

# Editorial

Welcome to the fourth issue in the nineteenth volume of the *International Journal of Housing Markets and Analysis*. This issue publishes 12 research papers from both developed and developing countries to ensure a balanced and insightful contribution into different facets of global housing markets. The individual findings provide a significant contribution and expand our expanding knowledge about housing markets. The authors have each identified unique challenges facing the housing research landscape to address the increasing pressure to address current housing issues including homeownership and rental affordability. Every paper has successfully passed through a rigorous double-blind refereed process and substantial credit is given to the academics and industry experts who contributed to this process.

The first paper from the United Arab Emirates (UAE) develops a stakeholder-based framework for successfully implementing solar home system (SHS) programs in the public housing sector. This methodology used a mixed research approach including a structured questionnaire of institutional stakeholders involved in implementing SHS in the UAE. This was supported by insights from experts to facilitate the validation of the data via focused group interviews. The findings highlight the central role of the government as the primary stakeholder in evaluating success through defined goals and performance metrics. It incorporates the unique success factors of each stakeholder, weighted by their significance, and uses the analytic hierarchy process (AHP) to identify key performance indicators (KPIs) for standardised success measurement.

The second paper from India identifies key factors that significantly influence homebuyers' satisfaction in privately developed affordable housing. The methodology used a questionnaire survey of households residing in affordable housing units across privately developed housing complexes. The analysis employed Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) to determine the significant latent constructs and identify the determinants of homebuyers' satisfaction. The findings revealed that both building-level and neighbourhood-level factors were significant contributors to homebuyers' satisfaction. Building-level determinants such as the carpet area, natural ventilation and water supply systems were influential. At the neighbourhood level, specific factors including traffic congestion, unpleasant odours, waterlogging, noise and proximity to playgrounds were critical determinants.

The third paper from the USA examines the causal relationship between COVID-19 stringency measures and housing market dynamics. By assessing how government interventions influenced house prices during the pandemic, the research identifies the broader economic consequences of crisis-induced policy decisions. The methodology employs a causal framework to analyse the impact of COVID-19-related government stringency measures on housing prices. Using the Oxford COVID-19 Government Response Tracker's Stringency Index, the research applies a difference-in-differences methodology combined with propensity score matching (PSM) and generalised propensity score (GPS) techniques. The findings revealed that higher COVID-19 stringency measures significantly increased housing prices. States with higher stringency experienced average price increases ranging from 6.41% to 8.89% under binary models and 13.0% to 13.2% under continuous models.

The fourth paper from Turkey states that house prices exhibit significant variations across different locations, a trend closely tied to speculative housing market behaviour. Many



neighbourhoods remain unaffordable, even for households in the highest income quintile. The methodology analyses housing market differentiation in Ankara by applying cluster analysis, discriminant analysis and hedonic price analysis, using data from 12,460 dwelling units across 325 neighbourhoods within eight central districts of the city. The findings indicate that speculation is a significant determinant of house prices, as evidenced by the considerable price variations observed even among properties with similar physical characteristics. This paper is the first to explore the existence of homogeneous clusters within Ankara's housing markets in the context of housing affordability. It also confirms that speculative activity as a key factor in the formation of these housing clusters.

The fifth paper explores alternative methodologies by comparing popular and effective machine learning models for house price prediction. The primary objective is to develop a hybrid Stacking Regressor model that combines multiple regression algorithms to leverage their individual strengths through a meta-model, thereby enhancing prediction accuracy. The performance of widely used machine learning algorithms, including CatBoost, XGBoost, Random Forest, Extra Trees, Hist Gradient Boosting and Gradient Boosting was evaluated using various error metrics for housing price prediction. Feature engineering and parameter optimisation were applied to improve model performance, resulting in significant enhancements, particularly for Random Forest and Extra Trees. Furthermore, a Stacking Regressor model was constructed by integrating multiple regression algorithms to capitalise on their collective predictive capabilities. The findings show that CatBoost achieved the lowest error rates among the evaluated models. Random Forest and XGBoost also performed comparably well, whereas Gradient Boosting exhibited higher error rates. The hybrid Stacking Regressor model outperformed all individual algorithms, demonstrating superior predictive accuracy. These findings underscore the potential of integrating machine learning models to address complex data sets and improve overall model performance.

The sixth paper from Malaysia investigates factors influencing relocation intention to retirement villages by employing a push-pull-mooring framework. The methodology is based on a survey of individuals aged 35 and above to identify important push and pull factors using mental well-being as the mooring factor. The findings identified push factors including health and mobility constraints, social isolation, home maintenance issues and also lifestyle changes. Conversely, built environment and affordability, location, maintenance of existing lifestyle and also familiarity act as important pull factors attracting residents to retirement villages. The inclusion of the mooring factor, representing mental well-being, enhances the explanatory power in the analysis, suggesting it has a moderating effect on the relationship between push-pull factors and relocation intentions.

