
Consumer information programs can be more effective if they are conceived within a marketing framework which views consumer information as a product to be marketed. A methodology is outlined which can assist consumer information program developers in identifying information needs from the consumer's point of view, rather than the policy maker's.

A MODEL AND METHODOLOGY FOR THE DEVELOPMENT OF CONSUMER INFORMATION PROGRAMS

In recent years, government's concern for consumer protection in the information area has shifted from *reaction* to isolated and recognizable abuses, to *protection* designed to modify the consumer information environment (Wilkie and Gardner 1974). A recent government report concluded that a society of educated, wise consumers is essential to the democratic way of life,¹ and consumer information provision for improved purchase decision-making has been highlighted as a major policy issue for the 1980s (Kasulis, et al. 1974). While such diverse groups as consumer activist and government policy makers agree that improved consumer information environments are desirable, little agreement exists on either the goals for improved environments or the ways of achieving them.

Howard and Hulbert (1972, 1973) suggested that the criteria of timeliness, truthfulness, intelligibility,

Richard J. Lutz and Noel Capon are Associate Professors of Marketing at the Graduate School of Management, University of California, Los Angeles. Capon is currently Visiting Lecturer at the Graduate School of Business Administration, Harvard University, Cambridge, MA. The authors gratefully acknowledge the helpful comments of James R. Bettman and Harold H. Kassarian on an earlier draft of this paper.

relevance, and completeness should be applied for information to be adequate, but Jacoby (1974) criticized these criteria as being oriented toward the production of information rather than consumer use. Wilkie (1974) noted that information program goals can range from an emphasis on *knowledge* (for instance knowing the unit prices of a set of brand alternatives) to an emphasis on actual purchase *behavior* (purchase of the lowest unit priced item). However, Mittlestaedt (1972) argued that information value to the consumer is the ultimate criterion of usefulness; unfortunately, he did not specify how "value" should be assessed on the knowledge-behavior dimension.

Methods for attaining improved information environments are likewise subject to much disagreement. Some observers, supported by the thrust of federal legislation (e.g., truth in packaging, truth in lending, nutrient labeling), assume that possession of more information is a sufficient condition for improved decision-making (Stern 1967); others have argued that this view is too simplistic (Wilkie and Gardner 1974; Sheth and Mammanna 1973), and in spite of the claim of

¹Consumer Education in the United States, a report and recommendations of the Task Force on Consumer Education, Denver CO: Executive Commission of the States, July 1973.

Promotion

For successful results it is insufficient merely to produce and distribute a product; the product must also be promoted. Just as with commercial products and services, consumers must be made aware of the availability of information and persuaded to "purchase" it. For example, provision of unit price information will be totally ineffective if consumers believe it to be store inventory data; they need to know the nature of the program, how it works, where the information is distributed, etc.

Many forms of promotional activity, which themselves consist of information, are possible. However, whereas the analysis of consumer program information focused on the needs of the consumer, analysis of the promotional component of the marketing mix focuses on the manner in which the sources of information can secure attention to, and obtain purchase of the consumer information program.

Summary

The framework for viewing the development, delivery, and promotion of effective consumer information programs is, then, the marketing framework. Individual consumers are viewed as having sets of needs for information, and the consumer population is viewed as being composed of aggregations or market segments of consumers, each with similar sets of information needs. These market segments are optimally served by different market offerings of consumer information, defined in terms of product, distribution, price, and promotion. However, to the extent that individual products are complementary, rather than competitive, each market segment may require several market offerings for optimal decision-making, and any one market offering may be appropriate for a number of market segments.

In the next section a methodology is developed which can assist policy makers in isolating the most appropriate sets of marketing mixes to serve various market segments.

A Methodology for the Development of Consumer Information Programs

Discussion of the methodology proceeds most simply from the information element \times distribution channel matrix in Exhibit 3. The fundamental questions to be answered are what information (type) does the consumer need, from whom (source), and how should it be made available (distribution).

In order to develop information programs a set of five matrices is required, identified in Figure 1 with k information elements and n distribution channels.

Matrix A describes the information combinations

actually used by the consumer in making a purchase decision.

Matrix B describes the information combinations which the consumer perceives are available to him, whether he uses them or not. Matrix A is a subset of Matrix B, for the consumer could not use information that was perceived to be unavailable.

