

ABSTRACT

This study evaluates the comparison between the conventional quantity take off (QTO) method and the use of Autodesk Revit software in the construction Simple Flat Rental building at Tanah Coklat Paniki. Conventional methods, which rely on manual measurements and document-based calculations, often face time constraints and the risk of human error. On the other hand, Autodesk Revit offers a building information model (BIM)-based solution that can automate the QTO process and integrate data in 3D models, enabling faster and more accurate calculations.

A case study on a flats construction project was used to compare the two methods. QTO is performed by conventional methods through manual measurements and calculations, as well as with Autodesk Revit utilizing 3D models for automation. The secondary data required: As built drawing, Bill of quantity, and literature study. The evaluation is carried out based on the accuracy of the calculation results, time efficiency, and process complexity to determine the advantages of each method.

The results show that Autodesk Revit significantly improves efficiency and accuracy in the quantity take off process compared to conventional methods. With a difference in concrete volume yield of 0,014865168% less than the conventional method, and 0,107563% reinforcing volume from revit less than the conventional method.

Keywords: Quantity Take Off, Conventional Method, Autodesk Revit, Building Information Model (BIM), Flats Construction Project.

ABSTRAK

Penelitian ini mengevaluasi perbandingan antara metode *Quantity Take Off* (QTO) kuantitas konvensional dan penggunaan software Autodesk Revit pada konstruksi bangunan Sewa Rumah susun Sederhana di Tanah Coklat Paniki. Metode konvensional, yang mengandalkan pengukuran manual dan perhitungan berbasis dokumen, sering menghadapi kendala waktu dan risiko kesalahan manusia. Di sisi lain, Autodesk Revit menawarkan solusi berbasis model informasi bangunan yang dapat mengotomatiskan proses QTO dan mengintegrasikan data dalam model 3D, memungkinkan perhitungan yang lebih cepat dan akurat.

Studi kasus pada proyek konstruksi apartemen digunakan untuk membandingkan kedua metode tersebut. QTO dilakukan dengan metode konvensional melalui pengukuran dan perhitungan manual, serta dengan Autodesk Revit yang memanfaatkan model 3D untuk otomatisasi. Data sekunder diperlukan: Seperti gambar yang dibangun, Bill of quantity, dan studi literatur. Evaluasi dilakukan berdasarkan keakuratan hasil perhitungan, efisiensi waktu, dan kompleksitas proses untuk mengetahui keunggulan masing-masing metode.

Hasilnya menunjukkan bahwa Autodesk Revit secara signifikan meningkatkan efisiensi dan akurasi dalam proses lepas landas kuantitas dibandingkan dengan metode konvensional. Dengan perbedaan hasil volume beton sebanyak 0,014865168% lebih kecil daripada metode konvensional dan volume tulangan revit 0,107563% lebih kecil daripada metode konvensional.

Kata kunci: *Quantity Take Off*, Metode Konvensional, Autodesk Revit,
Proyek Konstruksi Rumah Susun