A Case Study in Using Conjoint Methodologies for New Pricing Strategies

Preparing the launch of a new technical device in Europe

by Marc Kramer and Stefan Binner

The paper describes how and why a major building controls company used conjoint surveying techniques to optimise its price positioning for a new product. It describes the techniques used and (more importantly from the company's point of view) how the analysis of the survey results led to their decision to lower prices and consequently increase both their market share and their overall profit.

Background

1. The Decision Problem at Landis & Staefa

Landis & Staefa - formerly *Landis & Gyr*, until their acquisition by the Swiss Elektrowatt Group in 1996 - is a multinational building controls company and offers devices, systems and services that manage the technical equipment of buildings. This equipment typically controls heating, ventilation, air conditioning, electrical supply and lighting. *Landis & Staefa* has operating subsidiaries throughout Europe, Asia/Pacific and North America.

Heating controllers are devices which are connected to your furnace to control the on/off cycle. They are linked to temperature sensors at various locations in the building and in the heating system itself and they optimise the consumption of energy while maintaining an appropriate temperature range in the building.

Late in 1995 *Landis & Staefa* was planning the release of a new heating controller for use in small commercial buildings (i.e. small office buildings) and multi-family residential buildings (i.e. small apartment blocks). This device, hereafter referred to as the NEW PRODUCT, was an upgrade to an existing device, hereafter referred to as the OLD PRODUCT. Typical end user prices for this type of heating controller range from CHF 800 to CHF 1,100.

FRONT VIEW OF TYPICAL HEATING CONTROLLER

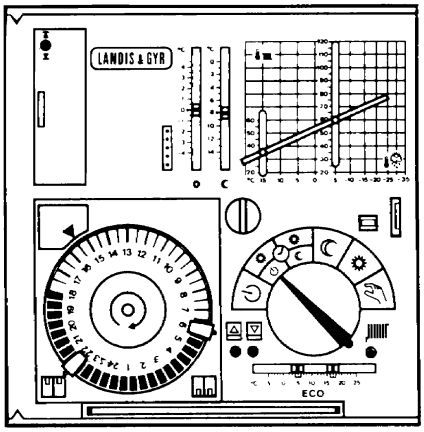

Figure 1: Heating Controller by *Landis & Staefa*

The NEW PRODUCT had more functions, including a number of new features which were being demanded from such controllers in several markets. *Landis & Staefa* was convinced that the lack of functionality in the OLD PRODUCT was contributing to the graduall decline in their market share.

Landis & Staefa management was considering how to phase-in the NEW PRODUCT and how quickly to phase-out the OLD PRODUCT. At this point all of the standard questions began to arise: At what price should the NEW PRODUCT be offered? Should it be higher than the OLD PRODUCT or lower? For how long should the OLD PRODUCT be offered before discontinuing it?

It turned out that opinion on the pricing question was divided into two camps within *Landis & Staefa*. One camp believed that the price of the NEW PRODUCT should be higher than the OLD PRODUCT because it was more functional and people should be willing to pay more money for more functionality. The other camp believed that it should be priced lower because it was a digital device replacing an analogue device and it is well known that digital devices cost less than analogue devices (at least every electrical engineer knows this fact).

All of the people involved in the debate up to this point were *Landis & Staefa* employees, either from the so-called Group Companies (the name for *Landis & Staefa* subsidiaries in each country) and or from headquarters. It eventually occurred to the *Landis & Staefa* marketing team that customers should be questioned in order to find out their opinion, since they would be the ultimate decision makers. Therefore *Landis & Staefa* set about trying to determine the best way of obtaining their customers' opinions on this question. The result was a decision to undertake some kind of formalised survey. This , in turn, led *Landis & Staefa* to attempt to create a questionnaire. Even more provocative questions began to crystallise. After much discussion and debate, *Landis & Staefa* eventually decided that the core questions that they really sought to answer were:

1) What is the optimum price, the price at which we earn the most wall-to-wall margin from the marketplace, for the NEW PRODUCT?
2) Should we continue to offer the OLD PRODUCT along with the NEW PRODUCT or should the NEW PRODUCT replace the older model?
3) If we continue to offer the OLD PRODUCT along side the NEW PRODUCT, what should be the optimum price for the two devices?

These questions led *Landis & Staefa* to the conclusion that, to really understand price-elasticity in their market as well as the cross-elasticity of the OLD PRODUCT and the new one, conjoint analysis was the optimum technique for surveying their customers.

A preliminary investigation of the complexities of conducting conjoint analysis led to the decision to seek the help of outside professionals in planning and executing the proposed survey.

2. bms- the Research Provider

Landis & Staefa approached ***bms***, a research agency specialised in international business-to-business markets, with these questions. The agency confirmed that a rigorous survey could be conducted, using conjoint techniques, which should give satisfactory answers to the core questions outlined above.

bms developed a research proposal for a conjoint project to answer *Landis & Staefa's* questions.

The agency proposed a project, divided into three sections, which will be described in more detail in the remainder of this document:

1) Preparatory phase: definition of scope, identifying the decision making process and the target interviewee group, identifying the discriminant attributes of the product
2) Field phase: conducting face-to-face interviews using Notebook PCs and Sawtooth® conjoint software packages ACA and CBC
3) Analysis phase: Establishing the utility values of the different attribute dimensions and developing a scenario for modelling different market situations based on the preference shares

It was clear from the beginning that a successful survey would require close co-operation between the *Landis & Staefa* marketing manager and the ***bms*** researchers. A close working relationship was established between the client and the agency with transparency, information exchange and frequent meetings.

