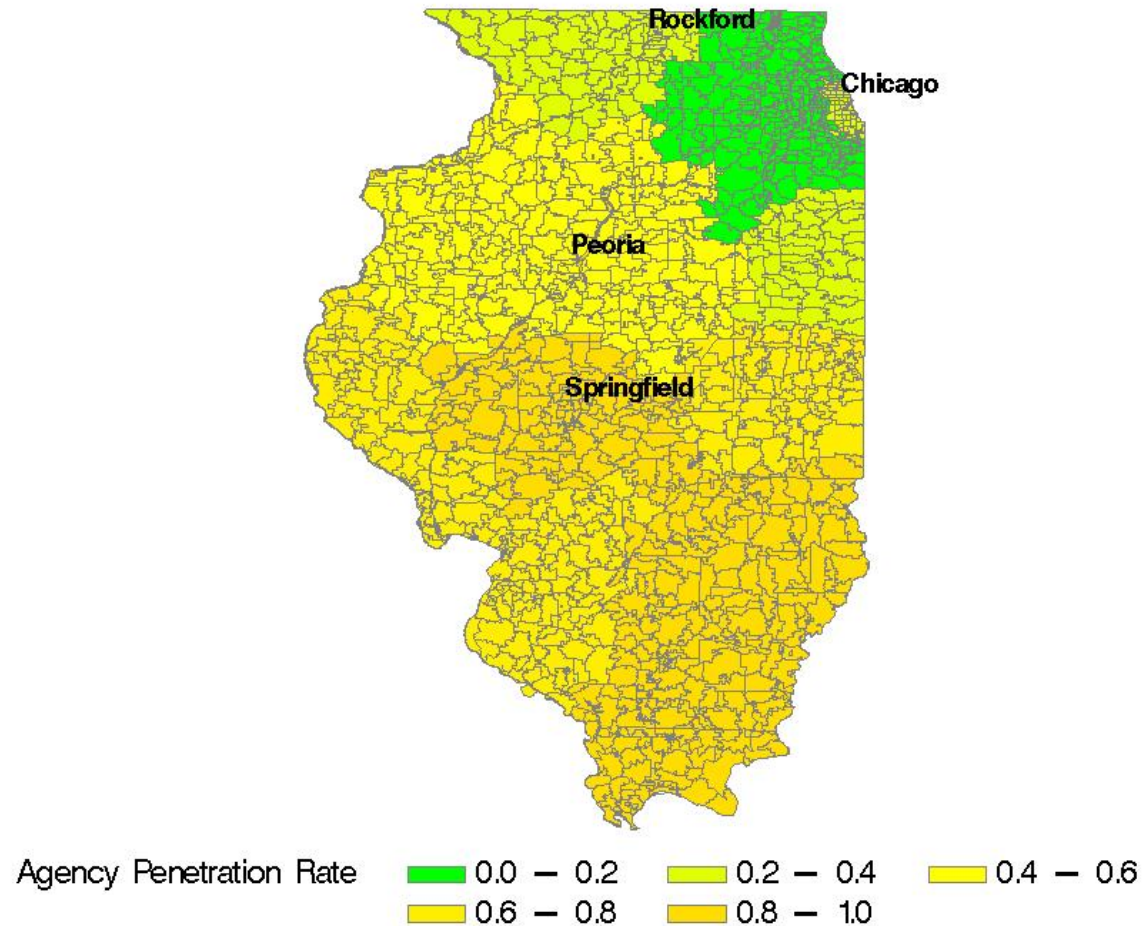
- ▶ Direct marketing campaigns are more efficient in areas with lower penetrations of other distribution channels
- ▶ In personal lines many companies use both direct and agency force
- ▶ Eliminate distribution channel conflicts

Estimate penetration rate by customer segment and distribution channel

- ▶ Focus direct marketing campaign efforts in areas where agency penetration rates are low
- ▶ Reduce marketing expense costs
- ▶ Increase company presence in under-explored areas with potential growth opportunities

