

Housing Market: A Bibliometric Analysis from 2020 to 2024

Abdul Hayy Haziq Mohamad^{1,2,3}, Rossazana Ab-Rahim²,
Abdul Rahman Edruce Kushairi^{1,3}, Mohd Suffian Mohamed
Esa⁴

¹School of Business and Administration, University of Technology Sarawak, Malaysia, ²Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia, ³Centre on Technological Readiness and Innovation in Business Technopreneurship, University of Technology Sarawak, Malaysia, ⁴Faculty of Economics & Management, Universiti Kebangsaan Malaysia, Selangor, Malaysia

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Abstract

The housing market can be reflecting as a barometer of economic health. There are numerous studies focus on the housing market, reflecting its significance as a crucial asset for households. This study seeks to perform scientific mapping and an extensive bibliometric analysis concerning the housing market, utilizing data from the Scopus database from 2020 until 2024. The finding of this study the most influence article related to housing market is "Do short-term rental platforms affect housing markets? Evidence from Airbnb in Barcelona" study by Garcia-López et al. (2020). This study also identified that China, United States, and United Kingdom emerge as the predominant nations contributing significantly to the body of literature in the field of the housing market and "Sustainability" journal under the Multi-disciplinary Digital Publishing Institute (MDPI), stands out as the most active and prolific publisher in the housing market keyword.

Keywords: Bibliometric, Housing Market, Scopus, Trend, Vosviewer.

Introduction

The housing market plays a vital role in driving economic activity through various avenues, significantly impacting employment, wages, and overall economic output. Housing planning and residential construction, for instance, serves as a significant contributor to the country's Gross Domestic Product (GDP) (Alaloul et al., 2021; Tibaijuka, 2013). According to Ratcliffe et al (2021) and Adelino et al (2021), it not only creates jobs directly in the construction sector but also stimulates employment in related industries such as manufacturing and real estate services. This ripple effect amplifies the market's influence on economic growth, with

increased investment in housing infrastructure generating demand for goods and services across various sectors, thereby fostering broader economic expansion (Kaplan et al., 2020; Zhang et al., 2019; Lean et al., 2013).

Furthermore, the housing market's fluctuations deeply influence consumer behaviour and economical structure. For many households, homeownership constitutes a substantial portion of their overall wealth (Chen et al., 2020). Consequently, changes in housing prices directly impact consumer sentiment and spending patterns (Paiella, 2009). When home values rise, homeowners often experience a "wealth effect," feeling more financially secure and inclined to increase discretionary spending (Schnorpfeil et al., 2023; Ciarlone. 2011). This surge in spending further fuels economic activity and growth. Conversely, a decline in property values can have the opposite effect, leading to reduced consumer confidence and discretionary spending, ultimately contributing to economic slowdowns (Chakraborty et al., 2018; Glaeser and Gyourko, 2018).

In essence, the housing market's impact on economic activity transcends mere construction and homeownership (Acuto et al., 2019). According to Burnside et al. (2016) and Nowzohour and Stracca (2020), the house market relatively influence extends to consumer behaviour, confidence levels, and overall economic sentiment, shaping the trajectory of economic growth and stability. Understanding these interconnected dynamics is crucial for policymakers, economists, and stakeholders alike in formulating effective strategies to navigate and optimize the housing market's role in broader economic outcomes (Davis et al., 2024; Burnside et al., 2016).

There are many studies that relevant with the housing market, and the number of research related to this topic is high. This is because the housing market is considered essential asset to a household. Therefore, issue that been highlight is the topic is very well interesting for researchers especially within economy or business area. This study aimed to conduct scientific mapping and comprehensive bibliometric analysis related to the housing market in the Scopus database and there are 5 research questions in this bibliometric study:

- i. What are the most influential papers in the field of housing market in the Scopus database within year 2020 to 2024?
- ii. Which country was the most produce papers in the field of housing market in the Scopus database within year 2020 to 2024?
- iii. How are the trend publication in the field of housing market in the Scopus database within year 2020 to 2024?
- iv. Which are the most active source titles in the field of housing market in the Scopus database within year 2020 to 2024?
- v. What are the future subjects can be discover in the field of housing market in the Scopus database within year 2020 to 2024?