Short Overview and Background on Conjoint Techniques

Conjoint has become a tool used by major research companies in consumer and business-to-business markets. Instead of asking for preference as ratings or rankings, conjoint gives the respondent trade-off choices to make.

Purchasing is an opportunistic process whereby the purchaser is trying to optimise what he gets for his money. Every purchaser is influenced by a complex combination of factors which influence his decision. The purchaser will be consciously aware of some of these factors while some others may be influencing him subconsciously. If a buyer is asked about the drivers of his purchase decision he may therefore tend to forget some (e.g. Image - is he responding to advertising?), to underestimate some (packaging, price) or to overestimate some (price, quality).

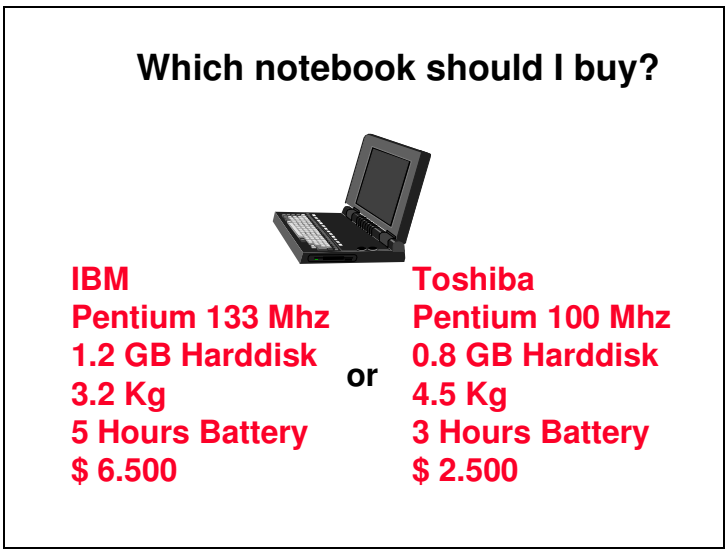

Figure 2: Typical Trade-Off Decision

Conjoint allows the researcher to look into the brains of the respondents by analysing their choice behaviour. Generally you can say that choice is an improvement on existing, conventional research techniques, based on judgement, because:

1) Choice better mimics the process in the market place than judgement
2) Purchases can be characterised as opportunistically scanning the set of choices to find the best
3) Choices are truncated (exclusion) and largely empirical
4) Choice in experimental tasks is differentially sensitive to the purchase prospect's predisposition
5) Choice is sensitive to the level of the marketing effort
6) Judgement models assume linear relations, the purchase reality is typically sigmoidal

(Joel Huber, Duke University: The Importance of Multinomial Logit Analysis of Individual Consumer Choices, Conference Proceedings of the First Annual Advanced Research Techniques Forum, American Marketing Association, June 1990)

bms used two conjoint packages from Sawtooth® Software to conduct this survey: ACA (Adaptive Conjoint Analysis) and CBC (Choice Based Conjoint).

ACA starts with conventional questioning, uses two pair comparisons and a calibration at the end. ACA delivers degrees of preference based on individual respondents which means that later, segmentation analysis, such as cluster analysis is possible. Up to 30 attributes, with up to 9 levels for each attribute, can be implemented in an ACA questionnaire.

CBC asks the respondent to chose from a number (3 or 4) different products or to chose the 'not to take any' option (if this was all the choices I had, I would live with the disadvantage of not purchasing a product). CBC is considered to be a more realistic simulator of institutional purchasers in a real buying situation. (In both techniques the products simulated are frequently fictitious combinations). An additional advantage of CBC lies in the fact that CBC is able to measure the interaction between attributes using Multinomial Logit analysis which mirrors the differential sensitivities one can expect in actual choice behaviour. The utility value of a certain price is probably different for a Volkswagen than for a Ferrari - for the Volkswagen $50,000 might seem a lot, whereas for a Ferrari it would be a bargain. CBC is limited to 6 attributes and works on an aggregated level only - no segmentation is possible.

Capturing more of the benefits and overcoming most of the limitations, combined usage of ACA and CBC has been shown to be an optimised conjoint approach (Bryan Orme, Sawtooth Software: ACA, CBC, or Both? Effective Strategies For Conjoint Research). ACA provides the product design and feature importance model while CBC provides price sensitivity estimates for each brand and a powerful pricing simulator. From an interviewing perspective, ACA is also an excellent warm up for a CBC interview.

