The Market Research Encyclopedia

by Vincent P. Barabba

To market well, you have to satisfy and at times exceed the expectations of the customer. But how do you know what the customer wants?

According to the textbooks, market research ought to provide the answer. Unfortunately, because of the way most traditional marketing research is conducted, it has fallen short of this important objective. At the core of the problem is the practice of using marketing research to confirm that a decision already made is the right decision rather than using market research to identify alternative choices and to support the process by which the best alternative is chosen.

In this series of foldout tables, I present a guide for managers who want to use market research to develop and support market-based decisions. The tables form a decision-support framework that uses research tools to help companies develop a balanced approach to the "technology push/demand pull" product development process. The structural components of the framework are accountable management, the company's decision process, marketplace reality, and the market research function.

The five sections of the gatefold identify the steps researchers must take: (1) Assess market information needs; (2) Measure the marketplace; (3) Store, retrieve, and display the data; (4) Describe and analyze market information; (5) Evaluate the research and assess its usefulness. The reference material here is encyclopedic – the product of a great deal of thought by colleagues in business, market research and advertising agencies, academia, and elsewhere. As such, the tables are invaluable for all stakeholders within the company who need to develop a sensitivity to the voice of the market. These stakeholders include people in product development, engineering, manufacturing, finance, human resources, and so forth.

Though the tables envision the "product" as a manufactured and engineered good, any manager can apply this decision-support framework to intangible products or services as well. The goal of customer satisfaction through an understanding of what the market wants and will pay for is, after all, the same.

Augmenting the tables are both a glossary of technical terms and a list of references, which is keyed at the bottom of each table by the authors' names.

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Glossary

Bayesian Statistics: Statistical methods that incorporate prior judgment into problems of inference.

Box-Jenkins: A forecasting method based on time series models that relies on the ability to capture the trend, cycles, and other characteristics of the time series systematically.

Box Plots: Graphic techniques that provide information about central tendency, variability, and shape of distribution of data.

Cluster Analysis: A statistical analysis that groups people or objects on the basis of common characteristics.

Conjoint Analysis: Models and techniques that emphasize the transformation of subjective responses into estimated parameters.

Correlation: The extent or degree of statistical association among two or more variables.

Data Reduction: Methods of reducing large amounts of data into smaller groupings that reveal the structure and interdependencies of the data.

Decision Analysis: A logical and sequential process designed to yield high-quality decisions about complex problems with important uncertainties.

Descriptive Analysis: Use of statistics to describe the results of an experiment or investigation.

Factor Analysis: A set of statistical techniques that address themselves to the study of interrelationships among a total set of observed variables.

Hypothesis Testing: A general term referring to the procedures for the statistical determination of the validity of an hypothesis.

Multidimensional Scaling: A body of techniques for representing graphically the locations and interrelationships among a set of points.

Nonprobabilistic Sample Surveys: Surveys not based on a probability sample of the population.

Prediction: Development of definite statements about the future based on a knowledge of how changes in the environment will shape the future.

Primary Data: Data collected for a specific issue under consideration.

Principal Components Analysis: A statistical technique that reduces a large number of variables into a much smaller number of dimensions or factors that can account for a reasonable proportion of the variance among all the original variables.

Probability Sampling: The process of selecting elements or groups of elements from a well-defined population by a procedure that gives each element a calculable nonzero probability of inclusion in the sample.

Product Position Maps: Maps that represent the perceived relationships among brands, with shorter distances between brands indicating greater similarity in perception of relevant attributes (see Multidimensional Scaling and Principal Components Analysis).

Regression: A statistical analysis tool that quantifies the relationship between a dependent variable and one or more independent variables.

Secondary Data: Information originally compiled for a purpose other than the one under consideration.

Smoothing Technique: A technique that uses a series of historical data to predict the value of some future event in the series. The process assumes that there is some pattern in the series that will repeat.

Statistical Inference: A method of judging the validity of a statistical hypothesis about a statistical population based on a sample.

