

A.11 Marketing Research Process

CRITERIA FOR MARKETING RESEARCH DESIGN DECISIONS

The function of marketing research is to provide information to the marketing manager that will reduce uncertainty in decision making. Marketing research information can contribute to planning, problem solving or the control function. In decision making, marketing research can contribute to defining the problem, suggesting alternatives, and evaluating alternatives.

Much of the work in designing a marketing research project, carrying out the data collection, and analyzing the results is carried on by marketing research experts. However, marketing managers have a vital interest in the marketing research process since their decision making is dependent on research results. Marketing managers need to have sufficient understanding of the marketing research process to enable them to participate in the key decisions in research design and evaluate the validity of the marketing research results.

The **marketing research process** defines the necessary work steps in designing and implementing a marketing research project.

The work steps of the marketing research process call for a series of decisions to be made, such as the size of the sample, the use of open- or closed-end questions, and the method of sampling—in person or by telephone. The description of the marketing research process below identifies the decisions that have to be made at each step and provides criteria for making those decisions. It is through understanding these decision criteria that the marketing manager can intelligently participate in the marketing research process.

The marketing research process has four main stages with subdecisions at each stage. It is summarized in Figure A.11-1.

Defining the Marketing Research Problem.

The first, and to the marketing manager the **most important, decision in the marketing research process** is definition of the problem. If the problem definition is faulty, the information collected by the research will not be relevant to the marketing manager's decision and the effort will be largely wasted. There are four substeps to problem definition.

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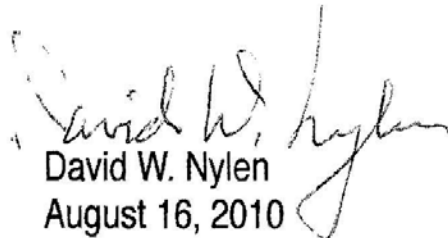

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FIGURE A.11-1

The Marketing Research Process and Decisions at each Stage

Research Stage	Subdecisions
Define the Problem	<ol style="list-style-type: none"> 1. Classify the problem 2. Preliminary problem definition 3. Exploratory investigation 4. Final problem definition
Design the Research	<ol style="list-style-type: none"> 1. Information requirements 2. Data collection approach 3. Contact method 4. Sampling plan 5. Data collection instruments
Implement the Research	<ol style="list-style-type: none"> 1. Select/control interviewers 2. Edit data 3. Tabulate and array data 4. Calculate statistics
Prepare the Report	<ol style="list-style-type: none"> 1. Review research plan 2. Report findings 3. Interpret findings 4. Present oral report

- *Classify the Problem.* The need for marketing research begins when the marketing manager, faced with a decision, realizes the need for additional information on which to base the decision. He usually then consults a marketing research expert to request a study. As a first step, the marketing manager and the marketing researcher must define the problem to be researched.

Initially, as a means of gaining perspective on the problem, it is helpful to classify the problem in terms of the **marketing planning process** (see GLOSSARY entry Ch. 4). Is the problem concerned with understanding the situation facing a product? with positioning the product? or with deciding on an element of the marketing mix?

Another helpful preliminary step is to define the type of outcome that is envisioned. If the objective is to gain a better understanding of the problem rather than attempt a solution, then the research is said to be **exploratory**. If the objective is to determine the characteristics of consumers, businesses, or other variables (for example, to determine the demographic characteristics of target market consumers), then the requirement is for **de-**

scriptive research. If the objective of the research is to help the marketing manager determine what the outcome would be if a particular decision alternative were chosen, then the research would be termed causal.

- *Make Preliminary Problem Definition.* With the help of these problem classifications, the marketing manager and the marketing researcher should attempt a preliminary problem definition. The marketing manager must be certain that the problem definition is consistent with the decision to be made and the marketing researcher must be certain that the problem as defined is researchable. Every effort should be made to ensure that the problem is defined in terms of underlying issues rather than surface symptoms.
- *Conduct Exploratory Investigation.* It is difficult to overemphasize the importance of the exploratory investigation in marketing research. Although given little textbook attention, in practice it is the **most frequently used form of research**. The primary purpose of an exploratory investigation is not to solve the problem, but to refine its definition. Despite this, the exploratory investigation, if successful, is fre-

quently the last research step taken. Managers often find that when the true underlying problem is determined that the solution is obvious and no further research is required.

