A NEW ASSESSMENT MODEL FOR GLOBAL FACILITY SITE SELECTION

Lily Lin[1] and Huey-Ming Lee[2]

[1]Department of International Business
China University of Technology
56 Sec. 3, Hsing-Lung Road, Taipei 116, Taiwan
lily@cute.edu.tw

[2]Department of Information Management
Chinese Culture University
55 Hwa-Kung Road, Yang-Ming-San, Taipei 11114, Taiwan
hmlee@faculty.pccu.edu.tw

ABSTRACT. *In this study, we propose a new fuzzy assessment model to assist in finding the best facility site of multinational enterprises (MNEs) based on various investment environments. The proposed fuzzy assessment model is not only easier but also closer to evaluator real thinking, and more useful than the ones presented before. Also, we identify the critical location factors that will affect the MNEs operation and ongoing business. Via the proposed assessment model in a way that has not been done before, the decision-maker or leader of the MNEs can select the appropriate facility site among the countries.*
Keywords: Linguistic variables, Fuzzy set theory, Facility site selection

1. **Introduction.** A critical issue for firms pursuing global expansion strategies involves facility site evaluation and selection. For successful expansion, corporations must identify countries and facility sites that offer a beneficial combination with the firm's overall corporate strategy. Thus, to make the most beneficial choice of a new location among several countries, the decision-makers/leaders of multinational enterprises (MNEs) would consider the factors of aggregative benefit rate of investment environment while planning the operating strategies.

In our previous study [7], we proposed a hierarchical structure model of aggregative benefit in investment environments and classified the investment benefit factors presented by the literatures of [1,2,8,10,12] into four attributes as labor, geography, etc., and divided each attribute into some investment benefit items, such as salary levels, manpower levels, etc. However, as to the foreign investment environments, not only the physical environment, the political environment should be also a critical consideration. Therefore, in this paper, the politics factor is included as an attribute as well as the modified hierarchical structure model of aggregative benefit is shown in Figure 1. We denote the attribute Labor to be X_1, Geography to be X_2, etc., and the items such as salary levels denoted by X_{11}, usage condition levels of factory denoted by X_{21}, etc. In addition, we increase an attribute Politics as X_5 including two items of regulatory restrictions level (X_{51}) and investment subsidy level (X_{52}) indicated in Figure 1.

As to fuzzy location-allocation problem, Liu and Zhu [9] presented a new class of two-stage minimum risk location and allocation models based on credibility theory as well as the convergence of the approach. Also with regard to fuzzy decision-making problem, Kao and Wu [3] presented new dynamic approaches in information technology