



## ABSTRACTS

### 3. Malgorzata RENIGIER-BILOZOR, Maurizio d'AMATO, Artur JANOWSKI: Automated Valuation of Real Estate Model based on Rough Set Theory

*In the 21st century, a real estate market cannot be evaluated without the involvement of effective systems for gathering and processing information. The popularity of computerized systems for collecting and processing of real estate market data has soared in recent years. Despite the above, comprehensive and effective systems that facilitate analyses of real estate market data, support real estate valuation and other market analyses continue to be in short supply. The above results from the specificity of the real estate market which embodies various procedures and decisions, as well as the specific nature of real estate information. These shortcomings obstruct the smooth flow of comprehensive data which is required for initiating actions and making decisions regarding economic processes, business, investment, financial and promotional projects in the area of real estate. From the analytical point of view, the solution to the problem requires the selection of appropriate methods for analyzing the available information rather than, as it is often observed in practice, the adaptation of the existing information to popular analytical methods, such as econometric models. The venture point for every analysis of real estate value is the selection of adequate research methods and procedures that account for the specific attributes of the real estate market which make it different from other markets, including capital markets. The lack or unavailability of data poses one of the greatest obstacles hindering the exploration of real estate market information. Due to the small number of observations (cases), there are limited possibilities of using statistical methods, which are generally based on the assumption of a larger number of cases compared to the data describing them.*

*The main aim of this study is to elaboration AVM procedure that used the assumption of the decision making theory, technology of data mining (Rough Set Theory -RST and Value Tolerance Relation (fuzzy theory -VTR). The model allows the opportunity to reach the results of a single point estimate using if then rules providing a causal non deterministic relationship between price and property characteristics. The model has been applied to a small sample of commercial properties in the Italy.*

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