An exploratory investigation uses secondary data and qualitative research techniques. **Secondary data** are data that have already been collected for some other purpose. They include internal accounting and sales data and the plethora of library data available in reports and statistics from government, trade, and other sources. Because it is low cost and quickly available, secondary data should always be checked for the insights it provides into the problem. There are also qualitative approaches useful in the exploratory investigation to gather primary data. (**Primary data** are data gathered specifically for the current problem.) Focus groups and individual depth interviews among consumers, while not inexpensive, can, with small samples, provide good insight into problems. A favorite and highly effective approach is to conduct informal personal interviews of members of the channel of distribution such as distributors and retailers. The marketing manager should attempt to participate in these field interviews to gain perspective on the problem.

- *Make Final Problem Definition.* The outcome of the exploratory investigation should be agreement between researcher and marketing manager on a final problem definition. The definition should meet three criteria: (1) It should deal with the underlying problem, not symptoms; (2) it should pose a researchable question; and (3) it should be relevant to the decision facing the marketer.

Designing the Research Project. The second step in the marketing research process, research design, is the most detailed and technically complex. It is usually prepared by a research professional, preferably in consultation with the marketing manager. The finished research design, in the form of a **research proposal**, is presented to the marketing manager for approval. Understanding the decisions that are made in the proposal and the criteria by which each decision is made allows the marketing manager to evaluate its suitability.

- *Define Information Requirements.* Before the research project can be designed, the research

problem must be translated into information requirements. This is done by asking: What information is needed in order to solve the problem that has been defined by the marketing manager? A specific, itemized list should result. This **information requirements** list will influence most of the design decisions that follow.

- *Determine Data Collection Approach.* A series of decisions on data collection method must be made. Should secondary or primary data sources be used? Because of its low cost and the speed of collection, secondary sources should always be checked first to see what items on the information requirements list can be filled from this source. What cannot be filled from secondary sources must be gathered through primary research.

A choice must next be made from three primary data-gathering methods: observation, survey, or experimentation. **Observation** examines and counts the occurrence of events without personal interaction between the subject and the researcher. Rating meters installed on television sets and traffic counter strips on roadways are examples. **Observation** is advantageous because it is inexpensive and does not introduce bias from interviewer actions. (**Bias** is systematic distortion of results.) **Observation** is most suited to descriptive research. **Surveys** use questionnaires to elicit information from subjects. Surveys run the risk of introducing bias into responses because of the interaction of the questionnaire and the interviewer with the respondent. The survey approach is more expensive than observation, but the cost varies widely with the method used to contact the subjects. Survey is the method of choice for exploratory research or when detailed descriptive information is needed from subjects. **Experiments** are controlled situations in which environmental variables are held constant while a treatment variable is manipulated. Changes in the dependent variable are measured to determine the effect of the treatment variable. Experiments can be conducted in the field or in a laboratory. Test markets are a field experiment while simulated test markets are a sort of laboratory experiment (see GLOSSARY entry C.18). Measuring the outcome of an experiment must use observation, survey, or both. The strength of the experimental method is its ability to measure cause and effect. As a result, it is the most appropriate approach for causal research.

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The data-gathering approach must also choose between quantitative and qualitative data gathering. **Qualitative research**, using such techniques as depth interviews, projective techniques, and focus groups all with small samples, is best for gathering new ideas and getting a "feel" for a market. It is most appropriate for exploratory research or as a preliminary to bring greater focus to quantitative research. **Quantitative research** gathers data from large, representative samples, using observation or surveys with quantifiable questions. Quantitative research is suitable for descriptive or causal research when projectable results are needed.

- **Determine Contact Method.** The alternative means of contacting research subjects are mail, telephone, or in person. Personal interviews are by far the most expensive, but they are essential for qualitative data gathering where the interviewer must be able to respond to the subject. Personal interviews are the most flexible, permitting the use of a wide variety of question forms and visual devices such as scales, pictures, advertisements, and mock-ups. Most personal interviews today are not conducted door-to-door, but are done at shopping malls and are termed **mall intercepts**.