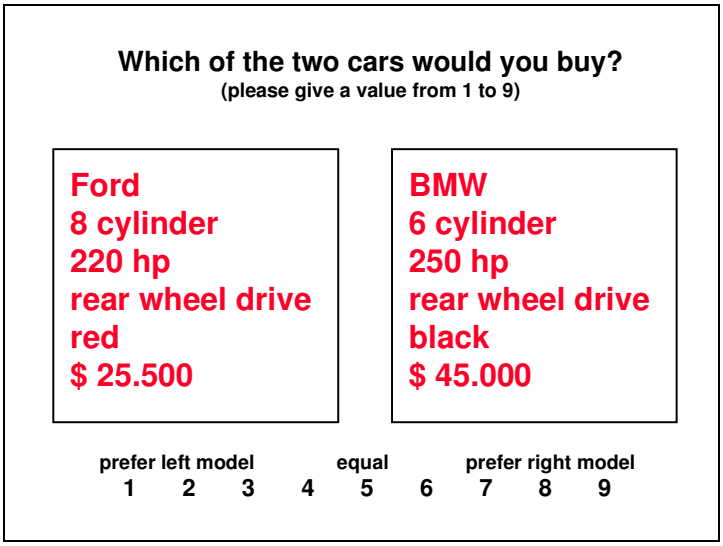

Figure 3: Typical ACA Screen

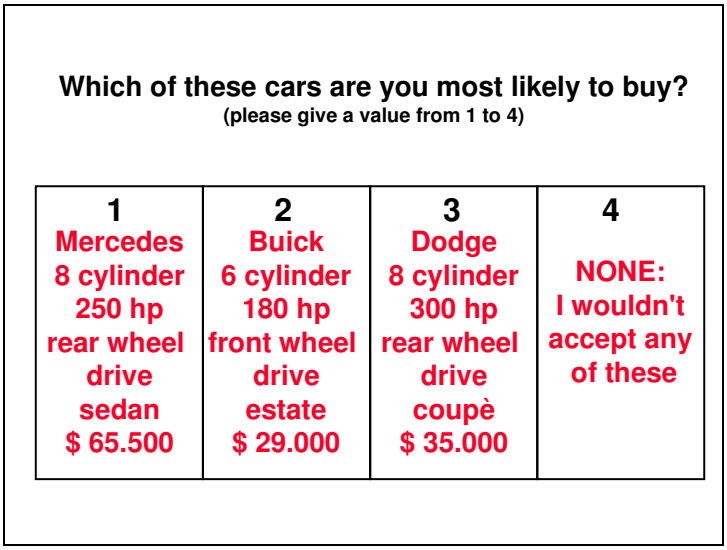

Figure 4: Typical CBC Screen

Phase One: Preparation of the Conjoint Process

Selecting the Markets for the Project

Ideally the research should have been carried out in each important market for these devices. As always, some compromise had to be accepted because the budget was limited and there simply was not enough money available to conduct rigorous research throughout the five countries which make up 80% of the European market for these devices. Furthermore, time was limited. *Landis & Staefa* was planning to announce the NEW PRODUCT in late February or early March 1996 and it was already December and Christmas was approaching rapidly. This virtually eliminated the possibility of beginning any field work before the New Year.

With these constraints it was decided to restrict the research to the top two countries only. These two accounted for the majority of sales of the OLD PRODUCT. Furthermore, the respective Group Companies were eager to support this research and act upon the findings. The two countries were Italy and France.

Selecting the Decision Makers

A complication in the survey design process was the fact that the majority of heating control devices were sold and distributed through indirect channels in these countries.

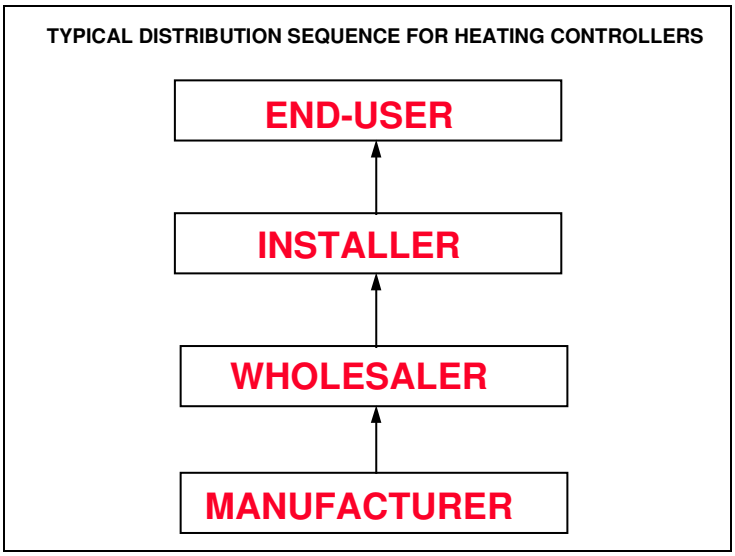

Figure 5: Map of Distribution Process

The typical distribution sequence for this type of device is: the Landis & Staefa Group Company sells the device to a wholesaler; then the wholesaler sells it to an installer who, in turn, sells the device to the end-customer and installs it in a building.

So the questions arise, 'Who to interview?', 'Who has the most influence in this somewhat convoluted chain of decision making?' Prior experience has taught *Landis & Staefa* that their direct customer, the wholesaler, is definitely not the most influential in determining which device is eventually purchased. In this industry wholesalers tend to fulfil demand rather than create it. They merely reflect the demand that already exists among their customers, the installers. It is true that wholesalers can promote one brand over another when a customer is ambivalent and this can influence market share to a certain extent. However, for the most part, *Landis & Staefa* believe that the installers' minds are already made up when they walk through the wholesaler's door, so wholesalers represent only a secondary influence on the decision making process.

This leads directly to the question of whether installers or end-customers are the more important influence in deciding which manufacturer's heating controller to buy.

