MODELS OF CONSUMER BEHAVIOR $\boxed{3}$

As the buying process is very important in marketing, it would be ideal to have a complete idea on buyer behavior model. A model is an attempt to diagram the elements and relationship among the elements, in this case buyer behavior forces and variables. Marketing and behavioral science scholars have attempted to further the understanding of buyer behavior by building models that show the relationships among number of variables - both internal and external - and the buying decisions. In this unit the basic aspects of models will be discussed first, and, thereafter four large systems models will be taken for discussion. The whole discussion will be made in three lessons. Let's start the lessonwise discussion.

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Lesson - 1: Models - Basic Aspects

Objectives of this lesson

After reading this lesson, you will be able to:

- Understand the basic concepts relating to model
- Define what a model is
- Discuss methods of model development
- Identify different types of consumer behavior models.

Introduction

Consumer behavior researchers face many challenging tasks, and one of such challenging tasks is that of integrating various research findings. The most difficult task is to understand all of the separate components of consumer behavior and how they fit together. It may come as a surprise to discover that several comprehensive models of consumer behavior have been proposed to perform this difficult task. These models are simplified and explained in this lesson. But, first we must know what a model is, how it may be constructed, and what are the different types of consumer behavior models used by the marketers in knowing the behavioral patterns of consumers. The individual models will be discussed thereafter.

What a Model is?

A model is a representation of something (a buying process for example) on a smaller scale. "A model is an attempt to diagram the elements and relationships among elements, in this case buyer behavior forces and variables"[1]. Usually a model connects several components in such a way that there is a final whole, which represents the 'something'. It is nothing more than a replica of the phenomena it is designed to represent. Consumer behavior models are models in the same way that those small ships we constructed as children are models. Each represents in a simplified way something else. The plastic ship is a model of the larger more complicated machine. The consumer behavior model represents consumer decision process. It hypothesizes those forces motivating and shaping behavior. It shows the structure of the behavior of consumers.

> A model is a representation of something on a smaller scale.

> The consumer behavior model represents consumer decision process.

Usually the modeled behavior is the decision-making process. It tells us something about the properties and activities of the phenomenon of consumer behavior. Thus, it is a framework, a schema, and a representation of what is believed to actually offer when consumers make decisions about purchases. It is based on suppositions or assumptions that may or may not correspond exactly with the real marketing world but is, nevertheless, useful in helping us to understand what goes on in a buying process.

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[1] *Marketing in a Changing Environment, Holloway R.J., and Hancock R.S., John Wiley & Sons, Inc. USA, 1973, p. 248*

Methods of Model Development

Scholars have attempted to further the understanding of consumer behavior by building models that show the relationships among number of variables, such as internal and external forces and the buying decisions. Such models show the system of buying, with its attendant relationships, as a logical flow process with the consumer proceeding down a time line toward decision. But, question remains, 'how models are constructed?' Mr. Lazer has identified two different approaches that may be used to develop or construct consumer behavior models. They are as follows:

- The Abstraction method, and
- The Realization method.

Let us now have a look of them in turn:

- **The Abstraction Method of Model Construction:** Under this method the real life is abstracted or represented by a model. The following figure shows the steps that the model developer follows under this method:

Figure 3.1: Showing the Steps of Model Construction in Abstraction Method
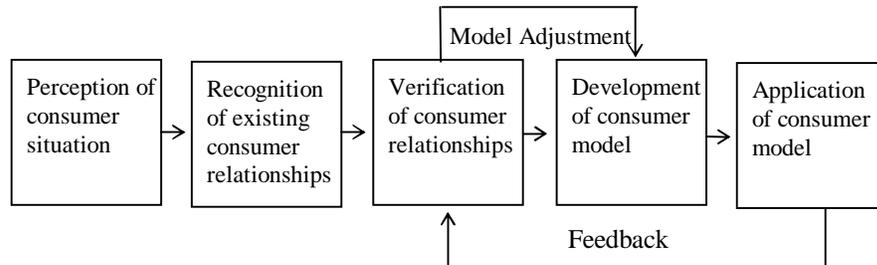

If someone wants to develop a consumer behavior model using the abstraction method, he first gives a meaning to a particular consumer situation by selecting, organizing, and interpreting the related stimuli into a meaningful way. In the second step, he tries to find out the relationships that exist in the particular consumer situation. For example, if the model developer is trying to develop a model, say, on the dress material buying behavior of urban female consumers, he will try to know what could be the variables that influence the decision process of these consumers. Third, he will have to authenticate the relationship that he has recognized through formal or informal study. Once the verification results are found to be true, he will develop the behavior model explaining the behavior process. In the last step, the model so developed need to be applied to see how it works in the real world. If any anomalies are observed, the developer will further verify the consumer relationship to change or modify the model. This process will continue so long the application results and verification results do not match.

- **The Realization Method of Model Construction:**

  This method of model development is different than the abstraction method in that, model here is developed based on a theoretical foundation. Following figure shows the steps of the realization method of model development.

  Figure - 3.2: Showing the Steps of Model Construction in Realization Method
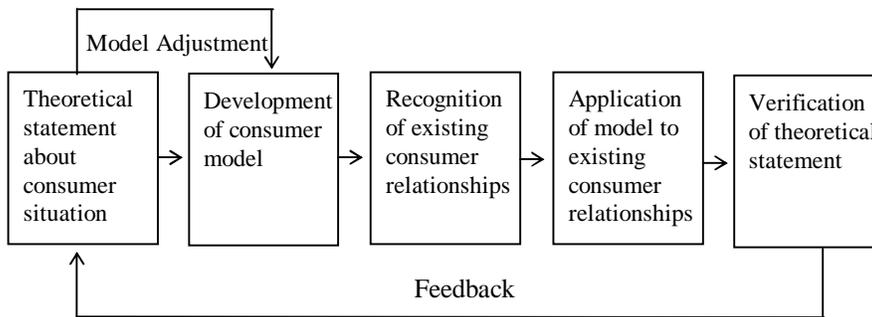
  In this method, the model developer first gives a philosophical statement of phenomena relating to certain consumer situation on which he intends to construct the model. In the second step, a general model is developed based on this conceptual foundation. Then, he undertakes research to reveal the existing consumer relationships pertaining to the situation that he has considered. Thereafter, the model is applied to the real world consumer situation involving certain relationships. The application of the model into the reality will give him certain results which he uses to verify the theory that he has developed and used as a foundation of his model. If verification based on the application results shows anomalies with that of the theoretical statement, the developer of the model will revise his theory and the consequent changes in the model.

