Determination of Experts' Consensus and Consensus Degree in Group Decision- Making Systems

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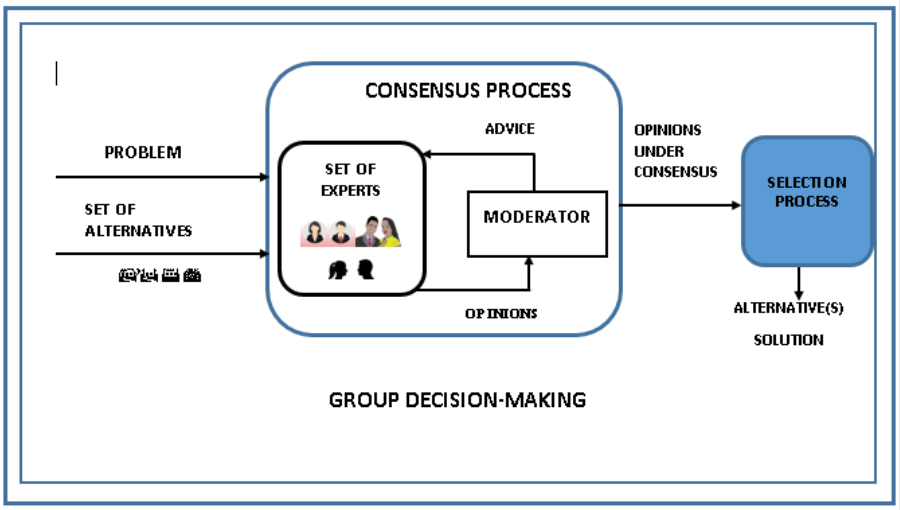
In the Group Decision-Making systems, which, generally, imply selection of the best out of the alternatives by the group, performance of at least two processes is inevitable: first – determinations of experts' consensus (agreement) by measuring the level of their approximation and the second – decision-making process, which implies identification of the best out of the given alternatives. Besides, the process of determination of the experts' consensus shall necessarily precede the decision-making process. It is important that the experts' final decision be made in the environment of their agreement. Determination of the experts' consensus, as a rule, is performed before the system starts the decision-making system with experts' participation.

In decision-making systems, as a rule, the process of experts' consensus is managed by the moderator (Herrera et al. 1996; Kacprzyk et al. 1992); the latter doesn't participate in discussion, however observes each step and bears responsibility for the outcome to be produced in the environment of the experts' maximum agreement; consequently, according to the results of the process analysis, the moderator mades decision on reduction of the number of experts, or restarting the process till achievement of consensus among the experts. In general, the moderator shall be well aware how to obtain the right outcome of selection of alternatives in the environment of agreement of the experts, selected by him/ her.



There are different methods of calculation of consensus. Rigid and flexible methods of consensus calculation are presented in the paper.

Operator LOWA of OWA type for aggregation of linguistis values is used in the algorithm of determination of the level of the experts' approximation, algorithms of this process are processed using electronic tables on the basis of specific tasks, where the group consists of four experts and the number of alternatives is also four.

Kay words: Group Decision Making System, Operator LOWA, Experts' consensus, Quality of Proximity to Experts.