

**ПРИЛОЖЕНИЕ НА ПРАВИЛАТА ЗА ВЗЕМАНЕ НА РЕШЕНИЯ
ЗА ПОКУПКА ПРИ ЗАКУПУВАНЕ НА СРЕДНА КЛАСА
АВТОМОБИЛ**

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**THE APPLICATION OF DECISION RULES
WHEN BUYING A MIDDLE-CLASS AUTOMOBILE**
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Abstract

The purpose of this paper is to explain the consumer decision making process from both, a theoretical and practical perspective. Theoretically, the consumer decision process refers to making a choice amongst various alternatives that address a problem, need or opportunity. The consumer decision process consists of several stages, such as: a) need / problem recognition, b) pre-purchase information search, c) evaluation of alternatives, d) purchase decision and e) post-purchase outcome and reactions. For this paper, the stage of evaluation of alternatives is especially important, where buying decision rules are elaborated in detail (compensatory and non-compensatory rules). Buying decision rules are procedures used by consumers to facilitate brand or other choices. Such rules reduce the burden of making complex decisions.

From a practical perspective, this paper should help families who want to buy a family car, worth up to a maximum of 15,000 euros. Buying decision rules apply to products that are complex, multi-functional, and technical and are used by highly involved, relatively uninformed and inexperienced consumers. For the purpose of this paper, several interviews with families that are in a need of buying a car were made.

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1. Introduction

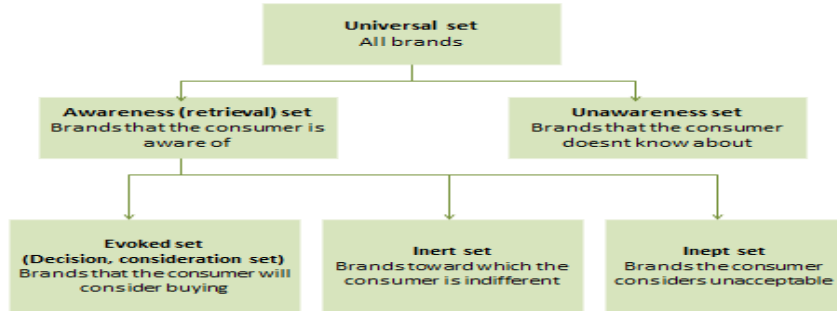
Customer behaviour and consumer decision making have become very popular research topics in consumer science in recent years. Some of the best-known consumer decision-making models were developed in the 1960's and 1970's when the theory of consumer behaviour was limited and when theories from other disciplines were used. Howard developed the first consumer decision model in 1963 (Du Plessis, 1991). Today, consumer decision making is depicted as a multi-staged and complex process that begins with problem recognition and ends with post purchase activities. Consumer decision process, proposed by Cox, Granbois and Summers (1983), consists of **five stages**: a) need/problem recognition, b) pre-purchase information search, c) evaluation of alternatives, d) purchase decision and e) post-purchase outcome and reactions.

A) Need recognition: According to Bruner (1993) recognition of a problem arises in the situation where an individual realizes the difference between the actual state of affairs and desired state of affairs. Need or problem recognition is often recognized as the first and most crucial stage in the process because if a consumer does not perceive a problem, opportunity or need, he/she generally will not move forward with considering a product purchase.

B) Pre-purchase information search: If consumers decide to act on the recognised need, they proceed to the information search stage. By collecting information, consumers reduce their uncertainty, thereby lower the perceived risk. Information search can be internal and external.

During the **internal search**, consumers try to recall whether they have enough information to make a reasonable purchase decision, based on prior knowledge or personal experience. This search occurs before external research because it takes less time and money.