Different Types of Consumer Behavior Models

Messrs. Bettman and Jones have classified consumer behavior models into four basic types. They are: (a) Stochastic or probability models, (b) Linear experimental models, (c) Information processing models, and (d) Large systems models. In the following few paragraphs you will be given a brief idea on each of these four types of consumer behavior models:

- **Stochastic or Probability Models**

Models in this category are basically based on the learning theories. According to the learning assumption, buying behavior of an individual is dependent on his past, particularly the immediate past purchase behavior and the consequent experience. This type of models is based on two components. One component describes different aspects of behavior by

developing small independent models on each aspect. The second component combines each of these individual models into one large model to explain the behavior as a whole. While combining the independent models into one unified model, the model developers assume that the entire group of people will behave in the same fashion as the individual does.

- **Linear Experimental Models**

Linear experimental models give us idea on the behavior of market in general.

The stochastic or probability models describe individual consumer behavior. On the otherhand, the linear experimental models give us idea on the behavior of market in general. These are the mathematical models and are difficult to understand by those having no mathematical background. The basic linear experimental model described by Messrs. Bettman and Jones is as follows:

$$f(y) = \Sigma g_i(\chi_i) + \varepsilon_i$$

Here y is the dependant variable, χ_i is the independent variable, and *ε is a random element.* Models in this category are basically descriptive.[*]

- **Information Processing Models**

These models are based on the cognitive orientation of different psychological aspects such as learning, perception etc. According to cognitive orientation, individuals constantly receive information from the environment and process and evaluate those, using their cognitive structures to arrive at decisions. Therefore, models in this category describe consumer behavior in terms of information gathering, processing, evaluating and deciding based on the evaluation. Models in this category highlight on the behavior of individual, not the group behavior. Models are developed here by studying the buying process of consumers either formally, or informally. The findings of such studies are used as the foundation of model construction.

- **Large Systems Models**

These are the models mostly used by the consumer behavior researchers as well as marketers in predicting consumer behavior. They describe behavior in terms of variables and their relationships. Different variables influencing consumer decision are organized diagrammatically in these models in a logical way showing their relationships and interactions. Therefore, these models are broad but comprehensive, in the sense that they describe behavior in logical and understandable ways. The understanding of behavior is made possible in these models by the use of flow charts. The flow diagram identifies relationships, interaction, and interdependencies among variables or factors determining consumer behavior.

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[*] *For detail sv Bettman and Jones, Models of Consumer Behavior, p.548.*

Self Evaluation

Objective Questions

1. A model is an attempt to diagram –
    a. The elements and relationships among elements
    b. Buyer behavior forces and variables
    c. Both a & b
    d. None of the above.

2. Usually a model connects several components in such a way that –
    a. There is a final whole which represents the 'something'
    b. Separates the components
    c. Relationship among cultural elements
    d. All of the above.

3. The consumer behavior model represents –
    a. Consumer post-purchase evaluation process
    b. Consumer decision process
    c. Consumer expenditure pattern
    d. None of the above.

4. Consumer behavior model is based on –
    a. Suppositions that may correspond exactly with the real marketing world
    b. Assumptions that may or may not correspond exactly with the real marketing world -
    c. Both a & b
    d. None of the above.

5. Who has identified the two different approaches that may be used to develop or construct consumer behavior models?
    a. Mr. Berkman
    b. Mr. Gilson
    c. Mr. John A. Howard
    d. Mr. Lazer.

6. Which of the following is a method of model construction?
    a. Abstraction method
    b. Realization method
    c. Both a & b
    d. None of the above.

7. Which of the following method of model construction uses theoretical statement to develop a model?
   a. Abstraction method
   b. Realization method
   c. Both a & b
   d. None of the above.

8. Messrs. Bettman and Jones have classified consumer behavior models into –
   a. Four basic types
   b. Five basic types
   c. Three basic types
   d. None of the above.

9. Which of the following model is based on the learning theories ?
   a. Linear experimental models
   b. Stochastic or probability models
   c. Information processing models
   d. Large systems models.

10. Linear experimental models describe –
    a. Individual consumer behavior
    b. Industrial buying behavior
    c. The behavior of market in general
    d. All of the above.

11. Information processing models describe consumer behavior -
    a. In terms of information gathering
    b. In terms of information processing and evaluation
    c. In terms of information evaluation and deciding based on the evaluation
    d. All of the above.

Answers:

1. c, 2. a, 3. b, 4. c, 5. d, 6. c,   7. b, 8. a, 9. b, 10. c, 11. d.

Descriptive Questions

1. Define a consumer behavior model. Explain the methods of model development with diagram.

2. Summarize different types of consumer behavior models.

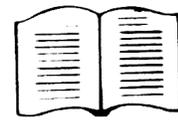## Lesson - 2: Howard - Sheth Model of Buyer Behavior

Objectives of this lesson

After reading this lesson, you will be able to:

- Understand the premise of the model

- Design a model

- Explain different input variables affecting the hypothetical constructs of the buyer

- Identify and explain the different output variables of the buying process

- Describe the learning and perceptual constructs influencing the buying decision making

- Show a relationship among the variables of the model with a real-life buying example

- Evaluate the model.

Introduction

The Howard - Sheth Model shown in the figure next focuses on the element of repeat buying and presents the dynamics of purchase behavior over a period of time. The model shows that a person has motives and perceptions and that he may make a purchase decision which leads to learning. The consumer has a set of motives and several courses of action. With repeated purchases, the decision process is simplified by the storing of information that has been fed back into the system.

