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IMPLEMENTATION OF METAHEURISTIC EVALUATION METHODS OF ADVERTISING PLANNING ELEMENTS

The advertising campaign is one of the main forces to promote innovative product to market. A huge number of papers are devoted to the study of the positive role of advertising in the business.

When planning an advertising campaign, the object of its action does not always correctly determined, grouped and segmented the market and consumers. Moreover, the outcome advertising affects a large number of factors. This causes multifactoriness of advertising process.

Factors that affect the result of advertising a huge amount, as controlled (product / service quality, price, service, availability of outlets selling goods / services etc.), and those that do not depend on the advertiser (the exchange rate, the national law, psychological features consumers, force majeure, etc.). Thus, in evaluating the effectiveness of advertising the event has to deal with multi-objective optimization. Planning of advertising is multi-criterion process with multiple variables, so it is rational to consider planning, primarily as a mathematical model.

Application of simulation provides a complete picture of performance based on their mutual influence under the influence of a particular set of factors. On the basis of the efficiency calculation of the planning elements of an advertising campaign using statistical modelling, the time and achieve break-even point of maximum efficiency, plan advertising budget from the standpoint maximum efficiency can be determined.

Most initial data for economic problems solving are making and expert opinions in form of phrases and words, i.e. linguistic data, so it is necessary to convert linguistic parameters in numeric expressions. It solves a problem and the theory of fuzzy sets.

Fuzzy logic – a branch of mathematics, which considers a range of classical logic and fuzzy sets theory. The main characteristic of fuzzy sets is handling of this component as a linguistic variable. Linguistic variable is a variable whose value is not a number, and the words and expressions that cause blurred and because they do not have a specific numeric value.

Methods based on the theory of fuzzy sets relate to methods of evaluation and decision-making under uncertainty. Their use involves formalizing of output parameters and process efficiency targets as a vector of interval values (fuzzy interval), falling in each interval is characterized by some degree of uncertainty.

Metaheuristics – a method of optimization that uses many simple rules or heuristics for optimal or suboptimal solutions. Metaheuristic approaches used currently are an algorithm of simulated annealing, ant colony algorithm and genetic algorithm.

Given the complexity and diversity of phenomena of elements assessment of marketing event planning, it is not possible to choose the best and reliable method that leads to the need to use several heuristics simultaneously as solutions produced by one method could be improved by other one. Thus improving the quality of decisions and reducing the number of errors.