Optimization of distribution channels using statistical techniques

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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

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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

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Identifying and maximizing the potential of agencies
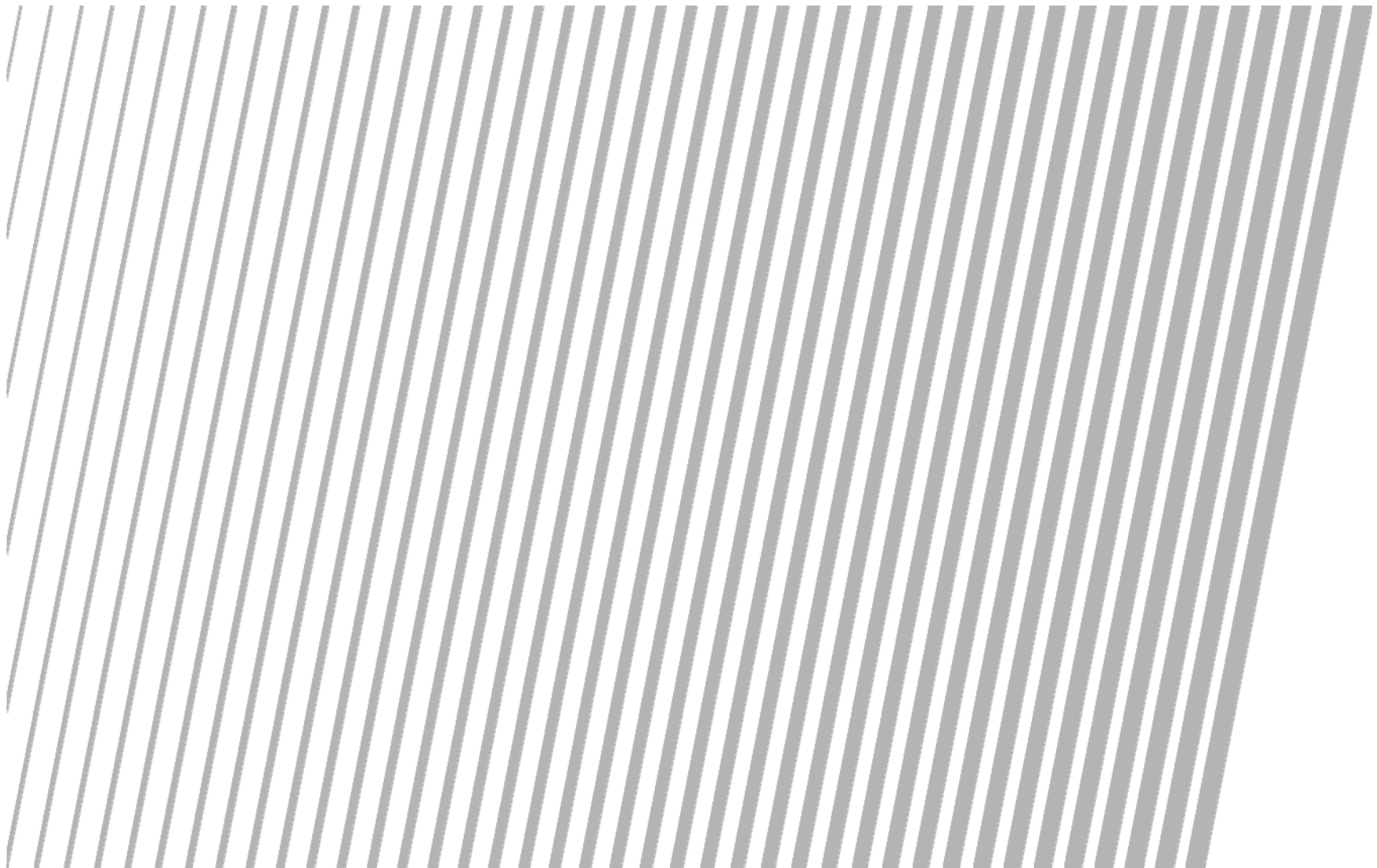
Production drivers

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

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Increase in new business/quotes