Fig. 1 Internal consumer information search



Source: Michael Solomon, Rebekah Russell-Bennett, Josephine Previte, “Consumer Behaviour”, Pearson Australia, p.226

The Figure above shows the types of brands that reside in consumer’s memory during internal search. **Awareness set (retrieval set)** is a group of brands the consumer is aware of during internal search. For the practical case study, awareness set was consisted of car brands that family can think of, such as: Ford, Opel, BMW, Audi, Mercedes, Citroen, Chevrolet, Fiat, Honda, Hyundai, Mazda, Nissan, Peugeot, Suzuki, Volkswagen, Volvo and Toyota. These brands were retrieved from the **Universal set**, which is composed of all the known brands of cars in the world. **Evoked (consideration, choice, decision) set** is the most important set that consists of brands that consumer considers as possible solution to the problem. These “short-listed” brands are the ones that consumer will consider, compare, research, evaluate. In the practical example, evoked set of cars was consisted of the following brands: Ford, Opel, Citroen and Volkswagen, or brands that the family was interested in buying. **Inert set** are brands toward which the consumer is indifferent and **Inept set** are those brands that are unacceptable to consumers.

External search means collecting information from the marketing environment. The most often used external sources are: salespersons, word-of-mouth, friends, family, professionals, promotional materials (catalogues, leaflets, brochures, and magazines), mass media, publicity, telemarketers, etc.

C) Evaluation of alternatives: refers to comparing attributes of various alternatives (identified mostly in the evoked set of a consumer). In order for a consumer to evaluate alternatives, he/she needs the following inputs:

- **Decision on evaluative criteria (buying, choice, decision criteria)** or the attributes that consumers will consider, compare, research or evaluate. These

criteria include the product's features, such as price, quality, performance, design, comfort, etc.

- **Determination the importance of the criteria** and
- **Decision on the evoked set of brands.**

In this stage, decision rules (decision models, evaluation rules, decision strategies, choice of rules) are applied in order to evaluate the performance of evoked set of brands on their choice criteria. With the help of these rules, customers form attitudes and buying intentions toward the brands.

Generally, most decision rules fall under one of the **two categories**:

A) **Compensatory rules**: a consumer determines a brand options in terms of each relevant attribute and computes a weighted or summed score for each brand. The assumption is that consumer will select the brand that scores the highest among the alternatives evaluated. These rules allow a positive evaluation of a brand on one attribute to balance out a negative evaluation on some other attribute.

B) **Non-compensatory rules**: do not allow consumers to balance positive evaluation of brand on one alternative with a negative evaluation of brand on another alternative. Only the most important brand-attribute information is considered.

Table 1. Compensatory and non-compensatory buying rules

COMPENSATORY RULES	NON-COMPENSATORY RULES
Simple Additive (Equal Weight)	Lexicographic rule
Weighted Additive	Elimination by aspects
	Conjunctive rule
	Disjunctive rule

2. Research method

For the purpose of this paper, two sources of data were used:

A) **Secondary sources**: data and information from reviewing the literature on consumer decision-making process, especially the buying decision rules.

B) **Primary data**: the interview was made with a four-member families that were in a need to buy a middle-class automobile. They had a limited budget of 15.000 Euros and needed a car very urgently.

3. Results and analysis

The family considers buying a middle-class automobile. Out of lots of brands that exist in the market, the family made a short-list of the following brands of cars: Ford Focus, Opel Astra, Golf 7 and Citroen C4 (evoked set of brands). According to them they stated the following salient attributes: price, comfort, performance, fuel consumption, additional equipment and design. The family had a limited budget of 15.000 Euros. They rated the attributes by their importance, ranging from maximum to minimum importance. The family believed that these attributes were the most important to make a rational buying decision.

For each of the attributes, the family defined the minimum requirements: Price (10), Comfort (9), Performance (10), Fuel consumption (5), Additional equipment (3) and Design (7), under which they cannot accept the automobile. The attributes, their importance, minimum requirements and grades for each automobile are presented in the following table:

Table 2. Ranging automobiles according to the salient attributes

Attributes	Minimal requirements	Importance	Automobiles - middle class			
			Ford Focus	Opel Astra	Golf 7	Citroen C4
Price in Euros	15000		13990	15000	14990	12990
Price	10	6	9	7	8	10
Comfort	9	5	7	10	9	8
Performance	10	4	8	8	9	9
Fuel consumption	5	3	4	9	3	10
Additional equipment	3	2	10	10	7	6
Design	7	1	7	9	9	8

The results according to Compensatory and Non-compensatory rules are presented below:

I. Compensatory rules

A) *Simple Additive*: all the points for each brand are simply summed. By using this model, high levels on some attributes can compensate for low levels on other attributes. The brand with the highest simple sum is the most desired brand.