Telephone interviewing is far less expensive than personal interviewing, but also less flexible. Today, most telephone interviewing is done from central locations using WATS lines to give national access to subjects. The central location permits supervision and control that is not possible with personal interviewing, although there is still danger that the interviewer will introduce bias. Special computer systems are available today that are programmed with the questionnaire and permit the interviewer to directly record the responses in the computer. There are some limitations on telephone interviewing. Some people will not respond to telephone surveys fearing that they are disguised solicitations. People may also be reluctant to discuss personal information with an unseen interviewer and there is some limit to the acceptable length of a telephone interview. Visuals and scales, of course, cannot be used.

Mail surveys provide an inexpensive way to reach a sample, especially one that is geographically dispersed. However, the percentage responding to a mail survey is typically low. Because they are completed away from the supervision of an interviewer, mail questionnaires are difficult to control.

- **Design the Sampling Plan.** Usually rather than gathering data from all members of a population, a representative group of members called a **sample** is used and the sample results are projected to the total population. In designing the sampling plan, it is necessary to decide who should be selected from the total population, how they should be selected, and how many should be selected.

Deciding who should be selected for the sample begins by defining the **population** from which the sample is to be drawn. The population is usually defined in terms of the marketer's target market, such as all households in the United States owning vacation homes. Next, the sampling frame must be determined. The **sampling frame** is the list from which the sample will be drawn. It might be a telephone directory, a subscription list, or an industrial directory. Finally, the **sample unit** to which the research will be directed is specified. This must specify the type of household or business to be interviewed and also the person within the business or household. This decision is based on an understanding of the purchase roles played by individuals in the target household or business (see GLOSSARY entries A.2 and A.13).

A choice must next be made between probability and nonprobability sample selection. A **probability sample** affords every person in the population a known or equal chance of being selected. Use of a probability sample reduces the chance of bias in sample selection and permits the use of statistical tools to calculate the amount of sampling error. Thus probability samples can be projected to the total population with greater confidence. However, probability samples are more difficult and more expensive to draw than nonprobability samples and, as a result, most samples in marketing research are nonprobability. Several nonprobability sample selection methods are available that attempt to limit error to acceptable levels. In selecting between probability and nonprobability samples the marketer must consider the need for knowing the level of accuracy of the results with the cost of gaining that accuracy.

Tull and Hawkins point out that the traditional method of determining sample size in statistics classes is seldom used in practice because it ignores the question of the cost of the information as compared to its value.¹

¹For an excellent and realistic discussion of this topic, see Donald S. Tull and Del I. Hawkins, *Marketing*

Another reason is that statistical sample size calculations apply only to probability samples and in practice, most marketing research samples are nonprobability. In general, the larger the sample, the more accurate the results and the higher the cost. Thus the marketer must be guided by the importance of the decision and a sense of the value that the research information would have in making that decision. In setting sample size, marketers are guided by experience with previous research studies, their general feeling of comfort with sample size numbers, and available funds for research, as well as by statistical sample size calculations. In research that will rely on cross tabulations, particular care must be taken to assure that individual cell size samples will be large enough to permit interpretation.²

- *Design the Data Collection Instruments.* **Data collection instruments** are the questionnaires needed for surveys and the data recording devices needed for observation. Writing sound questionnaires requires considerable skill and experience. The list of information requirements is used as a reference in deciding upon questions that must be asked. Choice must be made between closed-end and open-end questions. **Closed-end questions** provide answers from which the respondent selects. They are easier for the respondent to answer, easier to tabulate, and give quantifiable results. However closed-end questions restrict the answers that the respondent can give to those that the researcher has thought of. Open-end questions give no answers to choose from, but allow subjects to respond in their own words. Although more difficult to tabulate, open-ended responses give a far better feel of the subject. Open-ended questions are needed for exploratory research or when the researcher is uncertain in advance of the categories of answers that respondents might give.

Questionnaires can introduce bias into the results by suggesting the answers that are desired or by revealing the researcher's interests. Wording of questions must be carefully checked for clarity, specificity, and bias. The questions must be arranged in an order that will not result in earlier questions biasing responses to later questions.

Questionnaires should always be pretested, preferably under field conditions, to uncover flaws of bias and misunderstanding before the study is fielded.

Carrying Out the Research Project. After the research proposal has been presented and approved, the project is ready to be implemented or fielded. While much exploratory research can and should be done by internal marketing staff, most other forms of research are conducted by outside research firms. Usually firms with trained interviewers and field supervisors are used to gather the required data for survey research. The most damaging source of bias in marketing research occurs in the implementation stage through the behavior of interviewers and their interaction with research subjects. This can only be controlled by careful training of interviewers and active supervision of their field work.

