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## MEASURING PRICE SENSITIVITY

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### ABSTRACT

Numerical estimates of customer price sensitivity can sometimes substantially improve the effectiveness of pricing. When managers critically evaluate numerical estimates of price sensitivity and use them to supplement, not to replace, information they have gained from studying buyers' purchase motivations, the estimates are often well worth the investment. There are numerous methodologies for estimating price sensitivity. Each method offers some particular advantages over the others, so the choice is not arbitrary. One must think carefully about the appropriate procedure for any particular product before beginning research. Measurement techniques differ in the variables they measure and in the conditions of measurement. Pricing research studies range from those that are completely uncontrolled to those in which the experimenter controls almost completely the alternative products, their prices, and the information that the customer receives. Regardless of the technique used to measure price sensitivity, it is important that managers not allow the estimate to become a substitute for managerial judgment. The appropriate technique for numerically estimating price sensitivity depends on the product's stage of development.

**Key words:** method, sensitivity, price, measuring

### Types of Measurement Procedures

Procedures for estimating price sensitivity differ on two major dimensions: the conditions of measurement and the variable being measured.

The conditions of measurement range from a completely uncontrolled to a highly controlled research environment. When making uncontrolled measurements, researchers are only observers. They measure what people actually do, or say they would do, in a situation not of their making. In contrast, when making controlled measurements, researchers manipulate the important variables that influence consumer behavior to more precisely observe their effect. Participants for the experiment could be chosen to represent various demographic variables in proportions equal to those of the product's actual market or to represent a particular group to whom the product was intended to appeal. Controlled research produces more accurate estimates of the effects of the controlled variables on price sensitivity. Unfortunately, collecting controlled data is also more costly and time-consuming. The dependent variable measured for estimating price sensitivity is either actual

purchases or purchase preferences and intentions. Actual purchase studies measure behavior, whereas preference-intention studies measure the choices that people claim they would make in a hypothetical purchase situation.

Managers selecting among the various research techniques for measuring price sensitivity face some difficult choices.

### Uncontrolled studies of actual purchases

One way to estimate price sensitivity is to analyze past sales data. Estimates of price sensitivity are needed most when setting prices for new products and when considering changing the prices of established products to new levels. In those cases, there is not directly comparable data on past sales from which to make estimates. Sometimes researchers will infer the price sensitivity of a new product from past sales data of a product that is similar from the buyer's perspective. At other times, researchers will try to infer the likely effect of a large price change from consumers' past responses to small changes. Although either technique may be of some value when there are no practical alternatives, the results of such studies do not warrant much confidence.

Generally, past sales data are valuable only for evaluating the effects of a proposed price change that is similar to one made for the same product in the past. For example, a company might regularly offer promotional specials during certain seasons of the year. Examining the effect of those specials in the past can be highly useful in forecasting the effect that similar price promotions will have in the future. Even then, however, changes in 1) the number of brands on the market, 2) how recently competitors offered price promotions, 3) the amount and effectiveness of advertising by each brand, and 4) general economic conditions can undermine the comparability of a current price changes are often accompanied by changes in advertising expenditures, sales support, or promotional displays, making it difficult to sort out the effect of price from the effects of those other variables.

There are three types of past sales data from which a marketing researcher might attempt to estimate price sensitivity: 1) aggregate sales data – aggregate sales reports for a brand from a company's own records or from a sales-monitoring service, 2) panel data – individual purchase reports from members of a consumer panel, and 3) store audit data – sales data for an individual retail outlet.

#### ***Aggregate Sales Data***

Sales data collected as part of a company's regular operation are cheap and available for all products that have prior sales histories. Unfortunately, these data are normally collected only quarterly or monthly. Moreover, unless the company sells directly to the end user, its sales data reflect shipments to retailers, not actual retail sales during the period. Good estimates of actual retail sales are available for some products from companies that survey retail stores, but the data are reported only bimonthly. Consequently, it takes a long time to accumulate enough observations on sales from which to make estimates. The longer the period of data collection, the more likely it is that factors other than price will cause changes in sales levels, making the data from different time periods less comparable. For some of those factors such as product reformulations, changes in consumer tastes, changes in distribution, there is simply no way to take out the effect. For others, such as recessions or changes in the level of advertising, the

researcher can statistically control the estimation process to take out their effects, but to do so requires an even longer series of data.

