MarketVision RESEARCH

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# METHODS FOR PRICING RESEARCH

Pricing research is one of the most important areas of marketing research, as it directly impacts the company's bottom line profitability. At the same time, it might be one of the hardest to get right. Pricing research requires the researcher to disguise the purpose of the research and use indirect methods to measure consumers' sensitivity to price and gauge reaction to changes in pricing. Consumers are known to use bargaining behavior, which is a problem if they understand the purpose of the research. Consumers also tend to use price as a proxy for quality, which can be problematic. Finally, many methods rely on reference prices, which may be poorly formed or nonexistent.

Several different research methods are commonly used in pricing research — each with its own strengths and weaknesses. This document discusses five techniques that are commonly used by survey researchers. The techniques are:

- Direct willingness-to-pay questions
- Concept test (buy-response question)
- van Westendorp price sensitivity meter
- Ratings-based conjoint analysis
- Discrete choice modeling

## WILLINGNESS TO PAY QUESTIONS

Some researchers rely on direct willing-to-pay questions to measure price sensitivity, and simply ask respondents *"How much would you pay for this?"* This approach, which fails to disguise the purpose of the research will almost certainly produce bargaining style responses from respondents, keeping the method from determining buyers' true willingness to pay.

In fact, Tom Nagle, in The Strategy and Tactics of Pricing, offers the following

> *Very early in the development of survey techniques for marketing, researchers learned that it was futile to ask consumers outright what they would be willing to pay for a product...*

For this research, we are unlikely to recommend using the 'willing-to-pay' question for pricing research. However, many researchers rely on this approach, often citing its inherent simplicity. A more effective, though still simple, approach to pricing research is a buy-response question, which can be presented as a traditional concept test.

## CONCEPT TEST (BUY RESPONSE)

The standard purchase intent question from a concept test is also commonly used for pricing research. Respondents are presented with a product concept and asked how likely they would be to purchase this product at a specific price. Typically the researcher will expose independent samples of respondents to different prices. The standard purchase intent question is shown below.

*(After introducing the product concept)*


To evaluate price sensitivity using this example, a sample of respondents evaluates this concept at $200, a different sample of respondents evaluates the same concept at $100, and another sample of respondents evaluates the concept at $300. A demand curve is constructed by evaluating purchase intent at each price.

This approach has many strengths:

- If presented to the respondent correctly, the purpose of the research is disguised.
- The five point purchase intent scale is well known to researchers. While it is known to overstate purchase intent, many calibration schemes have been developed to account for this bias.
- The monadic test, with each respondent only seeing one product at one price is the cleanest read one can achieve.

However, this approach has some limitations that must be kept in mind as well:

- It provides no competitive information.
- It relies on respondents' existing price awareness.
- It is inefficient when evaluating numerous product specifications.
- It tends to produce 'flat' results.

Each concern is briefly discussed below.

### PROVIDES NO COMPETITIVE INFORMATION

A concept test asks respondents to evaluate how likely they would be to purchase a specific product without any information about other products that might be available in the market. When shopping, consumers generally have the chance to see a set of competing products and pick one from the set. When presented with a set of products to select from, consumers can make trade-offs between features and price to determine their preferred product. In the absence of the context this comparative task provides, respondents may have difficulty answering reliably.)

### Relies on respondent's level of price awareness or consciousness

In the monadic test, the respondent must compare the price presented in the concept to an internal reference price to determine if the price is fair or not. This determination is based on a respondent's awareness of the current pricing in the category which could be well developed in a frequently purchased product, but probably less well developed for an infrequently purchased product or a product in a quickly evolving category.

### Efficient only for configured products

Often, a researcher would like to evaluate a small number of specific product variations at the same time price is being evaluated. For instance, there might be an interest in the market's willingness to pay for a specific feature or how the inclusion or exclusion of a product characteristic influences purchase likelihood. The concept test can be used to evaluate these various specifications. However, most researchers would suggest that each respondent only evaluate one concept. Therefore, to evaluate various product specifications, the total sample size must grow. To illustrate, if we wished 200 observations per cell, and we are only testing three prices (three cells), we would require 600 respondents. However, if we have three alternative product variations, with each variation at three prices, we now have nine cells and would require 1800 respondents.

### Tends to produce flat results

Since the task in the buy response category doesn't mirror the actual shopping experience, and respondents don't have the benefit of competitive information, the results between cells (of different prices) tend to produce less price sensitivity than other methods.

Even with these concerns, the direct concept test (buy response) approach is often used and in familiar categories with knowledgeable respondents can produce meaningful results.

### Price Sensitivity Meter (van Westendorp)

Introduced in the 1970s by a Dutch economist, Peter van Westendorp, the Price Sensitivity Meter (PSM) is used fervently by some researchers. The premise of the PSM is to ask respondents four price-related questions and then evaluate the cumulative distributions for each question.

Specifically, respondents are asked:

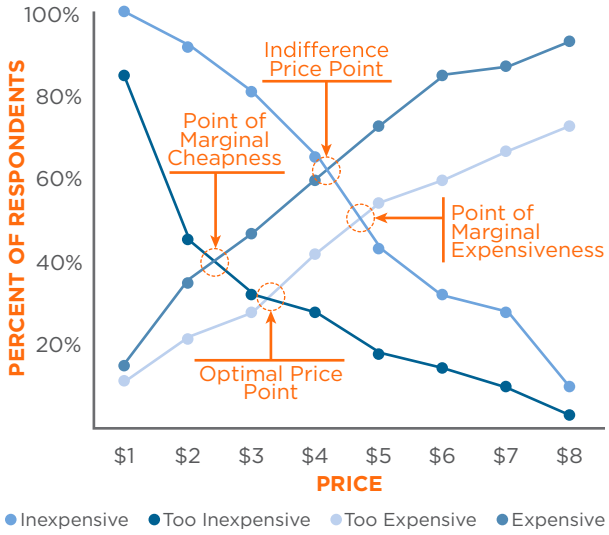
1. At what price would you consider the product to be so expensive that you would not consider buying it? *(Too expensive)*
2. At what price would you consider the product to be priced so low that you would feel the quality couldn't be very good? *(Too cheap)*
3. At what price would you consider the product starting to get expensive, so that it is not out of the question, but you would have to give some thought to buying it? *(Expensive)*
4. At what price would you consider the product to be a bargain — a great buy for the money? *(Cheap)*

