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How Do Consumers Make Choices?

A Summary of Evidence from Marketing and Psychology Literature*

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Abstract

In this paper I review the evidence from marketing and psychology literature about the purchase behavior of consumers. I concentrate on the characteristics of the choice process, choice of the external information source and nature of the information obtained from these sources. The impact of important systematic differences among consumers and products on choice behavior is also discussed.

1 Introduction

How do consumers make their choices? Mainstream economics seems to be very clear about this question: they maximize their utility, which is perfectly defined. Marketing and psychology seem not to agree, especially on the latter part of the statement. Researchers in these disciplines argue that consumers', and in general all, decisions are very subjective and individual. They claim that numerous other factors, besides the inherent utility of the product, affect the level of satisfaction derived from consumption and from the choice

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process itself, and that some of them are very important for understanding the consumer behavior. This obscurity in the definition of utility function brings up the discussion about the uncertainty of results of choice the agents make. All the work reviewed in this paper¹ explicitly (e.g. Simonson, 1989 and Muthukrishnan, 1995) or implicitly assume the ex ante uncertainty of consumer preferences (Slovic, 1995).

There are several existing approaches to consumer behavior. Larrick (1993) from psychological research gives a useful distinction between two general groups of existing theories. The author distinguishes between the approach that gives universal explanations to consumer behavior and the one that gives individual-difference explanations. Cardinal utility theory (Bernoulli, 1738/1954) and prospect theory (Kahneman and Tversky, 1979) belong to the first group. These are psychological theories that explain the behavior with general/universal behavioral laws. These laws apply to all humans to the same extent, thus the theories do not account for individual differences. The second group of theories does take into account individual differences. In this group the major theory expected utility theory (Friedman and Savage, 1948). This theory is based on the individual differences about the feeling about the risk associated with an action. Larrick (1993) classifies two more theories in this group. They are Atkinson's (1957) theory of differences in motivation and Lopes' (1987) two-factor model of risk preference.

There are also differences in theories concerning the level of analysis. Hansen (1972) offers an interesting classification of models based on the level of analysis. According to him the models can be divided in 4 groups. The first is the psychological models which deal with the consumers at the individual level. The second is social-psychological models which deal with the individual and her environment. The third is sociological which deal with the segments of society and the last one is anthropological which deal with complete societies. As pointed out by the same author the farther you go in modeling from psychological towards anthropological models the more important the aggregation issues become (p. 14). As economists, we are more interested in deriving policy implications from the research, thus, we tend to discuss aggregate behavior. But, these considerations warn us that consumer behavior should be studied on a disaggregated level and then aggregated over individuals with great caution. For this reason, in this paper we try to concentrate on individual behavior and aspects of the individual's environment

¹Most of the work on the topic has been done in 1970s, 1980s and the first half of 1990s. Since then the research has become too specific and it is very hard to draw any general conclusion from the results.

that can have impact on aggregated behavior.

In this paper we review the evidence identified by different approaches from marketing and psychology, who have closely studied the consumer decision process for already quite a while, for the purpose of identifying the important aspects of consumer behavior that need to be taken into account while studying the demand in economics. The rest of the paper is organized as follows. First we discuss the literature about the structure and characteristics of choice process itself. Next, we concentrate on information collection, usage and transfer which is central to the approach taken in these fields. After that, we identify and discuss some of the systematic patterns in the evidence presented in marketing and psychology. The last section concludes the paper.

2 The choice process

In marketing the closer study of consumer behavior started in the early 1960s, and people started pointing to the individualism of the decisions right away. They argued that decisions made by a consumer were heavily influenced by her perception of the environment and understanding of separate events, which are highly individualistic and agent-specific. For example Bauer (1960) claimed that what mattered in consumer choice was the ‘perceived risk’ of the purchase (Jacoby et al., 1994). Later Holbrook and Hirschman (1982) emphasized the role of the emotional state of the consumer when making the decision (Holt, 1995). In psychology Bartlett (1932) claimed the individuality of the decisions much before that (Bettman and Zins, 1977). He argued that memory retrieval was based on the individual’s understanding of the event. More recently, Freimuth (1992) and Wright and Lynch (1994) have emphasized the role of the fit of one’s perception about the world with the reality and the uniqueness of one’s beliefs respectively. All of these considerations point to the uniqueness of the expectations about the goods for different consumers (Shirai and Meyer, 1997).

