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Market Research

1. Introduction

Market research consists of both academic treatises and practical approaches to the collection, analysis, interpretation, and use of data. When undertaken by academic scholars, the research intends to understand and explain the behavior of market participants. This is accomplished by describing and interpreting real-world behavior, by measuring participants' attitudes and preferences, by experimentally manipulating variables in laboratory and field research, and by developing and testing models of marketplace behavior, laboratory decisions, and survey responses. When undertaken by practitioners, the research aims to predict the behavior of market participants so that

managerial decisions can be made more effectively and efficiently based on the criterion that the expected value of information exceeds its cost.

To some extent the academic (theoretical) and practical research activities are related. For example, commercial researchers eagerly adopt new methods that show promise for improved practical applications. These new methods are often developed and tested by academic researchers. Also, the model-building branch of market research tends to insist on pragmatism (Leefflang and Wittink 2000). In that branch, standard questions are: does a new or revised model provide superior predictive validity and will managerial decisions be improved?

2. Theoretical Underpinnings

There is great breadth and richness in market research stemming from its cross-disciplinary nature. The concepts that support inquiries are often based on either economic or psychological theories, and the aim of an academic research study is usually similar to the aim of research in the related discipline.

Economic theory tends to describe and predict normative behavior: the behavior that consumers, managers, or firms should undertake if they want to act optimally. Economic research may show how individuals should behave or it may show support for a theory through econometric modeling of actual consumer or firm behavior. The latter approach is popular in marketing journals as both managers and academic researchers demand empirical support for theoretical predictions. This is not to say that strictly theoretical work does not have a place in the literature. Usually this work is considered a first step in understanding a phenomenon, and other researchers build upon and test the validity and usefulness of new theories. Basu et al. (1985) studied compensation planning. They explain why a firm needs to consider a salesperson's tolerance for risk in designing a motivational compensation plan. Subsequent research shows that real-world compensation schemes broadly support the predictions of the theory.

Apart from purely theoretical research, it is common for academic scholars to propose or adapt a theory and subject it to empirical tests in the same study. Empirical studies in marketing use data from a variety of sources such as laboratory experiments, field experiments, surveys, and marketplace purchases. Household scanner-panel data studies have flourished in the past 20 years due to advances in computer technology that have made purchase data much easier to gather with loyalty cards. The scanner panel derives its name from the supermarket checkout scanner that feeds prices to the cash register. Collecting these data is nearly effortless as households are motivated to use a shopping card or another device each time they make purchases. The card identifies the consumer, and a

computer collects a history of his or her purchases as they are made.

Guadagni and Little (1983) provide the first application of a model of brand choice on household scanner data. Subsequently, other data modelers have tested more elaborate and substantive theories with advanced estimation methods. Gupta (1988), for instance, develops a model to predict not only which brand a consumer will choose, but also when the purchase will be made and how much will be bought.

In contrast to work derived from microeconomics, the research that is based on psychology or behavioral decision theory (BDT) tends to focus on behavior that deviates from strict utility maximization principles. This field of research is partly based on Kahneman and Tversky's (1979) Prospect Theory. Their theory predicts how people make decisions when they are faced with uncertain prospects or outcomes. It differs from traditional economic theory in several respects. For example, people are assumed to judge their well-being against a point of reference. This means that the framing of a tradeoff, how a choice is presented to a consumer, can influence which alternative is chosen. Their theory also predicts that losses have a greater impact on preferences than gains, a concept known as loss aversion. This notion explains why people may engage in risky behavior when faced with choices that involve certain losses, but engage in less risky behavior in choices that involve certain gains.

Marketing studies based on BDT include Simonson and Tversky (1992). They show that a consumer may prefer product A over product B when these are the only products under consideration, but he/she will prefer product B over A when a third product C is included in the choice set. This reversal refutes the regularity condition which states that the addition of a new alternative to a set cannot increase the attractiveness of an original item. In related research, Dhar (1997) shows that choice deferral depends on the characteristics of the alternatives. Again in violation of the regularity condition, he shows that the incidence of deferral increases with the addition of a new alternative when it differs from an original one but is approximately equally attractive. This suggests that if consumers are uncertain about their preferences for attractive options they may prefer to delay the purchase.

