
This article presents some of the highlights and recommendations of the Commission on the Effectiveness of Research and Development for Marketing Management. Based on a review of the field of marketing over the past 25 years, the article provides an overall assessment and some specific recommendations.

THE EFFECTIVENESS OF MARKETING'S "R&D" FOR MARKETING MANAGEMENT: AN ASSESSMENT

In 1976-1977, William F. Massy, then vice president of the American Marketing Association's Education Division, initiated a "blue ribbon" Commission to study the effectiveness of research and development for marketing management (Massy, Greysier, and Myers 1979). He enlisted Stephen A. Greysier to join the effort as co-chairman of the Commission. John G. Myers served as a Commission member along with many others¹ and became more deeply involved as the Education Vice President following Massy. This article draws heavily on the work of the Commission and presents some of our own reflections on the state of research utilization in marketing and its "effectiveness" over

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the 25-period from the early 1950s to the present.² It represents a summary of and observations on those elements of the Commission's work that we believe to be of broadest interest.

BACKGROUND AND MISSION

The Commission considered a retrospective look at marketing—where we are and how we got there—to be of potential value in enhancing the process of creating new marketing knowledge and disseminating/utilizing it. By understanding the process of knowledge-creation and diffusion and the barriers and blocks to the process, marketers should be able to learn something about how to make it work more effectively. The Commission was charged with both an *evaluation* function—to assess the effectiveness of research and development in marketing³ for marketing management over the past quarter century—and a *prescriptive* function—to make recommendations of ways in which the generation and diffusion process could be improved.

The Commission accepted as a given the goal of the long-run relevance of knowledge created to practice in marketing. In this setting, knowledge implies all forms of academic and professional marketing re-

search, and practice incorporates individuals and organizations such as line and staff marketing managers, senior corporation executives, and decision makers in government and nonprofit organizations. Its focus was thus on attempting to understand and evaluate the knowledge-creation and diffusion process in marketing. Where and how do changes originate? Where and with whom do ideas incubate and concepts become articulated? Where are the new methods tested and the techniques refined?

The concern for the study of these kinds of questions in marketing lies in the continuing serious debate as to the *relevance* of much of the knowledge-generating sector's activities to marketing management practice. It is obvious that a knowledge-creating sector does exist within marketing. Contrary to the views of many academics, the knowledge-creating sector is not solely, nor even largely, the province of academic researchers. Rather, it encompasses basic research mostly done in universities; applied and problem-oriented research in universities, research institutes, and government or nonprofit organizations; as well as problem-solving research in corporations, advertising agencies, marketing research firms, and consulting organizations. Attesting to a growth in quantity, albeit not necessarily in quality, of what is intended to be useful marketing knowledge over the past quarter-century was the creation of the AMA-sponsored *Journal of Marketing Research*, in addition to the *Journal of Marketing*; the advent of the multidisciplinary *Journal of Consumer Research* with its large proportion of marketing-based content; and an expansion of marketing-related articles in journals such as *Management Science* and *Operations Research*. But a fundamental question is whether all or most of these segments do create *useful* knowledge. Although terms like "useful," "effective," and "relevant" are hard to define tightly, there is little question that a hard-headed demand for demonstrations of relevance to practical marketing problems has, to a considerable degree, replaced a post World War II faith that knowledge is

useful "in its own right." This is not to deny that much research—particularly basic research—is difficult to manage and inherently "wasteful" by post-hoc judgment. However, the Commission believed that it should be possible to trace *some* degree of impact of basic and other research on improvements in marketing management practice over a 25-year period.

Another way of expressing the driving force behind the Commission's work is to say that it was fundamentally interested in research accountability. Is the investment in knowledge-generation in the field of marketing worthwhile? Is the process self-generating (like a breeder reactor), or does it require explicit and continuing investments of time, talent, and money? If the process is not now as effective as it should be, what are the barriers and blocks that prevent new knowledge and research from being utilized?

More specifically, the objectives of the Commission were:

- To identify changes in the marketing profession and practice over the past 25 years.
- To examine the nature and objectives of knowledge generation and R&D in marketing and provide examples of new knowledge developed during the period.
- To explain the process of knowledge-creation and the diffusion of knowledge in the field of marketing.
- To assess the contributions, or lack thereof, of marketing knowledge to marketing practice, and develop a list of recommendations directed to specific constituencies within the field.

The balance of this article is structured along these lines. Definitive conclusions in any of these areas are not easy, and not immediately amenable to the usual kinds of empirical research operations. The Commission employed a variety of methods and procedures to address each topic and illuminate the issues involved.

Methods

The work of the Commission involved five different operating methods and data generation procedures.

¹The Commission consisted of 18 people, eight from universities, including the two co-chairmen, four from independent research, consulting, and advertising firms, and six from operating companies. The four from independent firms were professional researchers while the six from operating companies were evenly split between management and research functions. Other members were: Seymour Banks (Leo Burnett Co.), Frank Bass (Purdue University), Robert Burnett (Meredith Corporation), Robert D. Buzzell (Harvard University), Henry J. Claycomb (International Harvester), Robert Ferber (University of Illinois), Ronald E. Frank (University of Pennsylvania), John G. Keane (Managing Change, Inc., President, AMA, 1976-77), Philip Kotler (Northwestern University), Lawrence Light (BBD&O, Inc.), Elmer Lotshaw (Owens-Illinois), William T. Moran (Ad Mar Research), Bart R. Panettiere (General Foods), W.R. Reiss (American Telephone & Telegraph), and Dudley M. Ruch (The Quaker Oats Company). Christopher Lovelock (Harvard University) served as staff director, and John Bateson, an HBS doctoral candidate and Marketing Science Institute research assistant, served as project assistant.

