

## INTISARI

ADITYA WARMAN, 2025, Perbandingan Volume Pekerjaan Berdasarkan Gambar Rancangan Teknik (DED), Gambar Teknik Lapangan (*Shop Drawing*) Dan Gambar Rekaman Akhir (*As Built Drawing*) Menggunakan BIM; (dibimbing oleh Agus Nugroho, ST., MT.)

Teknologi konstruksi yang semakin maju membuat Building Information Modeling (BIM) banyak digunakan untuk meningkatkan akurasi dan efisiensi proyek. Namun, kenyataannya kondisi di lapangan sering memunculkan perbedaan antara gambar DED, *Shop Drawing*, dan *As Built Drawing*. Karena itu, penelitian ini dilakukan untuk meneliti perbedaan volume pekerjaan pada proyek pekerjaan di Kabupaten Sleman sekaligus melihat sejauh mana BIM bisa membantu mengurangi deviasi antara desain dan hasil nyata.

Dalam penelitian ini memanfaatkan metode permodelan 3D dan 4D menggunakan perangkat lunak Autodesk Revit 2025 *Student Version* dengan data yang digunakannya adalah data proyek meliputi DED, *Shop Drawing* dan *As Built Drawing* yang didapatkan dari proyek pekerjaan yang tersebar di 9 Kecamatan se-Kabupaten Sleman. Tahapan penelitian yang dilakukan meliputi permodelan digital proyek pekerjaan, pengambilan *Quantity Take-Off*, perhitungan selisih volume antar gambar, serta analisis efisiensi dengan pendekatan BIM.

Hasil penelitian menunjukkan terdapat variasi yang signifikan antara ketiga jenis gambar tersebut. Didapatkan rata-rata tingkat perbedaan *Shop Drawing* terhadap DED sebesar 3,83% dengan tingkat perbedaan *As Built Drawing* terhadap DED sebesar 12,21%. Hal tersebut ditunjukkan dengan ditemukannya deviasi tertinggi di komponen arsitektur dan beberapa bagian struktur tertentu, sementara deviasi terendah terjadi pada pekerjaan finishing. Dari kesimpulan tersebut menjelaskan bahwa BIM terbukti mampu meningkatkan akurasi data volume serta mempermudah identifikasi potensi ketidaksesuaian sejak dini.

**Kata Kunci:** *building information modelling, autodesk revit, DED*

## ABSTRACT

ADITYA WARMAN, 2025, *Comparison of Work Volumes Based on Detail Engineering Drawings (DED), Shop Drawings, and As-Built Drawings Using BIM; (supervised by Agus Nugroho, S.T., M.T.)*

*The advancement of construction technology has led to the widespread use of Building Information Modeling (BIM) to improve the accuracy and efficiency of projects. However, in practice, field conditions often result in discrepancies between DED, Shop Drawings, and As-Built Drawings. Therefore, this study was conducted to examine the differences in work volumes in the project in Sleman and to assess the extent to which BIM can help reduce deviations between design and actual outcomes.*

*This research employed 3D and 4D modeling methods using Autodesk Revit 2025 Student Version. The data used consisted of project documents, including DED, Shop Drawings, and As-Built Drawings, collected from projects spread across nine districts in Sleman Regency. The research stages included digital project modeling, Quantity Take-Off extraction, calculation of volume differences among the drawings, and efficiency analysis through the BIM approach.*

*The results revealed significant variations among the three types of drawings. On average, the difference level of Shop Drawings compared to DED was 3.83%, while the difference level of As-Built Drawings compared to DED reached 12.21%. The highest deviations were found in architectural components and certain structural elements, whereas the lowest deviations occurred in finishing works. These findings indicate that BIM effectively enhances volume data accuracy and facilitates early identification of potential inconsistencies.*

*Keywords: building information modeling, Autodesk Revit, DED*