PANNEE SRIYUDHSAK : A COMPARISON OF STATISTICAL METHODS FOR SELECTING APPROPRIATE MODEL TO PRIORITIZE AREAS HAVING DRUG ABUSE PROBLEMS. THESIS ADVISOR: ASSO. PROF. SUCHADA KIRANANDANA, Ph.D. 101 PP.

The objective of this study was to propose an appropriate mathmetical model for areas prioritizing by degree of drug abuse. The analysis techniques considered were Principal Component Analysis, Canonical Correlation Analysis, Multiple Regression Analysis and Discriminant Analysis. Moreover, This study also propose the rejection method, namely, Multiple Correlation Method, which was used to reject redundant variables prior to Component Analysis. The SAS package was employed for analysing data which was secondary data gathered by various agencies and some of which had been made public. The result for this was as follows:

1. Comparing among these four analysis techniques, Principal Component Analysis, Canonical Correlation Analysis, Multiple Regression Analysis and Discriminant Analysis, it was found that all of them produced appropriated models in area priortizing. Moreover, the results from these models were highly related, measured at significant level of 0.001, which implied that either method could be chosen for this purpose.

2. Comparing between analysis with and without prior rejection of variable, it was found that set of principal components achieved from analysis with rejection method had been applied was similar to that without rejection method. The similarity was measured and its result was quite high, 0.70730, which indicated that both methods yielded the similar result in areas prioritzing.