Agency penetration rate by geographical area

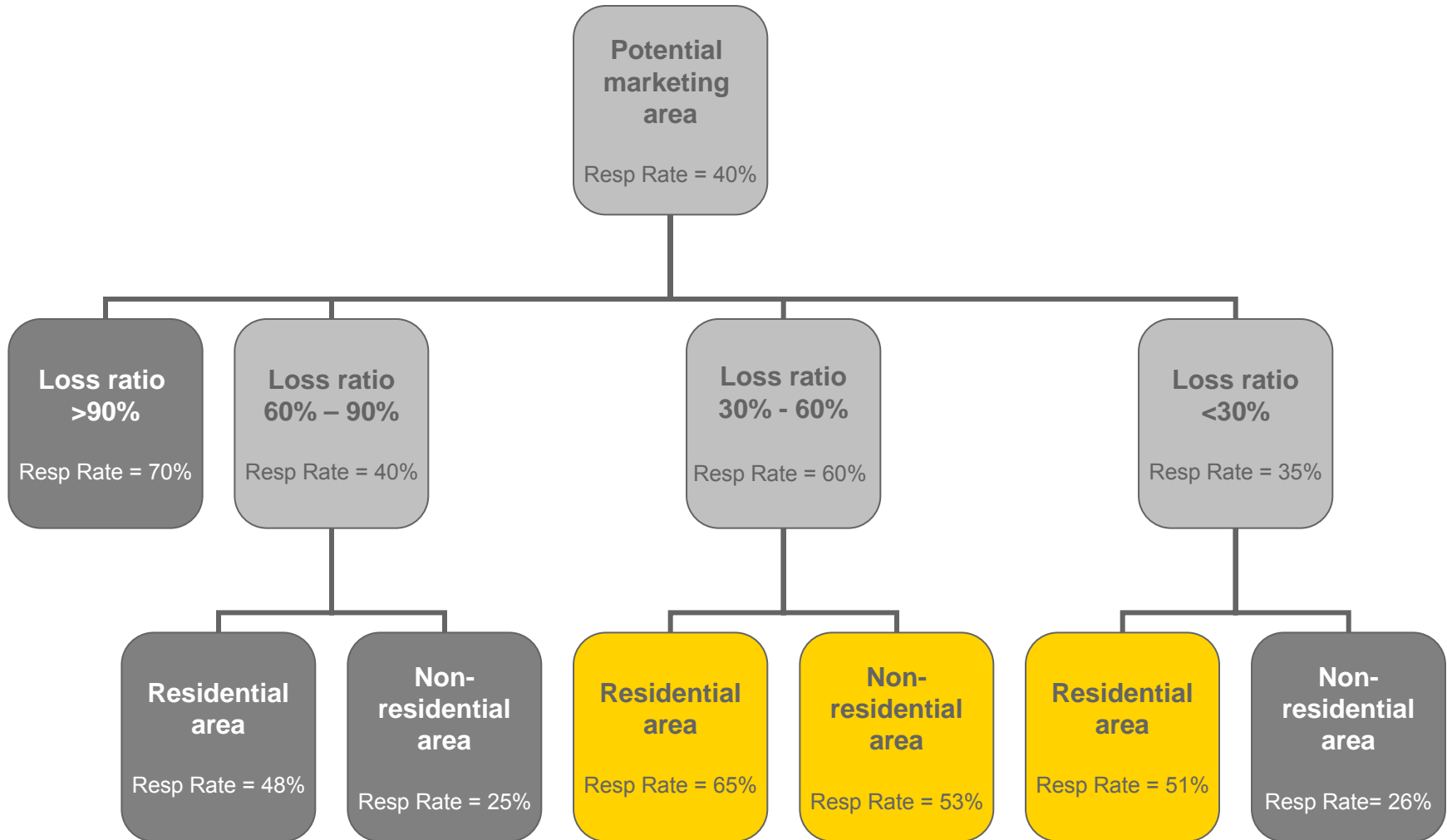
Penetration Rates in Illinois



Identifying customer segments with high direct marketing response rates

- ▶ Customer segments with high response rates should be identified within the potential marketing area
- ▶ Intelligence on marketing area from other distribution channels can be leveraged
 - ▶ Customer segment profitability
 - ▶ Customer segment characteristics that are related to response rates
- ▶ Response rate models should include easily measurable predictor variables
 - ▶ Outcome of response rate models is used to define target customer segments for direct marketing campaigns