Design of the Model

The Howard and Sheth model of buyer behavior is an elaboration of a model originally developed by Mr. John A. Howard. The figure (Fig. no. 3.3) shows the simplified version of this model explaining the behavior of an individual consumer. According to this model, buyer behavior consists of four sets of constructs, frame or variables. They are:

- Input variables

- Output variables

- Hypothetical constructs, (consisting of learning and perceptual constructs)

- Exogenous variables

Figure-3.3: A Simplified Version of the Howard-Sheth Model

Inputs
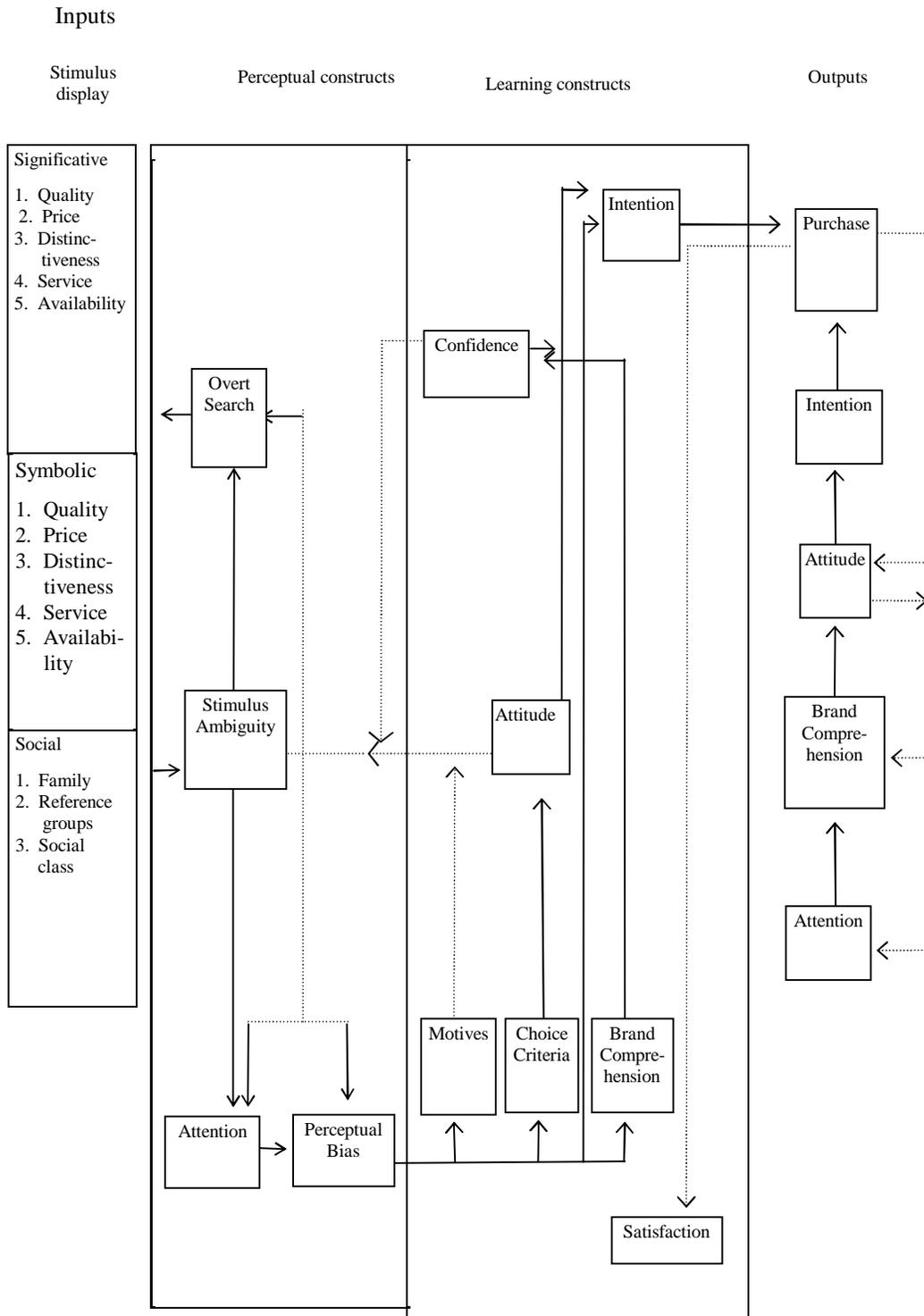
Solid lines indicate flow of information; dashed lines, feedback effects.

The above figure is a simplified version of the Howard-Sheth Model. The exogenous variables are not shown in the diagram, because of their implied influences. An exogenous variable such as culture, will have definite influence on our behavior.

Description of the Constructs of the Model

Let us now describe the variables of the model in turn.

The Input Variables:

At any point in time, the hypothetical constructs are affected by numerous stimuli from the environment. The environment is classified as (i) commercial and (ii) social.

The marketing activities of various firms by which they attempt to communicate to the buyer constitute the commercial environment.

From the buyer's point of view, these communications come by way of either the physical brand themselves (significative) or some linguistic or pictorial representations (symbolic) of the attributes of the brands.

The two inputs are called significative and symbolic stimuli.

The third important variable is social stimuli. It refers to the information that the buyer's social environment provides regarding a purchase decision. The most obvious is word of mouth communication.

The Output Variables

The output variables are labeled as: (a) attention, (b) brand comprehension, (c) attitude, (d) intention, and (e) purchase. They are described below:

- *Attention :* It is a response of the buyer that indicates the magnitude of his information intake. There are several methods of measuring attention such as psychophysical method.

- *Brand Comprehension :* It refers to buyer's verbal statement about his knowledge of brands in a product class. It could vary from the buyer's simply being aware of a brand's existence to a complete description of buyer's descriptive meaning of the brands.

- *Attitude :* Attitude is the buyer's verbal evaluation of a brand's potential to satisfy his motives (his description of the connotative or implied meaning of a brand).