► New business counts driven by quotes and conversion rate

Expanding volume of quotes

Increase in new business

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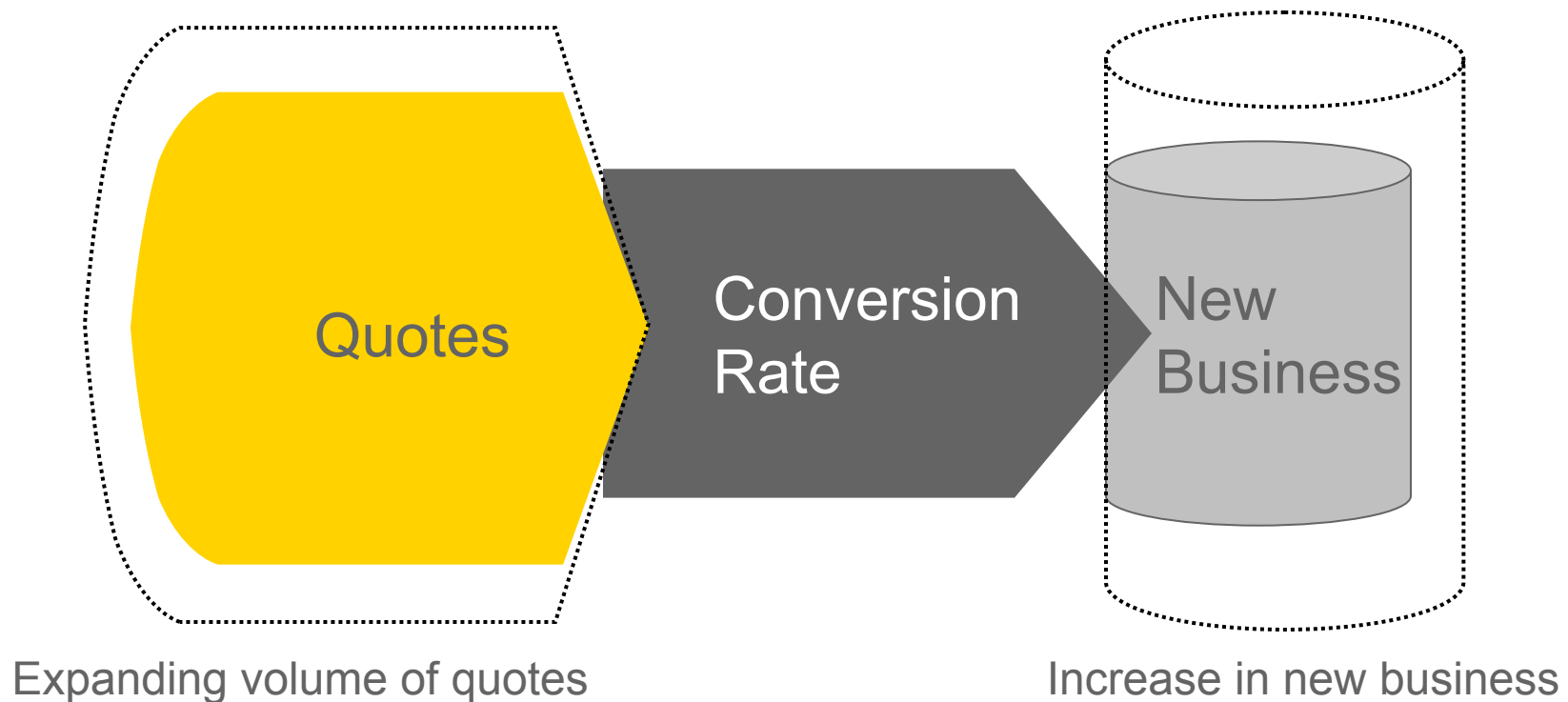
Increase in new business/quotes

► 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

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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

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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"

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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

(continued)

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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