Typically, BDT researchers conduct carefully designed laboratory experiments in which they demonstrate that consumer decisions are consistent with a proposed theory. In subsequent experiments they often show that alternative explanations can be ruled out. In this manner, the internal validity of experimental results is very high. Doubt may exist about the external validity in some cases, but real-world results are emerging with increasing frequency. Madrian and Shea (2000) show that at one firm where employees were invited to participate in a retirement plan ('opt in'), it took 10 years for the participation percentage to

go from 40 percent at inception to 80 percent. However, when employees were automatically enrolled into a default investment program from which they could 'opt out', the percent participating was a stable 86 percent from the beginning. Uncertainty among employees about the best way to invest may explain the deferral to participate under 'opt in.'

3. Data Collection and Methods

Market researchers, like others in the social sciences, use a variety of methods to examine and test consumer behavior. Studies can be broadly classified into two groups, observational and experimental, depending on how the data are gathered. *Observational studies* are based on data tracking the real-world behavior of consumers. For example, a researcher may relate the purchases of consumers to the advertising, promotional, and pricing conditions under which their choices were made. If the study focuses on real-world behavior, the behavior itself is without question. However, explanations of the behavior are subject to potentially severe limitations.

The primary weakness of an observational study is that consumers choose the conditions to which they are exposed (self-selection), making it impossible for the researcher to rule out alternative explanations. Suppose we want to know whether a new advertising campaign increases consumer purchase amounts of a brand. A positive association between the purchases and advertising is consistent with the research hypothesis, but it is also possible that the same consumers who are likely to buy the brand are likely to see the advertising. In addition, other relevant variables may have changed at the same time so that the association is not unique.

Apart from studies of purchase behavior, observational studies include survey responses. Surveys are often used by researchers to obtain an understanding of marketplace behavior. Respondents may describe attitudes towards objects and may provide explanations of past behavior to supplement the information contained in marketplace choices. The field of market research was originally oriented especially toward surveys. A substantial amount of research concerned questionnaire formats, scaling methods, sampling schemes, and response rates. Data analysis often focused on differences in reported purchases or attitudes toward products as a function of demographics. Early research showed, however, that demographics and socioeconomic characteristics provide very modest explanatory power. Survey research now includes customer satisfaction and preference measurement. Respondent heterogeneity in these measures is understood to be a critical property of data that is only partly explained by observable characteristics.

The measurement and analysis of customer satisfaction data occurs both for 'keeping score' and for 'explaining the score.' Explanations of overall satisfaction focus on an identification of the drivers of satisfaction. However, there is not a one-to-one relation between repeat purchase and satisfaction. For the managerial use of satisfaction data to be productive, it is critical that satisfaction is linked with (subsequent) purchase behavior.

While satisfaction measurement occurs after purchases are made, preference measurement precedes purchases. A popular approach to quantify the tradeoffs in (future) purchase behavior is conjoint analysis which has excellent forecast accuracy (Wittink and Bergestuen 2001). Essentially this method asks individuals to evaluate the attractiveness of hypothetical products or services so that implicit tradeoffs between conflicting considerations can be quantified. By including product features not yet available to consumers, it is possible to make predictions of new-product success. In addition, by forcing respondents to consider the benefit of new features or improved quality against each other and against (higher) price levels, researchers learn about consumers' priorities, willingness to pay, and price-quality tradeoffs.

In an *experimental or randomized study*, the researcher assigns individuals to different conditions or treatments at random in order to eliminate the influence of outside factors. Such studies have high internal validity because all factors are held constant except for the one(s) being manipulated. This control by the experimental researcher can be guaranteed in laboratory experiments. However, the behavior individuals exhibit or claim in a laboratory may not generalize to the real world. If it does generalize, it may not be a primary determinant of market behavior. For example, Deighton et al. (1994) find that certain advertising effects, observed earlier in laboratory experiments, do not play a large role in determining the observed brand choices of consumers in selected product categories. We note that this lack of substantiation may also result from product category differences between the studies (i.e., the effect of interest may occur in some but not in all categories).

Commercial market research rarely involves purely experimental methods. Not only do managers insist that the results explain real-world decisions, they are often unwilling to take the risks that are part of experimental research in the real world. Consider the following example. Ackoff, an expert in operations research, was asked by top management at Anheuser Busch to determine the 'correct' amount of spending on advertising. The parties agreed that historical data were insufficient to estimate the relation between sales and advertising. Ackoff suggested that Busch's sales territories in the US be randomly allocated to either receive 50 percent less advertising, the current amount, 50 percent more, or 100 percent more. He argued that

such a field experiment would be the only way to determine how sales (and profit) depend on advertising expenditures. Management was concerned, however, that while it did not know the optimal amount of spending it did not want to risk losing business in important territories.