Matrix C represents the information combinations actually available to the consumer. Matrix A is a subset of Matrix C, and in most cases Matrix B will be also, although the consumer may think that information is available when actually it is not.

Matrix D represents the information combinations which the consumer desires (i.e., his own personally defined ideal information environment). Where the market for information is functioning optimally, the supply of information (C) perfectly matches the demand for information (D); the consumer is fully aware of the available information (B); and all the information is utilized in decision-making (A). Under these conditions, the following relationship would be observed: $A = B = C = D$. Presumably this relationship would represent maximum consumer satisfaction with the information environment.

Matrix E is the policy maker's action matrix. To the extent that there are discrepancies among the four previously described matrices, the information environment is nonideal. Thus the policy maker must make adjustments in the information environment to bring A, B, C, and D more nearly into congruence.

Matrix E, in a sense, represents the product and distribution plan for a given information program. Thus, Matrix E is the ultimate output of an analysis of the market's information needs, and constitutes the consumer-oriented policy maker's guide to action. The cell entries in Matrix E can range from "0" to "3," where nonzero entries indicate that action is called for with respect to that cell (i.e., the information environment is nonideal) and "0" means that $A = B = C = D$ for that cell and therefore no action is necessary. The numerical conditions in Matrix E have only nominal scale properties, and will be used in nonmetric forms of analysis.

Development of Matrix E proceeds, at the individual level, from a joint comparison on a cell-by-cell basis of Matrix D (Desired) against Matrices A through C. Exhibit 4 illustrates the form of this comparison. Since all four matrices contain binary data, 16 (2^4) possible combinations may result from a given cell. In only two of those instances would the information environment require no policy action (i.e., when all four matrices show "0" or when all four contain a "1"). In six other cases, as shown in the Exhibit, the combinations should not exist conceptually. These combina-

EXHIBIT 4
Derivation of Cell Entries for Action Matrix E

Used (A)	Matrix Perceived (B)	Cell Entries Available (C)	Desired (D)	Interpretation	Indicated Policy	Resultant Matrix E Entry
0	0	0	0	Not used, perceived, available or desired	No action	0
0	0	0	1	Not used, perceived, or available, but desired	Create information	3
0	0	1	0	Not used, perceived, or desired, but available	Delete information	1
0	0	1	1	Not used or perceived but desired and available	Consumer education	2
0	1	0	0	Not used, available, or desired, but perceived	Consumer education	2
0	1	0	1	Not used or available, but perceived and desired	Create information	3
0	1	1	0	Not used or desired, but perceived and available	Delete information	1
0	1	1	1	Not used, but perceived, available and desired	Consumer education	2
1	0	0	0	Used, but not perceived, available or desired	Measurement error	—
1	0	0	1	Used and desired, but not perceived or available	Measurement error	—
1	0	1	0	Used and available, but not perceived or desired	Measurement error	—
1	0	1	1	Used, available, and desired, but not perceived	Measurement error	—
1	1	0	0	Used and perceived, but not available or desired	Measurement error	—
1	1	0	1	Used, perceived, and desired, but not available	Measurement error	—
1	1	1	0	Used, perceived, and available, but not desired	Delete information	1
1	1	1	1	Used, perceived, available, and desired	No action	0

tions are those in which the consumer reports using information which really does not exist, or which the consumer fails to perceive as existing. Whenever one of these combinations appears, then, it would be considered measurement error.

The remaining eight possible combinations represent potential policy guidelines for an information program. These eight break down into three general categories: *information deletion*, *information creation*, and *consumer education*. The general information deletion action is called for when nondesired information is available in the environment. Examples of this type of

policy problem include deceptive advertising and television advertising directed toward young children.

Information creation is deemed necessary only when desired information is not actually available in the environment through the desired channel. Mandating unit pricing or nutritional labeling are examples of information creation.

The final general policy category, consumer education, would be dictated whenever the consumer misperceives the actual information environment and thus fails to incorporate desired information into the purchase decision process. Here, promotional activity by

the policy maker is necessary in order to inform the consumer of the information's availability. Perhaps the most challenging case within this category is the one in which the consumer desires the information, correctly perceives it to be available, but fails to use it in decision-making. In this instance, the policy maker may be faced with not only the task of *instructing* the consumer on how to use the information, but also the more difficult task of *motivating* him to use it. Thus, the "low involvement" consumer decision-making (Krugman 1965; Robertson 1976) which frustrates the marketers of consumer package goods may also prove to be a perplexing problem for consumer information marketers.