The seventh paper from Ethiopia states that an increasing number of residents in the rapidly urbanising cities of sub-Saharan African are experiencing growing exclusion. The study examines socio-spatial exclusion in housing markets and examines policy and market based trajectories of exclusion. The findings used a mixed-methods approach combining primary and secondary data. Data was analysed thematically and spatial patterns of housing prices were mapped using techniques including Inverse Distance Weighted (IDW) interpolation and Moran's clustering in ArcGIS. The findings revealed a growing pattern of housing prices that induced spatial exclusions based on policy, income and also market factors. Gaps in housing policy led to increased demand for peri-urban areas and contributed to black market growth and gentrification. Housing prices in both formal and informal markets were converging, driven by neoliberal policies and market actors prioritising urban land values. House prices generally declined with distance from the CBD, with a significant price increase observed 4 kilometres from the centre reflecting the influence of location and policy. Clustering patterns highlighted spatial exclusions linked to policy and market forces.

The eighth paper argues that despite the ubiquitous presence of textual data in daily life and the significance for businesses, textual data has not been investigated proactively in the housing industry. The unstructured nature of textual data is a key obstacle. This study aims to address this gap by fully using text documents related to housing management and providing both residents and property managers with insights. The methodology employed text vectorisation methods, such as Term Frequency-Inverse Document Frequency (TF-IDF) and word embeddings, where 9,023 consultation records from the Seoul Support Centre for Apartment Management were converted into numeric data. The numeric data was fed into a k-means clustering algorithm for document classification. The findings showed that eight distinct clusters were identified and analysed. Each cluster represents a unique category: general inquiries, management regulations, vendor company selection, residents' representative council, budgeting, interpretation of laws, long-term repair plans and also the ministry responsible for apartment management.

The ninth paper from Indonesia is based on the premise that there are challenges in property valuation including data limitations, subjectivity and also traditional methods that lead to inaccurate property pricing. To address these issues, Machine Learning (ML) based methods offer the potential to provide more accurate predictions by leveraging historical data and identifying complex patterns. This study analyses and evaluates the accuracy of various ML algorithms in assessing residential property prices. The methodology assembled an extensive house price data set using PHP language to scrap (web scrape) from a property marketplace. This data is used to train and test Multiple Linear Regression (MLR) model and three popular ML models, namely Artificial Neural Network (ANN), Support Vector Machine (SVM) and Classification And Regression Tree (CART), to predict house prices with 16 different features. The findings confirmed that the artificial neural network performed better than the others, both in larger and smaller clusters. In comparison, SVM is not recommended for predicting house prices due to poor accuracy.

The tenth paper from Turkey states that to ensure sustainability is measurable, the use of sustainability indicators and the evaluation of their impacts have gained importance. This study creates a framework for economic sustainability in the housing stock, identifying and prioritising key indicators and then creating a database. For the methodology a systematic literature review was conducted and selected studies were used to compile a comprehensive list of economic sustainability indicators for the housing stock. To avoid redundancy, indicators with overlapping meanings were consolidated or redefined. Then a Delphi survey was conducted to rank the economic sustainability indicators which were compiled through the literature review according to their importance and priority as assessed by experts. The findings showed that according to the Delphi survey results, mortgage interest rates, categorised under the theme of "affordability and availability," emerged as a critical indicator of the economic sustainability of housing stock. The inflation rates indicator, which is under the "financial reliability" title, is the second most important indicator by a small margin. In addition, according to the averages of these two topics, "affordability and availability" and "financial reliability" are more decisive than other themes in this order. These survey results underline the centrality of economic factors, particularly mortgage interest rates and inflation, in ensuring the sustainability of housing stock. The emphasis on affordability and financial reliability highlights the necessity of targeted policy measures to address economic vulnerabilities and stabilise housing markets.

The eleventh paper investigates the impact of consumers' aesthetic preferences for building façade colours on the price of high-rise residential properties. It investigates how differences in colour qualities influence transaction pricing, providing insights about market demand. The methodology uses a hedonic pricing model to investigate the relationship

between price components and façade colour qualities, while quartile regression is used to determine how preferences fluctuate across income levels. The findings indicate that lower chroma and saturation levels are associated with higher transaction prices, while blue-green and red-purple hues are the most sought after.

The twelfth paper analyses empirical studies investigating the influence of lucky and unlucky numbers on real property markets. This review is a reference for future contributions to this interesting but under-researched topic. The studies in this review were identified by searching several search engines including Google Scholar and Business Source Complete. Global real estate markets appear to have been influenced by lucky and unlucky numbers where most studies to-date suffer from one or more problematic issues.

All prospective authors are welcome to contact the editor prior to submission to ensure their paper is in an acceptable format for publication. This includes ensuring the submitted paper conforms to the published author guidelines for the journal which can reduce the time the paper spends in the double blind review process. Please contact the editor directly if I can be of assistance prior to submission and/or discuss the procedure for admission into the review process. If you are interested in submitting a research paper or reviewing potential publications, please contact the editor direct at [ijhma@ijhma.com](mailto:ijhma@ijhma.com)

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