
Hierarchical Approach for Optimized Concept Estimation

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“Cutting the Edges of Market Research
Workshops and Conference”

Düsseldorf 04.05.2007



Typical Objectives for Conjoint Analysis

➤ Measuring Price Elasticities

=> development of margin contribution models for optimized market share or profit

➤ Optimisation of Products and Packages

=> using utilities to find the best product and service offering

=> simulation of effects in changes

Most Conjoint Studies Cover both Objectives

- The attributes include both, price and product criteria ...

If these were your only options, which television would you choose?

Sony	RCA	Sony	JVC	JVC
25" screen	27" screen	27" screen	26" screen	26" screen
Mono sound	Stereo sound	Surround sound	Surround sound	Stereo sound
	Channel blockout	Channel blockout		Channel blockout
	Picture in picture		Picture in picture	
\$350	\$400	\$450	\$300	\$350

Quit Previous Next

Such Price measurement is often not accurate enough to be actionable (e.g. FMCG):

- 1) Product attributes represented on the SKU packaging design and are not perceived in the same way as if listed separately (Design aspects)
- 2) Despite knowing the utility of single product items, the consumers perception of their performed levels when seeing the package is more or less unknown
- 3) Price simulations can only assume the perceived fulfilment of certain attribute levels

Conjoint Analysis with FMCG

- Are we sure that this means the same for the respondents?
- Which price elasticity would we trust more?

X



Y

Chololate bar
Milka
100 gr
Taste "Alpenmilch"
Paper Wrap
"great taste"
"smooth melting in mouth"

Typical Solutions

- Concentration on “Price Conjoint”
- The only attributes are price and package
- Prices ranges are most realistic and exact (e.g. use of conditional pricing)
- Packages are showed in high resolution and as original concepts (if possible)






























Price Conjoint

Examples:

Which of These 12-Packs of Soft Drinks Would You Buy?

<p>1</p>  <p>\$2.00</p>	<p>2</p>  <p>\$2.25</p>
<p>3</p>  <p>\$2.50</p>	<p>4</p> <p>None: I Wouldn't Purchase Any of These</p>

If these were your only options, which would you choose?

 <p>\$ 3.99</p>	 <p>\$ 7.59</p>	 <p>\$ 7.59</p>	 <p>\$ 5.59</p>	 <p>\$ 3.89</p>	 <p>\$ 3.39</p>	 <p>\$ 3.39</p>	 <p>\$ 5.19</p>	 <p>\$ 2.59</p>
 <p>\$ 5.69</p>	 <p>\$ 5.09</p>	 <p>\$ 4.49</p>	 <p>\$ 6.49</p>	 <p>\$ 4.09</p>	 <p>\$ 3.29</p>			
 <p>\$ 11.39</p>	 <p>\$ 6.59</p>	 <p>\$ 4.09</p>	 <p>\$ 5.99</p>	 <p>\$ 2.49</p>	 <p>\$ 3.69</p>	 <p>\$ 4.09</p>		
 <p>\$ 15.49</p>	 <p>\$ 11.59</p>	 <p>\$ 11.89</p>	 <p>\$ 9.39</p>	 <p>\$ 7.39</p>	 <p>\$ 9.39</p>	 <p>\$ 9.29</p>		
<input type="radio"/> None of these								

Price Conjoint **Benefits**

- Most accurate measurement of price elasticities
- Product performance measured as perceived from packaging
- Very realistic task
- Possibility to test different verbal or graphical concepts (e.g. monadic tests)

Price Conjoint - **Limitations**

- No information about which package items (brand, USP etc.) are driving the price elasticity (key drivers)
- No mean to simulate changes to those items in a typical conjoint way
- Strategies for product, package or communication changes have to be tested separately (i.e. follow up study)

Hierarchical Approach for Optimized Concept Estimation

- How to have all the benefits of price conjoint and to overcome most of the limitations?
- Solution: Dual Conjoint using two models
 - **Model 1 - Price Conjoint:**
determination of price elasticities and development of product contribution function. Basically only two attributes: SKU and price (conditional pricing, alternative spec. design etc as required)
 - **Model 2 - Attribute Conjoint:**
understanding which attributes and levels described on the packaging have highest utilities and simulation of product and range optimisation

Dual Conjoint Approach

Model 1 - Price conjoint:

Which of These 12-Packs of Soft Drinks Would You Buy?