All these considerations about individuality are nicely summed up in the discussion about the uniqueness of the consumer’s environment (e.g. Simonson and Tversky, 1992 and Payne et al., 1992). This approach emphasizes the role of the consumers’s individual perception of the surrounding environment, and argues that decisions are contingent upon these individual perceptions (e.g. Payne, 1982 and Moorthy et al., 1997).

The discussion above emphasizes the heterogeneity of the consumers involved and helps to understand the level of difficulty of the choice process. One can also easily imagine how difficult it is to take the changing envi-

ronment into account while making choices. So, it is interesting to see how consumers handle this complicated task. What do they do first? What do they do after? In following two subsections we discuss the evidence about the structure and characteristics of the choice process.

2.1 Structure of the choice process

Usually there are many different products available on the market. There are many different goods and each of them has several (most of them tens of) brands. How do consumers choose among so many options? Do they consider all of them? In marketing there is evidence that people go through a specific kind of selection process. As was proposed by Payne (1976) the choice process consists of multiple stages. In his seminal article, Payne (1976) elaborated on the structure of the choice process. He claimed that the number of different brands available on the market made it hard to process all the information about all of them. Payne (1976) suggested that pool of possible purchase alternatives was shrinking as the choice process was proceeding until there was only one product left in the pool of alternatives, which eventually was purchased.

A bit later Lussier and Olshavsky (1979) proposed, and supported with empirical evidence, a more specific structure of the choice process. They proposed that the process had two stages. The first was general screening, where consumers went through descriptive information available about all the goods, or at least about most of them, and selected several suitable candidates for further consideration. The second stage was final choice, where consumers were choosing one out of the several brands selected during the first stage. This type of “Short-listing and final choice” is very common in various other choice processes (e.g. job hiring, Oscars, Nobel and other types of prizes). Later studies by Beihal and Chakravarti (1986) and Russo and Leclerc (1994) also find robust empirical support to this bi-stage structure of the choice process, although they also speculate about the existence of intermediate stages, where the choice set gets more and more distilled.

Bettman and Park (1980) take the multistage nature of the choice process as given and analyze the reliance on external information on different stages. Although information use will be discussed in detail in the next section it worth mentioning here, that the findings of Bettman and Park (1980) point to the difference in extent of information usage across different stages of the choice process. They present evidence that more external information is used during the first stage of the choice process compared to the second stage. People tend to choose the small set of several brands for further consideration with the help of external information, while basing the final

choice on personal feelings and interpretations.

2.2 Characteristics of the choice process

How do people use the information collected? Do they use it directly, or do they have some kind of algorithm for deducing a specific action plan from different pieces of information? There is extensive evidence in marketing (e.g. Bettman, 1971 and Leong, 1993) as well as in psychology (e.g. Chaiken, 1980 and Shirai and Meyer, 1997) that consumers use heuristics in the choice process. Heuristics are some kind of simplified rules for handling the available information. Thus, consumers do not use information in its raw form. There is a debate whether those rules are stored/permanent or they are constructed on the spot as the consumer faces the problem. Bettman (1977) contrasts these two views about the heuristics used in the choice process and tries to identify which of them is correct by using wide range of non-durable goods. The conclusion he arrives to is that constructive heuristics are usually used when consumers have little experience or/and when the choice is difficult. While stored heuristics are used when consumers are already experts or the choice problem is trivial. This is very intuitive, as in the first two cases (unexperienced consumers and difficult choice) consumers lack high quality (“internal”) information about a product. While in the latter two cases “internal” information is present, or not required.