A solution to this dilemma was obtained when management agreed to take risk in some of the smallest territories. When the results, from an experimental design with reduced scope, were very surprising (sales increased in areas with higher advertising but the increase was even higher with lower advertising), management decided that a larger scale experiment was warranted. Unfortunately, the subsequent large-scale results were (still) impossible to interpret (Ackoff and Emshoff 1975). Unlike laboratory experiments, in which all nonmanipulated variables can be controlled, field experiments are subject to interference. Competing manufacturers and distributors were aware of changes in Busch's advertising, and they could modify their own activities. More critically, Anheuser Busch's own sales managers and distributors in territories with reduced advertising support would demand compensation in price or other variables. Also, managers of territories with (randomly assigned) higher advertising levels may have interpreted the increase as an indication of confidence in their actions which would spur them on to greater efforts. As a result it is impossible to attribute changes in sales to changes in advertising, even if advertising is the only variable experimentally manipulated in a field experiment.

Difficulties with the internal validity of field experiments are less likely to occur with new products. Eskin and Barron (1977) report on field experiments in which price and advertising of various new products are manipulated. Across multiple product categories they find that the effect of a given decrease in price on the demand (unit sales) of a new product is stronger for higher amounts of (television) advertising expenditures. This result appears to contradict economic theory which suggests that individual consumers will become less price sensitive with increases in nonprice advertising. An explanation requires that we note the aggregate nature of the study. Higher amounts of advertising attract additional consumers who may differ in price sensitivity from other consumers. For example, the incremental consumers need more advertising before they will consider purchasing the product, and for them a purchase tends to require a lower price. As a consequence, the aggregate demand (sales) curve shows higher average price sensitivity at higher levels of advertising.

The importance of such experimental results for management decisions is illustrated as follows. Management of one firm had expected to choose either 'high price and high advertising' or 'low price and low advertising' for a new product. The argument was that a high price implies a high profit margin which creates resources for advertising, while a low price would not.

The experiment shifts the focus to exploring how demand depends on marketing activities. With the estimated demand function, management can choose the optimal combination of advertising and price (which differs dramatically from either of the margin-based strategies).

Some research combines theories from multiple disciplines to create a broader description of the world or to reconcile conflicting theories. Traditional perspectives on manufacturer advertising as either creating market power or providing useful information implied conflicting results (Kaul and Wittink 1995). To resolve this, Mitra and Lynch (1995) discuss how advertising may both influence the differential strengths of consumer preferences for individual products and increase the consideration set of alternatives. They conduct a laboratory experiment, and use economic measures to show that at the individual consumer level, advertising can decrease price sensitivity (of brand choice) if it strengthens brand preference but increase price sensitivity if it expands the consideration set.

4. *The Future*

Similar to the way it is changing methods of discovery in other fields, computer technology is revolutionizing how market research is conducted. The Internet provides superior means of data collection about consumers' browsing and purchasing behavior, about their preferences for new goods, and about their satisfaction with purchase experiences. Furthermore, it allows these data to be easily shared among analysts and researchers, sometimes making multiple sources of data available for study when before there might have been none. The benefit of this innovation is that firms can more easily learn about the needs of consumers. In the twenty-first century, products and services will better suit consumers' needs.

As with all progress, however, the Internet has created new ethical issues. The issue of privacy, for instance, requires a lot of attention. Firms are collecting data so unobtrusively that people often do not realize that their behavior is being monitored. This is not an entirely new issue, as direct marketing firms have shared or purchased lists of addresses and phone numbers for years, but the scope of the issue is much wider. Inaccurate data can spread quickly and cannot easily be corrected across multiple sources. Consumers are ill-equipped to conceal sensitive data such as their medical histories or to correct inaccurate credit histories that affect loan or credit card applications.

Market researchers need to inform consumers about the benefits they will realize. Only if they provide relevant information will consumers be able to purchase products closer to their tastes. They can decide how much information they are willing to make available based on their self-interests. Safeguards such

as firms not selling information without the written consent of consumers and agreeing to destroy data once a certain time period has expired can help protect this exchange.