To sum up, under the consumer-oriented approach to information program marketing, the policy maker's guidelines for action (Matrix E) are derived directly from a consideration of the consumer's desired information environment. Unfortunately, it seems that the present state of policy-making substitutes the policy maker's own desired information environment for the consumer's. In fact, without systematic marketing research to determine consumer's desires and perceptions, as well as the current availability of information, public policy can be seen as moving directly to an inferior action matrix (E) which has no grounding in the reality of the marketplace. This is clearly an undesirable situation, and it is hoped that implementation of the present framework could help to alleviate it.

Implementation

The focus of the methodological discussion has been on the consumer, his behavior, perceptions, and desires. Implementation of the methodology requires the collection of data from consumers; only from a knowledge of consumers' behavior, perceptions, and desires can Matrices A, B, C, and D be constructed and Matrix E, the action matrix, be effectively developed. This is not meant to suggest that consumers know all the answers and that asking them questions is all that is necessary for effective information program development. Experts may certainly identify novel forms of information and novel delivery methods. Nevertheless, questioning consumers is a necessary first step and one that appears to have been underutilized in information program development thus far.

Determining Matrix A (Usage). The initial problem encountered in determining the information actually used by consumers lies in defining the dimensionality of the matrix (i.e., the sources and kinds of information used and the channels through which it was obtained). Perhaps the most straightforward approach to this problem is the use of focus group interviews. By identifying a reasonably exhaustive list of information elements

and distribution channels, structured questions can be developed to facilitate construction of Matrix A based on a subsequent sample of consumers. A question designed to determine actual information usage in the purchase of a home might be: "Did you use information on neighborhood inflation rates provided by the realtor via word-of-mouth?" Similar questions for each possible source, type, and channel of information would require simple "yes" or "no" responses from consumers, allowing Matrix A to be completely filled with "1" and "0" cell entries. Because there are obvious problems of memory lapses and social desirability inherent in this approach, some supplementary observational data may be warranted.

Determining Matrix B (Perceived Availability). In order to complete this matrix, questions of the following form could be used: "Was word-of-mouth information from the realtor on neighborhood inflation rates available?" Again, consumers would be asked this question for each cell in Matrix B, although a shortcut could be taken by simply plugging in all "1" entries from Matrix A. Presumably, consumers would never fail to perceive as available information they have reported using.

Determining Matrix C (Actual Availability). This is the only one of Matrices A-D which cannot be quantified via consumer surveys. Instead, an environmental search by the policy maker is dictated. This can prove to be a challenging and time-consuming task, but necessary to avoid costly duplication of already available information. Working from a matrix of the same dimensionality as A and B, the policy maker would simply note with a "1" those information elements extant in the market. In a sense, the "Actual Availability" Matrix might be more accurately labeled the "Policy Maker's Perceived Actual Availability" Matrix. To the extent that a careful and thorough environmental search is conducted, the policy maker's perceptions should be a reasonably accurate reflection of reality.

Determining Matrix D (Desired). Moving back into the consumer survey mode, the consumer might be asked, "Would it be desirable to have word-of-mouth information on neighborhood inflation rates available from the realtor?" Affirmative responses would be coded "1," and negative responses "0." This matrix, representing the consumer's self-reported "ideal information environment," would again be subject to all the traditional forms of self-report bias. One partial solution to this problem might be the use of some form of trade-off analysis to determine a "hierarchy" of desirable information.

It should be emphasized that the foregoing discussion of the development of Matrices A-D represents only one possible approach to the operationalization of

the proposed framework. There are a number of measurement issues which should be addressed. For instance, the suggested structured interview format may cause an upward bias in reporting; this problem could be alleviated by the use of a free-response format. Additionally, the possible impact of the order in which the matrices are assessed is a source of concern. Perhaps the interview should begin, rather than end, with the ideal information matrix (D). Finally, the reliability and validity of the proposed measurement approach should be investigated. This could be accomplished by some sort of multimethod approach employing decision protocols on observational methods in real or simulated shopping situations. Only with the assurance of high quality data can the policy maker move toward sound information program construction.