There is also a discussion whether simple heuristics are used all the time, during every choice process. The ‘functional perspective’ formulated in Chaiken (1980) decomposes purchase concerns into two (reliability of the product and price) and claims that simple heuristics will only be used if price concerns are predominant (usually with cheap, nondurable goods) and that if reliability concerns are predominant people will engage in more systematic processing of the information. More recent studies like Shirai and Meyer (1997) and Dahr et al. (2000) analyze the nature of heuristics. Dahr et al. (2000) are concerned with the effort put by the consumers into the choice process and the level of sophistication of heuristics used in consumer durable purchases. They find that people are using quite complicated heuristics, which are permanently updated and modified, thus, these heuristics include systematic information processing. Shirai and Meyer (1997) analyze the dynamics of the sophistication level of heuristics along the consumer expertise on the example of a mountain bike and conclude that heuristic rules get simpler as consumers acquire more experience. Similar results are presented by Coupey (1994) who finds that simple heuristics are used only by experienced consumers. So, it seems that people use complicated constructive heuristics, which get simplified and turn into stored rules as consumers acquire

experience.

Why do people use heuristics? The main justification can be found in psychology (Chaiken, 1980). Cognitive psychology claims that people are not able to process all the available information systematically. The costs of information processing become so high that people are forced to search for simple methods to handle the information. An alternative explanation is McGuire's (1969) principle of the 'lazy organism.' Here the message recipient tries to utilize the information about the information source in order to evaluate the reliability of information itself, rather than systematically processing the piece of information received. For example, people usually easily accept the piece of information that is coming from their friends to be true, compared to the information coming from advertising. In this case, agents appeal on the intention of the source of information to influence a receiver (Hansen, 1972). To cut the long story short, use of heuristics is the saving of energy which is extensively done by consumers where appropriate.

3 Information usage and transfer

While making choices consumers face an information overflow. In the previous section we have seen how they use information in the choice process, but how do they gather information? To what extent do they rely on this, external, information? What type of information do they receive and send further? These topics are discussed in following subsections.

3.1 Gathering and using information

As we have seen, people use external information about available products in order to reduce the uncertainty about the outcomes they are facing (although they do not try to reduce that uncertainty to zero even if possible (Jacoby et al., 1994)). But how extensively do consumers use that information? The findings in the literature on this matter are inconsistent (Bruks, 1985 and Raju et al., 1995). All the literature agrees that external information use has to be related with the level of expertise of the consumer with regard to the good under consideration. But the form of relationship between these variables is unclear. For example, in marketing Bettman and Park (1980) have conducted a study involving large number of consumers (housewives) and microwave oven being a choice product. They have grouped housewives in three categories based on their experience with the product and conducted an interviews with protocol analysis in order to elicit the shape of the external information use along the expertise level. The result is that the relation

is of an inverted-U shape, that means that novices and experts use less external information, while consumers with intermediate levels of expertise use more. Some other researchers (e.g. Newman and Staelin, 1971) have found monotonically negative relationship while many of the researchers interested in the issue (e.g. Claxton et al. 1974) - no relationship at all. Research in psychology (e.g. Alba and Hutchinson, 1987 and Maheswaran et al., 1996) provides the reasons why more experienced consumers will be using less external information compared to novices. Their argument is that experience is translated into the information that consumer stores in mind. Thus, for decision-making experts, who have richer knowledge, need less external information (Chi et al., 1981). This argument justifies the monotonically negative relationship, while less use of information by novices is justified by their lower ability of processing it (Raju et al., 1995).

The importance of the external information can be understood by looking at the effort level put in search process. There are two views on how consumers put effort into search process. One is the effort-accuracy framework that claims that effort (which is usually measured by the search time (e.g. Okada and Hoch, 2004)) is costly and people try to make a trade-off between effort and accuracy of their choice. The second is the conceptual framework, that claims that people focus on a certain aspect of the alternatives that is particularly salient in the choice process (Dahr et al. 2000). In general evidence supports considerations about not-very-extensive information search even in the case of durable good purchases (e.g. Beatty and Smith, 1987). Moorthy et al. (1997) conducted a survey-based study of external information search behavior of a new car buyers and arrived at the similar conclusion that “Consumers exhibit very limited prepurchase information-search activity, even for high-ticket durable goods.”

