New Product Decisions

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Agenda

- New Product Decisions
  - Product Development Process
  - Test Marketing
  - Simulated Test Markets

New Products

- Why do firms introduce new products?
  - Satisfy unmet / emerging needs
  - React to competition
  - Leverage unused resources
  - Well positioned for the future – Growth imperative

Types of New Products

Marlboro

Newness to Firm	Low	Market Med.	High
Low	Cost Reductions		Repositionings
Med.		Product line Extensions	
High	New Product Lines		New to the World

Ipad

Pillcam

Baby Monitor

Virgin Cola

Goghurt

Why Good Ideas Go Bad?

- Common reasons for new product failure
  - Failure to understand consumers and competitors
    - Too small a target market
      - KODAK ULTRALIFE lithium power cells, the world's first 9-volt lithium cells for consumer use
    - Bad timing
      - Low Carbohydrate products

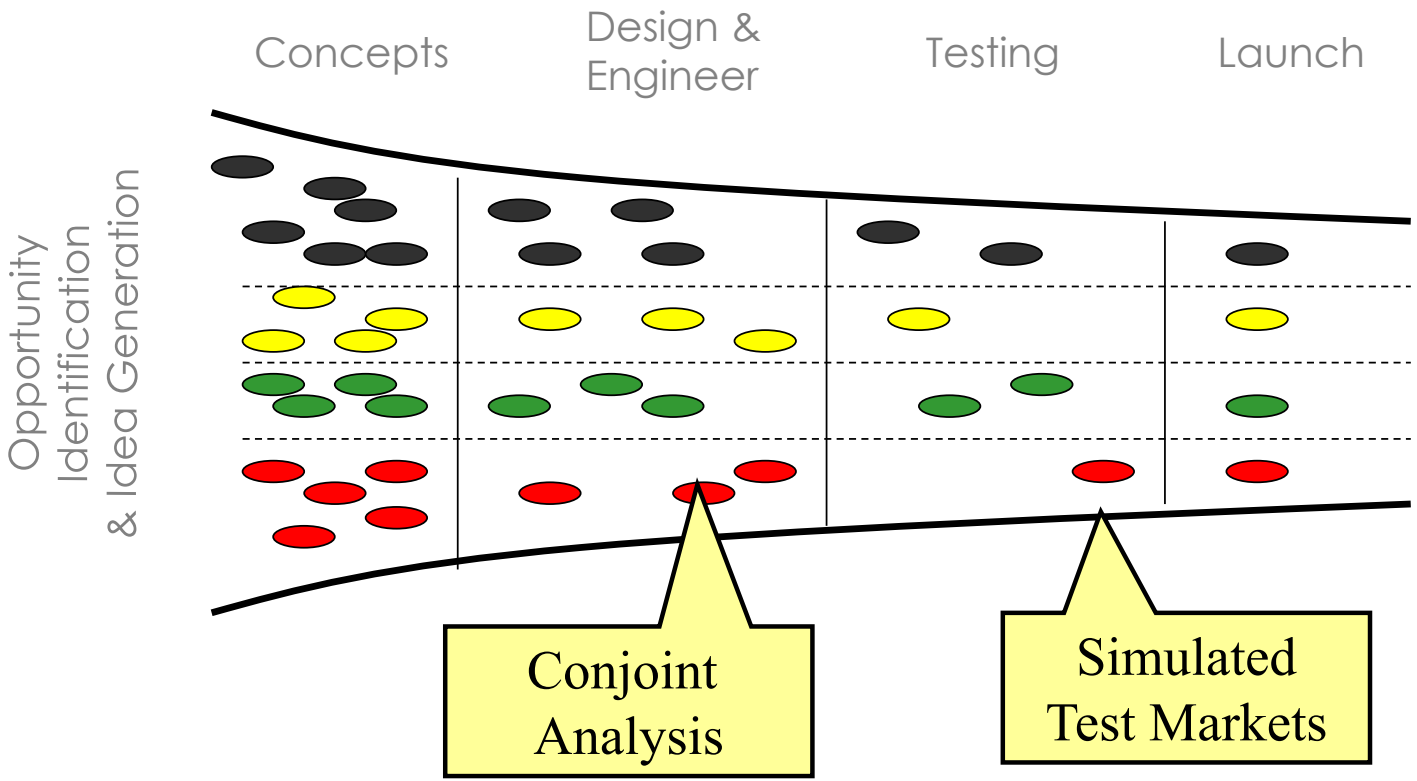
Why Good Ideas Go Bad?