Response rate model example

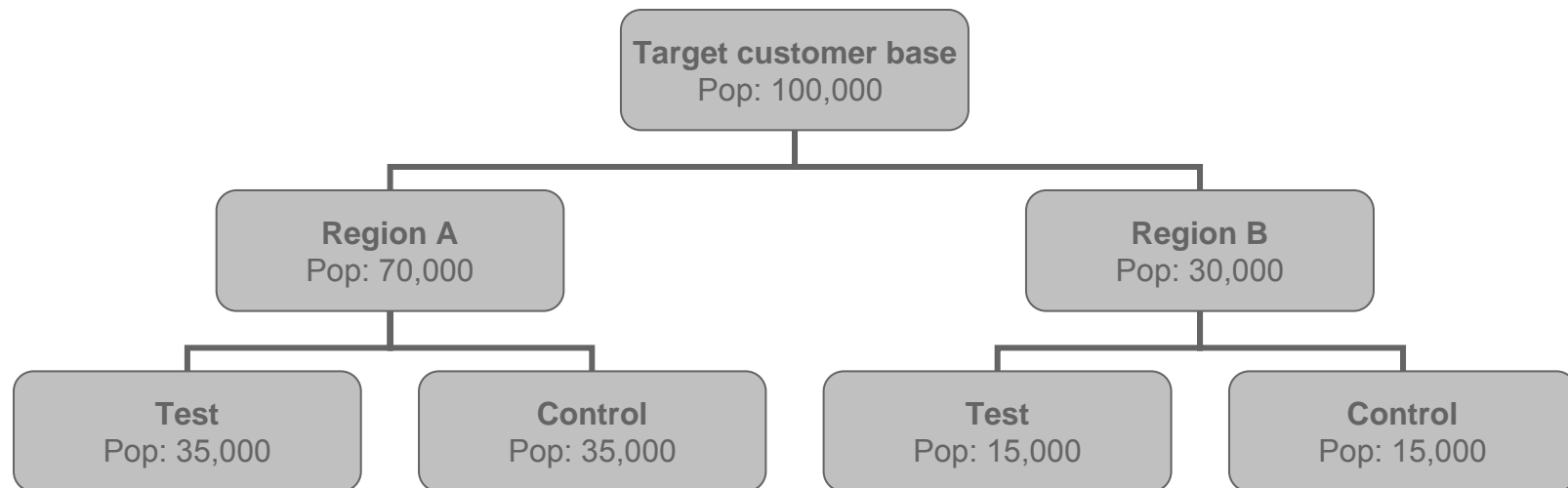


Measuring the impact of direct marketing campaigns

Large direct marketing campaigns can be initially piloted within test population

Randomly divide targeted desirable customer base into test and control populations:

- ▶ Division of the customer base should result in similar test and control populations
- ▶ Stratification of the customer base should be considered to avoid a biased campaign



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Measuring the impact of direct marketing campaigns

Track performance metrics in test and control populations

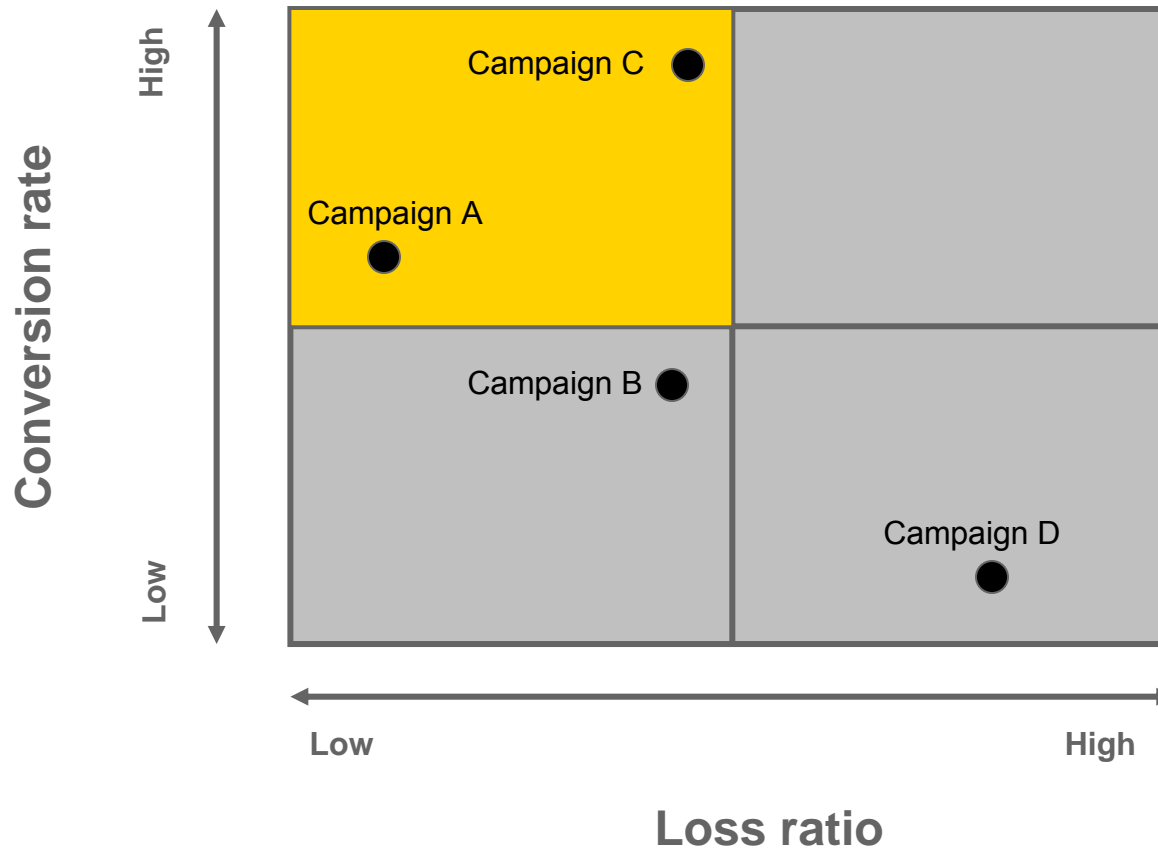
- ▶ Conversion rate
- ▶ Loss ratio

Assess effectiveness of direct marketing campaign

- ▶ Compare performance metrics between test and control populations
- ▶ Compare performance metrics against concurrent campaigns or previous campaigns
- ▶ Identify reasons for performance differences