Although it is currently fashionable in marketing circles to focus primarily on end-customers, *Landis & Staefa* believe that, with this type of device, the installer has the most influence on the buying decision. These are technical

products that require special skills to install and set up properly, skills which are beyond the abilities (and, frankly outside the interest) of the average end-customer. Therefore the typical end-customer relies on the installer's advice when choosing a heating controller (in much the same way that a typical car owner relies on his mechanic to choose alternator to install). Quite often there is not even a discussion.

In France there is a slight variation in this distribution scheme. Along with generic installers there is a uniquely important group known as "exploitants". They carry on all of the usual activities of the generic installers, but they often participate in additional business activities such as district heating, heat cost allocation, water supply and metering, cable TV, etc. These companies are often members of powerful groups which reinforces their strong position in the French market. However, the factor that really sets the exploitants apart from run-of-the-mill installers is the fact that they hold official concessions on large parts of many major French cities and towns. These concessions grant them exclusive rights to pursue various commercial activities within a geographically defined area of town (e.g. supplying district heating services) providing them with a de facto monopoly operating environment. Accordingly they effectively set the standards for many heating applications which are adopted throughout the country. It was therefore decided to focus on this sub-group of installers in France because of their apparent overwhelming influence on the heating marketplace. The research results cast new light on this conclusion.

The final decision, after this influencer analysis, was to interview installers in Italy and exploitants in France.

Identifying the Respondents

The next challenge was how to identify and locate installers who are working regularly with these types of products. It should be remembered that these installers and exploitants are not typically direct customers of *Landis & Staefa*. The wholesalers are the usual direct customers of *Landis & Staefa* and they, in turn, sell devices to the installers and exploitants. It was therefore necessary for *Landis & Staefa* to approach the wholesalers and explain the project in terms that demonstrated a benefit to them, and ask them (the wholesalers) to provide a list of their customers (the installers) who were regular purchasers of heating controllers.

This might not sound like such a big problem to the uninitiated. However one has to recognise that wholesalers are generally wary of the fact that their supplier, the manufacturer, could compete against them by selling directly to the installers and undercutting their prices.

A manufacturer always has the advantage of being able to offer lower prices to the installer than is possible for the wholesaler. Furthermore, some manufacturers have bypassed the wholesalers in this way, so there is ample justification for the wholesalers' paranoia. Hence to the wholesaler (in fact to any business person), the customer list is sacrosanct and, in many instances, convincing him to divulge it to a manufacturer is something akin to brokering peace in the Middle East!

Fortunately, in France and Italy, *Landis & Staefa* has built up very strong and loyal wholesaler networks which facilitated obtaining their co-operation. Apprehensions about the feasibility of procuring the lists proved to be unwarranted and surprisingly little resistance from the wholesalers was encountered. *Landis & Staefa* were able to obtain lists of potential respondents from the wholesalers very quickly.

Of course this also required the full co-operation of the staff in the Group Companies, as they had to explain the entire scenario to their customers - the wholesalers. Without their support this project would not have been possible.

Naturally the lists obtained still needed to be carefully screened to ensure that they were representative of the market segment as a whole. The danger was that the wholesalers might bias the sample by some pre-selection of names and addresses to serve their particular interests (i.e. only supplying names of installers who never buy *Landis & Staefa* controllers).

Designing the Questionnaire

In parallel with all of these activities, the research team began to draft the questionnaire.

In conjoint analysis the critical first step is to identify the defining attributes of the different products to be tested, before you design the questionnaire.

An attribute (feature) is a dimension of a product or service such as remote control, price or even brand name. A *defining attribute* is one that typically plays a significant role in positioning the product in the prospect's mind and, moreover, contributes to his process of product selection. Attributes which differentiate between competitors' products in the mind of the customer are referred to as *discriminant attributes*.

An initial phase in the development of a conjoint model is to try to reduce the number of defining attributes down to a manageable level, typically five or six attributes. These must be carefully selected to reflect the customer's choice process. In other words, they must try to include all of the attributes which are important to the customer when the customer is deciding which product to buy. At the same time you must try to eliminate any attributes which are common to all of the competing products and therefore do not represent a means of differentiating one product from the next. This is somewhat unconventional because you must anticipate which attributes are really important to the customers *before* conducting the survey, in fact, even before designing the questionnaire.

Typically there is a wide range of in-house opinion about which attributes are important and unique and which attributes are more or less the same for all competing products on the market. After much discussion with colleagues in the Group Companies, and much consultation with ***bms***, the project team arrived at a "short-list" of attributes to be included in the questionnaire. This list of attributes differed only slightly between France and Italy.