²The 25-year reference period was chosen as a useful time span for several reasons. It was considered long enough to provide evidence for a thoughtful review of changes in marketing practice and knowledge without being too long to be inaccessible to memory. It also encompassed several important events in the development of marketing. The computer was beginning to emerge onto the business scene at the beginning of the period. The Go don and Howell (1959) and Pierson (1959) reports were completed during the early part of the period, significantly affecting curricula in business schools. An acceleration of change in the practice of marketing management and marketing research also took place during this period.

³By "research in marketing," we mean research addressed to any and all zones of the marketing field, rather than "marketing research" or "market research" alone, which typically imply research on consumers and/or on characteristics of markets.

First, commissioners and selected "friends" of the Commission⁴ were polled for their opinions on four challenging questions: What were the major changes in the practice of marketing over the past 25 years? What major, new, useful approaches and techniques had been introduced over the period? What major problem areas remain? What major research approaches and techniques (in the commissioner's judgment) had failed to fulfill their promises?

Second, several face-to-face meetings of the commissioners were held during 1976 and 1977. Much attention, particularly in the later meetings, was given to the discussion and development of perspectives and viewpoints on the idea-generation and diffusion process in marketing.

Third, a study of changes in marketing journals and textbooks over the 25-year period was undertaken by the Commission's staff. The journal study involved content analysis at five-year intervals of the *Journal of Marketing*, *Journal of Marketing Research*, *Harvard Business Review*, and *Journal of Consumer Research*. Examined were "hot topics" at the beginning and end of the period, topics that appeared to be an ongoing source of interest as well as topics that seemed to fade and others that were introduced, and the business/academic affiliation of authors. Details of this study, as well as all other studies undertaken by the Commission, are given in its final report (Massy, Greysen, and Myers 1979). One self-evident watershed, however, was the 1964 founding of the *Journal of Marketing Research* with its emphasis on reports of empirical research and multivariate data analysis.

The textbook study involved content analysis of 15 marketing textbooks (mostly those in multiple editions) ranging from Maynard and Beckman to Kotler, Enis, and Heskett. The period was characterized by a move from principles texts "about marketing" to managerial and decision-oriented texts "for marketing managers." Early texts covering institutional views and topics such as commodities and agricultural marketing were replaced by managerially-oriented texts emphasizing components of the marketing mix. Kotler's first edition (1967) extended this focus by incorporating much more behavioral science and quantitative material and was, in some sense, a precursor to a decade of quantitatively rigorous management science and marketing books. Consumerism, environmental issues, multinational marketing, and marketing for nonprofit organizations are characteristic new topics introduced in textbooks towards the end of the period.

⁴Particularly useful communications were obtained from Charles R. Adler of the Eastman Kodak Company, Paul N. Reis of the Procter and Gamble Company, C.R. Smith of Nabisco, Inc., and William D. Wells of Needham, Harper & Steers Inc.

A fourth type of effort involved a survey of AMA members on various aspects of idea generation and diffusion. The focus was on determining the amount of awareness and usage of 13 different types of analytical techniques, models, or research approaches. Here again, the details of this study are given in the main report (Massy, Greysen, and Myers, 1979).

Finally, attempts were made to elaborate on specific aspects of the overall project. Special interviews were conducted by the Commission staff to "track" the intellectual and applications evolution of new developments, in particular what many considered to be a highly successful example—that of conjoint analysis. Also, the Commission staff developed alternative skeletal views of the idea generation and diffusion process for use in Commission discussions of various conceptions of this process. Finally, the co-chairmen developed several "think pieces" on the types, nature, and functions of marketing research and the role of the marketing academic community.

How Marketing Practice has Changed

Readers who are old enough to remember marketing in the 1950s will appreciate the diversity of changes that have taken place both in the marketing manager's environment and in the nature of the marketing operations themselves. They also might appreciate the difficulty of attempting to capture the nature and type of these changes in a few paragraphs! From the viewpoint of managerial practice, much that has changed is traceable to a change in managerial perspective contained in the familiar "marketing concept" with its emphasis on the identification and satisfaction of consumer wants and needs rather than on the "selling" of products. The implications of this externally focused attitude on how to run a business, and the basic idea that various components of marketing such as product, pricing, promotion, and distribution should be integrated into an overall comprehensive marketing plan, had far-reaching consequences for marketing practice and knowledge development over the period.

An external focus, for example, leads logically to a heightened awareness and stronger motivation for information-gathering and marketing research. This undoubtedly contributed to academic and professional concentration on understanding and predicting consumer behavior and was a major impetus in the creation of the consumer behavior field, the Association for Consumer Research, and numerous new consumer behavior textbooks and journals. The new focus gave increased stature and significance to marketing as a vital business function. Many of the aspects of a "profession" such as the scientific and explicit use of information in decision-making, the educational and uni-

versity role in training managerial talent for marketing positions, and the numerous other trappings, are traceable to this change in overall managerial focus. The evolution of marketing research in some corporations from a purely data-gathering function to include complex decision models and multivariate analysis which characterize modern-day "marketing information systems" seems, in retrospect, a natural evolution of this fundamental idea. Another type of evolution is the application of marketing principles to nonprofit organization management, a trend particularly apparent in recent years.

An equally persuasive explanation for changes in marketing management practice and knowledge development can be found in technological innovations and in social, economic, and environmental changes that have occurred over the past 25 years. Perhaps the most significant innovations from a viewpoint of their effect on marketing management practice were the development of computers and television. The 25-year period spans the time in which each of these inventions came into being on a commercial scale and had far-reaching impact on marketing (as well as on other aspects of the nation as a whole). Computers made possible the management of very large amounts of data both in terms of accessibility and analysis. This, in turn, stimulated the need for models, theories, and perspectives to guide the data collection and analysis process. Highly complex multivariate methods became feasible analysis alternatives, and a whole generation of model-builders, statisticians, and computer specialists began to look at marketing as an applications area in which to pursue their interests. Progress in adapting the computer to basic discipline studies on which marketing researchers continued to draw their inspiration and insight—economics, psychology, sociology, and others—further emphasized and expanded the important role of the computer.

