

FUZZY AHP APPROACH TO COMPARISON OF GRANT AID FOR ODA IN JAPAN

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ABSTRACT. *Today, many companies contribute to Official Development Assistance (ODA). The details of ODA are publicised for each project, with contributions and companies listed on the company's website. The objective of this paper is to evaluate these companies in terms of the best practices that characterise ODA donations in four fields: infrastructure, medical service, education and security.*

Analytic hierarchy process (AHP) is proposed by T. L. Saaty to evaluate uncertainty in decision problems. Using comparison matrices, the AHP can evaluate the extent of data fit to practical data. In fuzzy analytic hierarchy process (Fuzzy AHP), interval weights play a pivotal role and can be solved by linear programming. An approach to fuzzy AHPs is to estimate interval priorities on the items discussed. These interval weights are based on the concept of possibility and express the range of the possibility. The method employed by H. Tanaka is to minimise the range including the given data. The range of the possibility can be illustrated as the interval or width of calculated values. Similar to a conventional AHP model, the fuzzy AHP model has a hierarchical structure that is used to decide the priority of each alternative with the minimal evaluation width of each alternative. Saaty proposed that an AHP matrix should have a Consistency Index (C.I.) of less than 0.1, since theory suggests that C.I. should be satisfied. The fuzzy AHP Model can minimise such vagueness and uncertainty in the hierarchical structure used to evaluate alternatives.

Keywords: Fuzzy AHP, Eigenvalue problem, ODA

1. Introduction. These days, corporations must participate like citizens in a society. The widespread impact of environmental problems and the social expenses of each corporation expand the range of corporate activities that impact broader corporate growth. Corporate social responsibility (CSR) is becoming important in Japan and corporations are supporting various social activities in fields such as environment, welfare, international cooperation, education, and culture.

Developed countries have to increase their support for ODA for the purpose of countering errorism. Development aid is diversified and provides assistance to NGOs, universities, institutions, and corporations. With the acceleration of globalisation, the current priorities for ODA are to push forward the development of developing countries and to decrease world poverty. ODA has a new goal of enabling world peace and assuring human safety.

Today, companies should be striving to apply an appropriate CSR policy in the global industrial environment. Since one of the keys to survival in a competitive market is the