- *Intention :* It is the buyer's expectation, expressed verbally, that, given his information about all the aspects of a buying situation and

his predictions about the future states of the environment, he will buy the brand he likes most next time he is motivated to buy.

- *Purchase:* Purchase behavior refers to the overt act of buying or purchasing a brand.

Hypothetical Constructs

We may classify the hypothetical constructs into two classes:

- Those having to do with learning (learning constructs).
- Those that have to do with perception (perceptual constructs).

Perceptual constructs serve the function of information processing, where the **learning constructs** serve the function of concept formation. The following paragraphs describe these two types of constructs:

• **Learning Constructs**

Learning constructs are labeled as: (i) motives, (ii) brand comprehension, (iii) choice criteria, (iv) attitude (toward the brand), (v) intention (to buy the brand), (vi) confidence (in judging brands) and, (vii) satisfaction (with the purchase of the brand). Let us now look at each of them in turn:

- *Motives:* Motives are goals of the buyer impinging upon a buying situation. They are derived from the biogenic and psychogenic needs, wants, and desires of the buyer.

- *Brand Comprehension:* It refers to knowledge about the existence and characteristics of those brands that form the buyer's evoked set of alternatives. The brands that become alternatives to the buyer's choice decision are generally small in number collectively called his evoked set.

- *Choice Criteria* serve the function of organizing and structuring the buyer's motives, so that motives that are relevant to this product class are interrelated and ordered in terms of their relative importance to him. Choice criteria are the buyer's mental rule (a guiding principle) which he utilizes to evaluate brands as goal objects. Their function is to generate appropriate attitudes toward brands, so that the brand with the greatest favorable attitude is potentially most satisfactory to him. Choice criteria are learned, and there are two broad sources of learning. They are: actual experience and information from commercial and social environment.

| Choice criteria are learned. |

- *Attitude:* Attitude refers to buyer's relative preferences of brands in his evoked set based on his evaluative beliefs about these brands as goal objects.

- *Intention:* Intention refers to buyer's forecast about as to when, where, and how the buyer is likely to buy a brand. It includes possible modifications of buyer's attitude toward brands in terms of inhibitory contingencies that may be presented if the buyer bought a brand. There are five inhibitory situations viz. high price of brand, lack of availability of the brand, time pressure on buying, the buyer's financial status, and social influences.

- *Confidence:* Confidence refers to the degree of certainty the buyer perceives toward a brand. This certainty may relate to his brand comprehension, his attitude toward the brand, his intention to buy the brand and his post purchase evaluation of the brand (purchase experience). So confidence is related to the above.

- *Satisfaction:* Satisfaction refers to the degree of congruence (harmony) between actual consequences from purchase and consumption of a brand and what are expected from it. If expected is less than the actual, he will be satisfied.

- **Perceptual Constructs**

Another set of constructs serves the function of information procurement and processing relevant to a purchase decision.

Information can come from any one of the three inputs such as significative commercial stimuli, symbolic commercial stimuli, and social stimuli. Perceptual constructs are labeled as follows :

- Attention,
- Stimulus ambiguity,
- Perceptual bias, and
- Overt search.

- *Attention :* Attention refers to the opening and closing of sensory receptors that control the intake of information. Attention acts as a gatekeeper to information entering into the buyer's mental state. It thus control the quantity of information input. In the figure, attention is a function of two other constructs - stimulus ambiguity and attitude.

  In fact, however, several other constructs such as confidence, goal conflict etc. are also its determinants. Most of these mediate their influence by way of stimulus ambiguity.

- *Stimulus Ambiguity :* Stimulus ambiguity refers to the perceived uncertainty and lack of meaningfulness of information received from the environment. It affects attention and overt search constructs. Stimulus ambiguity may change in a single communication, particularly if it is verbal as in radio and television commercials.

> Confidence refers to the degree of certainty the buyer perceives toward a brand.

- *Perceptual Bias*: The buyer not only selectively attends to information, but actually distorts it once it enters his mental state. In other words, meaning of information is altered by the buyer. This aspect of perceptual process is summarized in perceptual bias. The buyer may distort the cognitive elements contained in information to make them congruent (suitable) with his own frame of references as determined by the amount of information he already has stored. Most of the qualitative change in information arises because of feedback from various learning constructs such as motives, attitude, brand comprehension, and choice criteria.

- *Overt Search:* The active seeking of information can be termed as the overt search. During the total buying phase, which extends over time and involves several repeat purchases of a product class, there are stages when the buyer actively seeks information. The active seeking of information occurs when the buyer senses ambiguity of the brands in his evoked set. The ambiguity of brands exists because the buyer is not certain of the outcomes from each brand. In other words he has not yet learned enough about the alternatives to establish an expectancy of potential of the brands to satisfy his motives. He may also find that two brands are equally attractive and he is undecided which one to choose. In all such situations, the buyer will search for information.

> The active seeking of information can be termed as the overt search.

Relationship among Hypothetical Constructs

Suppose that Mr. Ali Azam is observed to purchase State Express 555 filter tipped cigarettes. This is incorporated in the output variable called '*PURCHASE*'. Our interest at this point is not the quantity, time or place of purchase. Rather, we wish to find out why he chose 555 over more than 30 other brands. When asked, Mr. Azam states that he regularly buys 555 and does so because he likes it. Pushed further, he states that he likes it, because it has a combination of attributes that best provide what he is looking for in smoking.

Finally, he describes what he is looking for in cigarette buying and consuming are mildness, smooth draw, convenience in packaging and availability and reasonable price.

When further asked, he states that he knows of 10 brands and tried 5 and right now considers Gold Leaf and Benson and Hedges are other brands that he would consider buying and consuming.

Mr. Azam's liking and evaluation are part of *ATTITUDE*. His purchase criteria are the *CHOICE CRITERIA* and his brand awareness and consideration are part of *BRAND COMPREHENSION*. He also states that he does not always choose 555 because there are some occasions when he

buys any of the three brands. The occasions are lumped together as *INHIBITORS* and are a part of *INTENTION*.