Crystal Pepsi

- Common reasons for new product failure
  - Poor execution of marketing mix
    - **Poor product quality**
    - Inappropriate differentiation
    - **Poor Pricing**
    - No access to market

Barbasol

Product development funnel



Concepts: Idea Generation

- Where do new ideas come from?
  - Research and Development
  - Company employees
    - (TI; Nature Valley Granola Bars)
  - Customers
  -

Beyond observational research: live like your customers

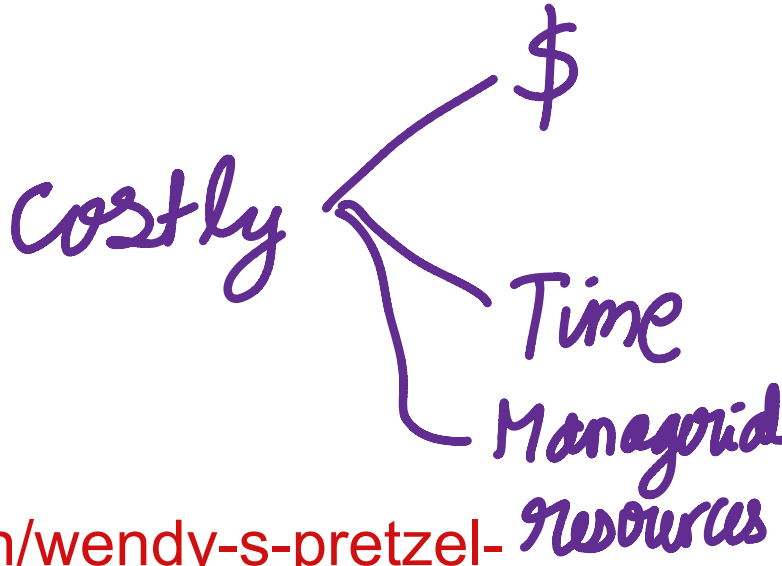
- Quicken
  - Take documents from a real small business
  - Employees' task: take the documents and buy, install and use Quickbooks to complete accounting tasks
- Jet Blue
  - Onboard experience team
- Credit Suisse
  - Age Explorer

Design and Testing: Tide

- Prototype
  - Consumer test
  - Lab tests
- Complex and costly process
  - P&G spent about 400,000 hours
  - Technologies - three countries
    - New ingredient - Cincinnati (suspends dirt better)
    - Cleaning agents from Japan (colder water)
    - Water softening agents (Belgium)