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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
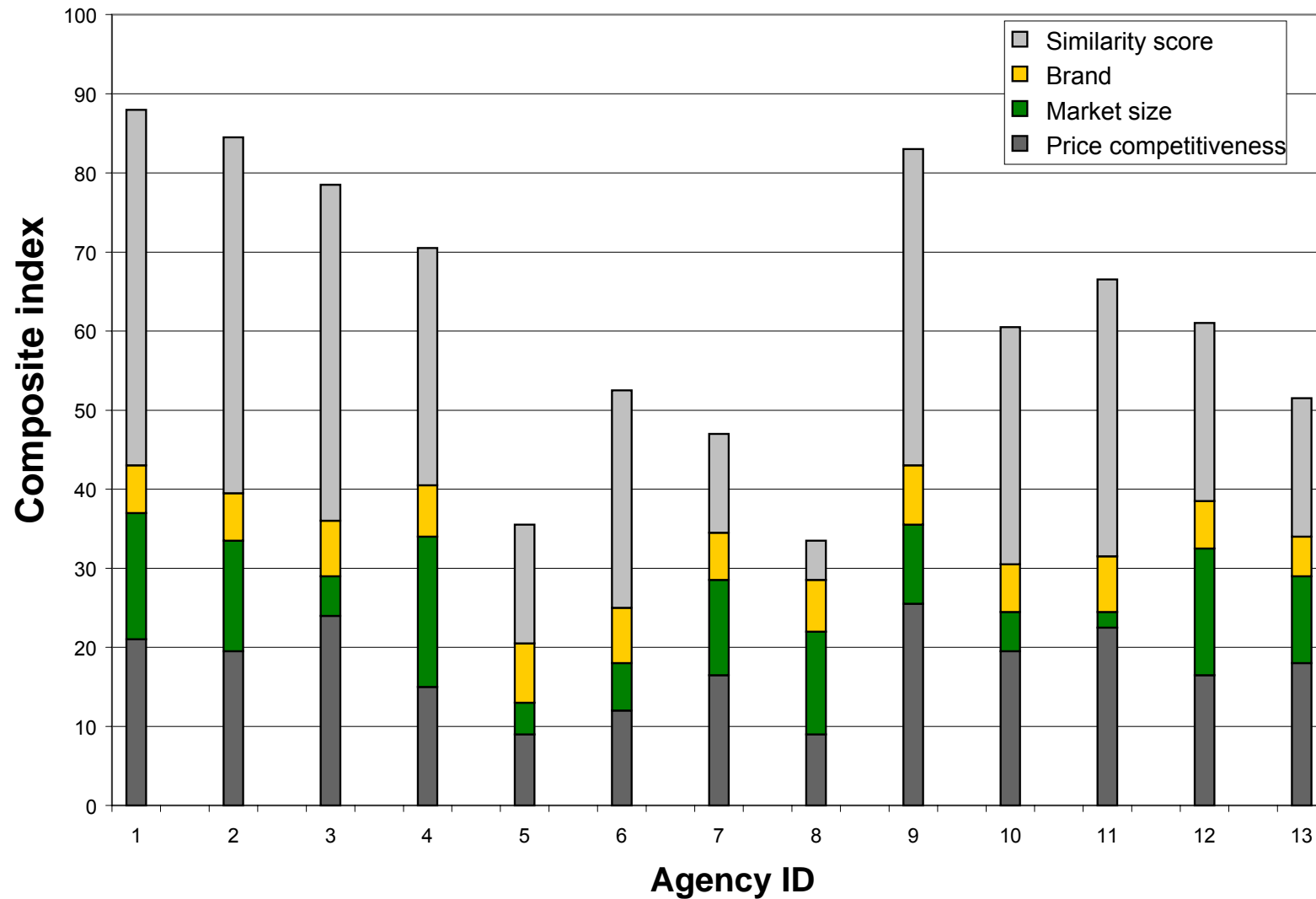
Create composite score for each agency