Parallel reasoning could be applied to assessing the impact of television (as well as many other types of period-specific innovations or product-line extensions such as jet air freight and travel, the space program, etc.). Television created entire industries of market-related specialists in advertising, research, production, and so on. Methodologies developed in basic social science ranging from econometrics to pupilometrics and psychometrics were quickly adopted, refined, and in some cases rejected by marketing academics and commercial research firms doing television and advertising research. The marketing manager, for the first time, could direct messages to a mass market of millions of households via a total communications package (both audio and visual channels) at a comparatively low cost-per-thousand viewers reached. The absolute costs of television usage involving hundreds of thousands or

millions of advertiser dollars increased marketing budgets accordingly. Many commissioners identified an overall increase in the scale of marketing operations as a characteristic change over the period. Obviously, when a marketing manager's budget has increased significantly, the requirements and opportunities for the use of marketing research data differ greatly.

Many other environmental factors affected marketing management over the period. Commissioners noted the increased role of government in marketing decision-making. Consumerism was a movement of the 1960s which impacted greatly on marketing. Energy and other shortages characterized manager concern toward the end of the period. Along with an overall increase in the scale of marketing operations, decisions became much more consequential or "risky" in terms of the stakes involved.

These are some of the major changes in marketing management practice and the forces that affected changes in practice over the period. The next question examined by the Commission concerned the nature and objectives of knowledge-generation and R&D in marketing and types of new knowledge that had been generated. The R&D on which the Commission focused does not refer to new technical inventions, chemical discoveries, and so on flowing from the nation's laboratories or what might be called the research and development associated with production. Rather, it refers to marketing research developments and new knowledge pertaining to advancement of marketing management practices.

Marketing's R&D

Throughout the balance of the article, the terms marketing R&D and marketing knowledge are used interchangeably. The R&D term is introduced to emphasize the fact that much of what a marketing manager considers "state-of-the-art" knowledge is *not* limited to the literature. Professionals in an applied field, such as marketing, do not rely solely (or even primarily) on journal materials as their source of knowledge—a fact often overlooked by academics for whom journals represent the major storehouse of new and accumulated knowledge. For marketing professionals, the proprietary research information resident in their companies (from both the company's own research and outside commercial sources) as well as the folklore and accumulated experience of managerial colleagues are important components of the "state-of-the-art." As will be seen, it is possible to document changes in marketing knowledge by examining journal materials, but extremely difficult or impossible to document important aspects of the total storehouse of knowledge generated over the period.

An equally difficult question concerns the effec-

tiveness measure. What are, or should be, the objectives of knowledge-generation in marketing? We examine this controversial question next.

Objectives of Knowledge-Generation In Marketing

Although a viable argument can be made that knowledge development should be pursued for "its own sake" and much basic research in marketing is generated in this way, the Commission took the position that the objectives of knowledge-generation in our field should be to improve marketing management practice. Thus, even basic research if it is to be considered "effective" should, over the long run, contribute something to improved decision-making or other aspects of management practice. But how should "good" practice and management be defined? What is an effective marketing manager? More generally, what is an effective marketing organization? In either case, the usual criteria of sales and profits are often suspect because of the dynamics of markets and marketing operations. Good sales and good profits can result from "good luck!" The Commission's position was that management should be evaluated also on the basis of "good judgment" and the specific ways in which budgets and people are managed, plans developed, actions implemented, and operations controlled. As one CEO is reported to have said: "Don't tell me about sales and profits, tell me whether or not I have a good marketing operation."

Entire books have been written on the qualities of a good manager or, more generally, the "functions of the executive" (Barnard 1968). A marketing manager needs to possess a whole bundle of qualities captured in the notion of "leader"—the capacity to motivate people working under him or her, the capacity to efficiently manage large amounts of funds and expenditures, and the capacity to make difficult and risky decisions in an environment of great uncertainty. Increasingly, however, marketing managers must be capable of managing large amounts of complex data which can be used to reduce the uncertainty in decision-making. To do so, they need to be able to recognize and conceptualize important problems, and to distinguish the important from the trivial. In the Commission's view, they need a capacity to develop good "theories" or "models" of their operations, to be able to distinguish cause and effect, and understand the implications of their decisions.

The modern manager, in other terms, must be a good planner. The development of a good marketing plan where realistic and worthwhile objectives are carefully specified, the resources marshalled to carry them out, and control mechanisms introduced to evaluate them, is an important characteristic of good manage-

ment. To this, we believe, should be added the capacity to guide research efforts, to marshal facts and data relevant to stated objectives, and the capacity to analyze and interpret complex information. The ideal manager must be able to bridge the gaps between an original theory/model specification, the research design actually used to generate data, and the interpretation of the final data results. The overriding point is that modern managers should display at least some of the characteristics of the scientist—a willingness to use theories, models, and concepts, a capacity to identify important problems, and a healthy respect for the value of objective information and research in seeking answers to problems. Managers need to know the "why" of their operations in the sense of a theory or model, the "what" in the sense of relevant facts and data that pertain to them, and the "how" in terms of the implications of implementation and control.

The difficulty of documenting that marketing managers were "better" at the end of the period than at the beginning should be obvious. The Commission did not attempt to test this proposition and we, frankly, don't know. We do know that more managers held the MBA degree, that there was much more marketing research information available, that the demands for in-company information systems and information to support decisions were higher, and that there was a marked rise in the size and scale of the marketing research industry generally. The criterion of "better practice" was thus left implicit rather than explicit in the Commission's deliberations, and the focus directed to better understanding the nature of marketing knowledge.

The Nature of Marketing Knowledge

Marketing "R&D" as referred to in this study encompasses a broad range of types of "knowledge" and ways in which it can be generated. Types of knowledge are in effect the "ends" to be achieved—the *objects* of research in marketing. The ways to generate knowledge represent the "means."