Having completed Matrices A through D via consumer survey and environmental search, the policy maker would then move into development of Matrix E, as described earlier (see Exhibit 4). While the discussion thus far has focused on the methods by which an individual consumer's matrices would be determined (only Matrix C holds for the entire market under investigation), aggregation is straightforward. For instance, the patterns of cell entries shown in Exhibit 4 can be tabulated across the entire sample, to reveal clusters or segments in the market. Note that neither the cell entry patterns nor the derived Matrix E cell entries have metric properties; they are, therefore, useful primarily as classification variables, or for instance, as dependent variables in a multiple discriminant analysis.

In an exploratory study of recent Los Angeles home purchasers, a preliminary version of the proposed methodology was employed with some success (Bettman et al. 1978). Budget constraints forced the use of a mail survey (which greatly attenuated the response

rate due to the rather complicated form of questioning) and precluded a complete environmental search. Nevertheless, several serious gaps in the home buying information environment were revealed, suggesting that the proposed framework and methodology may hold promise for future information program development.

Conclusion

The premise underlying this paper is that although diverse professional and political groups are united in a desire to improve the consumer information environment, most information programs recently introduced and under consideration are likely to achieve less than optimal results since policy makers have not employed a robust analytic framework in their development. A marketing framework, proceeding from the assumption of an underlying set of consumer needs for information, is advocated for use by policy makers in the development of information programs. Consumer market segments can be identified and served with market offerings of information defined in terms of the marketing mix variables of product, distribution, promotion, and price.

Using this framework, a multistage, analytic methodology was developed which related consumers' use of, perception of, and desire for information to actual information availability in a manner which enables the policy maker to develop an action matrix of required information combinations.

While there is no guarantee of effective information program development, implementation of the framework and methodology developed in this paper can serve to increase the probability that successful consumer information programs will be introduced.

REFERENCES

- Bettman, James R. (1975), "Issues in Designing Consumer Information Environments," *Journal of Consumer Research*, 2 (December), 169-177.
- , Noel Capon, Richard J. Lutz, George E. Belch, and Marian Burke, (1978), "Affirmative Disclosure in Home Purchasing," Occasional Paper No. 14, Housing, Real Estate and Urban Land Studies Program, Los Angeles: Graduate School of Management, University of California.
- Bymers, Gwen (1972), "Seller-Buyer Communication: Point of View of a Family Economist," *Journal of Home Economics*, 64 (February), 59-63.
- Capon, Noel, and Richard J. Lutz, (1976), "Consumer Information and the Black Consumer: An Exploratory Study," in *Emerging Issues in Black Economic Development*, Benjamin F. Bobo and Alfred E. Osborne Jr., eds., Lexington, MA: D.C. Heath, 125-166.
- Day, George S. (1976), "Assessing the Effects of Information Disclosure Requirements," *Journal of Marketing*, 40 (April), 42-52.
- Farley, John U. (1964), "Brand Loyalty and the Economics of Information," *Journal of Business*, 37 (October), 370-381.
- Frank, Ronald E., William F. Massy, and Yoram Wind, (1972), *Market Segmentation*, Englewood Cliffs, NJ: Prentice-Hall, Inc.
- French, Warren A., and William R. Darden, (1973), "The Fair Packaging and Labeling Act: An Assessment," *Business Ideas and Facts*, 6 (Summer), 2-8.
- Howard, John A. (1972), "Conceptualizing Adequacy of Information," in *Proceedings of the Third Annual Conference of the Association for Consumer Research*, M. Venkatesan, ed., Chicago: Association for Consumer Research, 90-100.
- , and James Hulbert (1973), *Advertising and the Public Interest: A Staff Report to the Federal Trade Commission*, Chicago: Crain Communications.
- Jacoby, Jacob (1974), "Consumer Reaction to Information Displays: Packaging and Advertising," in *Advertising and the Pub-*