But there are differences across the different characteristics of the search process (Beatty and Smith, 1987). Most important among them is the difference in search effort across the difference in experience (Leong, 1993). Most of the studies find that novices exhibit higher effort level in information search compared to experts (e.g. Coupey, 1994 and Bettman and Zins, 1977).² This is in line with the considerations about the usage of the external information sources discussed above. But there is also a study by Bennett and Mandell (1969) which presents evidence on no decrease in external information search along the expertise increase for durable purchases.

²This aspect of the consumer behavior will be discussed more extensively in subsection 4.1, where we discuss the effects of difference in experience of consumers on the choice process.

3.2 External information sources

There are all sorts of different information sources available. Do consumers use all of them to equal extent? Do they trust external information as much as “internal” information accumulated through own experience? Literature in psychology (Fazio and Zanna, 1978), as well as in marketing (Smith and Swinyard, 1983) suggests that weights put on the information obtained through the immediate experience are higher than those of information obtained through any type of external source (Muthukrishnan, 1995).

But, do the consumers trust equally to the information obtained through different external sources? There exist some old marketing studies presenting the evidence about the ranking of external information sources by the intensity of their usage (e.g. Bennett and Mandell, 1969 and Duncan and Olshavsky, 1982). These studies consider consumer reports and dealer visits to be the most widely used source of information. Next come experts’ and friends’ opinions (Beatty and Smith, 1987). Advertising and mass media score considerably lower on these scales. This ranking is by frequency of usage, this does not tell much about which sources do consumers really trust. Psychology offers a hint about which information sources can be regarded the most trustworthy. Summers and King (1969) and Myers and Robertsen (1969) claim that consumers judge about information sources according to the source’s intention to influence the information receiver. On this scale personal communication among consumers scores the highest (Hansen, 1972, p. 411). Myers and Robertsen (1969) as well as Summers and King (1969) arrive to this conclusion after carefully analyzing the opinion leadership process in small groups of people. More recent studies find that interpersonal relations are so important that consumers exhibit more faith in information obtained through their friends than the reasonable level (Gershoff et al., 2006).

So, interpersonal relations among consumers (communication with friends) is a very important information source. But how should one choose whom to receive the information from among all her friends? Simon (1958) and Cyert and March (1963) have suggested that consumers follow the least effort rule. This means that consumers are minimizing the overall information search effort given the trade-off between search and information quality received. More specifically, consumers are asking the friends who are the most knowledgeable about a certain good and who will give them a piece of information that needs least complementation from other information sources, so that they can terminate their search effort right away after receiving this particular piece of information. More recent consumer behavior models (e.g. Gershoff et al., 2001) suggest that, for the sake of search effort minimization along with the will of obtaining high quality signals, consumers should ask

for the information a friend who would give a full ranking of the brands of a certain good under consideration.

3.3 Nature of information transferred

We have seen that people receive information from their friends, but what type of information do they receive? Is it detailed information about different characteristics of a good? Or, is it a general evaluation of a good? This obviously depends on what exactly people remember about the goods they consume. The early work in psychology on this topic (Johnson and Russo, 1978) have presented evidence that people remember a general impression about the goods more easily. Even if immediately after consumption people remember exact features of the product, as time goes by they tend to forget the characteristics of the good and the information distiles to general impression about the good (Biehal and Chakravarti, 1983). Biehal and Chakravarti (1983) arrived to this conclusion by examining a behavior of fairly large sample of consumers of pocket calculators in experimental setting. The group of consumers who was allowed to choose one out of 4 brands and consume on the first stage of experiment as an alternative to learn about the separate characteristics of different brands, memorized only a general impression about the good they have consumed on the first stage, in contrast to the group who did not have consumption alternative on the first stage. Then, it seems strait forward, that most of the information received by the agents through the interpersonal communication is in form of a general evaluations of the goods that their friends have consumed.

