

Pengembangan Metode Pengukuran Standar Volume Pekerjaan Arsitektur, Fasilitas Eksterior Bangunan dan Miscellaneous Work Berbasis WBS Pada Kawasan Stadion Dengan Kontrak Terintegrasi Rancang Bangun Untuk Meningkatkan Akurasi Perhitungan Volume = Development Of WBS-Based Standard Measurement Methods For Architecture, Building Exterior Facilities, and Miscellaneous Work Of Stadium Area With Integrated Design-Build Contract To Increase The Accuracy of Volumes Measurement

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Abstrak

Stadion merupakan bangunan khusus gedung negara dengan kompleksitas tinggi namun dituntut diselesaikan dengan cepat dan saat ini seringkali menggunakan kontrak design and build. Namun, ditemukan ketidaksesuaian dalam pengukuran volume karena akurasi pengukuran dan persepsi yang berbeda diantara stakeholder akibat belum adanya standar acuan pengukuran volume pekerjaan stadion, khususnya pekerjaan arsitektur, fasilitas eksterior bangunan, dan miscellaneous work pada kawasan stadion. Penelitian ini bertujuan untuk menyusun WBS, mengembangkan metode standar pengukuran volume pekerjaan dan memodelkan hubungan antara metode standar pengukuran volume Pekerjaan berbasis WBS dengan akurasi pengukuran volume. WBS Stadion dikembangkan dengan studi literatur BOQ terdahulu dan peraturan menteri, metode standar pengukuran volume dikembangkan dengan studi literatur metode standar pengukuran volume eksisting dengan berisikan unit, aturan, dan ketentuan pengukuran, serta ruang lingkup pekerjaan dan pemodelan hubungan antar variabel menggunakan SEM-PLS. Penelitian ini menghasilkan WBS dan SMM berbasis WBS khusus untuk pekerjaan arsitektur, fasilitas eksterior bangunan, dan miscellaneous work pada kawasan stadion dan berdasarkan hasil responden dan Analisa model hubungan antara variabel WBS, SMM, dan akurasi perhitungan volume pekerjaan SEM-PLS, dihasilkan model matematis yaitu $Y1 = 0.339 X1 + 0.673 X2$ dimana Y1 adalah akurasi perhitungan volume pekerjaan, X1 adalah WBS, dan X2 adalah SMM dimana berdasarkan model tersebut diketahui bahwa WBS dan SMM berpengaruh positif terhadap akurasi perhitungan volume dan memiliki hubungan yang signifikan. Didapatkan Nilai R square sebesar 0,738 yang tergolong moderat yang menjelaskan bahwa kedua variabel SMM dan WBS berpengaruh secara simultan terhadap variabel akurasi perhitungan volume pekerjaan sebesar 73,8%. Hasil Penelitian ini diharapkan memberikan standarisasi dan keseragaman volume untuk menghasilkan volume dengan akurasi tinggi, dapat diterima oleh semua pemangku kepentingan, dan mengurangi perselisihan.

.....Stadiums are special state buildings with high complexity and need to finish quickly and often using design and builds contracts. However, discrepancies in the measurement of volume due to measurement accuracy and perception were found among stakeholders due to the absence of standards for measuring the volume of stadium work, especially for architecture, building exterior facilities, and miscellaneous works in the stadium area. This study aims to compose WBS, develop SMM for Architecture, Building Exterior Facilities, and Miscellaneous Work on Stadium Area and modeling the relationship between WBS-based Standard Measurement Methods and the accuracy of volume measurement. WBS Stadium was developed by

studying the previous BOQ and ministerial regulations, SMM developed by literature study of the existing SMM which contain units, measurement rules, provisions, and scope of work for SMM of stadium area and modeling the relationship between variable using SEM-PLS. The results of this study are WBS, WBS-based SMM for architecture, building exterior facilities, and miscellaneous work in the stadium area and the relationship model. Based on the results of respondents and model analysis of relationship between WBS, SMM, and the accuracy of volumes measurement by SEM-PLS, the mathematical model is $Y1 = 0.339 X1 + 0.673 X2$ where Y1 is the accuracy of volumes measurement, X1 is WBS, and X2 is SMM. Based on the model it is known that WBS and SMM have a positive effect on accuracy of volumes measurement and have a significant relationship. The R square value is 0.738 which classified as moderate, that means SMM and WBS have a simultaneous effect on the variabel accuracy of volumes measurement by 73.8%. The results of this study are expected to provide standardization and uniformity to produce volumes measurement with high accuracy, acceptable to all stakeholders, and reduce dispute.