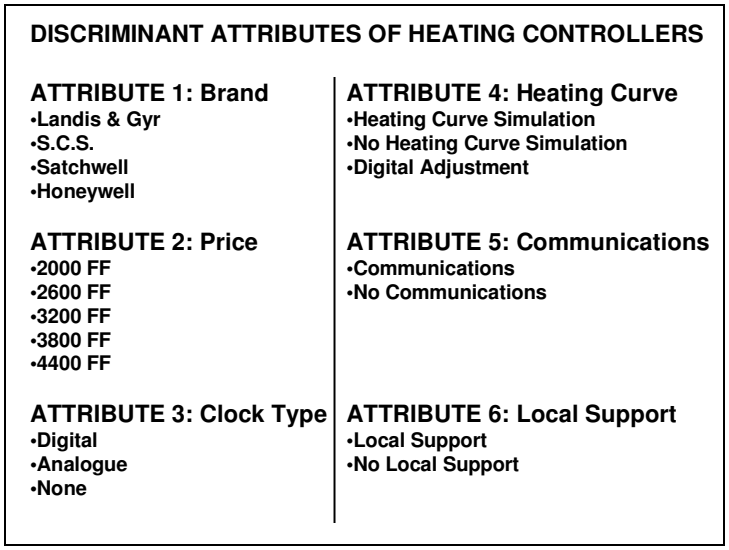

Figure 6: Attributes Overview

Each selected attribute must then be clearly defined at different levels in order to build the conjoint model (e.g. several levels of price or different levels of functional capability). These levels must reflect the full range found in the market place. Once the attributes and their levels have been established the necessary inputs exist for establishing the scenarios on which the trade-off, or conjoint, analysis process rests.

The different levels of the discriminant attributes used in this survey can be described as follows:

Brands/Manufacturers

All the important manufacturers of this type of heating control device in each market were included (5 in Italy, 4 in France). Market intelligence indicated that they accounted for over 90% of sales to the relevant market segments and to the market as a whole.

Price

The current range of prices covered by competing models from the selected manufacturers was identified. Extrapolation in the scenarios would have diluted the accuracy of the results. With price it is critical to the success of the simulation to ensure that those interviewed are making a comparable interpretation of the meaning of the absolute price presented. For example, the problem could occur that one respondent is thinking in terms of distributor prices, another in terms of end user prices, with VAT or without VAT, and so on. To ensure that this problem was eliminated, the pre-survey mapping included careful analysis of pricing structure and variations within the two markets.

Furthermore, at the beginning of each interview the interviewer explained the price structure and went on to ask respondents for prices of relevant devices they had recently purchased as a reality check.

Communication ability:

One of the new features of some heating controllers is the ability to communicate, over telecommunication lines, to a remotely located workstation or to another device. This enables remote monitoring and/or setting of the heating controller and also allows it to “talk to” other, similar

devices. This feature is very important in some markets. Here the attribute dimensions were simply whether a device could, or could not, communicate.

Method of setting heating parameters:

There are three principal methods of setting the heating parameters on this class of device. These were the options on the choice-based questionnaire:

The first, and most common, is with a rotary potentiometer, usually having fixed “stops” at pre-set positions on its dial. (Similar to the channel selector on old TV sets)

The second, and increasingly frequent method, is the use of push-buttons in combination with a digital readout which displays the values of the heating parameters for the user. This digital readout usually doubles as a clock display when the device is in its normal operating mode. (Similar to the digital display on a VCR)

The third (proprietary to Landis & Staefa) method uses two linear potentiometers, aligned parallel to one another, connected by a thin red bar which emulates the so-called “heating curve”. This method visually shows a graphical representation of the important heating settings to the technician, visually reinforcing that the parameters have been set properly. (see figure 1)

Clock type:

There are three options for timing devices available on heating controllers:

1) No clock

2) Digital clock (electronic)

3) Analogue clock (mechanical)

In Italy, local standards require every device to have a clock. Clearly here the ‘no clock’ option is not a discriminant attribute among suppliers and this attribute was not included.

Availability of local support:

This tends to be a very “grey” area and it is quite difficult to define precisely. The term “support” itself means very different things to different people, not to mention the varying interpretations of the term “local”. It was decided to define “local support” to mean: “the manufacturer is present and offers some services to you, or directly to your customers, upon request”. No attempt was made to try to nail down precisely how near-by the manufacturer needed to be. That was left up to the interpretation of the respondent. The sense that the survey design team sought to evoke was either that the manufacturer was “there” to back up the installer, or else he was not. This was always an “either / or” choice in the questionnaire.

The results reinforced the impression that local support is indeed not a quantifiable attribute which can be easily analysed using a discrete modelling tool such as conjoint. It turned out to be extremely difficult to run scenarios with this attribute. Furthermore, the survey design did not include questions about the respondents’ perception of this attribute for the different brands.

Before finalising the conjoint questionnaire a reality check was required. First the team had to check for combinations which are impossible and therefore should be excluded from the modelling.

In addition to the conjoint questions, some 'normal' questions were added to the computerised questionnaire (using Sawtooth's Ci3 software) in order to better understand and interpret the results and to provide some reality checks.

Once ***bms*** and *Landis & Staefa* agreed on the attributes, their dimensions and the conventional questions, ***bms*** drafted the questionnaire in the different languages.

Phase Two: Field Work

Computer- based Interviews

The interview was totally computerised, no conventional, printed questionnaires were used. ***bms*** prepared field diskettes which contained the runtime modules for the Sawtooth packages (ACA, CBC and Ci3) and the questionnaire programme. The interviewer used his Notebook PC or a computer at the respondent's location. The data from the interviews was captured on this diskette.

Pilot Tests

At this point a series of pretests were required to optimise the format and length of the questionnaire (this can be controlled by the number of tasks which are demanded). These were run first with the *Landis & Staefa* team at headquarters, then with the Group Company staff, and finally with the target groups: installers (I) and exploitants (F).