The cumulative frequencies are plotted, and the four key intersections are interpreted. The point at which an equal number of respondents believe the test product is expensive as believe it is too cheap is referred to as the *point of marginal cheapness – PMC.*

The point at which an equal number of respondents believe the test product is too expensive as believe it is cheap is referred to as the *point of marginal expensiveness – PME.*

The point at which an equal number of respondents believe the test product is expensive as believe it is cheap is referred to as the *indifference price point – IPP.* The point at which an equal number of respondents believe the test product is too expensive as believe it is too cheap is referred to as the *optimal price point – OPP.*

These distributions are usually displayed in a chart, as shown below.




In this method, the 'optimal' price point for a product is the point at which the same number of respondents indicate that the price is too expensive as those who indicate that the price is too cheap. Many pricing researchers question that this is the definitive optimal price for a product.[1] We believe the largest challenge of the PSM approach to pricing research is that each of the four questions is a simple variation of the willingness to pay questions. A number of researchers through the past decades have attempted to fix the PSM approach with additional questions or different analyses, but the results still rely on the four willingness to pay questions. Another limitation of this approach to pricing research is that respondents' ability to answer these questions is dependent upon their having a good reference price. For almost any product that is not a direct line extension, respondents will not have a good reference price. In a large sense, PSM becomes a test of price awareness rather than a measure of price sensitivity. The lack of a good reference price, or respondents' use of an inappropriate reference price, often causes the underestimation of a product's ability to command a premium price. van Westendorp himself made the following statement regarding PSM:

*A word of caution is in order: Pice-consciousness of this nature should never be equated with propensity to buy.*

This concern is reinforced by the number of respondents who would provide internally inconsistent answers.

While we do not recommend the analysis or interpretation as outlined in PSM, we have found the questions used in PSM can provide useful diagnostics. Ratings-Based Conjoint Analysis

Like concept tests, conjoint analysis presents concepts to respondents. However, instead of exposing each respondent to a single concept, in conjoint analysis each respondent is exposed to many concepts.

**How likely would you be to buy this MP-3 player?**

*Please respond with a number between 0 and 100, where 0 indicates you definitely would not purchase the product and 100 indicates you definitely would purchase the product.*

40 GB, Clear Sound

Or the respondent might be asked to express her preference between two MP-3 players alternatives, as follows:

**Which Would You Prefer?**

60 GB, Extremely Clear Sound

OR

20 GB, Clear Sound

*Strongly Prefer Product on Left* — *Strongly Prefer Product on Right*

1 2 3 4 5 6 7 8 9

In conjoint analysis, respondents are forced to make trade-offs between products and product features, much as buyers are forced to do when actually shopping. Each respondent answers a series of trade-off questions; in each question the combination of features shown together changes. In this way, a large number of product features can be evaluated.

Each respondent answers several questions and therefore provides enough information through his or her trade-offs that the utility of each product characteristic (including price) can be estimated for each respondent.

This individual-level estimation allows for the identification of individual differences that can lead to a market segmentation scheme and can be used to help predict acceptance of products by different individuals in a heterogeneous market. These utilities also allow prediction of preference for any product that can be defined using the product characteristics in the study. These preferences can be modeled in a market simulator. A market simulator allows "what-if" analysis for any configuration of products in any competitive environment. A demand curve can be produced from these simulations.

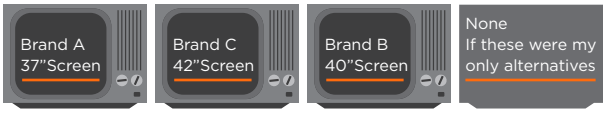
By many accounts, the most common form of ratings-based conjoint was Adaptive Conjoint Analysis (ACA), published by Sawtooth Software. ACA, while having many benefits, shows a distinct tendency to under-represent price sensitivity.

Another concern, is that while ratings-based conjoint provides a level of realism in that consumers are asked to make trade-offs between product alternatives, the respondent task of providing a rating is still not as realistic as choosing a product, like consumers actually do when shopping. Discrete choice modeling better mimics buyers' actual shopping, and has proven particularly useful for pricing research.

### Discrete Choice

Discrete choice modeling, referred to by some as choice-based conjoint, enjoys many of the benefits of conjoint analysis (e.g., competitive products, ability to include a large number of features, simulation capability), but it also includes a more realistic respondent task. In discrete choice, the respondent is presented with a set of products and the respondent is asked to pick one, as illustrated below:

**Which Would You Prefer?**




The results from discrete choice modeling are very similar to those from conjoint. For instance, both approaches are able to produce utilities at the individual level, and both discrete choice and conjoint allow what-if simulations. Discrete choice modeling has shown to be a better predictor of in-market price sensitivity than other varieties of conjoint, and among the best approach from survey research to guide pricing decisions.

### Recommendation

MarketVision generally recommends that discrete choice modeling be used for pricing and brand equity research. In some cases, we recommend a concept test approach.

*[1]To illustrate, we would suggest that an optimal price could only be determined after setting an objective, such as revenue maximization, share maximization or profit maximization. Moreover, any such analysis must include an understanding of the cost structure of the product or service.*