Chapter-II
Evolution of Consumer Information in Economic Thought

The classical model of economic man assumes a consumer who can state his preferences; who is consistent in his choice and who is rational in his behaviour. Endowed with perfect knowledge of the market offering this economic consumer is capable of maximizing his subjective utility function with mathematical precision, subject only to his budget constraint. Frank Knight introduced risk and uncertainty into economic thinking and Von Neumann and Morgenstern formally incorporated these concepts into the theory of consumer behaviour. The consumer now did not merely maximize utility but he maximized "Expected" utility.

The probabilistic model of Von Neumann and Morgenstern clearly implies imperfect knowledge on the part of consumers. But Stigler treated information explicitly on cost in applying marginal analysis to the search process. In his theory on the "Economics of information" Stigler hypothesized that an individual will continue his information search as long as the incremental value gain per unit of search is greater than the marginal cost associated with it. The optimal information point is established when the marginal value of information equals the marginal cost of search. The value gained from each effort is assessed by the consumer in terms of lower prices and better quality from which he presumably obtains greater utility. The cost of information is measured in time units, efforts, and money associated with the search. Stigler's theory would predict for example, an individual with high income would
spend less time and effort on information search than another with low income. Studies have shown that neither the high nor the low-income brackets will seek much information in buying durable products, but that the middle income groups are acquiring information most actively.

The Swedish economist Staffan Linder explains this seeming contradiction by nothing that, with rising income the number of consumption decisions increases too. High-income people have also greater demand on their scarce time. The combination of these simultaneous phenomena leads Linder to the thesis of "a declining quality of decisions" which fits the high-income earners well. As regards the poor, "their low level of education means a low yield on time spent in the collection of information".

Economic thinking has come a long way from the early models of economic man, although some of the classical notions seem to persist. But with Stigler and Linder the stage is set for a closer look at the role information in the marketing literature.

The Role of Information in Marketing

To the extent that marketing originated from economics, it suffered from unrealistic assumptions on the classical economic theory. Over the years, the study of marketing has been variously approached from institutional, commodity, functional and managerial standpoint.
More recently, the social approach to marketing has developed in which theories of group behaviours and interaction are used to explain markets and market behaviour. Today, marketing is considered to be an eclectic discipline, borrowing freely from many fields such as psychology, social psychology, sociology and anthropology. The purpose is to explore phenomena to understand and predict behaviours in market. The consumer’s search for evaluation and use of information has become an integral area of inquiry within the study of consumer behaviour and marketing.

Buyer Behaviour Models

The aspects of search and use of consumer information are often treated as part of complex buyer behaviour or decision-making models. Howard made the first articulate attempt to associate human behaviour with the buying process. He viewed buying as a process of learning. In choosing products and brand, an individual tends to rely strongly on his experience, (i.e. on what he has learned) but due to dynamically changing environment, the individual is required continuously adapt his behaviour to these environmental changes by engaging in new learning. Depending on his experience, a buyer is positioned in various phases of the learning curve. Accordingly, he engages in extensive problem solving, limited problem solving, or automatic response behaviour. In each of these progressive phases, there exists a gradually increasing amount of experience (i.e. stored prior learning) which is coupled with a declining amount of information seeking, that is, in any given purchase situation, the greater the experience with the particular products the less will be the
importance attached to outside sources of information such as advertising, discussion with friends and shopping guides.

Nicosia's decision model includes a greater number of variables, and it is considerably more complex than that of Howard. The exposure of an individual to an informational cue (e.g. an advertising message) may induce him to form certain attitudes. Search and the evaluation of means-ends relationships may motivate him to make the eventual purchase decision. In the process, consumer "attributes" is transformed from predisposition, to attitudes, to motivations. The transformation occurs through a combination of message from various information sources, environmental situation and experience.

Engel's purchasing decision model is quite similar to Nicosia's model and includes stages for the search and evaluation of alternatives. (i.e., information seeking). At each stage of the process, the consumer is faced with a new decision, and he makes these decisions in the light of information which he passively receives or actively seeks and which he then compares with his internal information (i.e. experience). The entire decision process takes place in what Engel calls the "Central Control Unit". These models are intended to explain certain key aspects of buyer behaviour. For the researcher, behaviour models may serve as a guide for research design and analysis. For the marketing manager, such models can provide a predictive analytical tool for a more effective mix of product, distribution and communication strategies.
Market Information

Marketing implications from consumer behaviour models abound. Conclusions are drawn from the analytical framework provided by these models, such as how people arrive at purchase decisions, how they react to a new product or advertising message. For example, management's desire to predict and measure the effectiveness of the firm's communications mix has always been a continuous problem.