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

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Composite index example

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Purposes/usage

Sales/marketing resource allocation

- ► Getting more with the same resource

- ► Add resources

Action plans

- ► Low rate competitiveness rating may suggest price adjustment

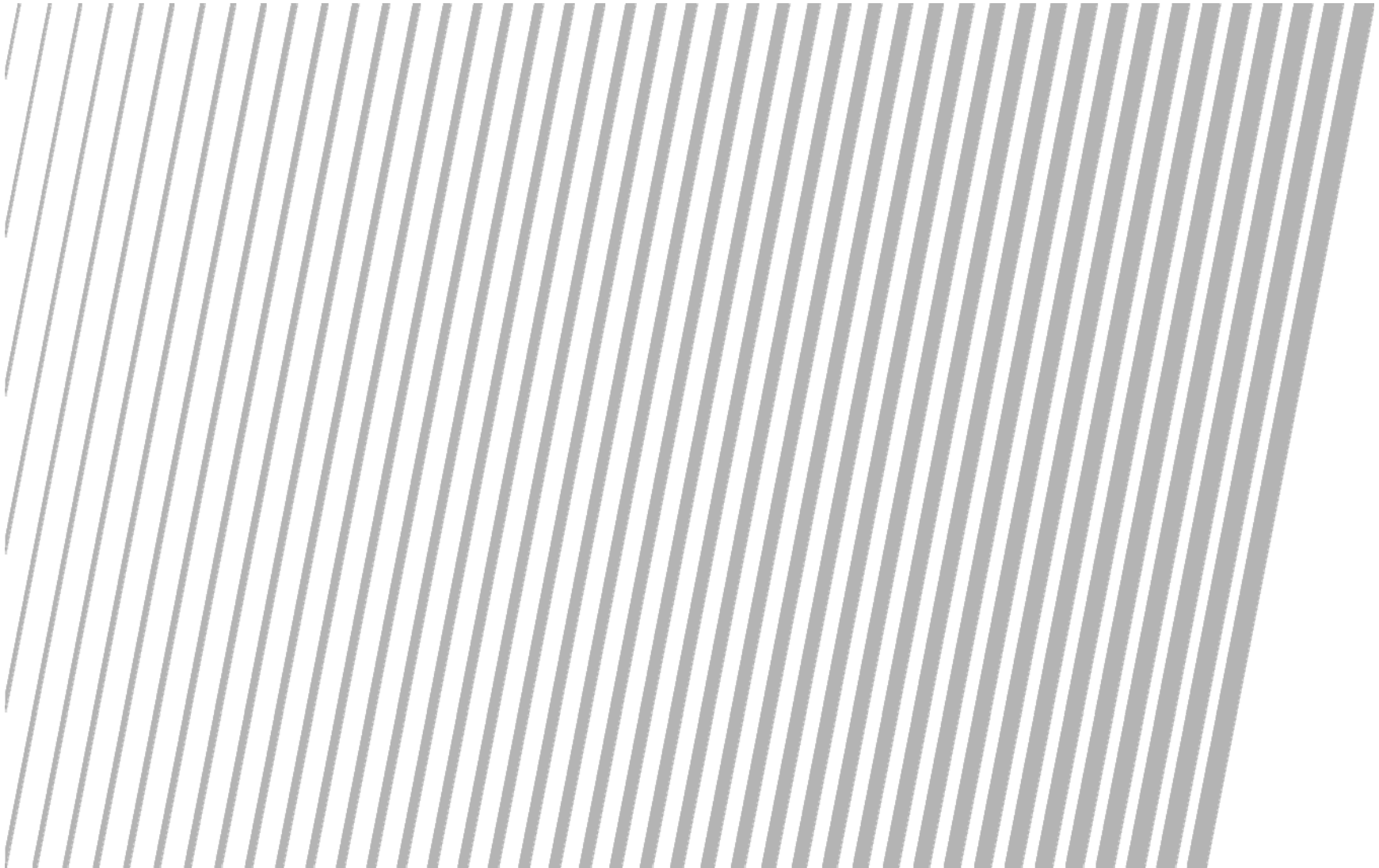## Track effectiveness of levers

Benchmarking

- ► Allow for easier comparison of agency performance

More robust business plan

- ► Better bottom-up planning

Supplement existing sales/marketing knowledge

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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

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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

(continued)

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

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Agency penetration rate by geographical area

Penetration Rates in Illinois

Agency Penetration Rate
- 0.0 – 0.2
- 0.2 – 0.4
- 0.4 – 0.6
- 0.6 – 0.8
- 0.8 – 1.0