Table 3. Compensatory rules - simple additive

Attributes	Minimal requirements	Importance	Automobiles - middle class			
			Ford Focus	Opel Astra	Golf 7	Citroen C4
Price in Euros	15000		13990	15000	14990	12990
Price	10	6	9	7	8	10
Comfort	9	5	7	10	9	8
Performance	10	4	8	8	9	9
Fuel consumption	5	3	4	9	3	10
Additional equipment	3	2	10	10	7	6
Design	7	1	7	9	9	8
Simple sum:			45	53	45	51

B) *Weighted Additive*: the points of each brand are multiplied by importance, and then summed. In this model, importance is valid for the consumers and gives weight to the actual points of evaluated brands.

Table 4. Compensatory rules – weighted additive

Attributes	Minimal requirements	Importance	Automobiles - middle class			
			Ford Focus	Opel Astra	Golf 7	Citroen C4
Price in Euros	15000		13990	15000	14990	12990
Price	10	6	9 (54)	7 (42)	8 (48)	10 (60)
Comfort	9	5	7 (35)	10 (50)	9 (45)	8 (40)
Performance	10	4	8 (32)	8 (32)	9 (36)	9 (36)
Fuel consumption	5	3	4 (12)	9 (27)	3 (9)	10 (30)
Additional equipment	3	2	10 (20)	10 (20)	7 (14)	6 (12)
Design	7	1	7 (7)	9 (9)	9 (9)	8 (8)
Weighted sum:			160	180	161	186

II. Non-compensatory rules

A) *Lexicographic rule*: elimination of brands by importance of the attribute. In this example, all the brands have higher points than the stated importance. The consumer first ranks the attributes in terms of perceived relevance or importance. The consumer then compares the various alternatives in terms of single attributes that is the most important. If one option scores sufficiently higher on this top-ranked attribute it is selected and the process ends. When two or more options rank sufficiently higher than the process is repeated on the second highest ranking attribute until the process ends.

Table 5. Non-compensatory rules - Lexicographic rule

Attributes	Minimal requirements	Importance	Automobiles - middle class			
			Ford Focus	Opel Astra	Golf 7	Citroen C4
Price in Euros	15000		13990	15000	14990	12990
Price	10	6	9	7	8	10
Comfort	9	5	7	10	9	8
Performance	10	4	8	8	9	9
Fuel consumption	5	3	4	9	3	10
Additional equipment	3	2	10	10	7	6
Design	7	1	7	9	9	8
Lexicographic rule:			yes	yes	yes	yes

B) *Elimination by aspects*: means elimination by minimum requirements. Brands are eliminated if they do not fulfill the minimum requirements.

Table 6. Non-compensatory rules - Elimination by aspects

Attributes	Minimal requirements	Importance	Automobiles - middle class			
			Ford Focus	Opel Astra	Golf 7	Citroen C4
Price in Euros	15000		13990	15000	14990	12990
Price	10	6	9	7	8	10
Comfort	9	5	7	10	9	8
Performance	10	4	8	8	9	9
Fuel consumption	5	3	4	9	3	10
Additional equipment	3	2	10	10	7	6
Design	7	1	7	9	9	8
Elimination by aspects:			no	no	no	yes

C) *Conjunctive rule*: the brands need to meet all the minimum requirements. The consumer establishes a separate minimally acceptable level as cut off point for each attribute. If any particular brand or model falls below that cut off point on any one of the attributes the option is eliminated from further consideration. Conjunctive Decision rule can result in several acceptable alternatives. It becomes necessary for consumers in such cases to apply some additional decision rule to arrive at a final conclusion. To select the first satisfactory brand conjunctive rule is particularly useful in reducing the choices, after that consumers may apply another refined decision rule.