A bit later, other cognitive psychologists, working on memory retrieval found another explanation of the phenomenon. Wyer and Srull (1989) have presented the model of impression formation. In this model, a consumer gets information, about the product she is consuming, in pieces. Every piece of information is transfered into a special 'bin' in memory of an agent upon its arrival. And the information retrieval from this memory bin works in a way that it is easier to get the piece of information later you have put it in the bin. Plus, the general impressions about a certain product are formed based on the all information available in the bin, and this impression also goes to the bin as a piece of information. Of course, it is stored on the top of the bin, and thus is easiest to retrieve. From this theory it is easier to share general impressions about the goods, because that piece of information is easier available in the memory of a communicator. Park and Wyer (1994) have empirically examined the theory by studying the information remembering about the TV sets by a large sample of agents. They split the sample in two sub-samples assigning slightly different tasks to each of two and concluded that

general impressions are not always formed in minds of people. They are only formed if there is a purpose to do so. But when they are formed, indeed they are easiest pieces of information to retrieve and communicate.

4 Systematic differences

We have seen that although the choice process is very individualistic and unique, there are some similarities across all the consumers documented in the literature reviewed here. There are also systematic differences in the choice process depending on certain characteristics of the consumer (e.g. level of expertise) or the good (e.g. durability) under consideration. In the following subsections we discuss these systematic differences.

4.1 Effects of differences in experience of a consumer

Different consumers have different levels of expertise with regard to different goods available on the market. Expertise can be broadly defined as the information about the characteristics of the good, either obtained through immediate experience or some other, highly reliable, sources. Narrower definitions exclude sources of information other than experience (Bettman and Zins, 1977). Here we work with the latter definition, which can be rephrased as the familiarity of the consumer with the good (Coupey, 1994). In the literature it is common not to discuss the choice process across the continuous expertise variable, but rather to divide the pool in two: experts and novices (e.g. Alba and Hutchinson, 1987 and Moorthy et al. 1997). In this case the difference in behavior should be easily visible.

The major difference between experienced and non-experience consumers is that they are using different choice mechanisms. Bettman and Zins (1977) conducted an exploratory study using think-aloud protocols of a fairly large sample of grocery shoppers who did not know the true aim of an experiment, thus behaved naturally enough with relation to the use of available information. In the beginning of the study the sample was divided in two: experienced and inexperienced consumers. The result of the study is that experienced consumers use the mechanisms that utilize the information they have stored in memory, while novices use different mechanisms due to the lack of high quality information acquired personally through experience. This lack of ‘internal’ information induces novices to use constructive mechanisms more intensively and rely more on ‘environmental information’ (Hansen, 1972, pp. 180-181). Earlier work by Warneryd (1961), who studied durable goods (cars) in contrast to Bettman and Zins (1977), confirms the same pattern of

choice mechanisms (Hansen, 1972). If one assumes that experience provides high quality information about the available products as well as ability of better processing the external information, then it is obvious that inexperienced consumers are facing a more complex task than experienced consumers (Lussier and Olshavsky, 1979).

The lack of experience also indirectly affects the novice's choice. A poor knowledge base about a certain good makes it difficult to digest the information available through external sources (Maheswaran et al., 1996). That is why information processing takes more time for novices than it takes for experts (Hansen, 1972). Due to that, non-experienced consumers mostly apply constructive heuristics to the choice process, for example they judge depending whether they have heard the brand name or not, while in the expert's case the fame of the brand name does not play significant role (Park and Wyer, 1994). After this discussion it shall not be surprising that it is easier for experts to form expectations about the satisfaction level they are about to derive through the consumption of a certain good and that usually their predictions are more accurate compared to those of novices, which are based purely on external (thus, more noisy) information (Shirai and Meyer, 1997). Thus, the consumer's strategy to stick with the good that he has experience with (e.g. Jacoby, 1971) shall not be surprising either. Samuelson and Zeckhauser (1988) present the same type of evidence confirming the loyalty of the consumers to brands that they have consumed. Their study confirms that there is a "status quo bias" in decision making even after controlling for number of variables.