Mr. Azam, however, is very *CONFIDENT* of his evaluations of various brands. He is equally certain about his intention to buy 555. This degree of certainty is captured in *CONFIDENCE*.

Next, there are a number of questions about why Mr. Azam is so confident, so certain of his evaluation, his criteria, and his knowledge of various brands? He states that he has tried several brands and based on his post-purchase evaluation (*SATISFACTION*) he has decided that 555 is satisfactory. Similarly, he has also learned from personal experiences that he ought to look for four criteria set out earlier.

Finally, he admits that several years ago when he started smoking, he learned considerably about the brands and what to look for in them by word of mouth as well as mass media (*STIMULUS DISPLAY*). Furthermore, he does not actively seek any information now, although he did when he begun smoking (*OVERT SEARCH*).
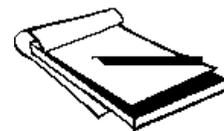
Evaluation of the Model

The Howard - Sheth Model has added a social negotiation process and has in this respect extended the original model. Nevertheless, many of the problems of the Howard-Sheth model remain. These include problems with insufficient explanation. For example, it is not clear when causal relationships occur, how they operate, or what weights are associated with the variables shown in the model.

The Howard - Sheth model is however, unique in its contribution of a behavioral approach to industrial buyer behavior. This approach emphasizes the similarity between all forms of group decision making, including family purchases, purchases made by family-owned businesses, as well as purchases made by buying groups in multinational organizations. Thus, this model is more social in nature, that is, it considers interactions between people and incorporates them into the model. This model appears to be a powerful tool for explaining consumer behavior, especially for frequently purchased items, where past experience is likely to influence future attitudes. While it works better when used to guide research on the marketing of established products, rather than new ones, It has been useful in planning, executing, and analyzing test markets for new brands.

Activity:

List few uses of a model presented in this lesson for a marketing manager.

Self Evaluation

Objective Questions

1. The Howard - Sheth Model focuses on –
   a. The element of repeat buying
   b. The element of future buying process
   c. The element of industrial buying process
   d. None of the above.

2. The Howard and Sheth model of buyer behavior is an elaboration of a model originally developed by –
   a. Mr. John M. Howard
   b. Mr. John A. Howard
   c. Mr. John A. Howard & Kollat
   d. None of the above.

3. According to the Howard - Sheth model, buyer behavior consists of–
   a. Three sets of constructs
   b. Five sets of constructs
   c. Four sets of constructs
   d. None of the above.

4. Which of the following is not a construct of the Howard - Sheth model?
   a. Input variables
   b. Output variables
   c. Exogenous variables
   d. None of the above.

5. Which of the following could be an exogenous variable?
   a. Culture
   b. Attitude
   c. Brand comprehension
   d. Choice criterion.

6. Attention is a response of the buyer that indicates –
   a. His interest in information
   b. The magnitude of his information intake
   c. Both a & b
   d. None of the above.

7. Attitude is the buyer's verbal evaluation –
   a. Of a brand's potential to satisfy his motives
   b. Regarding the connotative or implied meaning of a brand
   c. Both a & b

d.   None of the above.

8. Perceptual constructs serve the function of −
    a.   Information processing
    b.   Concept formation
    c.   Both a & b
    d.   None of the above.

9. The learning constructs serve the function of −
    a.   Concept formation
    b.   Information processing
    c.   Evaluation
    d.   All of the above.

10. Motives are derived from −
    a.   The biogenic needs, wants, and desires of the buyer
    b.   The psychogenic needs, wants, and desires of the buyer
    c.   Both a & b
    d.   None of the above.

11. Choice criteria serve the function of −
    a.   Organizing the buyer's motives
    b.   Structuring the buyer's motives
    c.   Both a & b
    d.   None of the above.

12. Intention refers to buyer's forecast about as to −
    a.   When buyer is likely to buy a brand
    b.   Where, the buyer is likely to buy a brand
    c.   How the buyer is likely to buy a brand
    d.   All of the above.

13. Perceptual constructs of the Howard Sheth Model serve the function of −
    a.   Information processing
    b.   Concept formation.
    c.   Both a & b
    d.   None of the above.

14. The learning constructs serve the function of −
    a.   Having experience
    b.   Concept formation
    c.   Attitude change
    d.   None of the above.

Answers:

1. a, 2. b, 3. c, 4. d, 5. a, 6. b, 7. c, 8. a, 9. a, 10. c, 11. c,

12. d, 13. a,   14. b.

Descriptive Questions

1. Describe the hypothetical constructs of the Howard and Sheth Model of buyer behavior. Show the relationships among the variables of the hypothetical constructs with a real-life buying example.

2. Explain the Howard - Sheth model and try to relate its elements with a real buying decision.

Lesson - 3: Nicosia; Engel, Kollat, and Blackwell; and Andreasen Model

Objectives of this lesson

After reading this lesson, you will be able to:

- Understand how consumers arrive at purchase decision as described by Francesco M. Nicosia

- Identify and explain different elements of the Nicosia Model

- Evaluate the Nicosia Model of consumer behavior

- Describe consumer behavior using Engel, Kollat, And Blackwell Multi-mediation model

- Know why the Engel, Kollat, and Blackwell model is known as a multimediational model

- Examine the Engel, Kollat, And Blackwell model in terms of weaknesses and strengths

- Understand how Andreasen has explained consumer decision making process.

Introduction

The buying process can be examined in great detail although the buyer operates as a whole person. Throughout the buying process there is some amount of planning, handling risk, reacting to habit and confidence in sellers, and registering satisfaction upon purchase. Models of buying behavior are useful in developing an understanding of the buying process. An attempt will be taken in this lesson to discuss the buying behavior using three large systems models named above.