Another problem with aggregate sales data is that it is aggregated. Aggregate sales is the sum of sales in many different retail outlets. In any given week, some stores will charge higher prices than will others. Over time, the same store will put the product on sale for a week and then return its price to the regular level. These price variations influence sales and, therefore, could provide useful information about price sensitivity. Unfortunately, data that aggregate sales for all stores over a number of weeks conceal these price differences. Given the aggregation in the data, the researcher is forced to explain sales variations by looking at only the average retail price across stores and throughout the time period. Since the average of prices has much less variation than actual prices at individual stores in particular weeks, the data are much less useful than are data on individual purchase prices.

For marketers of business-to-business products, demand for their products is driven by demand for their customers' products. Here, estimates of price sensitivity based on the company's previous sales, price, advertising, or other promotional expenditures will often miss the most important determinant of demand – the customers' sales in those downstream markets for which data may be difficult to obtain. Still, aggregate sales data should not be totally disregarded when one is attempting to understand price sensitivities, although no conclusions can be drawn from simple statistical analysis alone.

#### ***Panel Data***

For some products, there are better sources of purchase data than aggregate sales data. A number of marketing research companies collect individual purchase data from panels of a few thousand households. Each household keeps a daily record of all brands purchased and prices paid. Since products are purchased daily, the data for each household must be aggregated to produce a series on weekly or biweekly purchases. Such data a number of advantages.

1. One can accumulate observations more quickly with weekly panel data than with bimonthly or quarterly sales data, reducing the problem that other factors

may change and reduce the comparability of the data.

2. One can observe the actual price paid, rather than an average of the retail prices that different stores charge, and one can identify sales that were made with coupons that reduce the regular price. This produces much more price variation in the data, making the effects of price changes easier to detect.
3. One can get data on the sales and prices of competing products as well as sales of one's own product.
4. One can correlate price sensitivity with various demographic classifications of consumers and possibly identify opportunities for segmentation.

One drawback of a panel data is that it may not be adequately representative of the market as a whole.

#### ***Store Audit Data***

An alternate source of actual sales data comes from auditing prices and sales at individual retail stores. New technologies have made accurate weekly sales and price data available at reasonable cost. Any store that uses scanners can generate such data as part of its normal operations. The weekly frequency of scanner data makes it vastly superior to aggregate sales data. Although it lacks the corresponding demographics of consumer panel data, it also costs substantially less. Scanner data have become a major new source of information on the price sensitivity of consumer packaged goods.

#### ***Analyzing Historical Data***

Analysis of historical sales data usually involves application of linear regression analysis. This statistical technique attempts to show how much of the historical variation in a product's sales can be explained by each of the explanatory variables, including price, that the researcher includes in the analysis. One should not expect, however, that the researcher will necessarily succeed in identifying the effect of price with such an analysis.

Furthermore, one must be careful to recognize the limits of a successful analysis of historical data. To estimate a regression equation, the researcher must assume a mathematical form for the relationship between price and sales. Moreover, the researcher's estimate of price

sensitivity is valid only over the range. Finally, regardless of how well an estimated regression equation fits on the assumption that the future is like the past. The more other factors change, the less the past can predict the future.

Despite these limitations, if a researcher has a lot of historical data with enough price variation in it, useful estimates of price sensitivity are possible.

#### **Experimentally controlled studies of actual purchases**

##### *In-store Purchase Experiments*

An in-store purchase experiment relies on actual purchase data collected when buyers are unaware they are participating in an experiment. Although the term in-store reflects the principles of in-store experimentation are equally applicable to any natural purchase environment. Such experiments are actually easier to conduct for products sold through mail order catalogs than for those sold in retail stores. The researcher simply selects a subset of the mailing list to receive catalogs with experimental prices that differ from those in the regular catalog.

The simplest design for an in-store pricing experiment involves monitoring sales at the historical price to obtain a base level of sales and then initiating a price change to see how sales change from that base level.

The addition of an experimental control store can reduce this problem substantially. To establish such a control, the researcher finds a second store in which sales tend to vary over the base period in the same way that they vary in the first store, indicating that factors other than price, influence both stores' sales in the same way. The researcher then changes price only in the first store, but continues to monitor sales in both stores. Any change in sales in the control store indicates to the researcher that some factor other than price is also causing a change in sales. To adjust the results, the researcher subtracts from the sales in the experimental store an amount equal to the change in sales in control store before determining the effect of the price change alone.

One of the greatest benefits of in-store experimentation is the ability to test for interactions between price and other marketing variables that, in historical data, tend to change together.