As the data collection instruments are returned from the field, the results must be edited, tabulated, arrayed in usable form, and statistical measures calculated. Questionnaires or other data collection instruments from the field must be reviewed for readability, completeness, and accuracy of response. Some responses will be judged unusable and should be eliminated. Open-ended question responses must be read by editors to determine response categories for tabulation. In reading questionnaires, editors should be alert to inconsistencies in response that indicate a misunderstanding of the questions or to patterns of response that indicate interviewer bias. Coding of the questionnaire, if it was not precoded, should be completed at this stage to guide tabulation.

Unless sample size is very small or the survey was highly qualitative, tabulation will normally be done on a computer. Having the data on computer facilitates manipulation of the data, construction of tables, and calculation of statistical measures. In the case of quantitative data, the results should be arrayed in tabular form, most often some type of frequency distribution. Measures of central tendency (mean, median, or mode) and measures of dispersion (range, standard de-

Research: Measurement and Method, 4th ed. (New York: Macmillan Publishing Co., 1987), pp. 395-98.

²Ibid.

viation) should be calculated as appropriate. Where probability samples were employed, estimates of sampling error and tests of significance should be calculated. Computer programs are available that generate tables and perform statistical calculations.

Tabulation of qualitative data is quite different. Questionnaires must be read not only to determine common response categories, but also to uncover unique and idea-stimulating responses. These categories are often presented by selecting verbatims (quotes) that illustrate both the category of response and the language that respondents use in talking about the subject.

Preparing the Final Report. Preparation of the final research report is the responsibility of the marketing researcher. The final report should state the problem that was posed and detail how the data were gathered so that the user of the report can judge the accuracy of the findings. The findings should be reported in detail, usually through tabular presentations of quantitative findings, complete with appropriate statistical calculations. Reports on qualitative findings should normally include illustrative verbatims and, where appropriate, full transcripts of interviews.

The final report should also include the researcher's interpretation of the findings. While the marketing manager is responsible for making a decision that will solve the problem, the marketing researcher should provide an independent appraisal of the meaning of the research results as they relate to the problem. The marketing manager should be available to collaborate with the researcher to assure the relevance of the analysis to the problem, but care should be taken not to bias the researcher's findings. The decision maker is best served by receiving an independent, objective analysis from the researcher.

In addition to the written report, the researcher will frequently prepare an oral presentation of the results. This can help communications if a team of marketers is involved in the problem.

THE MARKETING RESEARCH PROCESS IN MARKETING DECISION MAKING

Understanding the **marketing research process** can serve marketing managers by enabling them to participate in the research process and by helping them to evaluate marketing research findings.

Participation in the Marketing Research Process. Although much of the work in design and implementation of a marketing research project must be completed by marketing research professionals, the marketing manager should participate in all stages of the project. The manager's role should not be to second-guess the researchers, but to assure that the design and implementation of the research remain relevant to the decision that the manager seeks to make and that the scale and cost of the project remain proportional to the seriousness of the decision.

In order to participate meaningfully in a research project, the marketing manager needs to know the major decisions to be made, the reasonable alternatives, and the criteria for choosing among these alternatives. The marketing research process outlined above provides a framework for this type of participation and will allow the marketing manager to communicate meaningfully with the researcher.

Guidance in Evaluating Marketing Research. There are occasions when the marketing manager receives marketing research findings as secondary data and thus has not participated in the design of the research. On other occasions, a marketing manager may be asked to evaluate a research proposal that he or she has not prepared with the researcher. In either case, the marketing research process provides an excellent framework for evaluation. The manager should determine what research steps were taken or are proposed and compare them to the marketing research process. Were all the steps taken? in logical order? The decisions made at each step should be examined to see if they followed accepted criteria. Was an appropriate data collection method chosen?

Was the sample selection sound? Was the questionnaire comprehensive? biased? Do the recommendations follow logically from the data? Asking and answering questions such as these enables the marketer to evaluate the research. Usually the result is neither to completely accept nor completely reject the findings. Instead, the marketer develops a level of confidence in the findings that allows the results to be blended with other information available to the marketer.

A.12 NEW PRODUCT ADOPTION **G-69**

SUGGESTIONS FOR FURTHER READING

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