1  \$2.00	2  \$2.25
3  \$2.50	4 None: I Wouldn't Purchase Any of These

Model 2 - Attribute conjoint:

If these were your only options, which television would you choose?

Sony 25" screen Mono sound \$350	RCA 27" screen Stereo sound Channel blockout Picture in picture \$400	Sony 27" screen Surround sound Channel blockout \$450	JVC 26" screen Surround sound Picture in picture \$300	JVC 26" screen Stereo sound Channel blockout \$350
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- Model 2 includes same attributes and elements as model 1 (other than this example!)

Hierarchical Approach for Optimized Concept Estimation

Application of the two conjoint analysis models:

Model 1 - Price conjoint

Deriving price & package utilities

Simulation of price elasticities

Adaptation of relative improvement effect in price elasticity simulation

Model 2 - Attribute conjoint

Deriving price and attribute utilities

Identification of drivers

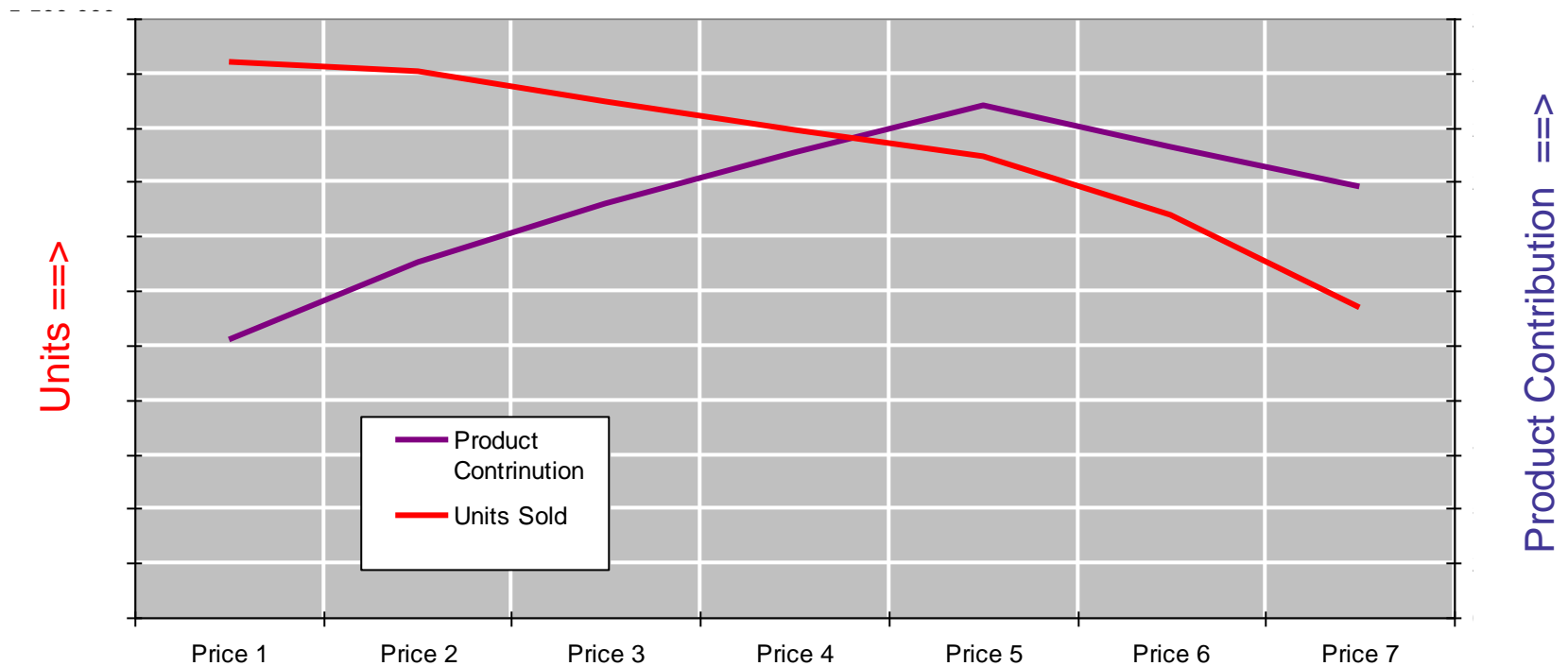
Simulation of product improvements

Case Study Example - Design

- Study on FMCG in main European market
- N= 500
- CBC
- CAPI interviews at central locations
- Price Conjoint:
 - 2 Attributes
 - 8 Products
 - 2 alternative specific price ranges
 - 15 tasks + 3 holdouts
- Attribute Conjoint
 - 8 attributes including price
 - 33 total number of levels
 - 10 tasks + 3 holdouts