Although there are many articles that illustrate the successful application of in-store experimentation to estimate price sensitivity, the greatest impediment to using in-store experiments is the high cost of monitoring sales, analyzing the data, and securing the cooperation of retailers.

In addition to the financial and time cost of in-store experiments, there are other drawbacks. There is the potential loss of consumer goodwill when some buyers are charged prices above normal. On the other hand, charging prices below normal can become too costly when the product is a large-expenditure durable good such as an automobile or a piece of industrial equipment. An in-store test also involves the very real risk of being discovered by a competitor. If the product is new, a company may not wish to give its competitors an advance look. Thus, although in-store experiments have the potential for yielding very high quality estimates, market researchers are more often forced to use alternatives. The closest of those alternatives is a laboratory purchase experiment.

#### *laboratory purchase experiments*

Laboratory purchase experiments attempt to duplicate the realism of in-store experimentation without the high cost and exposure to competitors.

The laboratory researcher can control who participates and can quickly manipulate prices and other elements in the purchase environment all at a single location. The researcher can almost entirely eliminate external factors that may contaminate the results of an in-store test. Participants exposed to different prices see exactly the same display at the same location in the laboratory experiment. Even effects associated with the time of day can be controlled by constantly changing prices for each new time of the experiment. Thus, if testing three different price levels, approximately one-third of the consumers who take the test at any hour can be exposed to each price level. This ability to control the experiment so closely enables the researcher to draw inferences from far fewer purchases in much less than would be possible with an in-store experiment.

Laboratory research facilities vary greatly depending upon the sophistication of the

research organization and the budget of the client company. The simplest facilities may consist of an interviewing room with a display of products from a single product category. The price for each brand is clearly marked, and the participant is invited to make a purchase. In theory, since the consumer is actually making a purchase, or can choose not to buy at all, the purchase decision in a simple laboratory experiment is the same one that the consumer would make shopping in an actual retail store.

In practice, however, that conclusion may not be true. The problem lies with the artificiality of a simple laboratory environment. First, a single display in a laboratory encourages the consumer to give the purchase decision much more attention that would be typical in an actual shopping situation. Research indicates that most grocery shoppers do not even look at most prices when actually shopping in a supermarket. In a laboratory, however, consumers do not want to appear careless. They are, therefore, much more likely to note and respond to price differences. Second, when consumers know they are being watched, they may act as they feel they should rather than as they would in life. Thus some consumers may buy the low-priced brand just to appear to be smart shoppers, or the high-priced brand so as not to appear stingy. They may also buy something from the category out of a feeling of obligation to the researcher who gave them the money, even though they would not buy from that category in a store.

To overcome these limitations, a few research companies offer highly sophisticated laboratory research facilities. The most elaborate facilities attempt to duplicate as closely as possible the actual conditions under which consumers buy the product. These facilities contain complete simulated stores the size of small convenience stores. Before entering the simulated store, consumers may view reruns of television programs within which are embedded television commercials for the research product or may read magazines within which are print advertisements for the product. When consumers finally enter the store, they are invited to do all their shopping, purchasing whatever they want, just as they would on a regular shopping trip. They do not know what products or what product categories are subjects of the research. They use their own

money to make their total when they check out at the cashier.

Even the best laboratory experiment is somewhat artificial, introducing some bias into the results. Still, companies that do this research argue convincingly that the problem of bias is not as great as the problems of in-store experimentation and that they can accurately adjust the results of their laboratory experiments, based on their past experience with similar product categories, to take out the effects of any biases inherent in the experimental process. Moreover, one cannot argue with the economics. The cost of even the most sophisticated laboratory experiment is only a small fraction of the cost of in-store testing. As a result, the leading markets of consumer packaged goods and small appliances rely extensively on this research technique when making pricing decisions.

#### **Uncontrolled studies of preferences and intentions**

The most common research technique for directly estimating price sensitivity is the survey of brand preferences or purchase intentions. There are a number of reasons why companies prefer to measure preferences or intentions, rather than actual purchases.

1. Survey data cost much less than purchase data to collect.
2. Survey data can be measured for large durable goods, such as automobiles or photocopiers, for which in-store or laboratory experiments at various prices are impractical.
3. Survey data can be collected even before a product is designed, when the information is most valuable in directing product development.
4. The results can be collected quickly.