Organisation of the Field Work

bms recruited suitable interviewers who were able to stay with the project throughout the whole interview phase. They were experienced in technical market research and face-to-face interviewing using PC based questionnaires. The interviewers for this survey went through a series of briefings and extensive training with *Landis & Staefa* staff and real target respondents. The logistics of the interview set up and execution were accomplished in co-operation with the local *Landis & Staefa* offices.

Conducting the Interviews

When the interviewers arrived at the respondents site they first explained the purpose and background of the study. Then they rolled out a purchasing scenario to the respondent explaining and defining:

- the researched product range
- the different attributes and their dimensions
- the purchase situation the interview was aiming to cover
- the price levels researched in the survey

The interviewers explained every task and offered assistance, when required, with the manipulation of the computer keys.

Sometimes respondents asked their co-workers to participate and to help them with the decisions they had to make. The actual interviews took between 30 and 45 minutes, but the interviewer often had to stay on longer to

discuss current problems which were not directly related to the subject matter covered by the questionnaire.

Phase Three: Analysis

Analysing the Interviews

The interview results were merged together from different field disks and analysed. The basic analysis provided the utility values of the different attributes and their dimensions. Also the non-conjoint questions were analysed and the results were summarised.

In addition, the existing products (L & S OLD PRODUCT and competitors' products) were entered into the system and their simulated shares of preference were compared to known market share data. At this point it should be stated that the results from Italy were much more satisfying than those in France. In Italy this reality check demonstrated that the basic simulations matched reality within +/-3%. This was a strong endorsement of the reliability of the conjoint model as a predictor of share of preference. These results indicated that the team had at their disposal a dynamic market stimulation model. However the situation was somewhat different in France.

Results and Findings of the Survey

France

To make a long story short, the survey did not provide a reliable scenario modelling instrument for the French market as *a whole*. Although it did provide meaningful insight into the utility values of the attributes and a model for the sub-segment: exploitants.

The first reason for this conclusion was that the selected group, exploitants, turned out *not* to be representative of the whole market. Subsequent analysis showed that the market share of *Landis & Staefa* is much higher in this segment than in the market as a whole.

However the main reason for this conclusion was that the analysis showed a *negative* price elasticity for both the OLD PRODUCT and the NEW PRODUCT. This was completely counter intuitive.

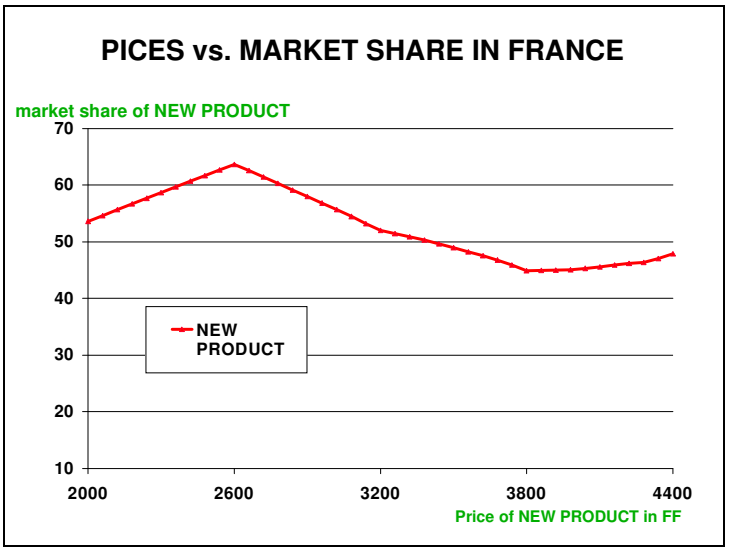

Figure 7: Negative Price Elasticity in France

After many meetings and brainstorming sessions, an explanation for this phenomenon was found. The exploitant, although enjoying a 'quasi-monopoly' position, typically is regulated concerning the percentage mark-up he can apply to the products he specifies. If he chooses a higher quality, higher cost product, which he can sell for a proportionally higher price, he simply earns more profit in absolute terms.

This probably explains why the exploitants' price elasticity curve exhibits unexpected behaviour at the high end of the price range. Although the results in France were initially disappointing the team learned some valuable lessons from this experience:

1. It is always risky to assume that an easily identifiable market sub-segment reflects the attitudes of the entire market.
2. It is always essential to thoroughly pre-test the questionnaire with live respondents and look for signs of serious problems.
3. In conjoint surveys it is essential to have a good general understanding of the market in which you are conducting the research prior to designing the survey. In-house information sources may inadvertently distort the view of the market and lead to misunderstanding of the mechanisms at work.

Italy

When the market simulation for Italy was conducted, three scenarios were examined as follows:

The first market simulation showed only the current, OLD PRODUCT from *Landis & Staefa* plus its competitors.

The second simulation considered only the NEW PRODUCT from *Landis & Staefa* plus its competitors.

And finally, a third simulation considered a market model with both the OLD PRODUCT and the NEW PRODUCT present together, plus the competitors.

In each of the above cases the independent variable was price and the dependent variable, in the final analysis, was absolute gross margin. The aim of this analysis was to determine at what price-point the maximum gross margin could be extracted from the marketplace. By plotting price against gross margin an inflection point in the curve could be found representing this optimum price point.

