Eight Practical Rules for Building Marketing Mix Models

Models that work
- and your clients can buy into
Rule 1: Understand the big picture

• Who are the players in the category
• What are they doing
  – Marketing expenditures
  – Product positioning
  – Marketing channels
  – Product innovations
• What objective is the client trying to meet
Rule 2: Graph everything in sight

- Otto Eckstein rule:
  - Never show a client a more than 2 by 2 matrix
- No client – and very few analysts – can make sense of a complex set of numbers
- Don’t show graphs unless they tell a story
  - Some stories they know [to show that you understand the business]
  - And some they don’t [to show your value]
Illustration: Dish-washing detergent

- Client was disturbed by a sharp decline in market share in long-time category leader
• New entry was growing rapidly
• But also fundamentally altering the category by introducing concentrates
Illustration

• As concentrates were much more profitable
• The client – who had been quick to respond – was now making far more money
  – At the expense of the smaller brands

Projected Profit

- Brand A
- Brand B
- Brand C
- All Others
Real objective

• The client’s concern was misplaced
• The objective shouldn’t have been to restore lost market share
  — But to best respond to competitive pressure in order to maximize profits
Rule 3: Consider everything

• Marketing
• Competitive
• Environmental
• Just because the data base is “big” doesn’t mean in contains everything you need
• If you leave something out, the model is open to criticism
Rule 4: Look at – and understand – outliers

• Outliers wreak havoc on models
• In almost all cases, there’s an explanation
  – Strikes
  – Product recalls
  – Weather events
  – Geopolitical events
  – Etc.
Rule 5: Graph all relationships

• Relationships are usually much easier to explain – and get client buy-in – if they can be demonstrated graphically
Graph all relationships

• Sometimes, explanation is easy
Graph all relationships

- Outliers usually pop out
Don’t show confusing graphs

- If statistically significant relationships don’t stand out
Make relationships clear

• Do something to make the relationship clear
  – Lag, smooth, transform or aggregate variables
• In this example, AdBank is a smoothed advertising series [equivalent to AdStock]
Make relationships clear

- Plot against residuals or add additional information, as necessary
Rule 6: Never present a linear model

- Although linear and non-linear models yield similar results in the range of actual data
  - They can be quite different when extrapolated
Problems with linear models

• The world is non-linear
  – All economic theory is based on a declining return to scale

• Linear models lead to dangerous interpretations, such as:
  – Why don’t we triple ad spending....
  – If promotion has a higher response than advertising, why not put everything into promotion
Problems with linear models

• In my opinion, all regression based models should be log-log

\[ \ln[Sales_t] = \beta_0 + \beta_1 \ln[Adv_t] + \beta_2 \ln[Promo_t] + \beta_3 \text{Dummy} + \ldots \]

Or

\[ Sales_t = \exp[\beta_0] \times \exp[\beta_3 \times \text{Dummy}] \times [Adv_t]^{\beta_1} \times [Promo_t]^{\beta_2} \times \ldots \]
Rule 7: Be sure the model makes sense

• To you and to the client
  – Avoid negative marketing elasticities
    • And [in most cases] positive price elasticities
  – Be aware of the difference between price and promotion
    – Have strong evidence before you challenge the client’s basic assumptions

• Test all results
Rule 8: Use the model to guide decision-making

- Use the model results to simulate a P&L
- Evaluate alternative scenarios
- Consider possible competitive actions
  - And reactions
Illustration: Laundry detergent

• Our client’s brand was the category leader facing challenge from heavily supported multinational brand
• Both brands were spending about the same on both advertising and trade support
• However, the two brands responded quite differently to marketing and followed distinctly different marketing strategies
Modeling results

• Both brands were responsive to advertising
  – Client’s brand was more responsive

• Both brands were also influenced by trade promotion
  – Promotional effects were similar for both brands
  – But competitive promotions had a substantial effect which could effectively offset the impact of their own promotions
Impact of advertising on leader

- Leader was in a position to increase share at minimal cost
Impact of advertising on challenger

- Challenger was investment spending to buy share
Impact of leader’s trade spending

- Client’s brand could make only limited gains by increasing trade support
Impact of leader’s trade spending

• But not if competitor matches spending increases
Outcome

- Category leader increased ad spending
  - While the challenger continued its high level of ad support
- Both brands carefully avoided a trade war
- As a result, both brands grew
  - At the expense of the smaller brands in the category
In conclusion

• If your clients understand and buy into your models
  – They’ll use them
  – And profit from them

• If they don’t
  – ………