The problem with survey research is that many consumers do not give answers to survey questions that are a reliable guide to their actual purchase behavior. This is especially true for questions regarding price. In order to solve this problem, some research companies cross-validate the results of one survey with the results of another, often using slightly different methods of data collection and questioning. For example, a firm might collect data using personal interviews and validate the results by telephoning a different group of respondents are from the two samples and

methods the more valid and accurate the final results.

#### ***Direct Questioning***

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. Direct questioning sometimes elicits bargaining behavior, with consumers stating a lower price than they would actually pay. Other times, it elicits a desire to please the researcher or not appear stingy, prompting consumers to state a higher price than they would actually pay. Frequently, it simply elicits a cursory answer that consumers would change were they to give the question the same thought as an actual purchase decision. Consequently, uncontrolled direct questioning as a research technique to estimate price sensitivity should never be accepted as a valid methodology. The results of such studies are at best useless and are potentially highly misleading.

#### ***Buy-Response Surveys***

A slight variant of the direct question survey involves showing consumers a product at a preselected price and asking if they would purchase at that price. Surprisingly, although directly asking consumers what they would pay usually yields meaningless answers, asking them if they would buy at a preselected price yields answers that are at least plausible. When the answers given by different consumers for different price levels are aggregated, they produce what looks like a demand curve for market share, sometimes called a purchase probability curve. Questioning willingness to buy generates better responses simply because it is structured more like an actual purchase decision that is an open-ended question about what the consumer would pay. The consumer has no opportunity to bargain with the researcher.

One cannot, however, treat buy-response data as directly comparable to or directly predictive of the sales that would actually occur at the corresponding prices in a store. Most problematic is the fact that consumers' answers to the question depend on their recollection of the actual prices of competing products.

Nevertheless, such research is useful (1) as a preliminary study to identify a range of acceptable prices for a new product and (2) to

identify changes in price sensitivity at different points in time or place, assuming that the biases which affect these studies remain the same and so do not affect the observed change.

Intention measurement is also sometimes used successfully to predict actual purchases when researchers have past experience with which they can adjust for the bias in subjects' stated intentions. Typically, purchase intentions are measured by asking people to indicate which of the following best describes their likelihood of purchase:

- Definitely would buy
- Probably would buy
- Might/might not buy
- Probably would not buy
- Definitely would not buy

The leading survey research firms have asked such questions to millions of buyers for thousands of products. Consequently, they are able to develop adjustments that reflect the average bias in these answers for various product classes.

#### ***Attribute Positioning***

Another method for evaluating price sensitivity is to include price as one of the attributes describing a product or a purchase situation. Consumers rate the importance of each attribute using a variety of scaling techniques. Those scales can be a 1 to 5 or a 1 to 10 importance rating or simply an evaluation of the percent of respondents mentioning the attribute as being important. This approach is problematic because responses tend to be "off hand" and overly positive, due to reasons mentioned in the previous section.

#### **Experimentally controlled studies of preferences and intentions**

To solve some of the problems of bias and extraneous factors when measuring preferences and intentions, researchers try to exercise some control over the purchase situation presented to respondents.

The questions must be designed to make the survey respondents consider the questions in the same way they would consider an actual purchase decision. The extent to which that can ever be fully accomplished is still an open question, but marketing researchers, recognizing the potential value of accurate survey information, are certainly trying.

#### ***Simulated Purchase Survey***

Many researchers argue that the best way to get consumers to think about a survey question and to respond as they would in a purchase situation is to simulate the purchase environment as closely as possible when asking the survey questions. In the usual version of such a simulation, the researcher asks the consumers to imagine that they are on a shopping trip and desire to make a purchase from a particular product class. Then the researcher shows the consumers pictorial representations, descriptions, or actual samples of brands along with prices and asks the consumers to choose among them given various prices. Since actual products need not be used, this technique enables one to test product concepts before they are actually developed into products, thus enabling the firm to better focus its product development resources.

The primary difference between such a simulated purchase survey and a laboratory purchase experiment is that participants only imagine that they are purchasing the product, and so do not get to keep their choices. The simulated purchase is a widely used form of pricing research that overcomes two important drawbacks of other types of surveys. Since it is structured as a choice among alternative brands, a consumer's thought process should more closely approximate the process actually used when making a purchase. And, since consumers have no way of knowing which brand is the one of interest to the researcher, they cannot easily think of the choice as a bargaining position or as a way to please the researcher. Thus, simulated purchase surveys sometimes predict price sensitivity reasonably well.