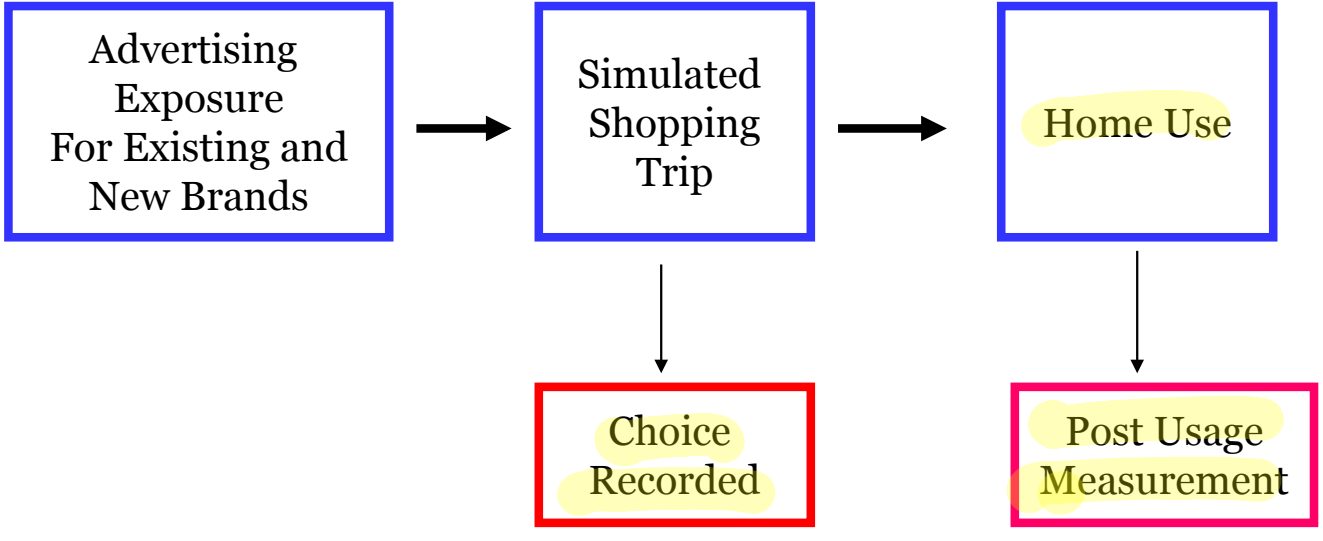
Testing: Test Marketing

- What is test marketing?
- Is it always good?
  -
  - Competitive implications

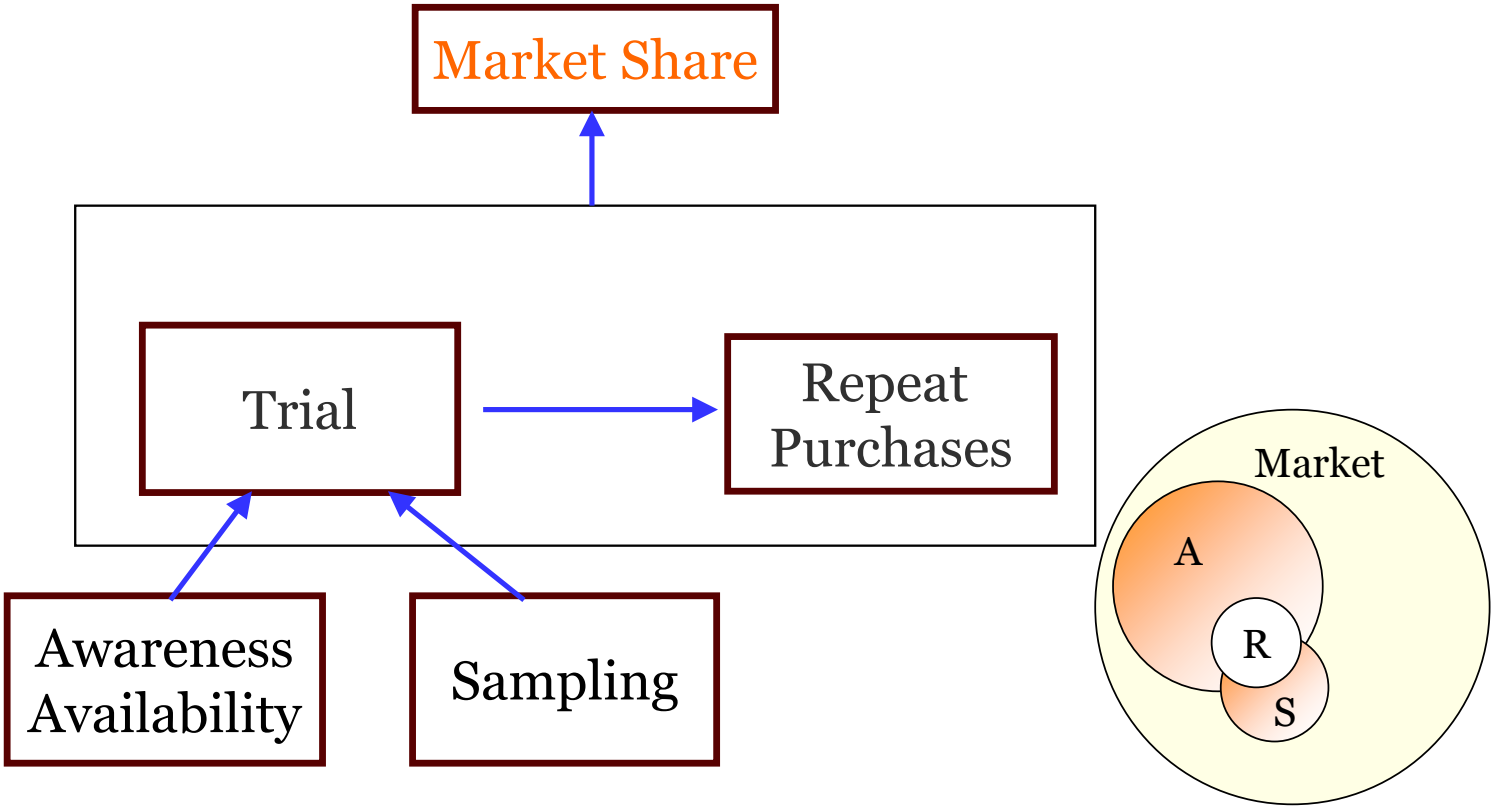


- http://storify.com/bpopken/wendy-s-pretzel-burger

Simulated Test Markets: Procedure



Pre-Market Testing: Assessor Model



Pre-Market Testing: Assessor Model

- Long run market share
- M = T R
  - M = long run market share
  - T = proportion of the target segment that will eventually try the product
  - R = Long run share among triers

Urban, Glenn (1993) "Pretest Market Forecasting," Handbooks in OR & MS, Vol. 5, J. Eliashberg and G.L. Lilien, Eds., Elsevier Science Publishers, 315-348.

Assessor Model: Calculation of Trial (T)

- Trail due to awareness and availability
- A=F K D
  - F =long run probability of trial given unlimited distribution and total availability
  - K = long run probability of awareness
  - D = long run probability that product will be available to consumer
- Trial due to sampling
- S = C U
  - C = probability that customer receives a free sample
  - U = probability that a customer who receives a sample will use it

$$T = A + S - AS$$

Repeat Purchasing

$M = TR$

$= 0.25 \times 0.45 = 0.116$

$= 11.6\%$

original data

		Second Purchase		
		New Brand	Other brands	Total