The Nicosia Computer Simulation Model

This model has been developed by Francesco M. Nicosia. This model is particularly used to simulate behavior electronically. According to Mr. Nicosia, a consumer's decision can best be understood by a flow chart diagram (shown in the next figure). Nicosia uses the technique of computer flow charting to show the various forces involved and the relationship of those forces. By stating specific variables and their general interdependencies, it (the model) offers the necessary guidelines for data collection, and the technical bases for experimental simulations of the psychological, social, and economic processes it describes and of the possible reactions of these processes to different advertising policies. It also offers the necessary background for qualified interpretations of the results of experimental simulations.

> Nicosia model is particularly used to simulate behavior electronically.

The basic structure of the model is shown in the figure drawn on next page. According to this model the firm affects the consumer, the consumer

affects the firm, and the consumer's behavior affects his or her behavior in the future. There is no real beginning or end.

The model is set up into four basic fields.

The model is set up into four basic fields. Field one includes all processes which take a message from the firm to the consumer. Sub field one shows the flow of an advertising message to the consumer. (A new product is assumed in this model). Sub field two shows the merging of the advertising message with the person's psychological attributes. Field two includes immediate responses to the message. Coming from sub field two is an attitude toward the product that flows into field two where a search and an evaluation may be made. The consumer forms an attitude, evaluates alternatives, and then is ready to enter the action phase of the model. In field three, the consumer develops a motivation to act and then acts. If the consumer is motivated to buy the product, the actual act of purchase occurs in field three. Field four includes feedback linkages, which takes place after the purchase. For instance, the act of purchasing is fed back into the firm as a stimulus. Also there is feedback within the consumer as the consumer goes through the processes of storing and using the product. This experience then alters the consumer's attributes such as self-concept, learning processes, personality etc.

Figure 3.4: Showing the Nicosia Computer Simulation Model
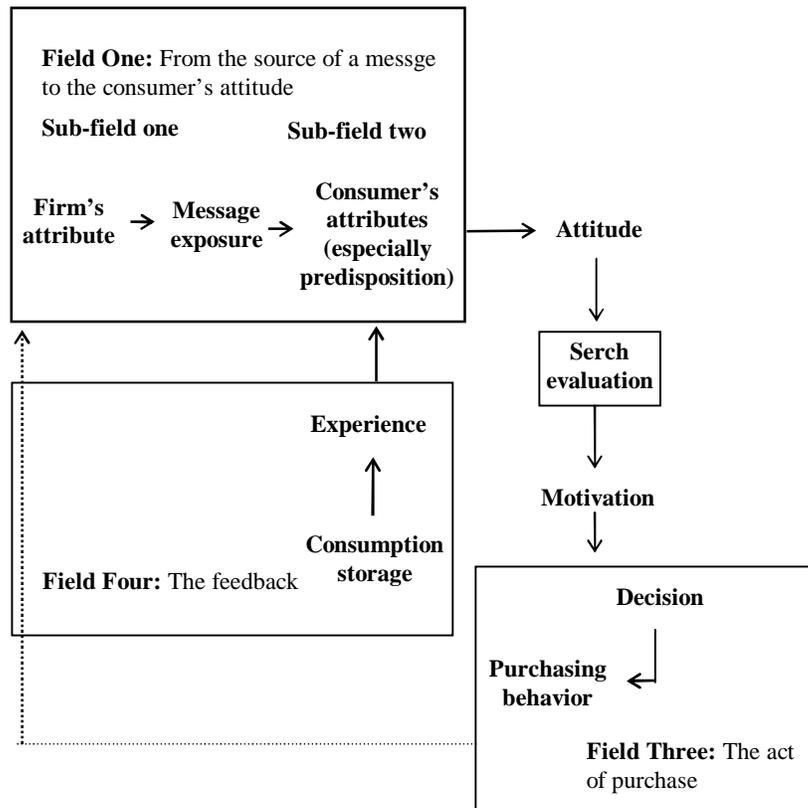
The Nicosia model has a number of strengths. First, the model recognizes the many steps which lie between attitude formation and actual behavior. Such a conceptualization helps us to understand the problems that researchers have when they find that attitudes do not always predict behavior.

The model, however, does not present problems when used to make predictions. The linkages shown in the diagram indicate flows rather than causation.

The model is strong in showing change in consumer attributes due to the experience of considering, choosing, purchasing, and using a product. There is intra-person feedback, i.e., consumers think of themselves and respond to their thoughts and acts.

The model is not very explicit, however, in describing how and when the consumers' or firms' attributes function. To be truly explanatory, the model needs more elaboration on this point.

## The Engel, Kollat, and Blackwell Multimediational Model

This model has been developed by James F. Engel, David T. Kollat, and Roger D. Blackwell. This is similar to the Howard - Sheth model in its scope and intent. This model is also developed based on learning processes as the Howard - Sheth model. According to this model, different types of search behavior occur, depending on how routine or unusual the purchase choice is. Emphasis is given, in this model, on the information search process. This model is known as the multimediational model because the interaction of quite a large number of variables is shown between consumer's exposure to the purchase related stimulus and the final decision outcomes (shown in the next figure).

This model includes five principal stages: (1) problem recognition; (2) external search; (3) alternative evaluation; (4) purchase processes; and (5) post-purchase evaluation. This formulation attempts to describe the behavioral processes that occur from the stage where consumers recognize that some decision is necessary to the stage where post-purchase evaluation of the brand and its attributes affects those attitudes, values, and personality characteristics stored in the central control unit.

The model shows how the various internal and external forces operate as influences on the buying process. It also shows that there are several paths for the buyer to take at each of the five major phases. A buyer does not have to be aware that he is passing through each of the phases and, he may even skip the external search and/or the evaluation of alternatives. For a purchase that is made frequently, a person forms a habit so there would be little need to go through either of these two steps. Remember that the entire process shown in the model may take minutes or years.

This model may also be described in another way. The basic components of the model are, stimuli, processing of information, the decision process, and environmental influence. The stimuli encourage the consumer to become aware of information or a product. After filtering the information, the consumer evaluates it and forms an attitude. When a problem situation arises (e.g., when a person needs to find a marriage day gift for someone), the person searches through the information stored in memory and evaluates the alternatives (flowers, dinner set, ornaments etc.). If not enough information is stored, the person searches for additional information before coming to a decision. If the decision is routine, little or no external search or post-purchase evaluation takes place. Environmental influences affect whether the person continues through the output decision process. These influences include income, family, social class etc. and physical factors.