A more subtle issue that market researchers face is that the results of previous consumer behavior research alter how firms and consumers act in the marketplace. Marketing activities will be customized based on research results for each individual consumer. Future learning then requires that researchers adopt experimental methods. For example, activities can be increased or decreased based on random assignments, from what may have been optimal levels, so as to determine the required adjustments over time. This is similar to the field experiment for Anheuser Busch, except that the randomization occurs over individual consumers.

A variation of this approach is the way direct marketing experiments are conducted. Direct marketing firms often target a small random sample of consumers with multiple offers, see which offers are most effective with which people, and then make targeted offers to a larger population based on the results of the study (Steenburgh et al. 1999). Other practices that need experimental manipulations for continued learning include those used by retailers and e-tailers. Consumers receive coupons in the supermarket based on their current purchases. E-tailers suggest books and music based on customers' previous purchases and other information.

On the Web, it is easy for consumers to compare prices for a given item and to learn about the availability of goods and services that were previously out of reach or invisible. The complexities, however, are vast and for consumers to be effective decision makers it will be important that they have access to decision support systems. Such systems can incorporate a consumer's utility functions for various items so that with access to valid and reliable information on alternatives (infobots), the consumer can maximize his/her utility much more effectively and efficiently than ever before. As a result, markets should become far more efficient.

Managers will offer to serve consumers much more comprehensively than before. Suppliers will provide bundles of products and services that offer convenience. Marketing research will focus on how products and services can be customized and personal relations established so that suppliers effectively solve customers' problems. As a result, marketing research will shift from a product-focused activity to a customer-focused one. The ultimate criterion becomes the profitability of customers.

See also: Advertising Agencies; Advertising: Effects; Advertising: General; Consumer Culture; Consumer Economics; Consumer Psychology; Consumption, Sociology of; Mass Media, Political Economy of; Media Effects; Public Relations in Media

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Market Structure and Performance

Why some industries come to be dominated worldwide by a handful of firms, even at the level of the global market, is a question that has attracted continuing interest among economists over the past 50 years—not least because it leads us to some of the most intriguing statistical regularities in the economics literature. Uncovering the forces that drive these regularities provides us with some deep insights into the workings of market mechanisms.

The literature in this area has developed rapidly since 1980. Indeed, a fairly sharp break occurred at the end of the 1970s, with a new generation of models based on game-theoretic methods. These new models offered an alternative approach to the analysis of cross-industry differences in structure and profitability. Before turning to these models, it is useful to begin by looking at the earlier literature.

1. Preliminaries: Definitions and Measurement

The structure of an industry is usually described by a simple ‘k-firm concentration ratio,’ that is the combined share of industry sales revenue enjoyed by the largest k firms in the industry. Official statistics usually report concentration ratios for several values of k, the case of $k = 4$ being the most commonly used. (From a theoretical point of view, the case $k = 1$ is most natural, but is rarely reported for reasons of confidentiality.) A richer description of structure can be provided by reporting both these ratios and the total number of firms in the industry. If ratios are available for many values of k, we can build up a picture of the size distribution of firms, which is usually depicted in the form of a Lorenz curve. Here, firms are ranked in decreasing order of size and the curve shows for each fraction k/n of the n firms in the industry, the combined market share of the largest k firms. (It is more natural in this field to cumulate from the largest unit downwards, rather than from the smallest upwards, as is conventional elsewhere.) Certain summary measures of the size distribution are sometimes used, that of Herfindahl and Hirshman being the most popular (see Hirshman 1964): this is defined as the sum of the squares of firms’ market shares, and its value ranges from 0 to 1. While most measures of market structure are based upon firms’ sales revenue, other measures of firm size are occasionally used, the most common choice being the level of employment.

2. The Cross-section Tradition

The beginnings of the cross-section tradition in the field of industrial organization (IO) are associated with the pioneering work of Joe S. Bain in the 1950s and 1960s (see in particular Bain 1956 and 1966). Bain’s work rested on two ideas.

(a) If the structure of the industry is characterized by a high level of concentration, then firms’ behaviour will be conducive to a more muted degree of competition, leading to high prices and high profits (or ‘performance’). This structure–conduct–performance paradigm posited a direction of causation that ran from concentration to profitability. It therefore raised the question: will the high profits not attract new entry, thereby eroding the high degree of concentration? This leads to Bain’s second idea.

(b) Bain attributed the appearance of high levels of concentration to certain ‘barriers to entry,’ the first of