# *ABSTRACT*

Physical development project of gentan market is one of market which become government program of Yogyakarta City to revitalize and build physical of traditional market. The project has performed work on the main structure using steel frames with varying profiles. The column steel frame profile 1 uses IWF 350.175.7.11 and column 2 using IWF 300.150.6,5.9. then the steel frame profile on the beam there are 4 kinds, the beam 1 uses IWF 300.150.7.11, the beam 2 uses IWF 250.125.6.9, the beam 3 uses IWF 200.100.5,5.7, and the beam uses IWF 150.75.5.7. In the steel frame structure work, the contractor uses heavy equipment such as *teleskopik truck crane TADANO TL 250E* with 25 ton capacity and *truck load crane TADANO SUPER Z 300* with 2 ton capacity to install 106 steel frame. In the work is divided into 2 zones, zone 1 is done using *a truck load crane TADANO SUPER Z 300*, while zone 2 is done using *teleskopik truck crane TADANO TL 250E*.

The purpose of this research is to know the productivity of machine on site and the specification of *mobile crane*. The productivity of the on site is obtained by observing and then calculating *hoisting* time, *slewing* time, *landing* time, install time, and return time using stopwatch. Meanwhile, to calculate the productivity based on theory, we need heavy equipment specification data and working drawing data to know the angle between the point of installation of steel frame with the center of mobile crane. From the data obtained hoisting time, slewing time, and landing time.

In the calculation of productivity on site with 1 hour time can install 2 pieces of steel frame while the calculation of productivity based on specification with 1 hour time can install 5 pieces of steel frame. so the total time needed by the heavy equipment on the field to complete the structural work is 80 hours with the operational cost of Rp 48.150.000,00. While the total time required for heavy equipment calculated on the basis of specifications to complete the structure work is 16 hours with an operational cost of Rp 20.300.000,00.

Keywords : *comparison, productivity, cost, time, mobile crane*