The Commission recognized two broad types of knowledge "objects" in this sense: (1) context-specific knowledge, and (2) context-free knowledge. Context-specific knowledge is specific to a particular firm or industry or specific to a particular managerial problem or situation: Does potato chip advertisement A generate more recall than advertisement B? Two subclasses of context-specific knowledge can be identified as (1a) product industry-specific, and (1b) situation-specific. Context-specific marketing knowledge is usually proprietary, particularly if it is current. It also is probably the most useful base of empirical evidence on which general facts and laws could eventually evolve. That is, by looking for regularities across product, industry, or situation-specific cases, we might come closer to more

useful, relevant generalizations in the field of marketing. There are examples of this type of work (Clarke 1976; Haley 1970), but it is comparatively rare.

Context-free knowledge encompasses three subclasses referred to as: (2a) general facts and laws, (2b) theories or conceptual structures, and (2c) techniques. Examples are the advertising-to-sales ratios of Fortune 500 companies, theories of buyer behavior, and factor analysis, respectively. What we know about the duration effects of advertising, and patterns of brand loyalty and switching from stochastic brand choice research fit the 2a category, and contrasting theories of advertising effects (hierarchy, low-involvement, conflict, and so on) fit 2b. Conjoint analysis, to be discussed later, is an example of what is considered 2c, a technique, although there is certainly a model or theory which motivates this approach to data collection. These latter types of knowledge-generation are largely, but not exclusively, the domain of academics and university research and make up the content of much of our journal materials.

The means of knowledge-generation can be broadly classified as different kinds of marketing research. We note that many recent marketing research textbooks make a distinction between "Basic" research and "Decisional" research (Churchill 1976; Green and Tull 1978; Tull and Hawkins 1976). Basic research usually involves *hypothesis-testing* of some kind, a prediction based on the hypothesis, devising a test of the prediction, conducting the test, and developing an analysis plan to determine whether the results are statistically significant at some researcher-specified confidence level. Decisional research, on the other hand, begins with a specification of alternative *solutions* to a marketing problem, the possible outcomes of each alternative, the design of a method to predict actual outcomes, and data analysis which relies more on Bayesian-type reasoning than on that of classical statistics. The decision-maker is often mostly interested in how the information changes his/her prior probabilities of likely outcomes than in statistical significance.

Although many "classic" data collection and analysis techniques are included in most marketing research textbooks, the decision-theory viewpoint, or "decisional" research, is becoming much more widely adopted, particularly where the emphasis is placed on the building of a model for which very specific demands are made on the data-collection process. Decisional research also differs in other fundamental ways. There is much more attention to considering trade-offs between the cost and value of the information which, in turn, implies less attention to replication and questions such as reliability and validity. The decision-maker is more interested in knowing the probability level of the

results rather than whether they are statistically significant. Finally, the fact that the user of the research and researcher are in direct association with one another, distinguishes decisional from the basic or classical research. What seems evident is that marketing research textbooks are becoming more "decisional" than "basic" in these terms, and this appears to us to be a healthy trend.

A further delineation within the "decisional" category can provide a better understanding of a research taxonomy in marketing, namely distinguishing *problem-solving* research from *problem-oriented* research.

- Problem-solving research addresses a very specific applied issue or problem, and is usually proprietary in character; that is, it is usually done within a company or under contract by a commercial firm/consultant for a company. Advertising testing research is one example.
- Problem-oriented research addresses a class of issues or problems, and typically has at least limited generalizability across firms or situations. The topics examined are usually of a conceptual character, but oriented to applied problems—for example an effort to classify the kinds of products and consumer purchase situations in which the hierarchy of advertising effects might operate in different ways.

The major criterion for assessing problem-solving research in marketing is whether it helps improve a specific business decision. For problem-oriented research, the criteria are whether it improves our understanding of particular kinds of phenomena in marketing (as an applied social science) and whether it contributes to advancements of theory and method in a basic discipline. The narrowness of the problem, the time frame for utility, and the context of the application all are factors differentiating problem-solving from problem-oriented research.

Two important conclusions flow from these views on the means and ends of marketing's R&D. First, there has been a progressively stronger *leveraged role* for research in marketing practice. With larger markets, more dollars are riding on marketing decisions. With more complex, highly segmented and fragmented markets, there is a higher premium on developing and reaching one's distinctive part in the market. And those companies which know how to harness the array of research tools, help develop and apply them ahead of others, and employ them swiftly and effectively in marketing decisions have an advantage over competition. Second, the huge growth of marketing research information and techniques has resulted in a multi-faceted role for the marketing research manager. At

least three separate missions can be discerned—facilitator, gatekeeper, and translator. *Facilitator* basically relates to planning and conducting studies and projects and bringing together managers and research specialists. *Gatekeeper* involves monitoring new research techniques and ideas, exploring, “filtering,” and trying to apply some of them within the organization. The *translator* puts management issues and problems into researchable propositions and converts research findings into managerial terms.

Knowledge Development Over the Period

As noted earlier, it is impossible to document the full scope of new knowledge developed over the 25-year period for much resides in the mind and mores of practicing managers. The overview in this section is largely confined to published materials. Suffice it to say, that marketing as a field is still characterized both by a management philosophy that emphasizes intuition, executive experience, and the “art” of marketing, and an emerging philosophy that emphasizes research, information-gathering, and what some call the “science” of marketing.

From this perspective, the Commission concluded that much had taken place during the 25 years in the direction of increased use and dependency on scientific marketing research information. The increased size and sophistication of commercial marketing research services as well as a general expansion in the industry was noted. A marked shift from trade to consumer research and from secondary to primary research took place. Much more use was made of test marketing before new product introductions. By the end of the period, most of the large consumer packaged goods corporations had some form of marketing information system, and were making increasing use of models and methods to simulate consumer and competitive reactions.