In the first two cases it is a relatively simple plot, yielding a two dimensional curve with one independent and one dependent variable. However when contemplating a market simulation with the NEW PRODUCT and the OLD PRODUCT coexisting, this yields a three dimensional *surface* because there are two independent variables (the price of the OLD PRODUCT and the price of the NEW PRODUCT) and one dependent variable (total gross margin generated by both products).

When looking at the market simulation in which the only device from *Landis & Staefa* was the OLD PRODUCT, the first step was to plot 'market share vs. price of the OLD PRODUCT'. There was a well defined discontinuity beyond which the market share dropped off much more rapidly. This point occurred at a 10% lower price than the current market price for OLD PRODUCT. This indicated that by lowering the price *Landis & Staefa* could sell considerably more units, a fact which most of the *Landis & Staefa* team already took for granted. What was more interesting was to determine whether or not *Landis & Staefa* would take home more total profit by lowering their price.

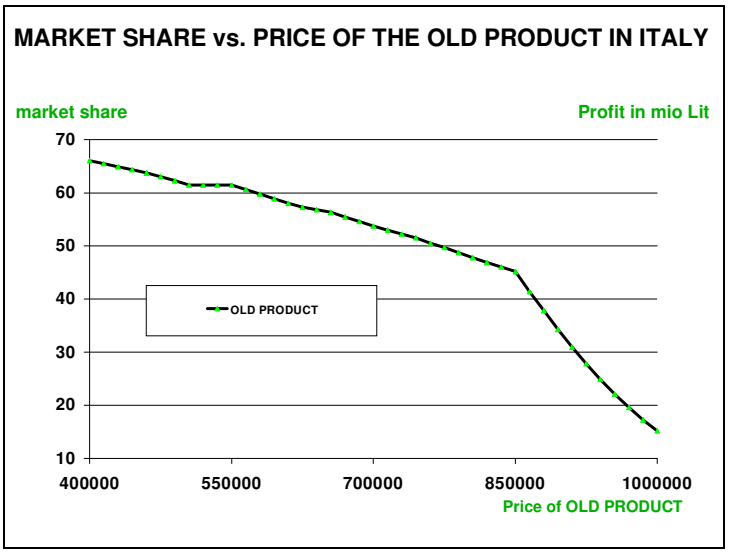

Figure 8: Market Share vs Price of the OLD PRODUCT

Therefore a plot of 'absolute gross margin vs. price of the OLD PRODUCT' was created and this yielded a quite surprising result. The curve showed a clear inflection point. But what was unexpected was that the price-point at which gross profit was maximised was exactly the same as the price-point at which market share dropped off dramatically. This is generally not the case.

A similar market simulation in which the NEW PRODUCT was the only *Landis & Staefa* controller in the marketplace yielded an equally surprising result. Here again the project team began by looking at 'market share vs. price of the NEW PRODUCT' and found a clear discontinuity. What was remarkable was that the price-point at which the slope of the curve changes abruptly for the NEW PRODUCT was exactly the same as the equivalent discontinuity for the OLD PRODUCT. When the exercise was repeated by plotting 'absolute gross margin vs. price of the NEW PRODUCT', the team was astonished to find that the inflexion point occurred, once again, at exactly the same price-point.

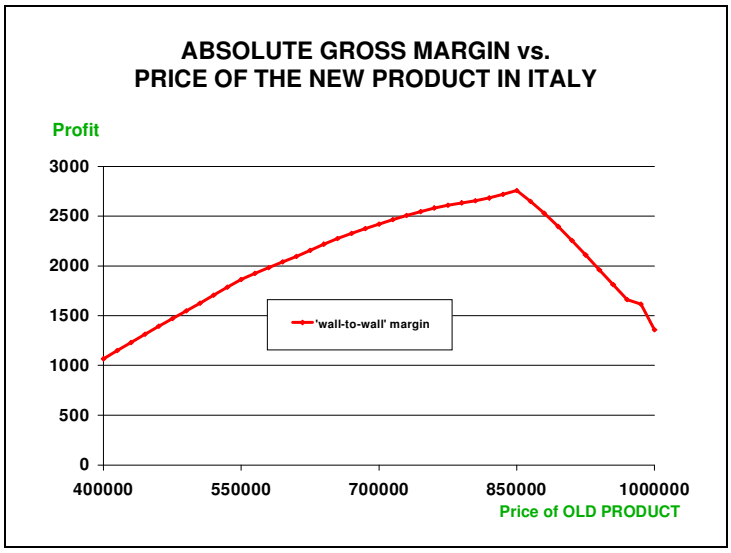

Figure 9: Absolute Gross Margin vs. Price of the New Product

There seemed to something magical about this particular price-point. It seemed to represent some kind of a threshold, beyond which the 'demand vs. price' curve dropped off dramatically. It didn't seem to matter that the new controller had more features and functions or more modern technology. The optimal price-point for both the old and the new devices appeared to be the same. This was interpreted to mean that this price threshold was being influenced more by the characteristics of the application than by the features of the device itself.

An equally important piece of information which emerged from this analysis was the absolute amount of gross profit which would be earned in the two simulations. *Landis & Staefa* learned, as they had hoped, that they could earn considerably more profit by replacing the OLD PRODUCT with the new one. In fact the simulation indicated that *Landis & Staefa* would earn more total margin by taking the old device off the market and replacing it with the new device priced at this optimal price-point.