Lavidge and Steiner, proposed such a nodal for the predictive measurement for advertising effectiveness. They postulated that potential buyers must first be made aware of the existence of a product. During the decision process the individual moves from awareness to the ultimate purchase of the product along cognitive, affective and cognitive dimension of behaviour. They hypothesized that each step of the decision process requires different kinds of information and that advertising, which helps move people through the decision stages, can be designed accordingly to be either informative or to induce attitude changes, or to directly stimulate desires for a particular product. One major purpose of their model was to predict and measure advertising effectiveness at each stage of the process, a procedure, which they claimed, was superior to the conventional advertising - sales measure.

The general concept of a "hierarchy of effects" as suggested by Lavidge and Steiner has been refined by many authors. Copland, visualized the decision stages in terms of increasing purchase probabilities. But as a tool for measuring advertising effectiveness, Palda criticized the "hierarchy of effects" as suggested by Lavidege and
Steiner and asked whether it is "really more difficult and expensive to investigate the direct link between advertising expenditures and sales than it is to undertake research into each step of the hierarchy — even if the existence of a hierarchy were actually established" \(^{10}\). In another study by the same author, he had developed a model for measuring the cumulative effects of advertising based on multiple regression analysis.

Communication is the process of transmitting information. From the managerial viewpoint, communications directed at consumers are designed in terms of promotional strategies, target markets, goals and objectives and budgets. It appears that much of the communication literature in marketing is written from the firm’s standpoint, in that the implications are managerially oriented towards increased profitability and sales. The studies on advertising effectiveness are no exception. Their purpose is to aid management in the structuring of more effective communications and promotional mixes in order to increase a company’s market share. The consumer’s informational needs are not of their concern. For the purpose of this dissertation, one must look at some studies which are concerned with the problem of information from the consumer viewpoint.

In studies concerning the use and usefulness of consumer information, the experimental approach has been widely employed. For example, Anderson and others reported experiments on the relationship between product proliferation and information value \(^{11}\). They found, first, that as the number of brands in a purchase decision increases, the consumer becomes less aware of and sensitive to changes in any of the brands involved in the decision.
Secondly, they found that with the increasing number of brands the information for each item appeared to decline.

They concluded that:

As the number of choice increases, the purchase decision becomes more difficult. That is, the added advantage of new sources of information for a purchase decision is outweighed by the disadvantages of added time and effort involved in the decision.

This conclusion seems to support Stigler's theory\textsuperscript{12}. The results from the Anderson experiment also suggest that increased amounts of information may only be part of the solution to the consumer problem. The study indicated that “as the consumer makes purchase decisions in the situations where there is a large number of choices, he experiences a considerable degree of anxiety, discomfort”\textsuperscript{13}. At the same time, the post-purchase dissonance was greater, the greater the number of possible choices from alternative brands. The frustrations resulting from the market complexity which was stimulated in the experiment through an increasing number of brand from which subjects were forced to choose, could not be alleviated fully by providing new information on these brands.
Risk and the Bayesian Approach

Edwards reported several experiments that dealt with acquisition and use of information \(^{14}\). He attempted to compare the "real with ideal" performance as based on the Bayesian decision model and found that the subjects tended to show a "qualitative correspondence" with the Bayesian model. Paul Green conducted experiments in which he also related "information buying" to the Bayesian model. He found that the subjects were sensitive to differences in prior probabilities, but their behaviour was relatively insensitive to differences in information reliability and pay-offs. When there was no conflict between prior and sample information, subjects consistently chose in accordance with — the Bayesian model \(^{15}\). The experimental results of both Edwards and Green would seem to indicate that too much information can be dysfunctional as too little information.

Closely related to Baysian approach is Bauer’s view of the product choice process as a risk taking situation where the consumer can obtain information at a cost in order to reduce his perceived risk of making a wrong decision \(^ {16}\). The higher the degree or perceived risk the greater the likelihood of additional pre purchase information search and more the consumer is willing to expend in money, time and effort for additional information.

Similarly, Green’s experiments indicated that consumers tend to relate the cost of securing additional information to the weighted value of reducing the perceived cost of uncertainty \(^ {17}\).
The Nature of Information Sources:

Many authors have studied the effect of the nature of the source of information on consumer behaviour. Wilding and Bauer reported an experiment to test favourableness of attitude towards a communication source as related to personality variables 18.

Engel and others have studied the influence of information on the adoption of new "self medication" products and they reported that the degree of influence depend on the seriousness of the ailment 19. Television advertisements and discussion with friends were important sources of information at the bottom of their "sickness scales" where minor ailments were involved.