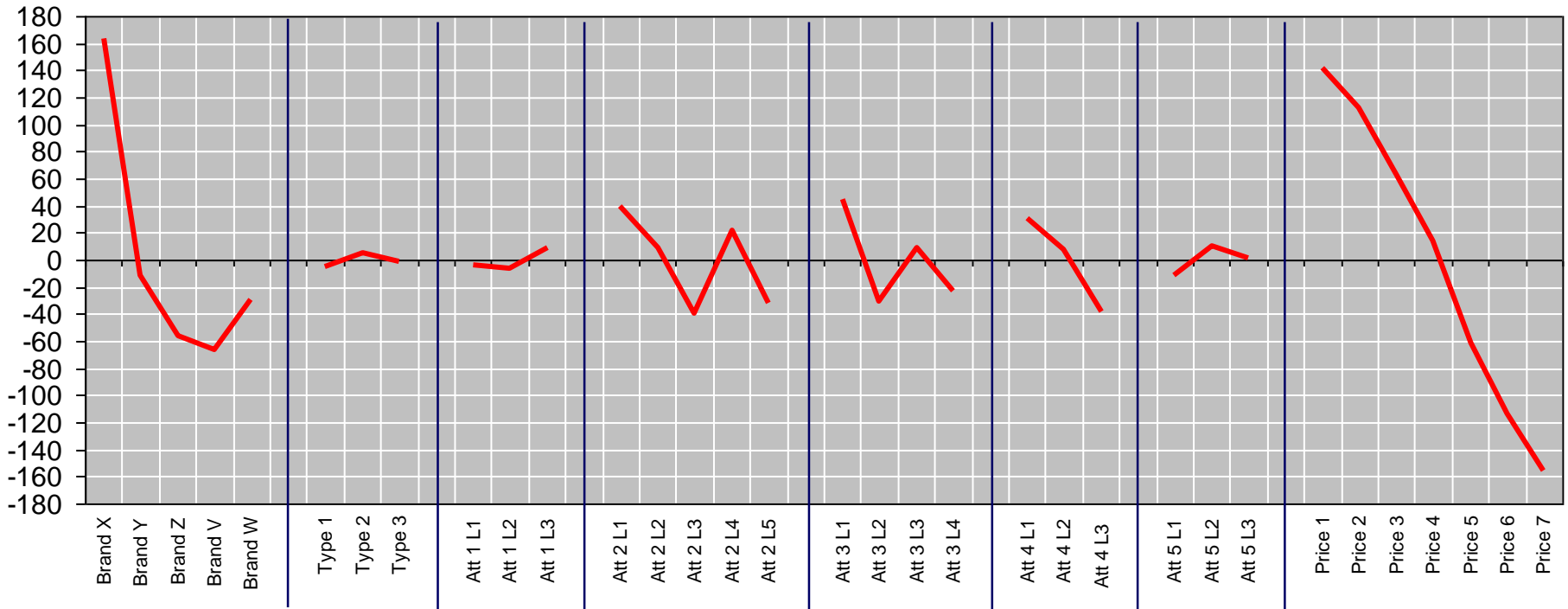
Case Study Example

- Development of market simulation based on model 1.
- Inclusion of margins, fixed and variable costs etc.



Case Study Example

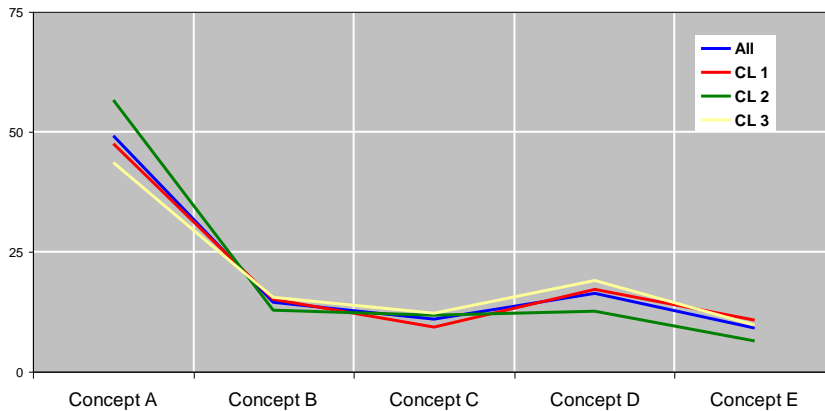
1st Analysis of Utility Values - model 2