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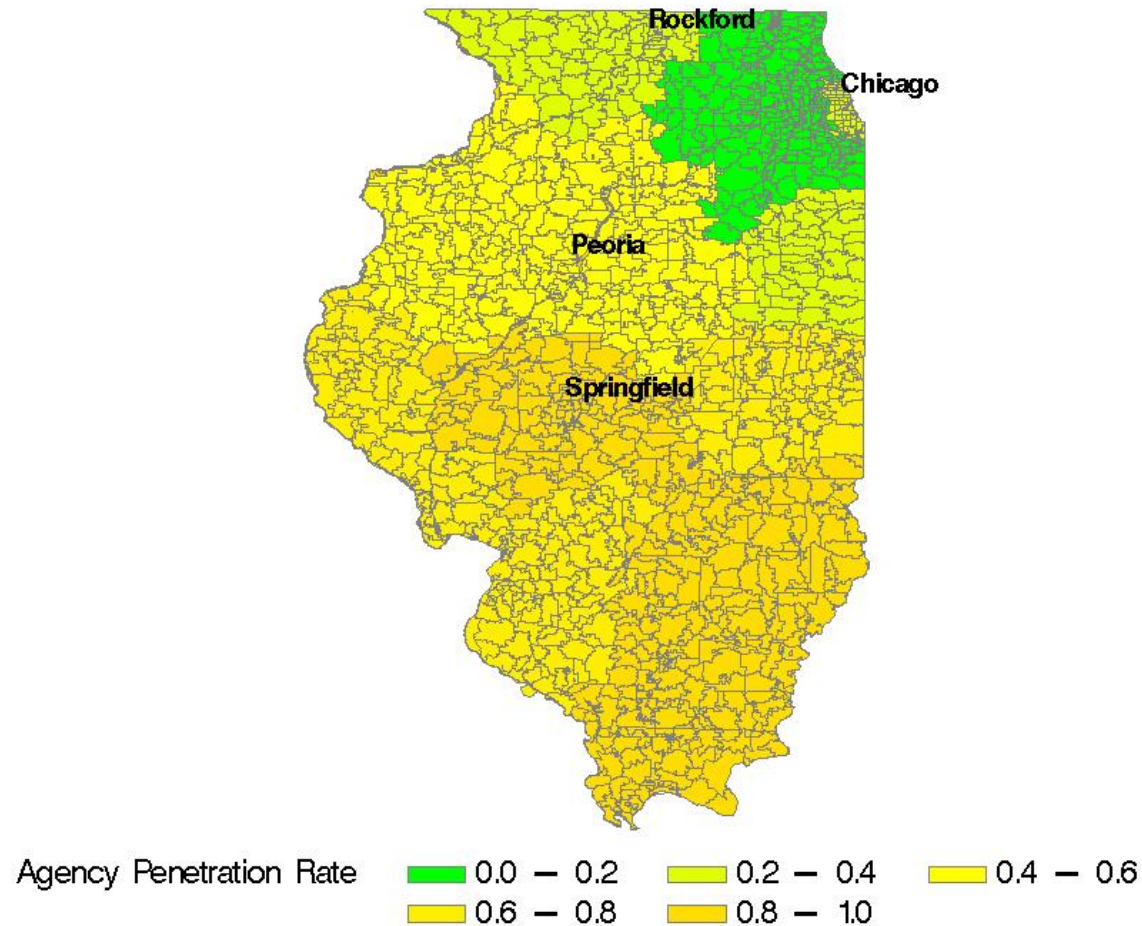
Identifying customer segments with high direct marketing response rates