4.2 Effects of differences in durability of a product

There is evidence of differences in consumer behavior depending on the durability of a product purchased. Typically we think of two: durable and non-durable goods (Hansen, 1972). Hansen (1972) reviews numerous early studies presenting evidence documenting that the choice strategies are different in case of non-durables compared to durables. The difference lies in the extent of information collected and processed. While in the case of non-durables the process is more like trial and error (e.g. Stafford, 1966 and Sheth and Venkatesan, 1968), Hansen (1972) argues that durables are too important to be purchased in a similar manner (chapter 15) and that consumers are trying to analyze more external information instead. This is fairly intuitive as durables are relatively expensive compared to non-durable goods and, by definition, they also have longer service time.

There is great body of indirect evidence on this matter. Some researchers

investigate the effect of accountability³ (Heath et al. 1994) and involvement⁴ (Leong, 1993) on choice process. It is quite obvious that shopping for durable goods, which usually have higher prices and longer periods of service, will result in higher accountability and involvement (Okada and Hoch, 2004). Then, there is a quite robust finding (Heath et al., 1994) that higher accountability leads to more accurate processing of the information for better justification of the choice to be made. Simonson (1989) also finds the same pattern of behavior after analyzing a wide range of durable and nondurable goods (e.g. beer, mouthwash, TVsets, calculators, apartments): in case of high accountability (durable goods) consumers engage in more detailed and time-consuming information processing. Besides, there is also evidence that in case of high accountability (and more competitive setup, meaning more options available) involved in the choice process some characteristics of the external information source (e.g. ‘spokesperson’s fame’) become more important (e.g. Heath et al., 1994 and Heath and Chatterjee, 1995).

As about involvement level, there is evidence consistent with that of accountability. Chaiken (1980) presents the evidence that high involvement in the choice process results in consumers engaging in more systematic information processing, while low involvement results in higher reliance on simple heuristics. There is also evidence on difference in characteristics of the product that consumers with different involvement levels concentrate on. Zhang and Markman (2000) show that in low-involvement case the alignable features (features that are present in all of the products in the choice set) of the product are more important, while in high-involvement case nonalignable features become crucial. Note, that analysis based on alignable features is much simpler and requires less time compared with the analysis based on nonalignable features. This means that people are spending less time on the choice process for nondurables than for durables and that they have different strategies for analyzing an external information in these two cases, which is again consistent with the evidence from research discussed above. There is also evidence on differences depending on whether the choice is made at home or in the store (Hansen, 1972, chapter 9). This aspect seems to affect the size of the choice set considered for the final choice: of course, in case of in-store decision making the choice set is considerably smaller as it is limited to the products available in that store. If one argues that choices about durables are

³Accountability in this case means that one has to justify her choice after purchase. This can be justification demanded by family members, or justification to herself. In normal situations, accountability will usually be higher if the price of a product is high.

⁴Involvement here means the level of engagement in choice process. Just like in the case of accountability, involvement will be usually higher in case of goods that are more expensive, as the value of a possible mistake (not selecting a proper brand) is also high.

usually made at home, while most of the time the choice about nondurables takes place in stores, this can be regarded as an indirect evidence for differences in durability too, meaning that in case of durable goods initially people consider a wider range of possible alternatives (different brands) compared to nondurable goods.

5 Conclusion

In this short paper we have summarized the evidence from marketing and psychology literature about the consumer choice process. Research in this field is quite extensive and literature reviewed here covers time period over 70 years. Overall conclusion from the discussion is that consumers are different from each other and that every of them goes through fairly complicated choice process every time she wants to buy a product. This choice process has several (most commonly - two) stages. Every consumer processes some amount of information, which consists of information acquired through personal experience and external information. Based on this processed information they usually construct heuristics for choice. This heuristics is sometimes simple, but sometimes complicated (depending on the characteristics of the consumer and the product). There are several external information sources and consumers have different reliance levels on information obtained through these different sources. Consumers are putting certain level of effort in collecting and analyzing external information and combining it with their own, 'internal,' information. Consumers are also communicating the information they have further, to other consumers. The information consumers exchanging with each-other is usually in form general personal evaluation of a product. Furthermore, consumers' behavior consistently differs depending on whether they have lot of or no experience with the product they are willing to purchase and also depending whether the product under consideration is durable or nondurable.

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