The real revelation came when *Landis & Staefa* looked at the three dimensional plot of 'absolute gross margin vs. price of the OLD PRODUCT vs. price of the NEW PRODUCT'. Remember, in this market simulation both the OLD PRODUCT and the NEW PRODUCT are present and they plot a three dimensional surface.

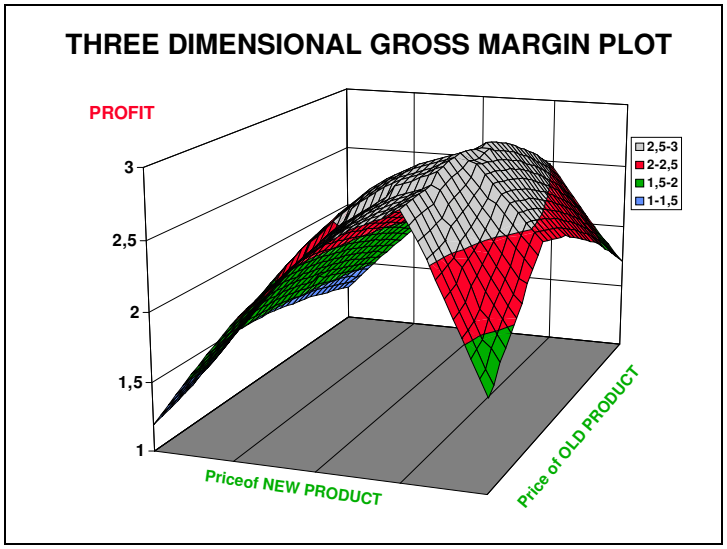

Figure 9: Three Dimensional Gross Margin Plot

There was a peak on the generated surface occurring at this same price-point on *both* price axes. (There really must be something magical about this price-point!). Furthermore, the total gross profit which could be earned - by leaving both devices to coexist at this same price level - was 15% higher than the market simulation in which the OLD PRODUCT was replaced with the NEW PRODUCT. At the same time *Landis & Staefa* would gain greater market share by allowing the two devices to coexist.

In addition, this 15% increase would probably be compounded by increased sales (and profits) of ancillary products such as valves and actuators. (Installers typically purchase valves and actuators made by the same manufacturers as the heating controller, particularly when they are installing a brand new heating system in a new building or renovation)

The message was clear; the ideal action for *Landis & Staefa* was to leave the OLD PRODUCT on the market, introduce the NEW PRODUCT and let it coexist with the older device, and price them both at the same level.

Marketing Actions

This was certainly not what had been expected and it required no small amount of selling to convince the *Landis & Staefa* market manager in Italy to heed this message. All of the conventional wisdom indicated that *Landis & Staefa* should replace the older device with the more up-to-date model, particularly when they considered that the new model was significantly cheaper to produce. However the evidence from the market simulations was irrefutable and the colleagues in Italy eventually agreed to follow its guidance.

Landis & Staefa Italy lowered the price of the OLD PRODUCT by 10% (as indicated in the market simulation) and introduced the NEW PRODUCT to coexist at the same price level. They rationalised this to their customers (wholesalers) on the basis that some installers (primarily the older ones) preferred the familiar, analogue devices and were somewhat intimidated by the new, digital technology. On the other hand there was a small majority of installers (primarily the younger ones) who preferred the state-of-the-art features and enhanced functionality of the new model.

Thus the Italian Group Company adopted a strategy of leaving both devices on the market, at the same price level, and allowing the individual installer to decide which one to buy. The research indicated roughly a 60%-to-40% split in demand between the NEW PRODUCT and the OLD PRODUCT respectively and *Landis & Staefa* shared this information with the wholesalers to help them in planning their inventories.

Results

The results were dramatic and immediate. Sales of the OLD PRODUCT had been in gradual decline in Italy for three or four years. The trend in unit sales was downward at a rate of roughly 12% per year and the gross margins were declining even faster.

Landis & Staefa Italy took their pricing action and introduced the new model around the mid-point of the financial year so the impact of their action only affected the second half-year's results. In spite of this, combined unit sales of the two devices were 18% higher for the full fiscal year compared with unit sales of the OLD PRODUCT in the previous fiscal year (33% higher than the previous trend). The total gross profit generated from the combined unit sales was 6% higher than in the previous fiscal year for the OLD PRODUCT (12% higher than the previous trend).

These results validated the survey findings. This improved level of performance is being sustained in the current fiscal year and, in fact, is showing even more improvement. If the current trend continues, the unit sales of the two devices will increase again by close to 20% over the last fiscal year. It's too soon to tell exactly what the gross profit margins will be, but it is safe to say that the profit from these devices will also increase over last year. One of the Landis & Staefa members of the project team was the marketing manager responsible for this class of heating controllers. His role at headquarters is twofold: first, to help maximise sales of these devices, through the Group Companies by creating the necessary marketing conditions (i.e. transfer pricing, technical literature, sales promotions, training, etc.) and second, to act as a conduit for market feedback to the product development team at HQ. He is a member of the HQ committee that determines the features which will be incorporated into future products. The high utility values awarded to the man/machine interface in this survey will certainly become an important design criteria for all future products.

Needless to say the *Landis & Staefa* team is thrilled with these results. They are now undertaking a complete review of their price setting process throughout the company and are searching for ways of including more conjoint-type research in their future approach to pricing.

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