- lic Interest, Salvatore Divita, ed., Chicago: American Marketing Association, 101-118.
- , Donald E. Speller, and Carol A. Kohn (1974a), "Brand Choice Behavior as a Function of Information Load: Study I," *Journal of Marketing Research*, 11 (February) 63-69.
- , Donald E. Speller, and Carol A. Kohn (1974b), "Brand Choice Behavior as a Function of Information Load—Replication and Extension," *Journal of Consumer Research*, 1 (June), 33-42.
- Johansson, Johnny K. (1973), "The Theory and Practice of Swedish Consumer Policy," Working Paper No. 136, Urbana, IL: College of Commerce and Business Administration, University of Illinois.
- Kasulis, Jack J., James P. McLennan, Fuat A. Firat, and Louis W. Stern (1974), "Public Policy Issues of the 1980's," Working Paper, Evanston IL: Graduate School of Management, Northwestern University.
- Krugman, Herbert E. (1965), "The Impact of Television Advertising: Learning Without Involvement," *Public Opinion Quarterly*, 29 (Fall), 349-356.
- Mittlestaedt, Robert A. (1972), "Consumer Protection and the Value of Information," in *Proceedings of the Third Annual Conference of the Association for Consumer Research*, M. Venkatesan, ed., Chicago: Association for Consumer Research, 101-106.
- Robertson, Thomas S. (1976), "Low Commitment Consumer Behavior," *Journal of Advertising Research*, 16 (April), 19-27.
- Scammon, Debra L. (1977), "'Information Load' and Consumers," *Journal of Consumer Research*, 4 (December), 148-155.
- Sheth, Jagdish N. and Nicholas J. Mammanna (1973), "Why Consumer Protection Efforts are Likely to Fail?" Working Paper No. 104, Urbana IL: College of Commerce and Business Administration, University of Illinois.
- Stern, Louis L. (1967), "Consumer Protection via Increased Information," *Journal of Marketing*, 36 (April), 48-52.
- Thorelli, Hans B. (1971), "Consumer Information Policy in Sweden—What Can Be Learned?" *Journal of Marketing*, 35 (January), 50-55.
- (1972), "A Concept of Consumer Policy," in *Proceedings of the Third Annual Conference of the Association for Consumer Research*, M. Venkatesan, ed., Chicago: Association for Consumer Research, 192-200.
- Udell, Jon G. (1966), "Prepurchase Behavior of Buyers of Small Electrical Appliances," *Journal of Marketing*, 30 (October), 50-52.
- Wilkie, William L. (1974), *Assessment of Consumer Information Processing Research in Relation to Public Policy Needs*, Final Report prepared under Grant GI -42037, Office of Exploratory Research and Problem Assessment, National Sciences Foundation.
- , and David M. Gardner (1974), "The Role of Marketing Research in Public Policy Decision Making," *Journal of Marketing*, 38 (January), 38-47.
- Wright, Peter L. (1975), "Consumer Choice Strategies: Simplifying vs. Optimizing," *Journal of Marketing Research*, 12 (February), 60-67.

Addison-Wesley's New Ideas in Marketing

The First in Addison-Wesley's Advances in Marketing Series, Yoram J. Wind, Advisory Editor
AN INFORMATION PROCESSING THEORY OF CONSUMER CHOICE

James R. Bettman (University of California, Los Angeles)

This advanced text explores in depth the theoretical aspects of consumer choice in marketing and the whole information processing phenomena. Based on recent consumer research and cognitive psychology studies, the book examines the basic components of the choice process, their relationships to each other, the implications for public policy and marketing decisions, and areas for needed research. There are unusually complete discussions of the areas of interrupts and consumers reactions to them, methods for implementing choice processes, and how properties of choice tasks impact choice processes. A particularly useful reference or supplementary tool for researchers and advanced students of consumer behavior and psychological research. (00834) 402 pp., available now \$14.95

Write to Keith O. Nave for a copy to examine on approval for 30 days.



Business & Professional Division
Addison-Wesley Publishing Company, Inc.
 Reading, Massachusetts 01867

PRODUCT POLICY: CASES AND CONCEPTS

Richard N. Cardozo (University of Minnesota)

A comprehensive, conceptually-coordinated set of cases and text for courses in product policy, strategy, and management or marketing strategy. The cases are based on real business problems and illustrate a full range of marketing responsibilities — from managing existing policy lines, to analyzing new ventures and developing product market portfolios. Decision oriented, each case includes sufficient background data to help students develop skills in analyzing complex problems in product policy and in shaping appropriate market programs. An accompanying Instructor's Manual furnishes many valuable teaching resources including a detailed analysis of each case (with the actual outcome), teaching objectives, etc. (00888) approx 450 pp., March 1979

For a complimentary copy to review for possible adoption, write to Keith O. Nave. Be sure to mention your course title, enrollment, and title of your current text.