Given the fact that simulated purchase experiments are not consistently reliable, they should be used with caution and accepted only when the results are supported by actual purchase data or other types of tests.

These elasticities are ratios of the % change in quantity divided by the % change in price.

#### ***Trade-off Analysis***

A measurement technique, called trade-off analysis, has become popular for measuring price sensitivity as well as sensitivity to other product attributes. The particular strength of trade-off analysis is ability to disaggregate a

product's price into the values consumers attach to each attribute. Consequently, trade-off analysis can help a company identify the differentiation value of unique product attributes and, more importantly, design new products that include only those attributes that consumers are willing to pay for.

The basic data for trade-off analysis are consumers' answers to questions that reveal not their purchase intentions, but rather the underlying preferences that guide their purchases. The researcher collects such data by asking respondents to make choices between pairs of fully described products or between different levels of just two product attributes. The data are usually collected with a questionnaire, but can be collected with a personal computer.

After obtaining a consumer's preferences for a number of product or attribute pairs, the researcher then manipulated the data to identify the value that each consumer attaches to each product attribute and the relative importance that each attribute plays in the consumer's purchase decision. With that data, the researcher can predict at what prices the consumer would purchase products containing various combinations of attributes, including combinations that do not currently exist in the marketplace. With similar data from a number of consumers who are representative of a market, the researcher can develop a model to predict the share of a market that would prefer any particular brand over others at any particular price.

Of all methods to estimate price sensitivity from preferences or intentions, trade-off analysis promises the most useful information for strategy formulation. The researchers can do more than identify the price sensitivity of the market as a whole. They can identify customer segments with different price sensitivities and, to the extent that those differences result from differences in the economic value of product attributes, can also identify the specific product attributes that evoke the differences. Consequently, researchers can describe the combination of attributes that can most profitably skim or penetrate a market. The economic value of a product can also be identified even when the product is not yet developed. Moreover, trade-off analysis can do all this for thousands of different product variations for not much more

than the cost of a simulated purchase survey to evaluate just one product.

As a result of these promised advantages, the use of trade-off analysis by both market research firms and internal research departments is growing rapidly. But the promises of trade-off analysis are only as good as its ability to predict actual purchase behavior. That ability is a question that remains unanswered. There are, however, a number of reasons why a prudent manager might suspect the reliability of this technique. Trade-off analysis clearly does not simulate the actual purchase environment. The consumer is encouraged to focus much more attention on individual product attributes than is likely in a natural purchase environment. Trade-off analysis does not lead the consumer through the same mental processes that occur in a purchase decision. When making an entire array of brands; they do not consciously determine all the trade-offs involved. Whether consumers can accurately introspect and report the weights that various product attributes have in making such a choice is an unknown at the foundation of trade-off analysis.

Because trade-off analysis measures underlying preferences, the researcher has the ability to check if an individual consumer's responses are consistent.

With the support of these studies, trade-off analysis should continue to grow in popularity despite the lack of direct proof of its predictive ability. The detailed information that it offers is unique research techniques, and alternative techniques have certainly not proven any more reliable. Although trade-off analysis is more costly than a simple survey, it also provides much more information. Given its relatively low cost and the fact that it has met at least some tests of reliability, it certainly warrants consideration when seeking to develop a product with features that can be price most profitably.

#### **Using Measurement Techniques Appropriately**

Numerical estimates of price sensitivity can either benefit or harm the effectiveness of a pricing strategy, depending upon how management uses them. If managers better understand their buyers and use that knowledge to formulate judgments about buyers' price sensitivity in the manner

discussed, an attempt to measure price sensitivity can be very useful. It can give managers new, objective information that can either increase their confidence in their prior judgments or indicate that perhaps they need to study their buyers further. On the other hand, if managers try to use empirical estimates of price sensitivity as a substitute for knowledge of their customers' purchase motivations, attitudes, and incentives, the quality of their pricing decisions is likely to suffer.

The implication that somehow soft managerial judgments about buyers are actually more fundamental to successful pricing than are numerical estimates based on hard data may come as somewhat of a surprise. Managerial judgments are necessarily imprecise, while in contrast, an empirical estimate of price sensitivity is a definite, concise number that management can use for profit projections and planning. However, the fact that empirical estimates of price sensitivity are concise does not imply that they are accurate. The history of marketing research reveals that estimates of price sensitivity are frequently far off the mark. Managers' imprecise judgment could lead them to predict accurately that the sales change following a price change will be within some broad range, while a concise empirical estimate of price sensitivity predicts a sales change that proves totally misleading. Accuracy is a virtue in formulating pricing strategy; conciseness is only a convenience.

