This thesis presents a decision support system for evaluating automation projects. The system is developed with C++ language on a personal computer and contains five sub-system, namely a data management sub-system, a model management sub-system, a user-interface sub-system, an evaluation sub-system and a report management sub-system. The decision support system uses cashflow data and utility functions which are created from lottery games for the evaluation of various alternatives. The analysis is conducted under assumed certainty and considers both tangible and intangible factors. The criterion for the evaluation process is total multiattribute utility (by additive model). The system produces summary reports which sort all alternatives by descending values of total utility. Based on the testing of the program with the selection of manufacturing resources planning system in a bakery factory, the decision support system requires less user's engineering economics skill and evaluating time than manual operation and also less prone to calculation errors.