Variance: The extent to which a random variable or statistic is dispersed about its mean value.

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① Assess Market Information Needs

	Decision Analysis	Assess User Needs Continuously		Review Information About Marketplace: Customers, Corporation, Legislature, Competitors					Interpret Marketplace Signals	Translate Users' Information Needs Into Research Questions
		Strategic Planning Group	Product Planning Group	Market Analysis	Decision Makers	Other Users	Current Influences	Future Influences		
Description	Frame the decision to be made Determine most important uncertainties Obtain best judgments about the range of uncertainties Determine the need for and range of research	User/provider meeting to identify issues/uncertainties and lead to research questions, timing decisions, assessments, and needed quality/value of information Needs define type of research Process should lead to full analysis plan Before approving research, management should review issues, methods, anticipated results, analysis plan, and costs					Image studies by mail or telephone, involving financial leaders, legislators, and other politicians Competitive assessment studies	Discussions with thought leaders, groups, think tanks, and innovators Development of regressions, and trend analyses scenarios	Using qualitative research, determine meaning of signals and reasons for them Possibly use expert surveys/studies Use consumer studies Do studies on factors related to signals	Interviews Careful probing Determine issues, needs, timing, decisions affected by information produced, and impact
When to Undertake Activity	Throughout information-needs assessment process	Regularly, before update of strategic plan	At stages in market planning process, including before concept initiation	As needed to respond to market events and anticipated internal actions	Use regular channels for requests Plan periodic research		At least every quarter or with major changes in the environment	Continuously, or at least prior to start of new product/service program	Continuously, or with a significant change in the environment	At start of research project and frequently thereafter In meetings over the course of the project
Time Required	Depends on the complexity of the decisions at hand	Varies from 1 to many meetings and 1 day to several months, depending on number of users, timing needs, and complexity					1-3 months	3-6 months	Depends on complexity of project; could be lengthy	A few hours to several months, depending on when output is required
Collaboration Required	All knowledge producers and users with those assigned to decision analysis support	Involvement of user groups plus liaison with market research function and with management review					Product engineering Technical staff Product design Quality/reliability staff Sales management Product/service planning Other staffs, including public relations, government relations, financial, and environmental activities	Strategic planners Marketing planners Economists Designers Engineers	Product engineering Technical staff Product design Quality/reliability staff Sales management Product/service planning Outside experts	Users and researchers must understand each other's requirements
Data Required	Information relevant to the decision at hand, determined during the analysis Clear relation between reducing uncertainty and resulting change Timing until decision or action Value of differences between alternative decisions	Clearly defined plan or objectives with identified uncertainties that can be reduced					Image ratings from financial leaders, and politicians Competitors' plans	Trends in demographic, psychographic, economic, environmental, regulatory, and legislative factors Company capabilities assessment	Data containing signals plus qualitative data to interpret them Extensive market/sales data	Data containing signals plus qualitative data to interpret them Extensive market/sales data
Incremental Cost	Cost of staff time ————— Nominal —————						$10,000-$100,000 (for initial data collection)	Depends on level of effort and breadth of product line	Depends on complexity ($10,000-$100,000 for initial data collection)	Cost of staff time
Importance	Ensures that parties jointly determine information needs ————— Most critical part of research —————						Develops and adjusts company policies and programs	Required for product/service development	Determines direction of products and programs	Crucial in ensuring communication among parties
References	Holtzman; Howard	Churchill; Kinnear and Taylor; Zikmund						Boyd, Westfall, and Stasch		Churchill; Zikmund

