

Translation of the article “Der Preis ist heiss. Die Konditionen auch. Adaptive Choice Based Conjoint Analyse – eine Fallstudie aus der Medizinaltechnik” VSMS Jahrbuch, 2008

Conjoint analysis

The price is hot. The conditions are, too.

Adaptive Choice Based Conjoint Analysis - a case study from the medical field

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With the latest generation of conjoint analyses, Anovum supports Phonak (Sonova Group) in shaping the pricing policy of its innovative hearing instruments. This analysis also proves to be a valuable instrument for product optimization and segmentation of target groups.

A conjoint analysis is the method of choice when preference structures of target groups are to be determined through targeted interviews. In particular, it can be used to find out to what extent respondents are willing to forego one property of a product or offer (eg, additional equipment) in favour of another (e.g., more favourable price). This makes it possible to optimize product and pricing policies and to segment target groups accordingly.

Adaptive conjoint software and algorithms of the latest generation are closer to reality

In addition to the indisputable advantages of the conjoint method for new product developments and for determining the willingness to pay, weaknesses have repeatedly emerged in the course of hundreds of realised projects:

- Relatively monotonous interviews where respondents have to make a choice x number of times - sometimes between alternatives that are not relevant to them

- Reliable price sensitivity analyses are not possible if the previous Adaptive Conjoint Analysis (ACA) was used due to having to consider many product features
- Considerably limited number of product features taken into account, especially in traditional Choice Based Conjoint Analysis (CBC).

New developments in recent years largely eliminate these weaknesses. Experienced users attest to the latest advances in conjoint analysis with real added value.

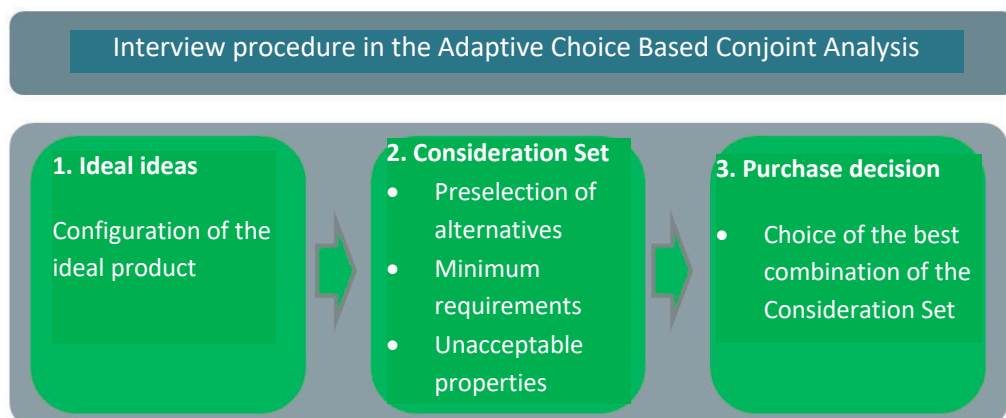


Figure 1

Starting position and results

Martin Riedi

Sonova Holding AG, the world's largest supplier of hearing devices, completed the acquisition of InSound Medical Inc., Newark, USA in 2010. InSound Medical sells a novel hearing aid under the Lyric® brand. Phonak in Stäfa is a member of the Sonova Group.

The completely invisible hearing system

Unlike conventional hearing aids, Lyric is placed by the hearing specialist deep in the ear canal close to the eardrum so that it is completely invisible from the outside and enables natural hearing. The system can be used for up to 120 days. Thereafter, it is removed by the hearing specialist and replaced with a new aid.

With Lyric, Sonova wants to reach those people with mild to moderate hearing loss who would not opt for a conventional hearing aid for primarily aesthetic reasons. Sonova sees high growth potential in this segment.

Commission for Anovum and concept

The research objective was about evaluating different price levels and price models for the new product. For this purpose, a multi-step approach was chosen:

1. Qualitative Interviews with distributors
2. Qualitative interviews with end customers
3. Quantitative preliminary study
4. Quantitative main study with conjoint analysis

Results

The study was conducted in parallel in four countries. Respondents in each market answered questions relevant to Sonova in connection with the preparation for successful marketing of the new product.

The questionnaire responds - similar to consultants in a sales pitch.

The latest generation of Adaptive Conjoint Analysis (ACBC) mimics the decision-making process in an interview. Adaptive is realistic here: every single person answers a questionnaire tailored to their needs. The questionnaire responds - similar to a consultant in a sales pitch - to the answers given in each case and customizes the questions in the direction that are relevant for the respondents. Within a short period of time, the virtual sales consultant identifies those areas that “tip the scale” among the respondents and systematically records their preferences.