Figure -3.5: The Engel, Kollat, and Blackwell Multimediation Model
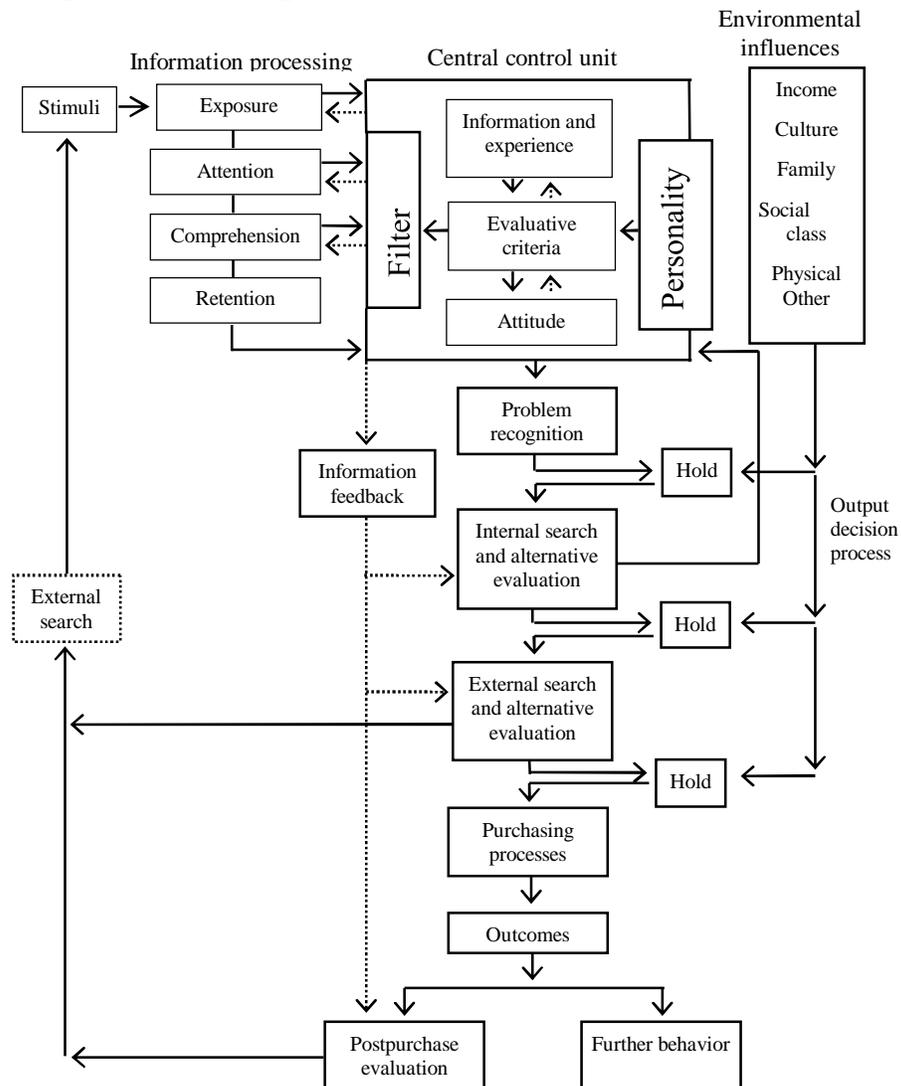
Source: Consumer Behavior, Second Edition, by James F. Engel, David T. Kollat, and Roger D. Blackwell. Copyright © 1968, 1973 by Holt, Rinehart, and

Evaluation of the Model

This model has many of the same problems with explanation as the Howard - Sheth model. It does not explain when particular variables influence others (such as when evaluative criteria are influenced by personality), how this influence occurs, or what the strength of the influence is. This model is not able to answer these questions.

This model applies to individual behavior. In the model, though, groups such as family are included, they are not included in the search, evaluation, and decision processes. This model does not explain behavior in terms of interpersonal influence on consumer behavior.

It is not clear from the model why the central control unit is separate from parts of the decision processes. It is also not clear why distinctions are made between information processing, the central control unit, and the output decision process, because in reality they are tied with each other. However, most of the relationships and flows shown in the model appear to be a reality. Thus, consumer behavior may be conceptualized using this model. The major contribution of this model is the description of information seeking and the evaluation process.

The Andreasen Model

The Andreasen model was developed by Alan R. Andreasen in 1965. The Andreasen model emphasizes attitudes and attitude changes.

An attitude change is caused by exposure to all kinds of information that comes to the buyer over the time period: some he may seek and some may come to him involuntarily. The model shows a kind of information processing (shown on the next figure) cycle with stages of stimuli, perception, and filtration disposition changes, and several outcome possibilities. The model is based on cognitive theory and Gestalt psychology, which emphasizes the person as a whole rather than isolated behaviors. Andreasen suggests a number of questions raised by the model. For examples, the following can be mentioned:

- What is the relationship between individual characteristics (such as age, education, family status, and personality needs for cognitive clarity) and number and kinds of information sources sought during some specified searching period?