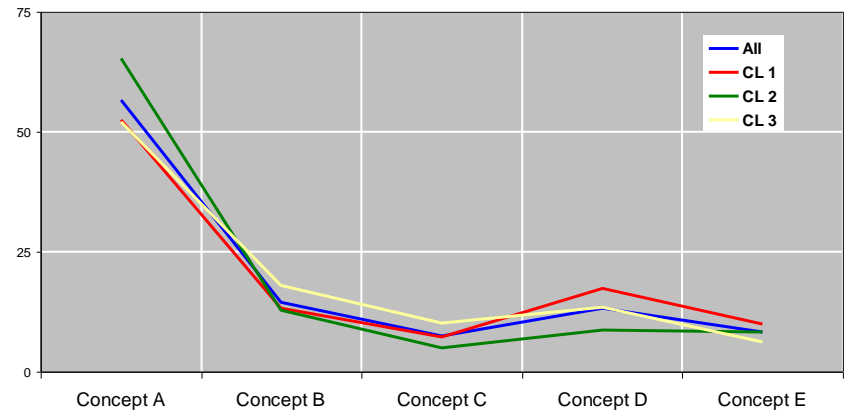
Case Study Example

Comparison of simulation results

Model 1:



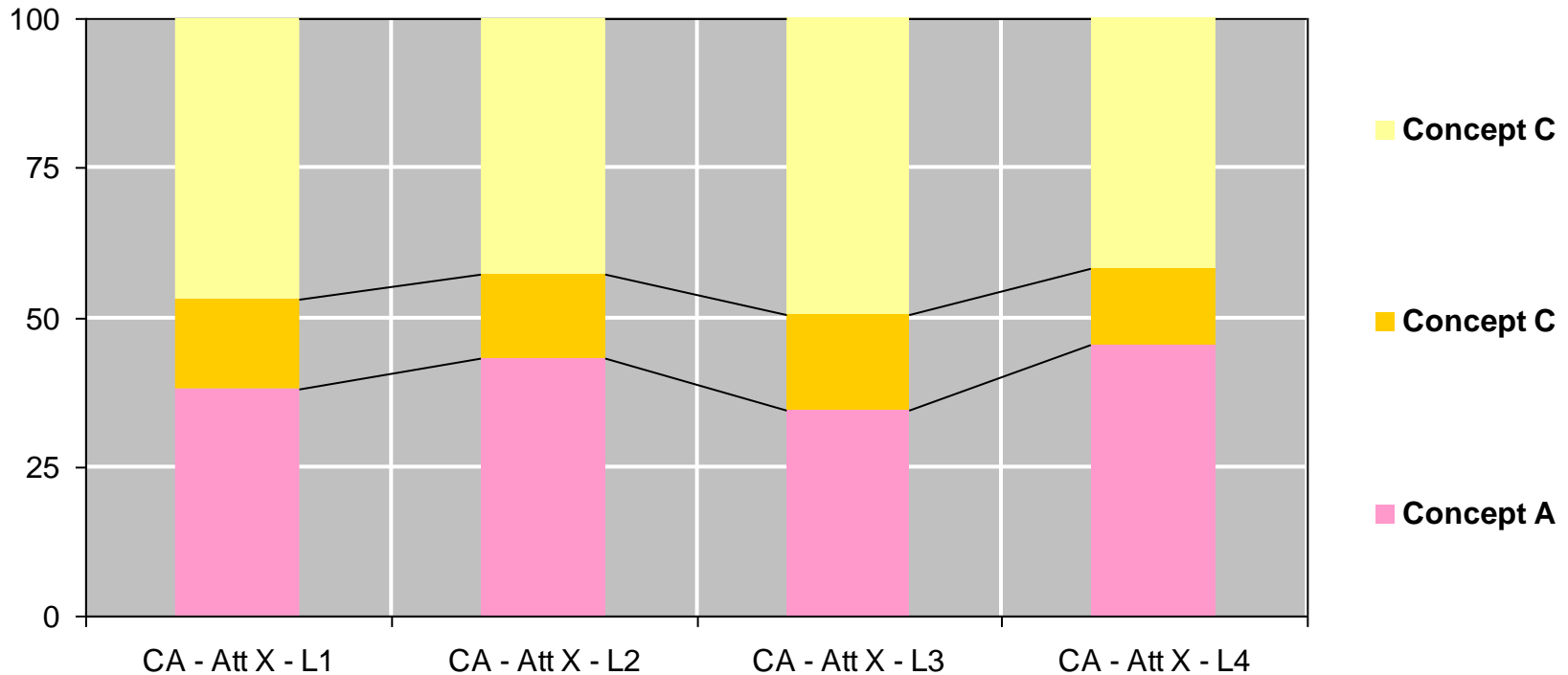
Model 2:



Similar results for base case | model 1 is more price sensitive

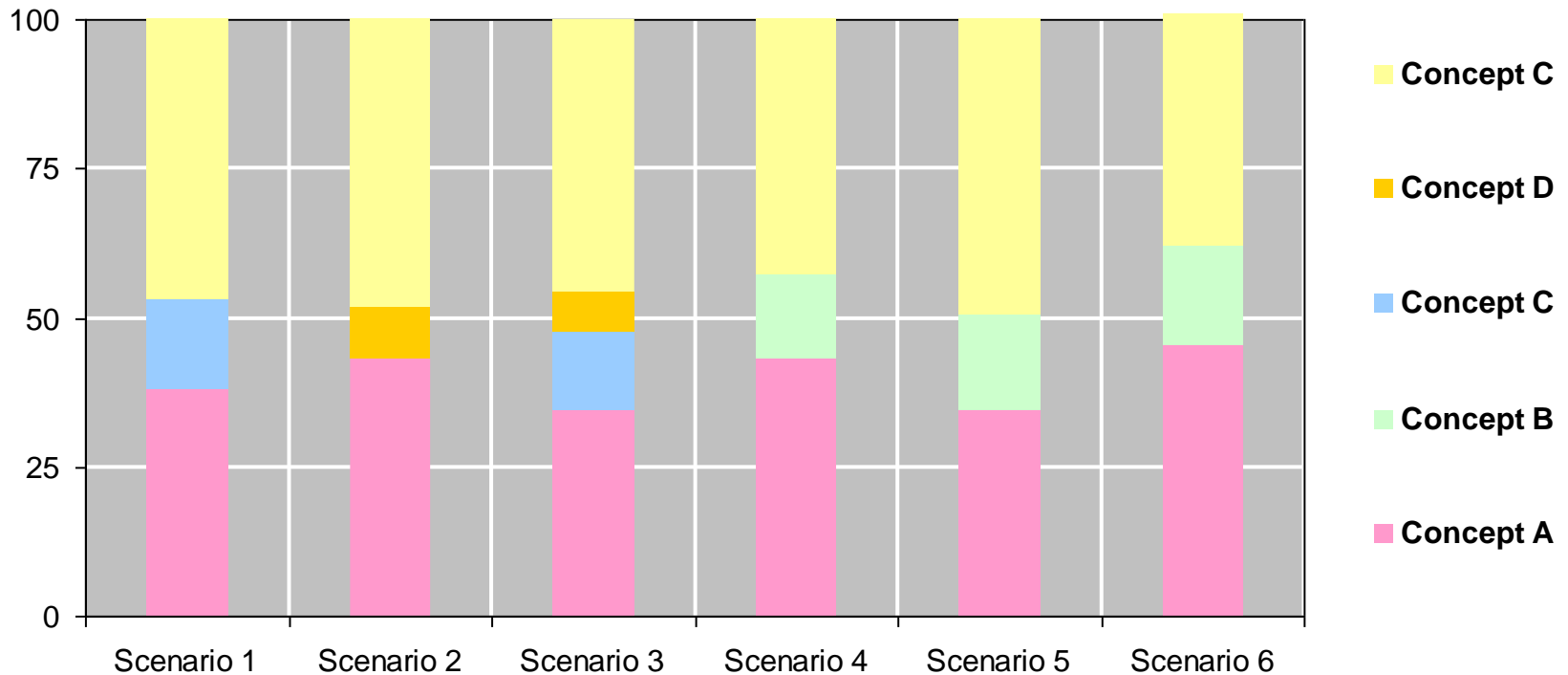
Case Study Example

- Simulation of attribute level contribution - Product Optimisation model 2



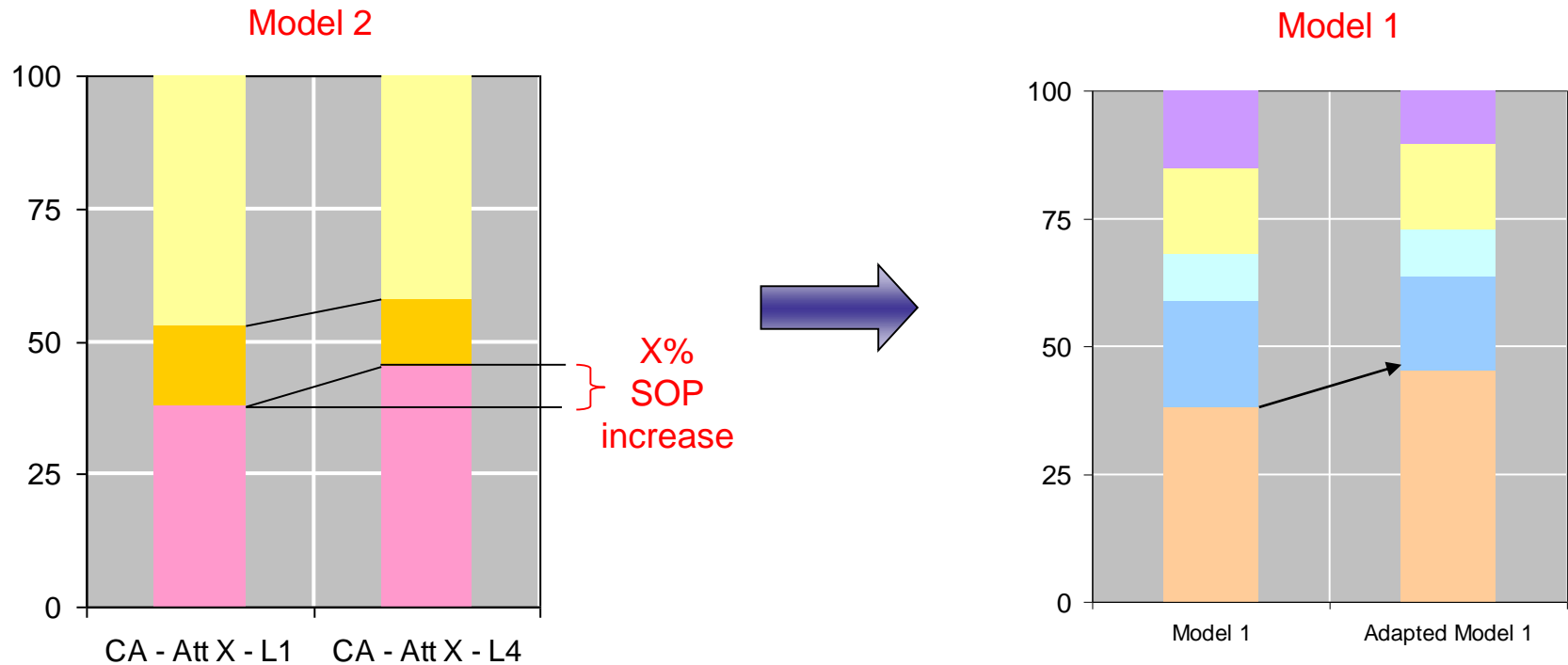
Case Study Example

- Simulation of attribute level contribution - Range Optimisation - model 2



Case Study Example

- Adaptation of model 1 with model 2 SOP effects
- Using relative gains and losses in SOP