② Measure the Marketplace

| | Primary Data | | | | | | | Secondary Data |
| | Probabilistic Sample Surveys | | | | Nonprobabilistic Data | | | |
	Mail	Telephone	In-Person	Mixed Mode	Convenience Samples	Focus Group	Central Location Interviewing (Product Clinics)	Secondary Data
Description	Self-administered survey mailed to respondents	Administered over the telephone	Administered by an interviewer in respondent's home or in a central location	Combination of mail, telephone, or in-person survey	Administered to respondents recruited on-site in high-traffic areas or from existing groups	Small discussion led by a facilitator	Respondents come to a central location to evaluate products	Existing data sources developed internally or externally
Implementation Technique	Self-administered; Paper and pencil	CATI (computer-aided telephone interview); Respondents called from a phone-interview facility; Audio taping	CAPI (computer-aided personal interview); Paper and pencil; Use visual aids for more complex respondent tasks; Audiovisual taping; Private setting preferable	Self-administered; Paper and pencil; CATI; CAPI	Computerized; Paper and pencil; Self-administered; In trailer, van, rented store, or street location	Discussion; Audiovisual; Tape recorder; Focus group room/facility with one-way glass preferred	Self-administered; Personal interviews; Computer administered; Paper and pencil; CAPI	Obtain data from existing sources like warranty claims or point-of-sale terminal
Benefits	Least expensive probabilistic method; Wide geographic coverage; Large sample sizes	Fastest method; Permits moderately lengthy questionnaires; Flexible; Lower item nonresponse rates; Control over who responds; Low chance of misinterpretation of questions	Highest response rates; Permits longer, more complex interviews; Lower item nonresponse rates; Low chance of misinterpretation of questions; Enables interviews on personal issues; Can use available computers and products themselves	Combines advantages of different methods; Creates flexibility in amount and detail of information collected	Probably less expensive than other methods; Fast	Group synergy generated; Encourages brainstorming; Respondents discuss issues in their own words	Gives product feedback from static or dynamic evaluation under controlled conditions; Allows respondent exposure to actual product; Under certain conditions, a representative sample can be obtained and statistics generalized to the entire population	Small time delay in obtaining data; Possibly low cost (depending on source); Many sources are censuses of information
Limitations	List quality can vary; Low response rates; Introduces potential for bias; Long field time; Limited length and complexity of questionnaires; Limited control over who completes survey; High potential for item nonresponse; No chance for interviewer to probe	Limited time; Potential bias if topic is correlated with characteristics of no-phone households or unlisted numbers; Unlisted and outdated phone numbers may reduce list quality; Little time for respondents to ponder questions	Large field staff or long data-collection period required; Potential for interviewer bias; Outdated names, addresses, and phone numbers may reduce list quality; Expensive to control quality of interview	Difficulty of getting high-quality list; Potential for losing respondents between waves; Potential for differential impact of mode on responses; Combines expenses of two modes	High proportion of unrepresentative responses; Information collected is more directive and suggestive than projective; Ability to generalize results is limited; Survey must be short and simple	Information collected is more directive and suggestive than projective; Facilitator, vocal participants can dominate the results; Ability to generalize results is limited	Very expensive; Responses in this artificial environment may not reflect responses in the market; Complicated logistics; Development of test product can be time consuming and expensive	Generally does *not* include the exact questions and samples of interest; May be of variable and unknown quality
Response Rates Without Incentives	10%-85%	20%-85%	70%-90%	65%-90%	Not applicable	Varies widely by topic and market	Tends to be low, though varies widely by product and market	Not applicable
Cost per Completed Interview	$5-$10	$20-$90	$150-$400	Depends on modes of data collection and percent collected by each	Varies widely	Varies widely	Generally quite expensive but varies widely	Not applicable
Source of Sample	Complete, accurate list of the target population	Complete list of target population; Use of random digit dialing is possible if list is unavailable	Complete list of target population; If this is an area probability sample, detailed geographic data are required	Complete list of target population; If this is an area probability sample, detailed geographic data are required	High-incidence location for target population	List of target population; Sometimes organization lists of members can be used	List of target population	Not applicable
References	Dillman	Groves et al.	Kish	Groves and Lepkowski; Bradburn and Sudman	Dillon, Madden, and Firtle	Churchill	Churchill	Churchill