Hempel conducted experimental studies of the effect of different types of information sources on consumer product evaluation 20. Using two different brand shirts, he divided his subjects into a group, which expressed a preference for one brand name and second group preferring the other brand. He then presented each group with two divergent communications, (a) one message confirming prior preferences and (b) another message conflicting with it, from each of two information sources – consumer reports and a recorded sales – talk. The member of each group, who were administered any two of the four possible "Message – information source" combinations, were randomly selected. From the resulting data Hempel concluded that when both the messages confirmed the preferred brand, neither information source showed a significantly greater influence on the decision outcome. When one or both communications conflicted with prior brand preference, consumer reports
appeared to have stronger effect on product choice than the recorded sales talk. Apparently, consumers tend to evaluate a piece of information not only by its content but also by the truth worthiness of its source.

There were several pieces of evidence available to support the possibility of distinctive search patterns Kelman \(^{21}\) and Chohler suggested that cognitive needs and styles let to "Clarifiers" and "Simplifiers" \(^{22}\). Mueller noted that their findings seemed to indicate "feature substitution" — through attention to some aspects of deliberation and limited attention to others. Dommermuth \(^{23}\) found differences in search pattern by comparing numbers of store visit with numbers of brands considered. At the individual buyer level, Cox reports clear differences in shopping patterns.

The study by Newmann and Staelin presents research finding which help to answer may questions such as how many sources of information do consumer consult before they buy? Do the sources vary in number and king? What part does advertising play in the purchase decision process? \(^{24}\) The study reported here covered automobiles and six major appliances. The automobile and appliance data were analysed separately and in the aggregate, by a multivariate technique as well as by frequency tables. Forty four percent of the buyers reported using only one type of source or none. Another forty four percent used either two or three types of sources while twelve percent used four or more. The findings for both automobiles and appliances were very similar. Some variation in number of sources was observed according to the type used. The number tended to be lower when source use included friends and neighbours and retail stores than when it included advertising or books,
pamphlets and articles. The study did indicate, however that use of different sources were positively inter-correlated. They also reported that relationship between individual source coverage, usage and various explanatory variables. Use of each type of source was positively correlated with the use of each other type, as would be expected of measurements of the same construct. The highest correlation (0.414) was for advertising and books, pamphlets and articles, showing that users of advertising tend to seek out information in printed matter. They other correlation ranged from 0.108 to 0.235.

Newmann and Staelin also measured why some buyers use no more than one type of source, while others used several. To find out this, they used Automatic Interaction Detector (AID) computer program to learn which of the 29 selected factors were most useful for segmenting the sample. The program sequentially produced binary splits of the respondents based on the combinations of levels of the independent variable, which minimized the within group sum of squares. The technique also detects interaction between variables.

One implication of the AID results was that consumers consider search cost and in many cases do not feel it worthwhile to contact several kind of sources. Another implication of the findings was that consumers who presumably have the greatest need to use limited funds efficiently – i.e., households of lower education and income levels – are likely to seek and use information. Yet another finding of this study supports Bauer’s view that consumers are not passive recipients of commercial message, but that they exercise initiative.
On the whole Newmann and Staelin presented new empirical evidence of the use of information sources by users of consumers durable. The finding disputed charges that advertisers monopolies the distribution of information and also claims that advertising supplies most of the information, people want before buying.

Comprehensive models of consumer behaviour have suggested that a consumer past information is an important input into his brand choice. This variable is generally thought to be one of the several key variable that intervene between a decision maker's perceptions and his subsequent brand selection. Thus knowledge of consumers’ part information can help marketers influence brand choice.

Reober B. Woodruff in his article presented research focusing on the problems of measuring consumers past information about brand attributes \(^{26}\). A procedure for assessing consumer’s prior brand information was discussed and observations were made with a sample of husbands and wives. Finally, suggestion was offered for improvement of the assessment procedure. The finding suggested that a consumer’s prior information could be segregated by brands and attributes. However, separating prior information by attributes requires that the assessment procedure allow a consumer to consider each brand’s attributes separately, since his information about each brand or attribute is likely to be different. It was also suggested that measurement of consumer’s prior information could be used effectively for basis research on business – consumer communication process. He also state some example of question, guiding such research like (a) which sources of information of information generally have greatest impact on consumer brand decisions?
And (c) which information sources are most effective for each kind of appeal?