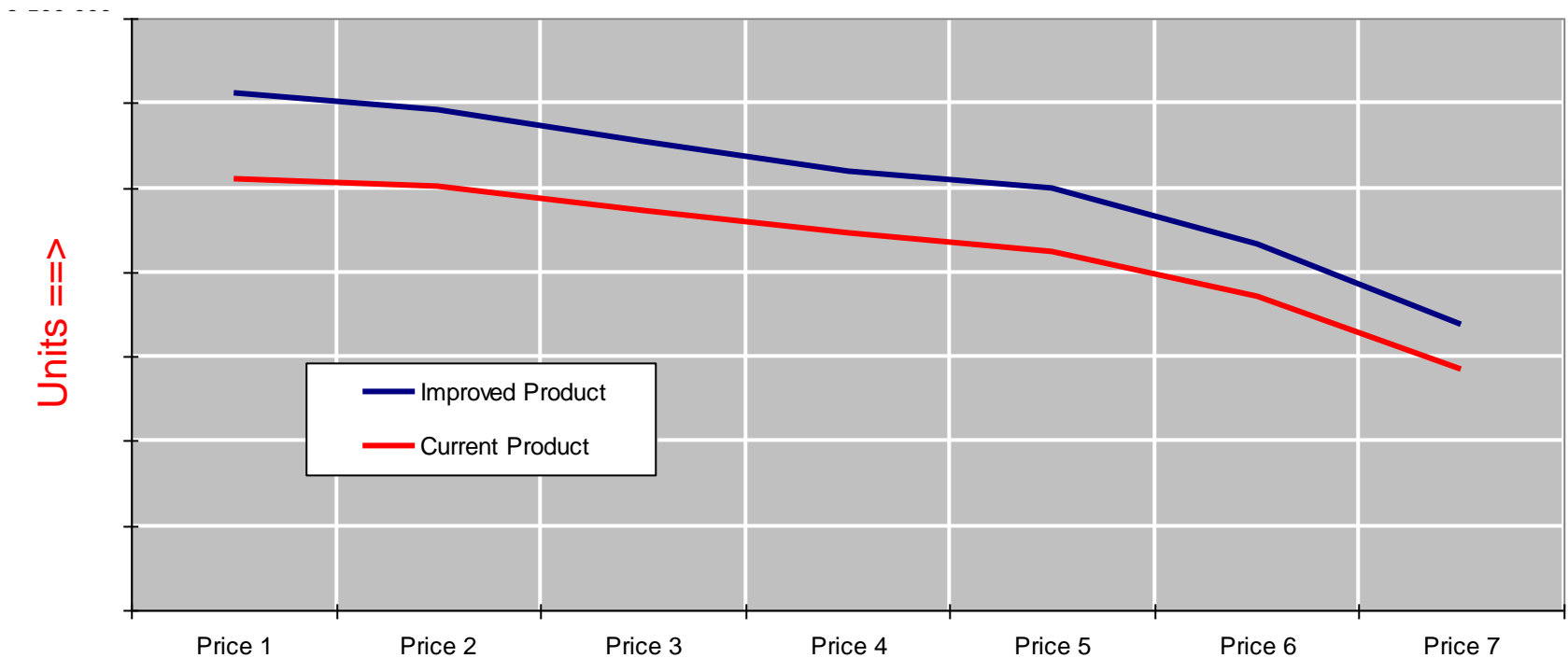


Adaptation of model 1 with model 2 SOP effects

- SOP Change(+/+ X%) for improved SKU applied into model 2
- Proportional changed in SOP for all other concepts in simulation
- Repetition at different price points possible
- Use of subgroups in order to increase accuracy

Case Study Example

Use of X% relative to correct model 1 simulation (external factor) in SOP function



Case Study Example - Final Simulation Steps

- Adaptation of model 1 with model 2 SOP effects
- Using relative gains and losses in SOP
- Use corrected SOP function in price elasticity and PC calculation
- Development of SOP models for different distribution channels
- Correction for accessibility and distribution
- Projection to total market volumes
- Calculation of profit margins and product contribution at different price points

Hierarchical Approach for Optimized Concept Estimation

Summary and Discussion

Positive

- Accuracy of price simulation
- Identification of key drivers
- Simulation of changed SKUs
- Faster and more cost effective than two independent studies

Negative

- Longer interview
- Uncertainty of adaptation scale
- Proportional change in SOP for all concepts
- Approach 'outside' conjoint modelling

Hierarchical Approach for Optimized Concept Estimation

Summary and Discussion

- Combining the two strengths of conjoint models
- Enabling solid price measurement with simulation option
- Alternative approach to address time and budget constraints
- Second model as “first aid kit” in case it is needed
- **Adding more strategic elements to a tactical pricing study**

Questions?



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