Initial Purchase	New Brand	70	30	100
	Other brands	50	150	200
	Total	120	180	300

Transition Probabilities

		Second Purchase	
		New Brand	Other brands
Initial Purchase	New Brand	0.7	0.3
	Other brands	0.25	0.75

$\frac{30}{100}$

$\frac{150}{200}$

$\frac{70}{100}$

$$R = \frac{0.25}{0.25 + 0.3} = 0.45$$

Repeat Purchasing

- Let $m(t)$ be the new brand's share in period t
- Let r_n and s_n be the retention rate and switching rates of the new brand
- Let r_c and s_c be the corresponding values for the competing brands
- Then

$$m(t) = m(t-1)r_n + (1 - m(t-1))s_c$$

Repeat Purchasing

- At equilibrium $m(t) = m(t-1) = m$, so
- Thus $m = m\, r_n + (1-m)s_c$
- Solving we obtain $m = \frac{s_c}{(s_c+s_n)}$

Assessor: Repeat Component

$$R = \frac{\text{Competitor's Switching Rate}}{\text{Competitor's Switching Rate} + \text{New Brand's Switching Rate}}$$

Test Market Results and Marketer Actions

Test- Market Results		
Trial Rate	Repurchase Rate	Marketer Actions
High	High	Commercialize
High	Low	Redesign/drop
Low	High	Redesign/Increase Advertising, use sales promotion, sampling
Low	Low	Drop the product

Conclusions

- Question: Will the new product be successful?
- Framework: Structured approach for new product development and testing
- Tools: Simulated Test Market