

ABSTRACT

MARKET VALIDATION OF AUTOMATED VALUE MODELS FOR REAL ESTATE IN SCOTLAND

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The real estate industry has grown significantly. Accuracy of market value as the foundation for demand and supply creation is one of the key factors in the real estate market. Those in business who can accurately predict pricing can make more money than those who cannot. Price accuracy is necessary before making a deal for sellers, buyers, tenants, landlords, and mortgages. Several companies and platforms are currently recognized that provide information on property prices; some of them take advantage of technological disruption by giving users information online, such as Rightmove, Zoopla, etc. However, the current price estimates from information providers are still far from accurate. This can be caused by the resources, approach, and methodology used in predicting property prices. The purpose of this research is to assist Property Price Hub Ltd in gaining a competitive advantage in running its business which focuses on providing property price information that is more accurate, fast and easy to use by its customers. Researcher try to provide an alternative to property valuation methods that are commonly used, such as the cost approach, income approach, and property market data approach. By utilizing the availability of well-recorded, legal, and easily accessible property transaction data, researchers try to create an automatic value model utilizing machine learning to predict the price of a property in Scotland. Researchers used Python 3.0 software (Pycaret module) and Orange to process Price Paid Data provided by the HM Land Registry to make model predictions.

Keywords: property valuation, machine learning, automated value model

ABSTRAK

VALIDASI NILAI MENGGUNAKAN AUTOMATED VALUE MODEL TERHADAP PASAR REAL ESTATE DI SKOTLANDIA

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Industri real estat telah tumbuh secara signifikan. Akurasi nilai berpengaruh pada permintaan dan penawaran sebagai faktor kunci dalam pasar real estat. Mereka yang memprediksi harga lebih akurat dapat menghasilkan lebih banyak keuntungan. Akurasi harga diperlukan sebelum membuat kesepakatan untuk penjual, pembeli, penyewa, tuan tanah, dan hipotek. Perusahaan dan platform penyedia informasi harga properti; beberapa di antaranya memanfaatkan disrupti teknologi dengan memberikan informasi kepada pengguna secara online, seperti Rightmove, Zoopla, dll. Namun, perkiraan harga tersebut disebut masih jauh dari akurat. Hal ini disebabkan oleh sumber daya, pendekatan, dan metodologi dalam memprediksi harga properti. Penelitian ini membantu Property Price Hub Ltd memperoleh keunggulan kompetitif yang berfokus pada penyediaan informasi harga properti yang lebih akurat, cepat dan mudah kepada pelanggannya. Peneliti berusaha memberikan alternatif terhadap metode penilaian properti yang telah umum digunakan seperti pendekatan biaya, pendekatan pendapatan, dan pendekatan data pasar properti di Skotlandia. Memanfaatkan ketersediaan data transaksi properti yang terekam rapi, legal, serta mudah diakses, peneliti mencoba membuat automated value model memanfaatkan machine learning untuk memprediksi harga sebuah properti. Peneliti menggunakan software Python 3.0 (modul pycaret) serta Orange untuk mengolah Price Paid Data yang disediakan oleh HM Land Registry untuk membuat model prediksi.

Kata kunci: penilaian properti, machine learning, automated value model