ANALISIS *TIME COST TRADE OFF* DENGAN PENAMBAHAN JAM KERJA DAN TENAGA KERJA PADA PROYEK KONSTRUKSI (STUDI KASUS PROYEK X)

TUGAS AKHIR

Karya tulis sebagai salah satu syarat
untuk memperoleh gelar Sarjana Teknik dari
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ABSTRAK

ANALISIS *TIME COST TRADE OFF* DENGAN PENAMBAHAN JAM KERJA DAN TENAGA KERJA PADA PROYEK KONSTRUKSI (STUDI KASUS PROYEK X)

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Keberhasilan pada proyek konstruksi ditentukan oleh biaya, mutu, dan waktu. Dalam mencapai keberhasilan proyek dilakukan pengendalian proyek yang menghubungkan ketiga hal tersebut. Ketidakseimbangan biaya, mutu, dan waktu dapat menyebabkan permasalahan salah satu contohnya adalah keterlambatan. Terdapat alternatif dalam mengatasi keterlambatan pada proyek kontruksi yaitu metode *Time Cost Trade Off*. *Time Cost Trade Off* dapat digunakan untuk melakukan percepatan pada proyek konstruksi dengan cara melakukan penambahan jam kerja dan tenaga kerja. Berdasarkan hasil analisis dalam penelitian ini didapat hasil percepatan menggunakan penambahan 1 jam kerja didapat total durasi 243 hari dengan biaya Rp22.111.055.276. Penambahan 2 jam kerja didapat total durasi 180 hari dengan biaya Rp24.570.391.213. Penambahan 3 jam kerja didapat total durasi 147 hari dengan biaya Rp26.133.448.088. Penambahan 4 jam kerja didapat total durasi 115 hari dengan biaya Rp27.187.055.276. Hasil penambahan rata-rata 106 tenaga kerja dengan durasi 243 Hari didapat total biaya Rp 22.229.284.963. Penambahan rata-rata 132 tenaga kerja dengan durasi 180 Hari didapat total biaya Rp 25.198.719.963. Penambahan rata-rata 158 tenaga kerja dengan durasi 147 Hari didapat total biaya Rp 27.292.649.963. Penambahan rata-rata 187 tenaga kerja dengan durasi 115 Hari didapat total biaya Rp 28.793.139.963. Dari kedua metode tersebut didapat *Time Cost Trade Off* yang optimal yaitu pada penambahan 1 jam kerja.

Kata Kunci: *time cost trade off*, percepatan, biaya, waktu

ABSTRACT

TIME COST TRADE OFF ANALYSIS WITH ADDED MAN-HOURS AND LABOR ON CONSTRUCTION PROJECTS (CASE STUDY: PROJECT X)

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Success on construction projects is determined by cost, quality, and time. In achieving project success, project control is carried out that connects these three things. Imbalances in cost, quality, and time can cause problems, one example is delays. There is an alternative in overcoming delays in construction projects, namely the Time Cost Trade Off method. Time Cost Trade Off can be used to accelerate construction projects by increasing working hours and labor. Based on the results of the analysis in this study, the results of acceleration using the addition of 1 hour of work obtained a total duration of 243 days at a cost of IDR 22,111,055,276. The addition of 2 hours of work obtained a total duration of 180 days at a cost of IDR 24,570,391,213. The addition of 3 hours of work was obtained a total duration of 147 days at a cost of IDR 26,133,448,088. The addition of 4 hours of work was obtained for a total duration of 115 days at a cost of IDR 27,187,055,276. The results of adding an average of 106 workers with a duration of 243 days were obtained total cost IDR 22,229,284,963. The addition of an average of 132 workers with a duration of 180 days obtained a total cost of IDR 25,198,719,963. The addition of an average of 158 workers with a duration of 147 days obtained a total cost of IDR 27,292,649,963. The addition of an average of 187 workers with a duration of 115 days obtained a total cost of IDR 28,793,139,963. From these two methods, the optimal Time Cost Trade Off is obtained in the addition of 1 hour of work.

Keywords: time cost trade off, acceleration, cost, time