Assessing the effectiveness of direct marketing campaigns

Direct marketing campaign matrix



Enhancing direct marketing campaigns

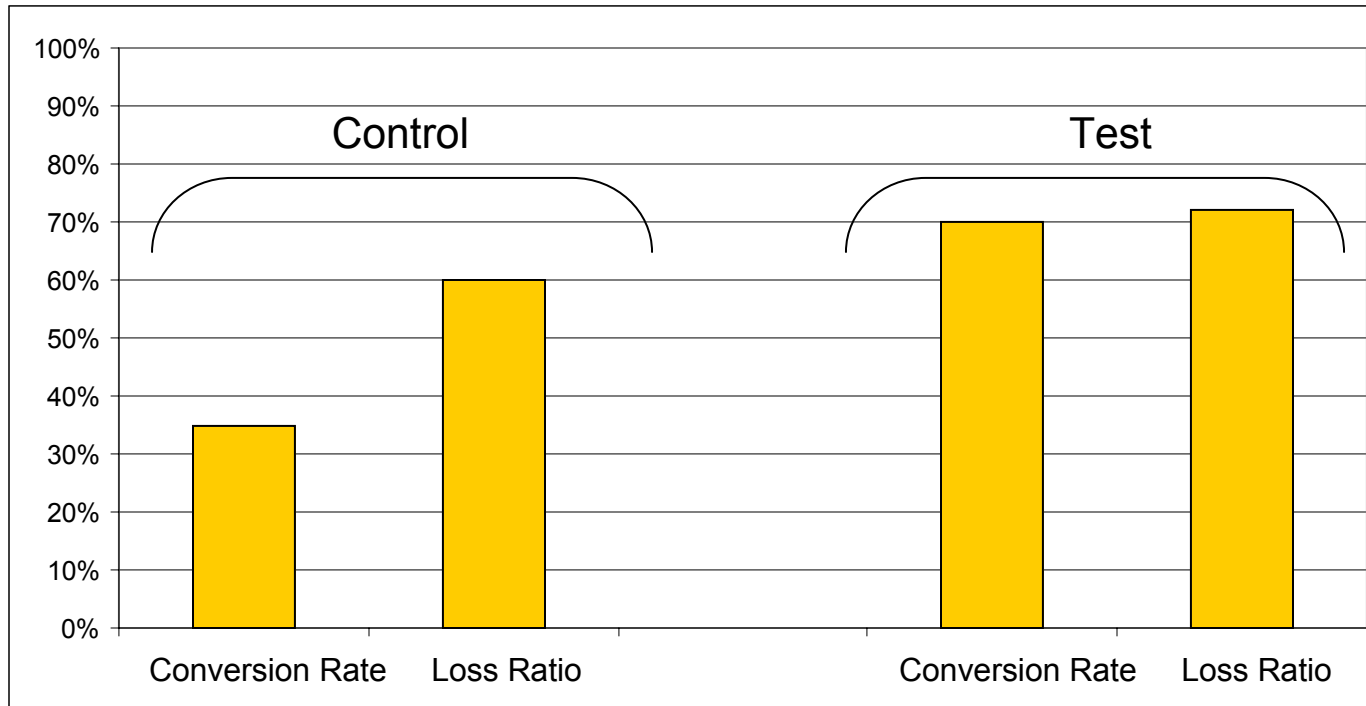
Direct marketing campaign results can be leveraged to modify and improve the performance of future campaigns:

- ▶ Effective campaigns can be extended to the control population
- ▶ Ineffective campaigns can be modified to improve the campaign performance

Feedback loop between campaign results and campaign design can lead to more successful direct marketing campaigns:

- ▶ Targeted customer segment could be expanded or limited based on direct marketing campaign response
- ▶ Underwriting rules could be refined to account for response to direct marketing campaign

Example of ineffective direct marketing campaign



Direct marketing campaigns can attract worse risks than expected

- ▶ Underwriting rules should be applied with rigor
- ▶ Potential policyholders attracted by direct marketing campaigns could be very different from existing policyholders
 - ▶ Additional underwriting rules could be necessary

Direct marketing campaigns – final thoughts

Direct marketing campaigns can be a very efficient distribution channel when operated effectively.

They should:

- ▶ Always be aligned with the company's business strategy
- ▶ Complement the performance of other distribution channels
- ▶ Target the appropriate customer segments
- ▶ Be monitored carefully and modified when necessary

Questions

