

ABSTRAK

SURYA PRATAMA, 2022.

Optimalisasi Biaya Pelaksanaan Pembangunan Administration Building Menggunakan Metode Value Engineering

Pembimbing 1 : Dr. Ir. AHMAD RIDWAN, SE.ST.MT

Pembimbing 2 : Drs. Ir. SIGIT WINARTO, ST.MT

Studi value engineering ini dilakukan pada administration building proyek Eric-1 jombang dikarenakan aspek biaya yang dikeluarkan cukup besar, maka peneliti mencoba untuk memberi alternatif yang lain dengan menerapkan value engineering. Value Engineering adalah suatu pendekatan sistematis berbasis multidisiplin yang dilakukan secara kreatif, inovatif dan sistematis untuk mencari keseimbangan fungsional antara biaya, keandalan dan kinerja untuk mencapai konsep value for money. Pada value engineering ada enam tahap. Tahap informasi dilakukan 2 analisis yaitu *cost breakdown* dan analisis diagram pareto, menghasilkan pekerjaan terbesar dimiliki oleh pekerjaan beton dengan bobot 37% dan bobot 28% pekerjaan pelat lantai dari total pekerjaan beton. Tahap analisa fungsi menghasilkan 1 fungsi primer dan 4 fungsi sekunder. Tahap kreatif menghasilkan 3 ide kreatif yaitu Metode Konvensional (PA-1), Metode *Floordeck* dan *Wiremesh* (PA-2), dan Metode *Hollow Core Slab* (PA-3). Tahap evaluasi menghasilkan 2 ide kreatif yang lolos. Tahap pengembangan dilakukan beberapa perhitungan yang mendukung semua ide kreatif. Tahap kriteria evaluasi dilakukan penilaian setiap pilihan alternatif dibantu aplikasi *Expert Choise* menghasilkan *total value* PA-2 lebih besar 20% dari PA-1. Perhitungan desain pelat lantai menghasilkan kemampuan layan PA-2 lebih tinggi 12,67% dari PA-1. NPV PA-1 lebih besar 5% dari PA-2. Nilai indeks PA-2 lebih kecil 2,17 dari PA-1. Penggunaan PA-2 dapat menghemat RAB sebesar Rp 101.372.430,00 atau sebesar 5%.

kata kunci : *value engineering, net present value, nilai indeks.*

ABSTRACT

SURYA PRATAMA, 2022.

Optimization of Administration Building Construction Implementation Costs Using the Value Engineering Method

Mentor 1 : Dr. Ir. AHMAD RIDWAN, SE.ST.MT

Mentor 2 : Drs. Ir. SIGIT WINARTO, ST.MT

This value engineering study was conducted on the administration building of the Eric-1 Jombang project because the cost aspect was quite large, so the researchers tried to provide another alternative by applying value engineering. Value Engineering is a multidisciplinary-based systematic approach that is carried out creatively, innovatively and systematically to find a functional balance between cost, reliability and performance to achieve the concept of value for money. In value engineering there are six stages. The information stage carried out 2 analyzes, namely cost breakdown and Pareto diagram analysis, resulting in the largest work being owned by concrete work with a weight of 37% and a weight of 28% of floor slab work from the total concrete work. The function analysis stage produces 1 primary function and 4 secondary functions. The creative stage produces 3 creative ideas, namely the Conventional Method (PA-1), Floordeck and Wiremesh Method (PA-2), and Hollow Core Slab Method (PA-3). The evaluation stage resulted in 2 creative ideas that passed. In the development stage, several calculations are carried out that support all creative ideas. In the evaluation criteria stage, each alternative choice is assessed with the help of the Expert Choice application, resulting in a total PA-2 value of 20% greater than PA-1. The calculation of the floor slab design results in the serviceability of PA-2 being 12.67% higher than that of PA-1. PA-1's NPV is 5% greater than PA-2's. The PA-2 index value is 2,17 smaller than PA-1. The use of PA-2 can save RAB of IDR 101.372.430,00 or 5%.

keywords: value engineering, net present value, index value.