The research conducted by John D. Claxton and others, employed numerical taxonomic analysis as a method for summarizing the ways in which shoppers gather information in purchasing durable good—specifically furniture and appliances. In this study taxonomic numerical analysis proved to be useful for classifying buyer pre-purchase shopping behaviour. The primary purpose of the study was to analyse measures of pre-purchase search with a view to identifying patterns of information gathering and to assess the factors associated with differences in these patterns. Data for the study were obtained from personal interviews with 546 housewives. Questions dealing with five aspects of pre-purchase shopping activities were included in the questionnaire. They are type and range of alternative considered, information source used, features considered, stores visited and time spent considering the purchase. These questions, of course, included in the earlier shopping behaviour studies conducted by Katona and Mueller and Newmann Staelin. It was concluded that three general clusters were identified in both furniture and appliance samples and were labeled—through (store intense), thorough (balance) and non-thorough on the basis of group average measures on the discriminating variables. Within these groupings, subcultures varying in deliberation time were identified.
About five percent of the qualifying furniture buyers were placed in the through (store intense) grouping. Their outstanding characteristics was making use of an average of twenty percent store visits in the purchasing process as compared eight percent or less visits in other groups. The through (store intense) group also used more information sources (an average of more than three) and spent a longer time considering the purchase (almost one year). Forty four percent of the furniture buyers fell into second group-thorough (balance). On the average they consulted about three information sources, visited six stores and spent several months considering the purchase. Non-thorough buyers made up about thirty-four percent of furniture sample. On the average they consulted only one source of information, two stores and deliberate on their purchase for only a few weeks.

In the sample of appliance buyers, about eight percent were in through (store intense) grouping and twenty-seven percent were in thorough (balance) grouping. The lower number of information sources consulted by the store intense group as compared to the balance group may indicate a trade-off in mode of information gathering. The large cluster was the non-thorough grouping which took in about sixty-five percent of the appliance buyers. This basic grouping broke into three subcultures differentiated largely by calibration time, again a pattern similar to that observed in the furniture results. In all subcultures, an average of only about one source of information was used, accompanied by only one store visit. The above results by Claxton and other illuminate different approaches to the shopping task as identified by Katona and Mueller and Newmann and Staelin.
Newmann and Staelin in another study used one more multivariate technique viz., Multiple Classification Analysis (MCA), a dummy variable regression programme for examine the inter-relationship between independent variables and a dependent variable within the context of an additive model. West Brook and Fornell, in their study indicate that major appliance buyers can be classified according to distinctive patterns of pre-purchase information source usage, which are understandable in terms of various explanatory variables. The variability in source usage noted by Newmann and Staelin and the brad, overall patterns of search by Claxton and others together suggested that distinctive patterns of source usage may characterise buyers of durable goods.

Some individuals may prefer to limit their pre-purchase search to certain kinds of sources, whereas others may choose to consult a wider variety of sources. The identification of such patterns would contribute to an improved understanding of the process of external pre-purchase information search. Because of this, a study was undertaken by Westbrook and Fornell to determine whether patterns of information source usage could be identified and related to selected explanatory variables. The conceptual framework for the study provided three broad classes of variables, as potential determinates of information source usage patterns of durable goods buyers. They are (a) personal or background characteristics of consumers consisting of demographic descriptors such as age, education and occupation, as well as satisfaction with the previous buying and ownership experience, (b) situational factors at the time of purchase including such variables as economic constraints, condition to buy advantageously and (c) characteristics of consumer’s purchase
decision process consisting or internal factors such as size of the evoked set of brands, evaluative criteria, specific self confidence etc.

Conclusions from Literature

The experimental studies reviewed have important implications for this study. They show that consumers confronted with alternatives, do perceive anxiety and may desire information in order to lower the risk of making a wrong decision. The greater the number of possible choices becomes, the more difficult is the decision, and the stronger may be the desire for additional information. Given additional information, consumers may, at some point, become prone to confusion instead of greater market transparency. The confusion arises partly from the greater amount of information that they may have to process, and partly from the larger number of choices that may have to be made in a complex market environment. The limited time, which an individual consumer may be willing to devote to information search, can effectively reduce the informational input per decision as the number of alternative increases.

In such situations, consumers may revert back to simple forms of information, such as brand names and advertising.

Acquisition of information, active or passive, is a continuous process which can utilize many sources: experience, friends retailers, quality seals, brand names, user's manuals, advertising and product testing and ranking publications. The experiments indicate, however, that people are often limited in their capacity to digest all the available information, to sort it out, and to make best use of it for selecting and
comparing alternatives. Information is often confusing, conflicting or technically beyond the understanding of many. From these arguments it follows that, although, consumers may attempt to lesson uncertainty through information acquisition, more information per se may neither help to actually reduce perceived risk prior to a decision, nor lower post-purchase dissonance in cases of high psychological commitment.

The Studies on consumer information reviewed above are subject to certain limitations. Due to their experimental nature, they may be lacking in “real world applicability”. Whether the results of these experiments on information can be transferred to the true–to–life consumer would remains at least open to question.
Foot Notes:


12. Stigler, OP. Cit.


17. Paul E. Green, "Consumer of Information on Knowing the Consumer, ed. Joseph Newmann, New York, John Wiley and Sons, Inc. 1968, PP. 333 – 56.