► 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

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Response rate model example

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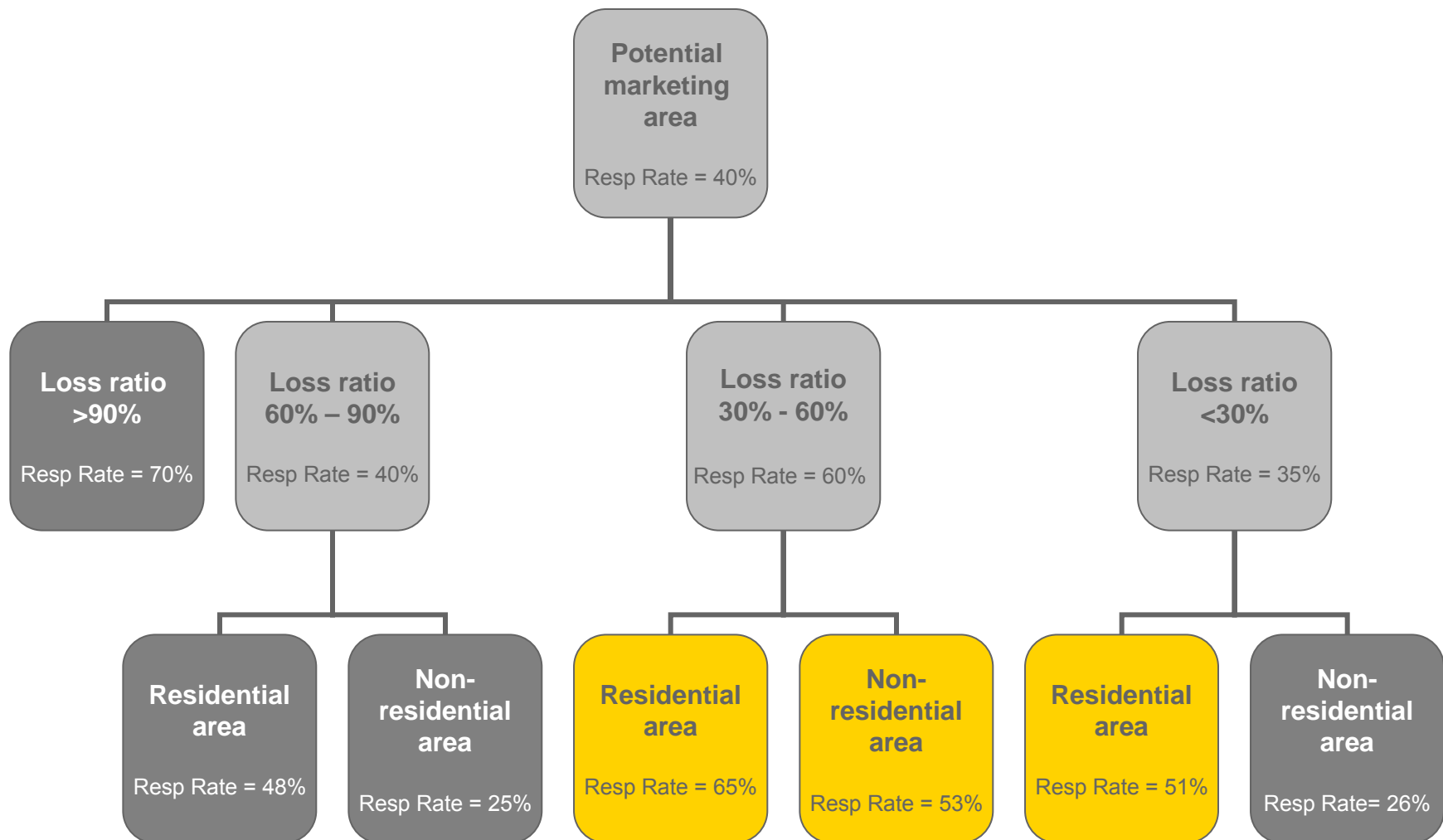
Measuring the impact of direct marketing campaigns