Table 7. Non-compensatory rules - Conjunctive rule

Attributes	Minimal requirements	Importance	Automobiles - middle class			
			Ford Focus	Opel Astra	Golf 7	Citroen C4
Price in Euros	15000		13990	15000	14990	12990
Price	10	6	9	7	8	10
Comfort	9	5	7	10	9	8
Performance	10	4	8	8	9	9
Fuel consumption	5	3	4	9	3	10
Additional equipment	3	2	10	10	7	6
Design	7	1	7	9	9	8
Conjunctive rule:			no	no	no	no

D) *Disjunctive rule*: the brands need to meet at least one minimum requirement. Disjunctive Rule is the mirror image of the conjunctive rule. In applying the disjunctive rule the consumer establishes a separate minimally acceptable cut off level for each attribute. This will further minimize the choices though still the choices will be more than one. Here the consumer may accept the first satisfactory alternative as the final choice or may apply another rule that may be more suitable.

Table 8. Non-compensatory rules - Disjunctive rule

Attributes	Minimal requirements	Importance	Automobiles - middle class			
			Ford Focus	Opel Astra	Golf 7	Citroen C4
Price in Euros	15000		13990	15000	14990	12990
Price	10	6	9	7	8	10
Comfort	9	5	7	10	9	8
Performance	10	4	8	8	9	9
Fuel consumption	5	3	4	9	3	10
Additional equipment	3	2	10	10	7	6
Design	7	1	7	9	9	8
Disjunctive rule:			yes	yes	yes	yes

- A) Simple Additive (Equal Weight): OPEL ASTRA
- B) Weighted Additive = CITROEN C4
- C) Lexicographic rule = ALL FOUR BRANDS
- D) Elimination by aspects = CITROEN C4
- E) Conjunctive rule = NONE
- F) Disjunctive rule = ALL FOUR BRANDS

Implications for Marketers: With the lexicographic rule, the highest ranked attribute (the one applied first) may reveal something about the individual's basic consumer orientation. Buy the best rule might indicate that consumer is quality oriented, status oriented, or economy minded.

3. Conclusion

The process of decision making is very complex and multi-phased. It is very difficult to determine with precision how consumers make purchasing decision. The decision to purchase is influenced by many factors, such as internal (psychological as motivation, perception, attitudes, needs) and external (culture, social class, reference group, family, friends), demographic, economic and marketing factors. The science of consumer behavior is trying to find some theoretical models to explain the process of buying. In accordance with the theory of consumer behavior, there are two categories for choosing alternative products – compensatory and non-compensatory rules.

Compensatory decision rules refer to selection of the best overall brand. Consumer evaluates brand options in terms of each relevant attribute and computes a weighted or summated score for each brand. The consumer chooses the brand with the highest score. They are called compensatory because a positive score on one attribute can outweigh a negative score on another attribute.

Noncompensatory decision rules are divided as follows:

Conjunctive decision rule where consumer sets a minimum standard for each attribute and if a brand fails to pass any standard, it is dropped from consideration. This rule reduces a large consideration set to a manageable size. It is often used in conjunction with another decision rule.

Disjunctive decision rule means that consumer sets a minimum acceptable standard as the cutoff point for each attribute--any brand that exceeds the cutoff point is accepted. This rule reduces large consideration set to a more manageable number of alternatives. Consumer may settle for the first satisfactory brand as final choice or may use another decision rule.

Lexicographic decision rule: the consumer ranks the attributes according to importance and then selects the brand that is superior on the most important attribute. If one brand ranks sufficiently high on just one attribute, it will be selected regardless of how it scores on other attributes.

These rules help in making a buying decision on complex and technical products for which consumers have not enough knowledge and information to make a rational decision. However, everything depends on the needs, requirements, wishes and preferences of consumers when buying a product.

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