③ Store, Retrieve, and Display the Data

	Store Information	Retrieve Information	Reformat Data	Prepare Early Mock-Up Tables	Display Information	Prepare Documentation	Train Users
Description	Preparation of data-delivery specifications; Creation of new variables for permanent storage; Storage of new and cleaned data	Run computer programs or packages to retrieve data	Reformat from data's raw source to meet organizational objectives or requirements; Includes cleaning, coding, and checking the data	Early in the process, prepare expected output tables to obtain user groups' reactions	For some applications, readily understood software packages such as MacDraw, Tell-A-Graf, Atlas, or Page Maker are useful; Computer use ranges from PCs to mainframes	For: Data collection; System; File contents; Analysis; Display of information	Users must know how to manipulate data, prepare graphics, understand statistical and analytical techniques used, and present data effectively so that they can benefit fully
When to Undertake Activity	Data-delivery specifications prepared before data collection; Creation of variables and data storage begin after data collection	Routinely and as needed	As soon as data are received	As early as possible and ongoing	After analysis to enhance written report; During analysis of data	From database development onward	Initially and as needed
Time Required	Extensive; influenced by quantity of collected information	Time needed to run program	Much time needed to clean, code, and check the data	Several days spread over several months; Variable and depending on the requirements	Short if staff has training in display packages (depends on necessary detail)	Long; enough to budget for; Depends on complexity and quantity of data	Not as much time as other efforts; Time is front-loaded
Collaboration Required	System users with data providers	System users to define needs	With system users and data providers	Before complete analysis, present to expected users to determine usefulness	With system users so that they understand system capabilities; With researchers to ensure correct presentation; With suppliers	With data suppliers	User feedback is necessary
Requirements	User friendly; Effective; Consistent across data sets; Mergeable; Trackable; User transparent	Standardized retrieval package; Transparent file linkages; Menu approach; Electronic selection assistance; Meaningful and functional file prefixes; User can write own programs; Fast retrieval capability; Cost effective; User friendly; Can download to a PC environment	Standardized applications; Meets user needs for specific as well as general applications; Common format, menu driven to allow retrieval for observation and analysis; User friendly; Flexible to allow for users with a range of skills; Self-explanatory names of variables; Easily understood output; Database/system compatibility	Collaboration with users; Clear presentation of hypothetical output in expected format	Ensure clarity to user of output device and analysis and graphics techniques; Graphic display capability; Menu driven; standardized report materials	Electronic access to documentation; Easily understood documentation	Equipment; Instructional materials relevant to users' needs
Expected Output	User-friendly database	Data, charts, comparisons, tables, maps	Reformatted, clean data; Manipulatable data to obtain required information	Information display mechanism	Data, charts, illustrations, presentations, decision trees, tables, maps	Documentation on file contents, on method of use of equipment and analysis techniques, and on analysis interpretation	A confident and skilled user community that can use data effectively and efficiently
Cost	Variable, depending on the quality and quantity of data, system they are resident on, communication links and requirements, method of data transmission (disks vs. hard copy); For some repetitive efforts, initial costs may be higher than later costs; Cost considerations should include the value added of the data considered						
References	Company's own market information system documentation				Cleveland; Schmid	Review existing documentation for similar applications	