Due to the adaptive interview design, these interviews are carried out exclusively computer-aided - mostly online. The survey is conducted in three phases (see Figure 1):

1. Ideals

First, respondents are asked to provide information about an ideal product for them. They can choose between various predefined product properties (attributes) with corresponding characteristics (levels). Example:

- Product property (Attribute): Design of a hearing aid
- Characteristics (Levels):
 - a) Traditional “Behind the ear device”
 - b) Traditional “In Ear Device”
 - c) Device type c
 - d) Device type d
 - e) Device type e

2. Consideration set

Based on the information provided in the first phase, respondents are shown various alternatives that could be considered for them. You can generally consider or reject them. As Figure 2 shows, a selection of alternatives relevant to respondents is compiled, which makes up the individual consideration set. Then, based on the response during the interview, it is determined whether or not respondents are using simplified decision rules (so-called non-compensatory rules) (see Figure 3 on page XY):

- Unacceptable properties: Alternatives with a specific property are constantly rejected.
- Minimum requirements: In case of non-compliance, the alternative permanently falls out of the consideration set.

3. Purchase decision

Based on the information from phases one and two, respondents will be shown different offers at different prices in the third phase. The person decides which alternative he/she prefers. This question type corresponds to that of traditional CBC analysis. In the new adaptive variant ACBC, however, only those alternatives that are relevant for the interviewed person are offered for selection.

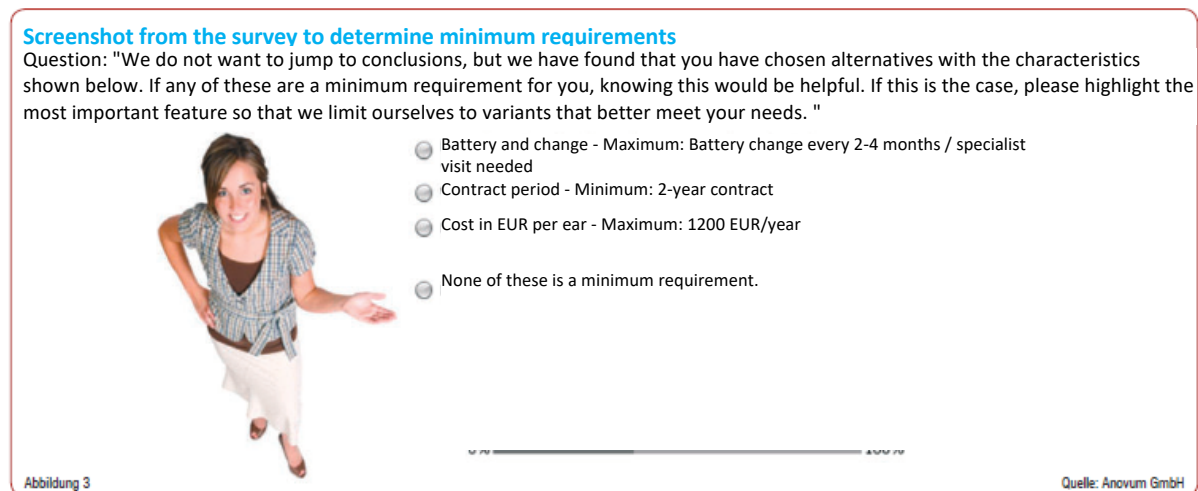


Figure 3

What is the price payment readiness? Answers to burning questions

The data collected from over 800 interviews in four countries were analyzed using modern data mining methods:

- The so-called partial benefit values as well as the relevance of the individual product characteristics could be determined with the help of the Hierarchical Bayesian estimation at the level of each individual respondent.
- Subsequently, the data were evaluated in a market simulation software to simulate the impact of variation of supply on consumer choice behaviour in the competitive environment.

Figure 4 shows what changes in consumer choice behaviour can be expected when supply is varied. For example, while an attractive device type (especially device type e) massively increases the probability of choosing a product, the higher the price, the less attractive the conditions are.

Since the representation is based on simulations of the selection behaviour, the expected influence of product characteristics and of price or conditions on the selection behaviour can be directly represented.

