ABSTRACT

As the increase of population of Surabaya city each year, the need for installation of utilities such as gas pipe network, water, electricity, and telecommunications networks has also increased. Surabaya local government established a policy for managing the entire network utility into a box culvert. To perform network management utilities into a box culvert, the government requires no small cost. Therefore Surabaya city government to cooperate with the private sector to become an investor in the financing of development projects. In a public-private partnership scheme, the private sector must take into account the investment period is right for them not to experience losses when investing in the project. Variables and risk factors that make the determination of the investment period will differ between one project to another. It is necessary for the proper modeling to determine future investment in this project.

In this study, simulation of system dynamic is used as a model to determine the investment period. Variables - variables used in the model obtained from the study of literature. While equations - equations in the model obtained from secondary data such as historical data.

3 scenarios in the form of the rate of return value is used to determine the most optimum investment. Simulation results show that long term investment is recommended to investors in this project with a return of 4% is over 24.2 years old. At the rate of return of 8%, over the long term investment is 26 years. While the rate of return of 12%, a long investment period is for 27 years. Sensitivity test results indicate that the variable cost of construction is the most sensitive variable to the model as a whole.

Keywords: Investment, PPP, Risk, and System Dynamic
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