

Pseudo Research in Marketing: The Case of the Price:Perceived- Quality Relationship¹

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ABSTRACT

Academic research on a subject may consist entirely of well designed experiments competently carried out, and may still fail to produce any useful results or any advance in our knowledge. One line of research on the price-perceived/quality relationship, on price as an indicator of quality, over the past thirty-five years has followed this pattern, combining poor scientific method with good experimental technique to produce little of value.

INTRODUCTION

Academic research on a subject may consist entirely of well designed experiments competently carried out, and may still fail to produce any useful results or any advance in our knowledge. One line of research on the price-perceived/quality relationship over the past thirty-five years has followed this pattern, combining poor scientific method with good experimental technique to produce little of value.

In 1945 Scitovsky [1] commented on the commonly observed phenomenon that people frequently judge the quality of a product by its price, assuming that the more expensive item is better, and he discussed the reasons for this and its implications. Since then there have been more than 70 academic articles and theses, implying perhaps 90 man years of research, testing the hypothesis that some people sometimes judge quality by price [2], but we know no more than we did in 1945.

In the typical experiment university students were given a set of cards, each card bearing a description of a product and its price, and were asked to choose which product they thought they would buy if they had the choice. Statistical analysis showed whether, other things being equal, they were more likely to buy the more expensive product. The result of this enormous research effort was to show that American university students and a few other populations sometimes do appear to judge quality by price [3].

What is the value of this result? There can be few businessmen who do not believe that sometimes, but not always, some people think that the more expensive good is better. The research confirmed their belief. However, once one experiment had confirmed their belief the other experiments were superfluous, at best providing a little extra corroboration for a self-evident hypothesis. Even if all the subsequent experiments had failed to show the relationship it would have meant nothing: nobody expects that the relationship would apply *always* and in all markets. The tests were incapable of showing that nobody ever judged quality by price: all they could do was to show that

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nobody appeared to do so in the experimental situation.

The series of experiments did not show how frequently people judge quality by price, or how strong the effect is. A statistical estimate of the frequency and strength of the relationship might perhaps be made if a probability sample of a carefully defined range of market situations was taken and an experiment was carried out in each of them. Samples would be drawn from different populations depending on whether one was interested in the average product, the average consumer, the average transaction or the average market. No attempt was made to sample in this way.

The research programme made no attempt to sample situations typical of the real world. In most of the studies reported, the experimental design demanded atypical products like carpet or curtain material which the consumers would not be able to judge objectively or be able to recognise by brand or other characteristics. In some studies, the consumers did not see the product: they sat in a classroom and made their choices from written descriptions [4]. The consumers were nearly always groups like students and were not typical of the population. Researchers usually put a ritual caveat in their reports, saying that someone should see if the experimental results on any product have any application to the corresponding market in the real world, but, so far, no one has done so.

Until experiments or observational studies have been carried out to compare the results of these laboratory experiments with purchasing patterns in the real world, we have no reason to believe that they give any indication of actual purchase behaviour even in the markets they do examine.

In spite of the obvious weaknesses of these studies, many of them admitted by the authors, nearly all authors state, implicitly or explicitly, that an examination of the results of the various experiments will produce a kind of general law on the strength and frequency of this price/quality relationship. Indeed, if this was not their aim, there would have been no point in carrying out experiments based on artificial or imaginary products. The scientific method here is clearly wrong. One cannot generalise from experiences with a few, atypical products to all products. One would not expect a scientist observing trace element deficiencies in tomatoes growing in peat in a controlled environment to forecast from this the frequency of trace element deficiencies for all plants in all soils throughout the country. Still less would one expect a businessman to forecast the behaviour of a New England housewife buying a refrigerator from his experience of the Congolese salt market.

Even if it were possible to produce a general law, that in 75 per cent of cases people think that the more expensive product is better, it would not be much help. The businessman wants to know how consumers react to *his* product, after taking into account all price cues and the reputation of his competitors. Commercial research aimed at answering these questions is valuable and by its nature is unlikely to suffer from the weaknesses of the academic research. Some firms do carry out this commercial research, but only a handful of the academic experiments reported in the literature could possibly have had any commercial relevance [5].

Other Hypotheses

These criticisms also apply to the minor hypotheses test in the studies. They are very nearly as trivial, they have been tested with the same poor scientific method and the results of the tests are no more likely to be general laws. The hypotheses are:

- (1) Customers are more likely to buy the expensive product when price is the only information available. As they get more information on brand, store

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image and other quality attributes, price becomes relatively less important. The weighting given to the different price cues depends on how useful the consumer thinks each is for prediction, how much experience he has of the product, when he last bought it and how much confidence he has in his ability to use the cues to judge quality.

- (2) They are more likely to buy the expensive brand when they think there are large differences in quality between brands, and, by implication, when there are large differences in the price of brands.
- (3) They are more likely to buy the expensive brand when an inferior quality causes a big drop in satisfaction, when the risk of poor quality is high, and when expenditure is high in relation to income.
- (4) A product is often evaluated with reference to a standard, perhaps the price or quality of the last purchase.
- (5) The consumer's evaluation of a product frequently depends on the price structure in a market, the order of presentation of the alternatives, the "preferred prices" for those products and whether prices were rising or falling.
- (6) There is generally a range of acceptable prices: if the product is too cheap the consumer is suspicious of it; if it is too expensive he thinks he is being overcharged.