The development of the computer and television noted earlier as impacting on management practice also impacted heavily on knowledge-generation. *Marketing and the Computer* (Alderson and Shapiro 1963) contained papers by a new generation of eager, young students such as Al Kuehn, Ralph Day, Paul Green, Hans Thorelli, Purnell Benson, Bill Massy, and Arnie Amstutz and was, in retrospect, a major precursor of things to come. The largest commercial marketing research service, A.C. Nielsen, Inc., is currently also one of the largest worldwide users of computers. Television required the development of new theories of consumer behavior and communication, new methods to study its effects (e.g., dozens of new commercial services such as Burke's DAR, AD-TEL, ASI In-Theater Testing, etc), and significant new models of advertising decision-making such as MEDIAC (Little and Lodish

1969). ADBUG (Little 1970), POMSIS (Aaker 1968) and AD-ME-SIM (Gensch 1973) which utilized computer capacity to assist decision-making in television and mass media generally (for a recent review of related models, see Larreche and Montgomery 1977).

New knowledge in marketing, particularly that which has heavily impacted on changes in marketing practice, is very difficult to document. In medicine, the discovery of penicillin, X-rays, control of diseases like polio, tuberculosis, and syphilis are clearly definable events. In marketing, no “drug” has yet been invented that will “cure” the problem of new product failures. But it is, nevertheless, possible to trace some of the new ideas, theories, tools, and decision-aids introduced during the period.

Exhibit I shows a listing of 64 examples of knowledge development in marketing from 1952 to 1977 organized into four categories; (1) Discipline-Based Theories, (2) Managerial Frameworks and Approaches, (3) Models and Measurement, and (4) Research Methods and Statistical Techniques. This listing is illustrative only and is intended to provide a sampling of the variety of identifiable new theories, concepts, methods, and techniques. It is interesting to note the degree to which much that is “new” in marketing is closely related to new developments in the basic disciplines, particularly economics and psychology. Much new marketing knowledge is by definition an application and refinement of basic theories and methods in these social sciences and, in some instances, has had major impacts on the development of their theory and method. An interesting characteristic is the comparative speed by which marketing academics and professional researchers have adopted or “tried out” those ideas. In general, marketing knowledge generated over the period 1952 to 1977 changed principally in the degree to which it increased in quantitative and behavioral science sophistication. The introduction of a management science/engineering perspective to the field moved us closer to considerations of marketing as an applied science, and in general a “social engineering” view of the profession.

The next section deals with the third type of charge to the Commission: what is the nature of the knowledge-creation and diffusion process in marketing?

The Knowledge-Creation and Diffusion Process

The Commission recognized two major patterns by which new knowledge is created and diffused to line managers: knowledge that is essentially idea, concept, or methods-driven and problem-driven knowledge.

EXHIBIT 1
Examples of Knowledge Development in Marketing, 1952-1977

DISCIPLINE-BASED THEORIES	MANAGERIAL FRAMEWORKS AND APPROACHES	MODELS AND MEASUREMENT	RESEARCH METHODS AND STATISTICAL TECHNIQUES
Demand and Utility Theory Market Segmentation General and Middle-Range Theories of Consumer Behavior Image and Attitude Theory Theories of Motivation, Personality, Social Class, Life Style, and Culture Expectancy-Value Theory Theories of Advertising Processes and Effects Information Processing Theory Attitude Change Theories (consistency and complexity theories) Attribution Theory Perceptual Processes Advertising Repetition Distribution Theory Refutation and Distraction Hypotheses Theories of Diffusion, New Product Adoption and Personal Influence Prospect Theory	Marketing Concept Marketing Mix - 4Ps Development of Marketing Cases DAGMAR Product Life Cycle Marketing Plan State Approaches to Strategy Development Product Portfolio Analysis Physical Distribution Management Marketing Information Systems Product Positioning and Perceptual Mapping Segmentation Strategies New Marketing Organization Concepts, eg., Brand Management Territory Design and Salesman Compensation Marketing Audit Demand State Strategies Creative Approaches and Styles New Search and Screening Approaches Refinements in Test Marketing Approaches	Stochastic Models of Brand Choice Market Share Models Marginal Analysis and Linear Programming Bayesian Analysis Advertising Models, eg., MeJiac, Pomsis, Admesim, Brandaid, Adbug Causal Models Sensitivity Analysis and Validity Tests Response Functions Weighted Belief Models, Determinant Attributes Simulation and Marketing Games Multi-dimensional Scaling and Attitude Measurement Sales Management Models, eg., Detailer, Callplan New Product Models, eg., Denon, Sprinter, Steam, Heidy Bid Pricing Models Computer-Assisted Marketing Cases Product Planning Models, Perceptor, Accessor	Motivation Research and Projective Techniques Survey Research Focus Groups and Depth Interviewing Experimental and Panel Designs—ANOVA Advances in Probability Sampling Hypothesis Formulation, Inference, Significance Test Multivariate Dependence Methods—Multiple Regression and Multiple Discriminant Analysis, Canonical Correlation Multivariate Interdependence Methods—Cluster and Factor Analysis, Latent Structure Analysis Advances in Forecasting Econometrics, and Time Series Analysis Trade-Off Analysis and Conjoint Analysis Psychographics and AIO Studies Physiological Techniques—Eye Camera, GSR, CONPAAD Unobtrusive Measures, Response Latency, Nonverbal Behavior.

The first can arise in the academic or professional sphere when someone has a good idea and the energy and persistence to pursue the research, testing, and publication required to disseminate it.³ Examples of this in marketing are the idea of a "hierarchy of effects" and the subsequent expectancy-value models to explain consumer decision-making and information processing. Consumer information processing, in particular, is now a very popular marketing academic subject which, some might say, is being driven mostly by the inherent interest of researchers in attempting to understand this phenomenon.

