

There are three conditions that managers may face as they make decisions. They are -

i) Certainty

ii) Risk

iii) Uncertainty

A state of certainty exists only when the managers know the available alternatives as well as the conditions and consequence of those actions.

• All managers make decisions under each condition but risk and uncertainty are common to the more complex and unstructured problems faced by top managers.

For the selection of the best alternative in decision making under risk, there are two most commonly used methods in practice: the expected value method and the most probability method. The alternative with the best expected pay off will be selected.

By considering the decision maker's attitude of profit and risk, we propose an alternative selection method that can include the methods of decision making under risk as special cases.

An index to measure the decision maker's risk averse degree is proposed. With a given optimistic level of profit and risk, the evaluation results of the alternatives can be obtained with a geometric ordered weighted average (GOWA) operator and a basic defuzzification distribution (BADD) next OWA operator.

Some properties of these two kinds of OWA operator in the problem of decision making under uncertainty are also proposed.