

ABSTRAK

Objek penelitian ini adalah penerapan konsep *Green Building* pada bangunan pabrik produksi produk industri FMCG berbasis *Value Engineering*. Tujuan penelitian ini secara garis besar untuk menganalisis penerapan *Green Building* berdasarkan Permen PUPR No. 21 Tahun 2021 pada bangunan industri dengan berbasis *Value Engineering*. Dengan menerapkan konsep ini diharapkan memberikan rekomendasi dalam upaya mengoptimalkan tambahan biaya akibat adanya penerapan konsep *Green* pada bangunan industri dengan tetap pada prinsip tidak menghilangkan kinerja, ketahanan, keandalan, mutu, fungsi, manfaat, estetika, dan aspek lainnya yang dianggap penting dari pekerjaan. Berdasarkan hasil penelitian terkait pengaruh dari masing-masing variabel dalam penerapan *Green Building* terhadap kinerja biaya diperoleh hasil bahwa variabel penerapan *Value Engineering* (X2) berpengaruh dominan terhadap kinerja biaya (Y). Hasil analisis juga menunjukkan bahwa semua variabel bebas (X) yakni variabel penerapan *Green Building* (X1), Penerapan *Value Engineering* (X2), dan administrasi proyek bangunan industri (X3) berpengaruh signifikan secara simultan atau bersama-sama terhadap kinerja biaya (Y). Dimana nilai korelasi (R Square) sebesar 0.739, hal tersebut berarti bahwa terdapat pengaruh variabel bebas (X) terhadap Variabel Terikat (Y) sebesar 73.9%. Sementara sisanya 26.10% dipengaruhi oleh faktor lain diluar penelitian ini. Berdasarkan perhitungan Rencana anggaran biaya *Green* yang diterapkan dalam studi kasus ini, penambahan anggaran biaya proyek sebesar Rp.4.023.658,560 atau sebesar 8.11% dari nilai kontrak awal yaitu sebesar Rp. 49,615,460,790. Setelah dilakukan analisis *Value Engineering* maka diperoleh anggaran biaya untuk penerapan *Green Building* berbasis *Value Engineering* sebesar Rp. 3.484.607.703. Dimana memiliki selisih Rp. 539.050.857 atau terdapat penghematan biaya sebesar 13.40% dari total rencana anggaran biaya *Green*. Presentasi penghematan anggaran biaya hasil analisis *Value Engineering* bernilai $\geq 5,06\%$ yang berarti maka penerapan *Value Engineering* telah memberikan hasil yang baik dalam upaya penghematan biaya. Sehingga hipotesa terbukti bahwa metode *Value Engineering* dalam penerapan *Green Building* pada Bangunan Industri dapat mengoptimalkan peningkatan biaya konstruksi.

Kata kunci : *Green Building, Value Engineering, Bangunan Industri FMCG, SPSS.*

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ABSTRACT

The object of this research is the application of the Green Building concept to Value Engineering-based FMCG industrial product production factory buildings. The general aim of this research is to analyze the implementation of Green Building based on PUPR Ministerial Decree No. 21 of 2021 on industrial buildings based on Value Engineering. By applying this concept, it is hoped that it will provide recommendations in an effort to optimize additional costs due to the application of the Green concept in industrial buildings while adhering to the principle of not eliminating performance, durability, reliability, quality, function, benefits, aesthetics and other aspects that are considered important from the work. Based on research results related to the influence of each variable in the application of Green Building on cost performance, the results show that the variable implementing Value Engineering (X2) has a dominant influence on cost performance (Y). The results of the analysis also show that all independent variables (X), namely the variables of implementing Green Building (X1), Implementing Value Engineering (X2), and industrial building project administration (X3) have a significant effect simultaneously or together on cost performance (Y). Where the correlation value (R Square) is 0.739, this means that there is an influence of the independent variable (X) on the dependent variable (Y) of 73.9%. While the remaining 26.10% is influenced by other factors outside this research. Based on the calculation of the Green budget plan implemented in this case study, the additional project cost budget is IDR 4,023,658,560 or 8.11% of the initial contract value, namely IDR. 49,615,460,790. After carrying out the Value Engineering analysis, the cost budget for implementing Value Engineering-based Green Building is obtained, amounting to Rp. 3,484,607,703. Where there is a difference of Rp. 539,050,857 or there is a cost savings of 13.40% of the total Green cost budget plan. The presentation of cost savings resulting from the Value Engineering analysis is $\geq 5.06\%$, which means that the application of Value Engineering has provided good results in cost savings efforts. So the hypothesis is proven that the Value Engineering method in implementing Green Building in Industrial Buildings can optimize the increase in construction costs.

Keyword : Green Building, Value Engineering, FMCG Industrial Building, SPSS.

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