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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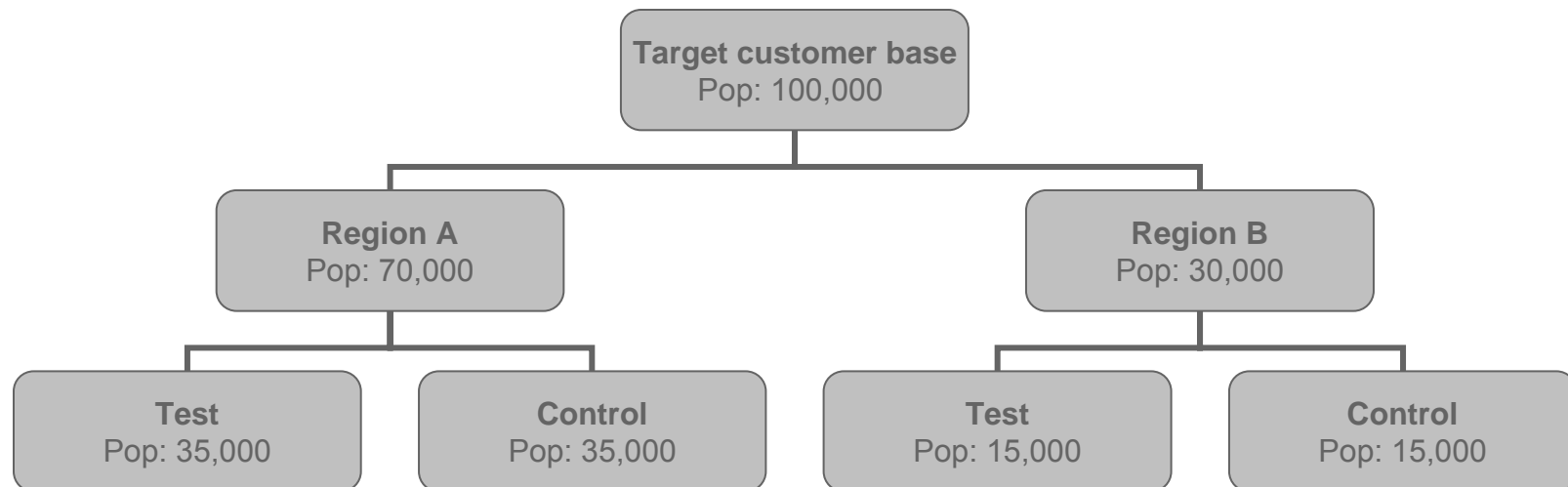
Measuring the impact of direct marketing campaigns

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

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Assessing the effectiveness of direct marketing campaigns

Direct marketing campaign matrix

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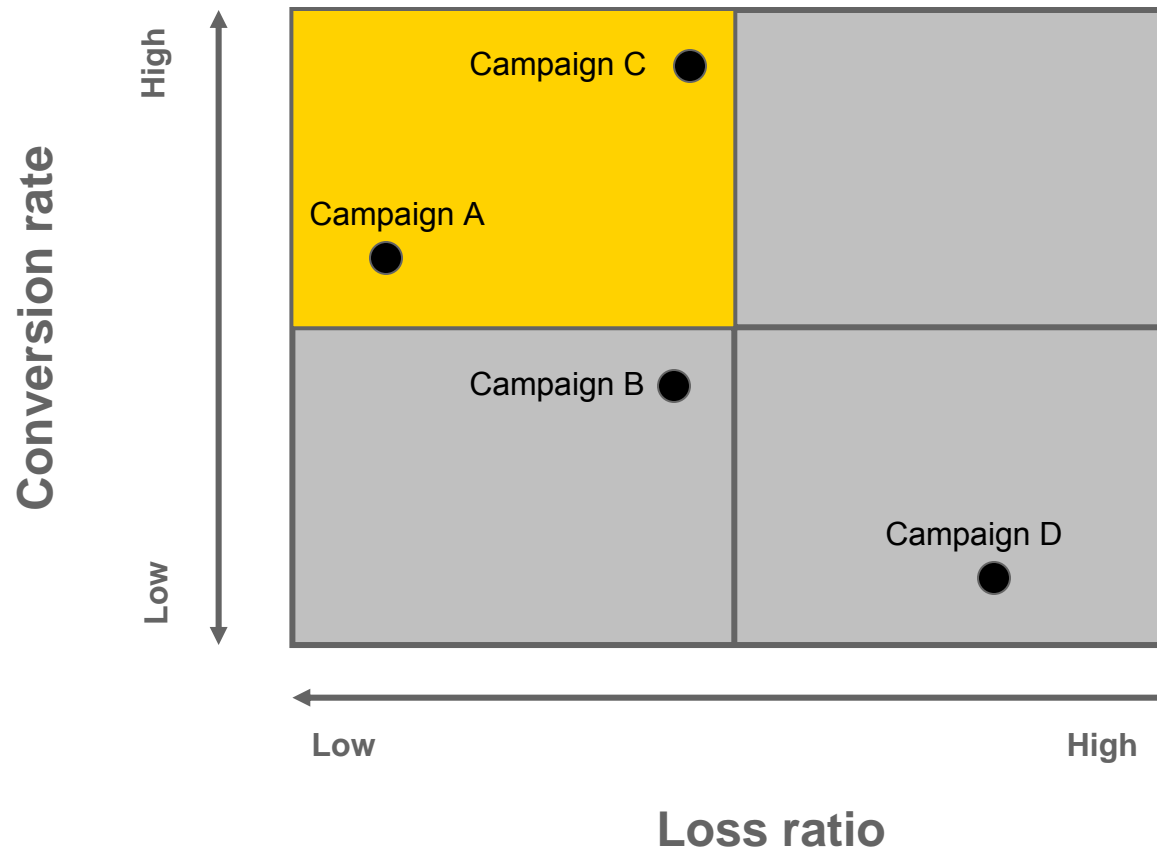
Enhancing direct marketing campaigns