If these hypotheses are correct there are clearly so many market situations that each marketing situation is unique and it is impossible to generalise.

No criticism is made here of the techniques used by researchers. They use a sophistication of experimental design and statistical analysis that must excite the envy and admiration of those of us who deal with real markets. It might be argued, though, that it is this obsession with technique that has led to the neglect of relevance, scientific method and economic theory which caused the failure of the research programme.

Alternative Research Strategies

The alternative to poor testing of a trivial hypothesis should not be the rigorous testing of a trivial hypothesis but the rigorous testing of an important hypothesis. For this reason, there is no point in discussing better ways in which the hypothesis could have been tested or in giving examples of suitable research strategies. There are plenty of real problems in the world and attention should be concentrated on them.

Even where the price/quality relationship is of commercial interest, it is not necessary to inflate its importance by treating it as a distinct major research programme. At the level of the firm, it is no more than a special case of work done on consumers' perceptions of quality in relation to quality cues, where price is treated as another quality cue. Similarly, in the wider economics of quality all that is necessary is to add an axis "price" to those of money, quantity and attributes.

Discussion

In spite of 35 years research on the subject no more is known than in 1945. This must be blamed on poor scientific method, trivial hypotheses and a lack of interest in the needs of industry and the relationship of the results to the real world.

It is significant that of all the people working on this line of research since Scitovsky few seem to have asked why it was of any general

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importance (though those doing commercial research have dealt with specific problems). Generally, researchers seem to have no deeper or more clearly defined aim than to try and find more about the price/perceived-quality relationship. Surprisingly, of the many hundreds of references quoted there are only one or two to the literature of the economics of information, which has analysed in depth the causes and effects of treating price as an indicator of quality. Less surprisingly, the literature on the economics of information ignores this research programme.

Knowledge advances by testing and trying to disprove hypotheses rather than by trying to support them [6]. With the price/quality relationship researchers have been intent on gathering evidence to confirm their hypothesis—the tests were incapable of testing the hypothesis or disproving it. Indeed, it is difficult to formulate it in such a way that it can be tested. Each experiment after the first one adds a little further corroboration to the hypothesis, though it is so well established by now that a further experiment can do nothing to increase our belief in it. If, instead, researchers had attempted to formulate the hypothesis in a form in which it could be tested, its weakness and lack of explanatory power would have been shown. A hypothesis that cannot be tested and that is consistent with all possible outcomes has no explanatory power—to say that some consumers sometimes do something and sometimes do not, explains nothing to the businessman.

It is sometimes believed that an experiment “confirming” a hypothesis, however trivial, is more likely to be published in an academic journal than the rejection of a hypothesis or an inconclusive result, and some academic researchers, whose careers depend on the number of publications, have become expert in developing hypotheses that are not too obviously true, but that will still give the required result [7].

It is interesting that there still exists the belief that there are broad generalisations about people’s economic behaviour that apply everywhere at all times. The laws beloved of the Victorians, Malthus’ Law, Say’s Law, Engel’s Law, the Law of Labour, have been discredited and economists have been concerned in recent years to find systems of analysis that can be used to find the truth in any particular case, instead of universal truths.

One may speculate that one reason why so many workers have examined the price/perceived-quality relationship is the bandwagon effect. Because so many people have worked on it, it is accepted as a respectable area for research and all one has to do is to develop a slightly different experiment and a rather more complex analysis to get one’s paper published or one’s thesis accepted.

This research programme is exceptional in providing so few useful results, but in most programmes a substantial number of papers exhibit the same lack of relevance, lack of economic theory and poor scientific method. Research like this provides ammunition for those who condemn all academic research and it leads to a reduction in research budgets and to demands for political control of research programmes.

References

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3. None of the experiments can match the elegance of that devised by a French politician who cut a cheese in half, charged 50 per cent more for one half and watched the expensive half sell many times faster than the other.
4. E.g., Leavitt, H. J., "A Note on Some Experimental Findings about the Meaning of Price", *Journal of Business*, Vol. 27, 1954, pp. 205-10.
5. E.g., Monroe, K. B. and Gardner, D. M., *An Experimental Inquiry into the Effect of Price on Brand Preferences*", Mimeo, University of Massachusetts, Amhurst; Gabor, A. and Granger, C. W. J., "Price as an Indicator of Quality", *Economica*, February, 1966. There have been rather more studies examining the relation between price and quality to see how effective the market system is in communicating consumers' preferences to producers or to identify those quality attributes people are willing to pay for, but these are part of a different research programme and are not considered in this discussion. Related subjects like consumer's perception of quality in the absence of price cues, the relationship between price and actual quality, and the economics of information are also ignored here.
6. Popper, K., "The Logic of Scientific Discovery", London, Hutchinson, 1972.
7. McGuire, W. J., "The Yin and Yang of Progress in Social Psychology: Seven Koan", *Journal of Personality and Social Psychology*, Vol. 26 No. 3, 1973, pp. 446-56.