The second type of new knowledge might arise when a manager needs to predict his brand share for a new product. This leads logically into sales forecasting techniques (and new developments in this area, Bass

³An academic administrator once correctly observed that even the most brilliant ideas contain no social value if they remain lodged in the heads of their proponents!

and Wittink 1975), which in turn leads to the concept and use of panel data and, for example, stochastic models of brand choice (Morrison 1965), basic concepts such as market segmentation (Frank, Massy, and Wind 1972; Myers and Nicosia 1968; Wind 1978b) and to a variety of other new models and methods developments (e.g., Silk and Urban 1978; Srinivasan and Shocker 1973). Such segmentation research during the early part of the period appeared to be basically "idea-driven" (researchers were more interested in testing new types of multivariate methods factor analysis, cluster analysis, latent structure analysis, Sheth 1977), whereas during the latter part, particularly with the publication of *Market Segmentation* (Frank, Massy, and Wind 1972), research appeared more problem-driven and efforts were concentrated on situation-specific-type variables.

To better understand the process, the Commission chose conjoint analysis as a means of studying one

pattern of adoption and diffusion. It is an example of an idea or methods-driven pattern, even though the problem (deriving a preference function and/or determining the utilities, "part-worths," of attribute levels) has been a part of marketing since the days when marketers were told to "sell the sizzle and not the steak!" The example illustrates several important ideas such as the role of nonmarketing academics, the importance of consulting arrangements in the diffusion process, and the contributions of academic and professional researchers in getting a complex idea widely disseminated and used.

It is generally held that a breakthrough article on conjoint analysis was published in 1964 in the *Journal of Mathematical Psychology* (Luce and Tukey 1964). It was a breakthrough in the sense of a long tradition of psychological and attitude measurement perspectives going back to Thurstone and others (nonmarketing academics) who make up the field of psychometrics and mathematical psychology. The first major publication in marketing literature on the subject was a 1971 *Journal of Marketing Research* article (Green and Rao 1971).⁶ Green and his colleagues focused on developing a "full-profile" approach to the fundamental task of generating part-worth utilities on sets of decision criteria or salient brand/product attributes. A professional researcher, Richard Johnson of Market Facts, Inc., Chicago, working independently from the Wharton group, developed a parallel procedure based on a "two-factor-at-a-time" approach which he called "trade-off analysis" and published the new procedure in *JMR* (Johnson 1974). What is important for our purposes is to note the location of each individual, one in a university environment and one in a commercial or "external" marketing research firm. Also of significance is the pattern, particularly of the marketing academic in this case, of essentially using real-world marketing applications as the laboratory for further testing and refining the methods reflected in numerous studies involving actual situation-specific decisions and data.⁷ A similar pattern from the professional researcher viewpoint was going on through the normal process of a marketing research firm (Market Facts) dealing with numerous clients, many of whom were being introduced to the technique over the period via this channel. Both individuals also were appearing at conferences and presenting papers on the subject further enhancing the diffusion process. Robinson and

Associates (Philadelphia), another "external" marketing research firm, was also an early adopter of conjoint analysis and introduced the technique to many of its clients. Wharton students, particularly graduating Ph.D.s who accepted positions at other universities across the country, were significant forces in the general refinement and diffusion of conjoint analysis. One estimate is that there have been, to date, over 300 commercial applications (separate and distinct studies) of conjoint analysis, and interest is still high and spreading to applications in the nonprofit and government sectors.

In sum, this is an example of one of the most successful types of new knowledge introduced over the period in terms of making a complex idea developed in a basic discipline of direct use and benefit to line marketing managers and marketing decision-making. The basic ingredients of the process are a methodological breakthrough in basic research, the adaptation and refinement of the ideas by a small "innovator group" of marketing academics and professionals, and subsequent diffusion to line managers involving external marketing research companies, internal marketing research departments, students, journals, consultants, meetings, and conferences.

What can be said generally about the efficiency and effectiveness of this system over the 25 years? First, the Commission concluded that much innovation, particularly as perceived by academics, never reaches line managers, and in retrospect, has contributed little to improvements in marketing management practice. Second, and discussed in the next section, there is a great deal of "promising" development which is used little by managers. Third, important new developments have come from both academics and professionals. In marketing there is a relatively small "innovator group" made up of both professionals and academics from which a significant number of the major new, useful ideas flow. Finally, the Commission concluded that neither the idea nor the problem necessarily comes first at the initiation stage, and problems and ideas find themselves in different ways. There is no single, dominant pattern. In some cases, particularly among academics, a technique is developed and then applied to a real-world problem. In others, a problem is posed, and a search for new solution techniques is initiated. In either event, much effort is needed to test and hone the development before it becomes widely adopted or commercially useful. Unfortunately, problems often reside with management people who are not well trained to articulate them to research people unfamiliar with management life. The Commission was struck by the discrepancies between the volume of new knowledge generated over the period and the comparatively

⁶This was preceded by several working papers and a paper published as early as 1968 by Green and his colleagues at Wharton.

⁷This process of refinement has continued to the present and involves different types of data collection procedures, different types of scale assumptions (nominal, ordinal, interval, ratio), and basic extensions such as categorical conjoint measurement and second generation models such as componential segmentation. (See Wind 1978a).

low rate of adoption at the line manager level. Is this type of "failure rate" endemic to the field? What causes it? What can be done about it?

Barriers to Innovation and Diffusion

The Commission recognized two types of barriers to the diffusion and adoption process broadly classified as Structural and Organizational (S/O) barriers and Substantive and Communication (S/C) barriers. On reflection, we have become impressed with the seeming rediscovery of C.P. Snow's "two cultures" within the field marketing, not characterized so much as that of academic/business as that of researcher/manager. We are reminded of the "those who think and never act" and "those who act and never think" distinction. Into this mix must be poured the numerous types of research specialists that have arisen in marketing over the 25 years, many of whom communicate in a language inherently foreign to one another.

