## ABSTRACT

# AN ANALYSIS BY COMPUTER SIMULATION ON THE ELECTION RULE OF DIVIDING A CITY AREA INTO ELECTION DISTRICTS IN ELECTING CITY COUNCIL REPRESENTATIVES

Yoshinobu KUMATA
*Tokyo Institute of Technology*

Kiyoshi ARAI                    Yasuhiro NAKAGAWA
*Tokyo Institute of Technology*      *Recruit Company, Ltd.*

How to make a city council is a fundamental problem for citizens who have right to elect representatives to expect their comfortable future city life. The authers construct a framework to evaluate rules for electing representatives by setting four viewpoints on decision systems, i.e., "adaptability", "equality", "efficiency" and "stability". Then, a model of election procedure is made to execute computer simulation and to discuss the suitable scale of election districts.

According to our model and computer simulation, the following results are obtained:

(1) From the viewpoint of "adaptability", intensive communication between voters and candidates and between voters, and, at the same time, preliminary selection of candidates by voters are required. The bigger scale of election districts, as far as the conditions above are satisfied, leads to the better results.

(2) From the viewpoint of "equality", the smaller scale of election districts should be better, under the condition that voters' interest are geographically distributed and that each candidate is connected to the specific interest of a certain district.