If one were forced to choose between estimating price sensitivity by informed judgment or by concise empirical estimation, judgment would be the better choice. No estimation technique can capture the full richness of the factors that enter a purchase decision. In fact, measurements of price sensitivity are concise precisely because they exclude all the factors that are not conveniently measurable. Some estimation techniques enable the researcher to calculate a confidence interval around a concise estimate, indicating a range within which can be claimed with some degree of certainty that the true estimate of price sensitivity lies.

#### **Selecting the appropriate measurement technique**

The choice among measurement techniques is not arbitrary. Each is more appropriate than another under certain circumstances. Information about one determinant of price

sensitivity, the unique value effect, is most valuable when a company is developing new products or improving old ones. The value buyers place on differentiating attributes should determine which ones the final product will include. Clearly, since one cannot use historical data or a purchase experiment to test undeveloped products, one must turn to research on preferences/intentions that require only product descriptions or experimental prototypes. Given the lack of realism in such research and the fact that it often predicts actual price sensitivity rather poorly, one may be skeptical of its value in the product development process. Surveys of pretences and intentions yield poor predictions of actual price sensitivity partly because they fail to capture some important factors in the actual purchase environment, such as price awareness and knowledge of substitutes. At the time of product development, however, those are not factors about which management is concerned. Product development focuses on efforts to enhance the unique value effect. Even when survey research accurately measures only the effect of product attributes on price sensitivity, it is a useful tool for product development, although it be inadequate for actually setting prices later on.

Once a product is developed, management would like to have measurements that capture as many of the different determinants of price sensitivity as possible. In-store or sophisticated laboratory purchase experiments are definitely the first choice for frequently purchased, low-cost products. With few exceptions, such products are bought by consumers who have low price awareness and give the purchase decision little attention. Consequently, surveys to estimate price sensitivity for such products focus much more attention on price in the purchase decision that would occur naturally, thus distorting the estimates. The cost of in-store experiments, however, may make them impractical for testing on a large scale. In that case, management might best do a few in-store experiments with matched simulated purchase surveys. If the amount of bias in the later is stable, the survey could be used for further research and adjusted by the amount of the bias.

When the fully developed product is a high-cost durable such as a television set or a photocopier, an in-store experiment is

generally impractical. A laboratory purchase experiment may be practical since experimental control permits inferences from fewer purchases but will be too costly for many products. Fortunately, high-value products are also products for which consumers naturally pay great attention to price. In fact, they may give all aspects of the purchase careful thought because it involves a large expenditure. Consequently, a simple laboratory experiment or a simulated purchase survey may be reasonably accurate in predicting price sensitivity for these types of products. Even a buy-response survey may be useful to identify the range of prices that potential customers might find acceptable for such products, although the exact estimates of sales at various prices should not be treated with much confidence.

Once a product has been on the market for a while, historical data become available. Such data are most useful when managers are willing to implement marketing decisions in ways that can increase the research value of the resulting sales data. For example, sales data become more useful if price changes are sometimes accompanied by a change in advertising and other times not, enabling marketing researchers to isolate their separate effects. A log of unusual events that cause distortions in the actual sales data is also

extremely useful when the time comes to adjust the historical data. As managers talk with and observe buyers, they should keep questions in mind that would aid the researcher using historical data: what is the length of the purchase cycle? To what extent do buyers purchase extra for inventories when price is expected to rise in the future? Even if historical data are so filled with random variations that no conclusions can be drawn from them with confidence, they may still point toward possible relationships between price and sales or other marketing variables that would be worth examining with another research technique.

Numerical estimation of price sensitivity is no shortcut to knowing a product's buyers – who they are, how they buy, and why they make their purchase decisions. Numerical estimates are an important source of objective information that can supplement the more subjective observations that usually dominate managerial judgments about price sensitivity. As a supplement, they can substantially improve the accuracy of such judgments and the effectiveness of a firm's pricing.

#### REFERENCES

1. Baleva, V., Product – marketing strategy and politics, UP, Sofia, 2007
2. Klasova, S., Prices, theory and practices, Sofia, 2001
3. Morris, M., Separate Prices as a Marketing Tool, Industrial Marketing Management, 1987