More specifically, the Commission recognized as S/O barriers the inherent differences in occupational roles and incentives among managers, researchers, and academics. In particular, the impact of the reward system and the drive to do research and publish for academics is a significant cause of the volume and type of research and new-knowledge generation in marketing. In some universities, only contributions to basic research carry any weight, and it is often nonmarketing academics (economists, psychologists, sociologists) who are doing the evaluating. Built-in barriers between line and staff people within an organization, the proprietary and confidential nature of much marketing research information in corporations, the lack of exposure to and formal quantitative training of line managers,⁸ and other characteristics of line managers and their positions (too busy, conservative, inherent inertia, etc.) were seen as S/O barriers to the process.

Numerous Substantive and Communication (S/C) barriers were identified. A common theme was the inappropriateness of many quantitative models and techniques to marketing problems as perceived by marketing managers. The length of time needed to test, adapt, and make a new idea useful was mentioned. Some commissioners recognized current marketing journals as a barrier—our journals represent mostly academics talking to one another, and reflect the *supply* of new knowledge rather than the *demand* for it. The

⁸We note that the "average" brand or product manager in a major corporation may now be much more comfortable with quantitative techniques given the likely exposure to them in classroom situations over at least the past 10 years. One estimate is that there are about 25,000 marketing majors produced annually in the United States. If only 1000 per year are MBAs exposed to quantitative methods in our better business schools, there should be 10,000 managers out there for whom models and techniques are a familiar part of marketing knowledge.

credibility of much academic work comes into question when trivial problems are given treatment equal to that given important problems. The annual AMA conference structure was singled out as a barrier in the sense that two, separate conferences, one for educators and one for professionals, are held. The lack of line manager membership in the AMA, and/or the lack of time to participate actively in such organizations by line managers, was another type of S/C barrier. Particularly for managers, there are few incentives or rewards for contributing to new knowledge *per se*, and attention is often focused on short-run sales and profit generation.

Many of these barriers and blocks reduce to attitudinal factors residing in the make-up of each of the participants. Managers, often uncomfortable with complex quantitative and abstract materials, or with no time to learn about them, are prone to dismiss much that could be valuable as academic nonsense. Patterns such as the "not invented here" syndrome, anti-intellectualism, and other defenses develop to rationalize the basic position. Researchers, particularly those who are scholarly-inclined, often write-off practical marketing problems as irrelevant to what they do, or as an interference with their scholarly progress. Patterns of "let them learn what I am doing" develop with little or no commitment to translating ideas into the practical world of the marketing decision-maker.

Assessment and Some Recommendations

These broad observations appear germane to the overall charge to the Commission of assessing the effectiveness of marketing research and development for marketing management:

- Knowledge-generation in marketing, like in any other professional or academic field, is to some degree "inefficient." There will always be waste in the system in terms of false starts, blind alleys, and so forth. Throughout its work, the Commission held to an initial view that the most meaningful criterion—perhaps the only criterion—for assessing and making new investments in developing marketing knowledge was its ultimate contribution to marketing practice. At the same time, there was broad recognition that *basic* research both warranted and demanded support, even though many who engage in it do so with the principal (and sometimes sole) motivation of enriching knowledge rather than improving practice. The often indirect impacts on practice—despite the aforementioned inherent inefficiencies in and unpredictability of basic research to be "useful"—remain important enough to sustain and encourage it.

- All forms and types of marketing research increased in both quality and quantity over the 25-year period. In quality terms, the direction has been toward greater quantitative and behavioral science sophistication. This has been manifested in the professional marketing and marketing research community and particularly in the ways marketing is taught in business schools. The latter, in turn, feeds the world of practice at the entry level.
- A significant amount of marketing research effort, new knowledge development, model-building, and theorizing has had relatively little impact on improving marketing management practice over the period. Although controversial, this observation represents our interpretation of a widely-held belief among Commission members after many months of deliberation on events of the past 25 years. As one Commissioner noted, "There isn't a single problem area with regard to the practice of marketing management that marketing research or the world of technology and concepts has mastered." Another said, "The tendency (is) for many marketing decisions to be made either without any research or on the basis of extremely sloppy research. The fact that the vast majority of new products put on the market turn out to be failures may be a manifestation of the phenomenon."

In reflecting on these assessments, we recognize that marketing is still in a rather primitive state of development. Unlike our impression of some other business fields such as accounting and finance, there is still no unifying marketing theory or model which holds together the diversity of perspectives and viewpoints. Materials which are widely taught in the classroom such as Bayesian analysis do not appear to be widely used by practicing managers. Although there are numerous examples of what might be considered "successful" knowledge development, measured in terms of managerial adoption, we are struck by the degree to which much that has been developed and *could be* useful is *not* being used.

What the Commission in effect rediscovered in the management science/model-building area was a reaffirmation of what many model-builders themselves have long believed—comparatively few firms or practicing management people seem to be using their models. This is particularly true for early, complex model formulations that often went through a cycle of trial and rejection. The most recent model-building trend—to begin with relatively simple concepts and functions, to involve the manager in the model-building effort, and to establish long-run relationships with the client firm—appears to us to be a very healthy one. Many behavioral researchers might well go through a similar

type of introspective process with respect to how their work impacts on marketing practice, and the degree of its adoption or nonadoption by marketing decision-makers.

On a more optimistic note, we see marketing at somewhat of a turning-point with respect to the effectiveness of its R&D efforts. A major barrier to the diffusion process, particularly in terms of utilizing formal models, is largely one of scale of operations, the sizeable investments of funds required to develop and maintain on-going data bases, and the teams of specialists needed to achieve an effective utilization of research and knowledge-generation resources. The basic combination of scale and a willingness to invest now appears to us to exist in many corporations, and there are numerous examples of the fully-integrated information system model which this implies.

