Abstract

Screening weapon-systems is a critical task in determining whether a systems development effort will be successful and eventually provide the increased war fighting capability the user had originally envisioned. Weapon system selection is a multi-criteria decision problem that must be accomplished within a constrained resource environment. Several alternatives must be considered and evaluated in terms of many different conflicting criteria and sub criteria and therefore an effective evaluation approach is essential to improve decision quality. Analytic hierarchy process (AHP) is one such technique used by the researchers over the years in establishing the relative values of military weapon system. Despite its popularity, some shortcomings of AHP have been reported in the literature, which have limited its applicability. This research presents a hybrid AHP-FLP approach, integrating an analytic hierarchy process (AHP) with a linear programming model under fuzzy environment (FLP) to a hypothetical case of screening new weapon systems.

References

- Ho, W. 2007. Combining analytic hierarchy process and goal programming for logistics
Hybrid Analytic Hierarchy Process Fuzzy Linear Programming Approach for Weapon Systems Screening


Index Terms

Computer Science Fuzzy Systems
Keywords
AHP  linear programming  fuzzy linear programming