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

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Example of ineffective direct marketing campaign
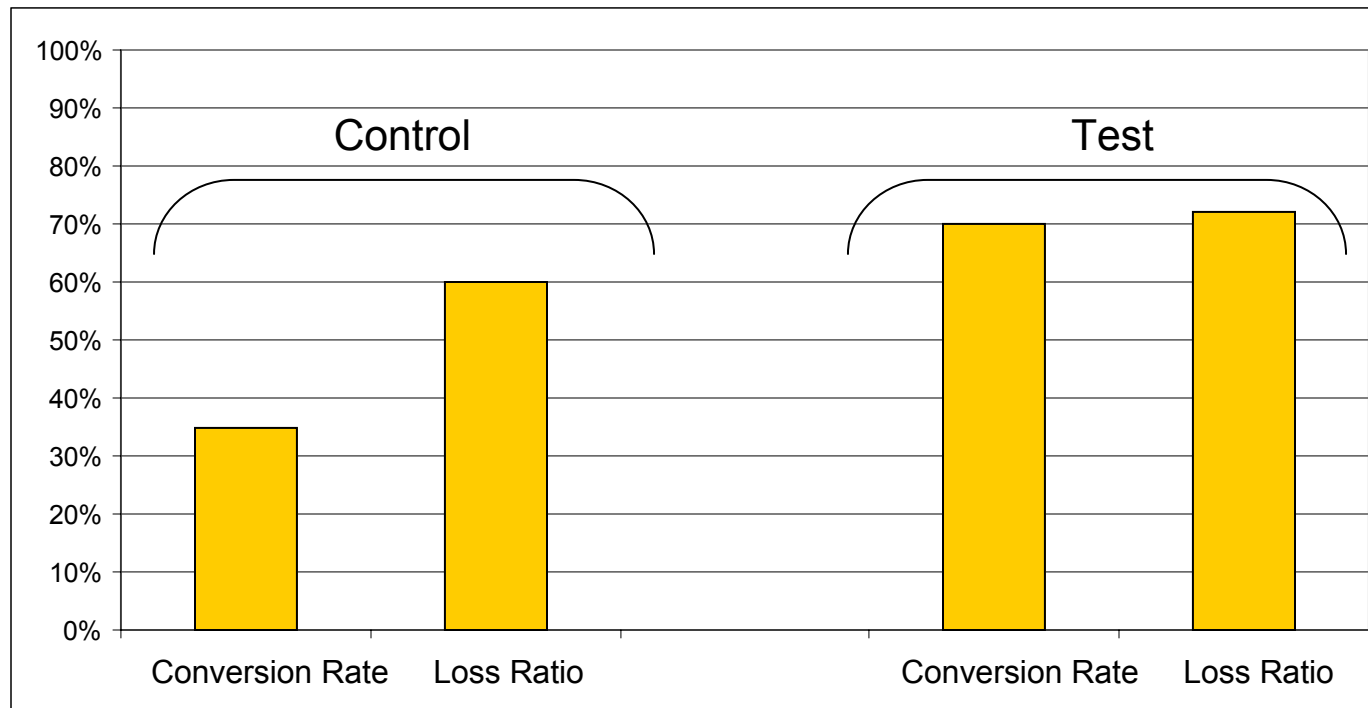
Direct marketing campaigns can attract worse risks than expected

► 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

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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

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Questions

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