FUZZY MODELS IN PERSONNEL MANAGEMENT

C. Van Velthoven, Ministry of Defence, Bureau de l'Informatique, Place Dailly, 1030 Bruxelles, (Belgium)

Criteria for recruitment, selection and promotion of personnel are very often characterized by nonstochastical vaguenees. A computerized large scale system for optimizing these functions has to take that into consideration. This paper tries to apply some elements of fuzzy sets theory to the question instead of pure probabilistic methods.

When comparing job requirements and candidate profiles there is a need for "fuzzification" of exact values according to the idea that a present registration should be considered with about the same vagueness as the criterion. Adequate fuzzification functions should generate membership-functions in relation to the considered fuzzy criteria. To define binary dissi-

milarity relations between candidates, several factors may be used (e.g. a fuzzy generalization of B. ROY's dissimilarity index). Binary fuzzy dissimilarity relations may be decomposed in disjoint equivalence classes providing an ordering if the transitivity property is present or has been ensured. This ordering is essential in problems of selection and job-rotation. Other methods based upon multidimensionnal typology also provide good orderings if surclassing relations based upon concordancy-discordancy levels have been defined and constructed.

This enables optimization of recruitment, allocation and promotion.