Figure - 3.6: The Andreasen Model of Complex Consumer Decisions
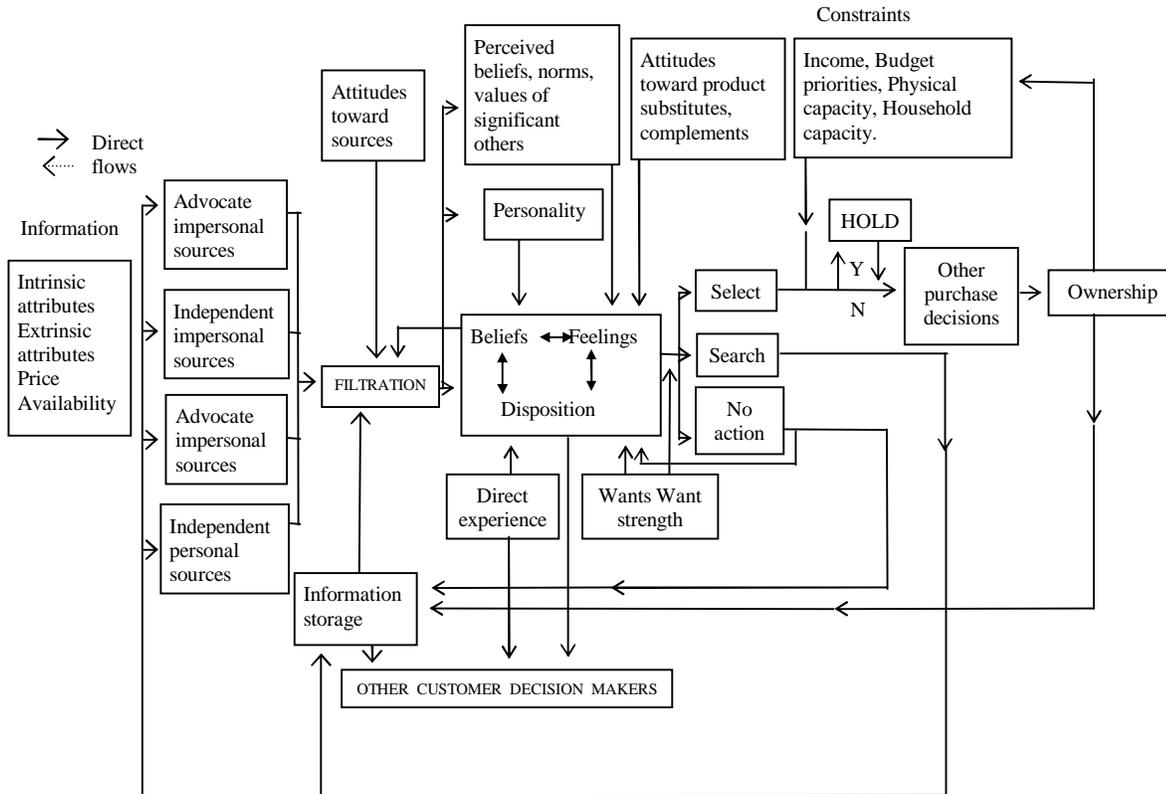
Source: *Alan R. Andreason, "Attitudes and Customer Behavior: A Decision Mode", from Lee E. Preston (ed.), New Research in Marketing (Berkeley: Institute of Business and Economic Research, University of California, 1965), p. 16.*

- What kinds of information tend to be sought from particular information sources?
- How is information about sources combined with information about products and services, brands, and outlets? What is the interaction between them?
- How are messages (advertisements) selected and/or distorted in the filtration process?
- How does one measure attitude disposition valences?

Self Evaluation

Objective Questions

1. Nicosia model has been developed by –
   a. Francesco M. Nicosia
   b. Franco M. Nicosia
   c. Francis N. Nicosia
   d. None of the above.

2. Nicosia uses the technique of computer flow charting to show –
   a. The various forces involved in the decision making
   b. The relationship of those forces involved in the decision making process
   c. Relationship among cultural elements
   d. Both a & b.

3. Nicosia model offers –
   a. The necessary guidelines for data collection for experimental imulations of the economic processes
   b. The necessary guidelines for data collection, and the technical bases for experimental simulations of the psychological, social, and economic processes
   c. The necessary guidelines for data collection, and the technical bases for experimental simulations of the psychological, social, and economic processes
   d. None of the above.

4. According to Nicosia model –
   a. The firm affects the consumer
   b. The consumer affects the firm
   c. The consumer's behavior affects his or her behavior in the future
   d. All of the above.

5. Nicosia model is set up into –
   a. Five basic fields
   b. Four basic fields
   c. Three basic fields
   d. None of the above.

6. Field one of the Nicosia model includes all processes which take a message –
   a. From the firm to the consumer
   b. From the consumer to the firm
   c. From the social group to the consumer
   d. None of the above.

7. In field three of the Nicosia model, the consumer −
   a. Develops an attitude to act and then acts
   b. Develops a motivation to act and then acts
   c. Develops an attitude to the advertised product
   d. None of the above.

8. Field four of the Nicosia model includes −
   a. Consumption and storage
   b. The act of purchase
   c. Feedback linkages which takes place after the purchase
   d. None of the above.

9. Nicosia model is strong in showing change in consumer attributes due to the experience of −
   a. Considering and using a product
   b. Considering, choosing, and using a product
   c. Considering, choosing, purchasing, and using a product
   d. None of the above.

10. Engel, Kollat, and Blackwell model is similar to the Howard - Sheth model in −
   a. Its scope
   b. Its intent
   c. Both a & b
   d. None of the above.

11. Emphasis is given, in Engel, Kollat, and Blackwell model −
   a. On the information process
   b. On the search process
   c. Both a & b
   d. None of the above.

12. Which of the following is a component of the Engel, Kollat, and Blackwell model?
   a. Problem recognition
   b. External search
   c. Alternative evaluation
   d. All of the above.

13. The Andreasen model was developed by Alan R. Andreasen -model emphasizes attitudes and attitude changes −
   a. In 1965
   b. In 1966
   c. In 196
   d. None of the above.

14. Andreasen model emphasizes –
    a. Attitudes
    b. Attitude changes
    c. Both a & b
    d. None of the above.

Answers:

1. a, 2. d, 3. b, 4. d, 5. b, 6. a, 7. b, 8. c, 9. c, 10. c, 11. c, 12. d, 13. a, 14. c.

Descriptive Questions

1. Explain consumer behavior using the Nicosia model.

2. Draw the figure of the Engel, Kollat, and Blackwell model and explain the process.

3. Describe and criticize the Andreasen model of consumer behavior.