Quantitative Decision Making

Name

Institution

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The Bayesian decision theory is a fundamental approach of statistics that deals with the challenges of classifications of pattern. The maximum approach involves the choosing of an alternative which will maximize the highest payoff possible. It has the strength of yielding generously in the event that the alternative succeeds but has the weakness of resulting in a severe loss if the alternative proves unfruitful. From a personal, as well as businesses perspective, choosing the types of stock to purchase on the securities markets fits this case, where the party would elect to buy high-risk stocks hoping to get high returns.

The maximin approach concept works by the choosing of a possibility which will result in the minimum payoff available. Its strength is the fact that it minimizes loss by a great deal while the weakness is that the involved party loses out on making a large profit in event of good outcomes. From a personal, as well as business angle, a party would opt for low-risk securities to avoid the potential loss and minimize regrets from failure.

The maximax approach is a risk-neutral approach to decision making. This means that the person would avoid risk at all costs. The strength is that the person avoids any possible losses while its weakness is that the person/institution misses out on opportunities to make profits.

Using the securities example, such a person or institution would trade in securities that have been known to be stable over a lengthy period of time (Berger, 1993).

Reference

Berger , J.O. (1993). *Statistical decision theory and bayesian analysis.* New York: Springer.