④ Describe and Analyze Market Information

	Descriptive Analysis	Data Reduction	Inference	Prediction	Decision Making
Examples of Analysis Techniques	Mean Variance Box plot Correlations Graphic analysis	Factor analysis Principal components analysis Multidimensional scaling Cluster analysis Product position maps	Hypothesis testing Regression	Conjoint analysis Regression Box-Jenkins Smoothing	Bayesian statistics Decision analysis
When to Undertake Activity	In response to requests → / As part of ongoing market research analysis → Before data reduction As part of exploratory activity	Before inference activity As part of exploratory analysis	Before prediction and decision-making activities In special studies	Before decision making In special studies	Before commitment of major resources
Time required	Minimal; depends on the quantity of data and analysis package	1-2 weeks (more than descriptive analysis)	1 week to several months, depending on messiness of the data, complexity of the problem, depth of analysis required, and time horizon of the problem	Can be quite extensive but also very fast on completion of previous activities	Varies; may range from minutes to months
Collaboration Required	None	With builders of database and users of information	With data providers and information users; can be extensive	With users of analyses and company stakeholders Possibly with builders of database	With decision makers, company stakeholders, and data providers
Data and/or Sample Size Required	Values of the observed variables	Fairly large sample size	Data collected that are relevant to analysis	May require output from descriptive analysis, data reduction, or inference	Output of inference and prediction activities
Expected Output	Summary of data	Maps Knowledge of structure of underlying relationships in the data	Input to prediction and decision making	Data on feasible alternatives and their likely outcomes	Commitment of resources
Importance	Simple overview of data	Gives insight into structure of data	Knowledge about structural relationships among variables	Output may cause revision of thinking May affect allocation of capital resources	Crucial to survival of organization
References	Snedecor and Cochran	Hair, Anderson, and Tatham		Box and Jenkins; Granger and Newbold; Pindyck and Rubinfeld;	French; Holtzman; McClave and Benson; Smith

⑤ Evaluate the Research and Assess Its Usefulness

	Action Audits	Simulation of Final Results	Discrepancy Analysis	Insurance Premium Calculation	Information as Arbitration	Assess Market Research Project
Description	For each contemplated action, develop a set of research questions to determine its soundness	Prepare mock-up of final presentation using simulated findings presented as actual findings will be	Predict research findings, compare them later with actual findings; High levels of discrepancy between the two indicate usefulness of findings	Research determines if the cost of a wrong decision, weighted by its likelihood, is greater than the cost of the research; Serves as insurance against wrong decision	Market research information is used to reconcile differences among functional areas	Information is dysfunctional if technically flawed, misleading, irrelevant, poorly presented, incorrectly interpreted, or deliberately misconstrued
When to Undertake Activity	Start of the research project	Before data collection	Before final data are distributed to managers	As part of decision whether to do research	After research is completed	After research is completed
Time Required	1-2 hours	8 hours for researchers; 2 hours for managers	1/2 hour of manager time; 1 hour of researcher time	Less than 1/2 hour	1/2 hour per decision maker	1/2 hour per participant; Corresponding time of an auditor
Collaboration Required	Managers with researchers	Managers with researchers	Among managers	Among managers	Managers with auditor	Managers with qualified auditor
Data Required	None	Simulated	None	Cost of research and approximate cost of an unsuccessful action	None	None
Expected Output	Inventory of possible actions	Mock-up of alternative results; Rehearsal of research-use process	Comparison of managers' expectations with actual results	Ratio indicating desirability of doing research	Qualitative assessment	Qualitative assessments by auditor
Clarity of Expected Output	High; explicit statements of plans	High	High	Mixed; ratio is specific, its interpretation less so	Moderate to high	Moderate
Cost	No out-of-pocket cost	Managers: no out-of-pocket cost; Researchers: 1 day of research time if outside supplier is used	No out-of-pocket cost	No out-of-pocket cost	No out-of-pocket cost; If outside auditor is used, 1 day	No out-of-pocket cost; If outside auditor is used, 1 day
Frequency of Use	Moderate	Low	Low	Moderate	Low	Low
Principal Benefits	More relevant and more actionable research; Faster use of research	Clearer sense of issues; More relevant research instruments and final data; More useful research reporting	Gives a measure of the value of information; Reduces "I told you so" behavior	Guideline concerning potential value of doing research	Better understanding and appreciation of the role of research	Guidelines for improving research-use process
Principal Limitations and Obstacles	None; Managers may be unwilling to disclose possible actions to researchers	None; Time required may be perceived as extensive	None; Managers' reluctance to admit uncertainty	None; Difficulty in calculating cost of an error	Difficult to get managers to reflect on changes in their perspectives; Managers may not want research in an arbitration role	Securing candid assessments from managers; Managers' reluctance to disclose abuse of research
References	Barabba and Zaltman; Zaltman; Zaltman and Deshpande; Zaltman					