MODELING AND RESTORATION OF CUSTOMER PREFERENCES BETWEEN TWO ALTERNATIVE PRODUCTS USING THE CAPACITY METHOD OF RARE EVENTS ANALYSIS IN THE ECONOMY
(Part 1)

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This article proposes an approach to restore the dynamics of changes in consumer preferences between two alternative products from the rare events data associated with the purchases of these goods, based on the capacity method of rare events analysis. The main idea of the capacity method, in which rare events are analyzed from the point of view of the processes occurring inside the sources of events, is briefly described. Consumption processes, which are the most common in the economy during the events formation, can be modeled as processes of emptying / filling capacity. This allows to restore the change rate of this capacity level (the rate of products stock change) using the mathematical method of restoring the function by integrals. Four variants for the events formation with the replenishment of two alternative products stocks are considered. For each variant, suggestions on how to restore the changes dynamics in consumer preferences between two alternative products are presented. For the variant in which the consumer replenishes the stocks of both goods when any of the goods stock runs out, it is necessary to first perform the recognition task and determine whether the event is formed by end of stock of the first or second product. Recommendations for the implementation of this recognition are given. The restoration examples of the change dynamic in preference between two alternative products are shown.

Keywords: rare events, capacitive method, consumption rate, recovery, preference, alternative products.

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