In retrospect, then, the quarter-century contained a significant amount of "ineffectiveness" regarding marketing's R&D. *The contributions of research and knowledge-development at best can be characterized as mixed.* The impacts have been significant, but far less than "what might have been." The reasons lie primarily in the numerous types of barriers and blocks to the diffusion process. We think concerned people in the field should examine their own organizations with respect to both the S/O and S/C barriers. Many of the Commission's recommendations pertain to various ways to reduce these barriers.

Recommendations

There are numerous recommendations given in the Commission's full report. Many relate to the fundamental needs for open lines of communication between researchers and managers, the needs to find ways to break down the barriers and blocks to the idea-generation and diffusion process, and the needs for conscious effort, investment, and continuing funding to make the process work. In our view, the process is not like a breeder reactor, it is *not* self-generating; rather it requires conscious effort to sustain it. More sources need to be found for supporting research, particularly of the "problem-oriented" kind, and better ways need to be developed to bridge the gaps between knowledge-generation and knowledge-utilization.

Among the many recommendations, we view the following as particularly important and provide some of our own reflections on the implications and impact of each:

1. *More support should be provided for basic and "problem-oriented" research in marketing.* Both the professional and the academic marketing communities need to give "problem-oriented" research much more attention. The company role here goes beyond provid-

ing financial support, to contributing data and information on company experiences. In this way, more progress can be made to develop experience-based "conditional generalizations," i.e., knowledge and concepts that apply under specified kinds of product, market, or consumer conditions. On the academic side, more appreciation is needed of the "respectability" of such research for academic knowledge-building. (See item 5, below.)

On the whole, relatively few institutions—notably the Marketing Science Institute, the now phased-down National Science Foundation's Research Applied to National Needs program, the American Association of Advertising Agencies' Educational Foundation—exist with "problem-oriented" research as their major focus. Such marketing research typically is not "basic" enough to gain support from institutions principally geared to "harder" sciences; this appears to have been the experience at NSF. Yet problem-oriented research is usually not immediately practical enough to warrant support from company operating budgets. In short, "problem-oriented" research is a stepchild. So far, the limited success in gaining support for such research has been rooted in institutional systems, such as MSI's, that catalytically bring together conceptually-oriented professionals with practically-oriented academics (Greyser 1978).

This focus on "problem-oriented" research does not reduce the importance, in our view, of basic research. It is important over the long-run. We think, however, that business and academic alike have given too little recognition and value to problem-oriented research.

2. *Nontechnical reviews of new concepts, findings, and techniques in marketing should be published far more frequently. At the same time, publications that permit researchers to write to other researchers need to be preserved and encouraged.* This recommendation basically addresses both ends of the knowledge development/knowledge utilization spectrum. For the former, we underscore the importance of having an "archival resource" that not only provides a medium where new research results can be published, but also permits such work to be accessed readily by other researchers over time. "Relevance" is not the appropriate criterion on which to assess such journals. The *Journal of Marketing Research* is obviously a specific example.

At the other end, nontechnical reviews represent one way of attempting to break the technical jargon block which many Commissioners thought was a major impediment to good communication. Complex ideas must often be expressed in formal, mathematical terms, but they should be capable of being communicated in

terms that a broader audience can understand. The "annual reviews" in fields such as psychology were cited as illustrations, as were some of the "state-of-the-art" articles in current journals, and the concept of the *Review of Marketing*.

3. *Senior executives of major companies in the consumer, industrial, and services sector should be encouraged to develop a climate within their organizations which is amenable to exploration of and experimentation with new research ideas and techniques. Further, practicing managers must become more appreciative of the value of "good theory," and develop more capacity to conceptualize, supervise, and interpret information relevant to decision-making. Unless the right climate of receptivity is developed within the organization, there is little chance of significant adoption of new knowledge. People simply won't want to take the necessary risks of introducing new ideas. Moreover, an attitude which assumes that new ideas and techniques are automatically of low or no relevance to one's operations needs to be guarded against. Anti-intellectualism, in whatever forms it may take and for whatever motivations it may arise, appears to us not to be in the best interests of either the firm or the manager. This recommendation may have a "motherhood" (maybe even a "Pollyanna") character, but we think it needs restatement here.*

4. *A "clearinghouse mechanism" should be established in which company data files can be made available to academic and professional researchers.* This is not a new idea, but one which the Commission recommends receive attention and effort. It would do much to meet the needs of academic researchers for empirical data, and consequently increase the usefulness (real and perceived) of their work.

The difficulties of implementing such an activity are widely recognized. Major difficulties include the concerns of companies regarding proprietary information, and the lack of congruence of categories and questions from study to study (even ones done by the same company). Although much time and careful effort is necessary, we think these problems can be mitigated.

One commissioner suggested that what is needed to facilitate a clearinghouse mechanism is some motivation for contributing companies. Conscious as we are that many company studies are underanalyzed (even in terms of their own objectives), we think one possible avenue would be for companies contributing data to suggest particular perspectives/approaches for consideration by researchers working with the data through the clearinghouse.

5. *Marketing educators and university administrators must be made aware of the crucial need to*

maintain open lines of communication with professional researchers and practicing managers. They should be persuaded to support teaching, consulting, and research activities which foster this communication and involve real-world marketing problems. This recommendation relates in large part to our earlier comments on "two cultures." In our view, too many academics think that "being practical" is not desirable (and may even be explicitly undesirable). For marketing academics, this tendency can become exacerbated when people from nonbusiness fields are involved, as in universitywide promotion reviews. Understanding practice, and contributing to it, can lead to major con-

tributions to knowledge-development itself.

Conclusion

What do we hope will emerge from the Commission's work? First and foremost, our hope is for greater sensitivity to and concern for the state of research in marketing today—whether that research be basic, problem-oriented, or problem-solving. From such sensitivity and concern we think will emerge an improved climate for all research, both in universities and in the business community. In turn, professionalism in marketing decision-making will be enhanced—a goal that we believe should be shared by all in the field.

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