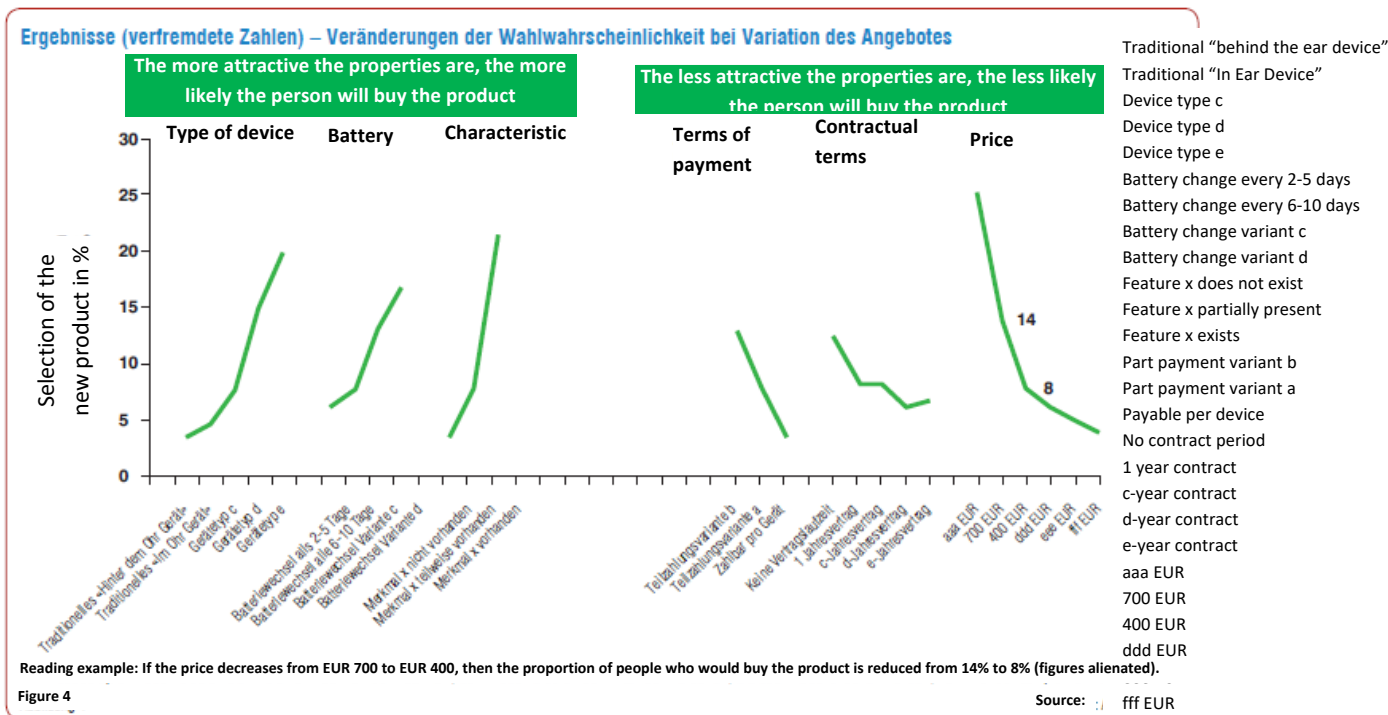


Figure 4

Under what conditions are the conditions relevant? Simulation of scenarios

The ability to play through different scenarios is especially valuable in a simulation model. Thus, it can be shown that demand reacts relatively weakly to changes in the mix of conditions, as only a single supplier offers the innovative product on the market. However, as soon as other providers of comparable products penetrate the market at similar prices, merely slight condition changes can have a dramatic impact on the expected demand.

Advantages of the latest adaptive analyzes, as compared to traditional conjoint analyses

Overall, ACBC analysis achieves higher quality results than traditional CBC analysis:

- Interview setup mimics a real buying situation with a sales consultant.
- Respondents' desires are taken into account, using simplified decision rules, through formulations of

- minimum requirements and
 - unacceptable properties.
- Non-relevant alternatives are eliminated at the beginning of the interview. The respondent only assesses the alternatives that are relevant to them (Relevant Consideration Set), which gives more valid responses.

This results in the following use advantages:

- Through the reduction in the required number of cases:
 - Feasibility for small target groups as well
 - Lower field costs
- Through more accurate results:
 - Better modelling/calculation of market segmentation
 - Higher acceptance of the results
- Through the combination of the advantages of previous conjoint approaches:
 - Suitable for determining price-sales functions (previously CBC's strength)
 - Suitable for more than five attributes (previously ACA's strength)

What do the experts say about the new Adaptive Choice Based Conjoint Analysis (ACBC)?

“Was artificial intelligence coming to survey research? We were very impressed.”¹

“We had the rewarding experience of feeling that the survey instrument was actually considering our responses and moving to product areas where we were more interested.”²

“It is an exciting new research technique that allows marketers to understand how consumers make purchasing decisions for complicated products with clarity that is not possible using other methods.”³

“It can be an immensely powerful tool when used in the correct situations and can allow marketers to make better strategic decisions even when faced with larger uncertainties.”⁴

¹ A True Evolutionary Benefit, American Marketing Association – Marketing Research, Summer 2009.

² Ebd.

³ Behind the Curves, Simon-Kucher & Partners, Fall 2009.

⁴ Ebd.

How do respondents respond to the interview?

- "I really like the interactive reaction to my selections."
- "It was good, you responded individually to my answers."
- "The questions were easy to understand, the illustrations were helpful."
- "By far the best survey I've ever taken part in."

Source: Anovum/Sonova Survey Germany

Sonova represents innovative hearing solutions. The global group is the largest manufacturer of hearing aids worldwide. Sonova is represented in over 90 countries. The group has more than 5,600 employees and achieved revenue of CHF 1.249b. in the fiscal year 2008/09. Sonova shares have been listed on the SIX Swiss Exchange since 1994.

www.sonova.com

Phonak, a member of the Sonova Group, headquartered in Stäfa, Switzerland, has been developing, producing and distributing technology-leading hearing and wireless systems for more than 60 years. With a global presence, Phonak drives innovation and sets new standards in miniaturization and performance.

www.phonak.com

Anovum is a Zurich-based market research and consulting firm specializing in quantitative market research. Anovum has a high level of expertise in the fields of marketing and advertising, business and economics as well as IT and statistics and primarily works for international Swiss companies. New technologies (online or mobile research) are combined with advanced methods from science and practice (conjoint analyzes / MaxDiff / Share of Wallet Predictors / PLS).

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