The rest of following sections are structured as follows: introduction is the section for problem statement and objective clarification. In Section 2, a thorough review of previous research on bibliometrics in the market housing. Followed by the Section 3 outlines the methodology and framework used in this study. Moving forward, Section 4 delves into the empirical results of the bibliometric analysis and fulfills its objectives. Finally, Section 5 offers a summary and conclusion of the entire study.

Literature Review

Bibliometric Analysis

Bibliometric analysis is increasingly recognized as a valuable method for identifying trends in research, as highlighted by Donthu et al (2021). Bornmann (2014) defines bibliometrics as the quantitative investigation of written content and bibliographic data. The meticulous application of bibliometric techniques, as outlined by Hood and Wilson (2001) and Kokol et al. (2021), the bibliometrics analysis offers in-depth insights into several facets of scholarly articles, encompassing the analysis of authorship, keyword occurrence, and citation frequencies.

According to Lu and De Vries Within the scholarly publication landscape, bibliometric analyses can disclose discernible patterns and tendencies across various dimensions, including the academic discipline, geographic distribution, and chronological progression. Commonly assessed metrics in such studies encompass the venue of publication, its authorial information, institutional connections, geographic provenance, and notable indices like the h-index and g-index (Pranckutė, 2021; Mohamad et al., 2024).

Past Studies

Table 1

Summary of Previous Studies Closely Related to Housing

Author	Title	Focus topic	Data Source	TD	YDE
Li, N and Li, R. Y. M (2024)	"A bibliometric analysis of six decades of academic research on housing prices"	Housing prices	Web of Science	4125	1960 until 2020
Binoy et al. (2022)	"A bibliometric analysis of property valuation research"	Property valuation	Scopus	1400	1964 until 2019
Liu et al. (2021)	"Real estate rental market: a 10-year bibliometric based review"	Real estate rental market	Web of Science	790	2010 until 2020
Li et al. (2021)	20 Years of Research on Real Estate Bubbles, Risk and Exuberance: A Bibliometric Analysis"	House market bubble	Web of Science	739	1997 until 2019
Jayantha and Oladinrin (2020)	"Bibliometric analysis of hedonic price model using CiteSpace"	Hedonic price	Scopus	269	1970 until 2019
Sururi (2022)	"A bibliometric analysis of housing and settlement research"	Housing and settlement	Google scholar and Crossref	467; 200	2000 until 2020
Moghayedi et al. (2021)	"A Critical Success Factor Framework for Implementing Sustainable Innovative and Affordable Housing: A Systematic Review and Bibliometric Analysis"	Sustainable innovative affordable housing	Scopus and Web of Science	127	2003 until 2020
Vergara-Perucich (2023)	"A Systematic Bibliometric Analysis of the Real Estate Bubble Phenomenon: A Comprehensive Review of the Literature from 2007 to 2022"	Real Estate Bubble	Scopus and Web of Science	2276	2007 until 2022
Ianchuk (2021)	Bibliometric Analysis and Visualization of Funding Social Housing: Connection of Sociological and Economic Research	Funding social housing	Scopus	5385	1948 until 2020

TD=Total documents; YDE=Year's data examined

Methods**Search Strategy**

The search strategy was meticulously designed to encompass an extensive range of studies on the housing market. The strategy's inception revolved around the definition of the core topic and the identification of appropriate keywords. Recognizing the multifaceted nature of

housing market research, the search was not limited by the scope, language, or type of document, thereby ensuring inclusivity. The Scopus database was selected for its extensive coverage and reliable indexing of scholarly articles. On 13 March 2024, the search strategy was executed, yielding a total of 1592 records. The search encompassed all fields within the database to capture the broad spectrum of housing market research.

A combination of keywords and search strings was employed, with the search string formulated as: (TITLE("Housing Market*" OR "housing price*") AND PUBYEAR > 2019 AND PUBYEAR < 2025). This ensured that the retrieved documents were titled with the relevant terms and were published within the desired timeframe of 2020 to 2024. Since this research only using title searching, this none of the document were removed after the initial screening process. Therefore, all 1592 identified documents were deemed eligible for inclusion in the subsequent bibliometric analysis.

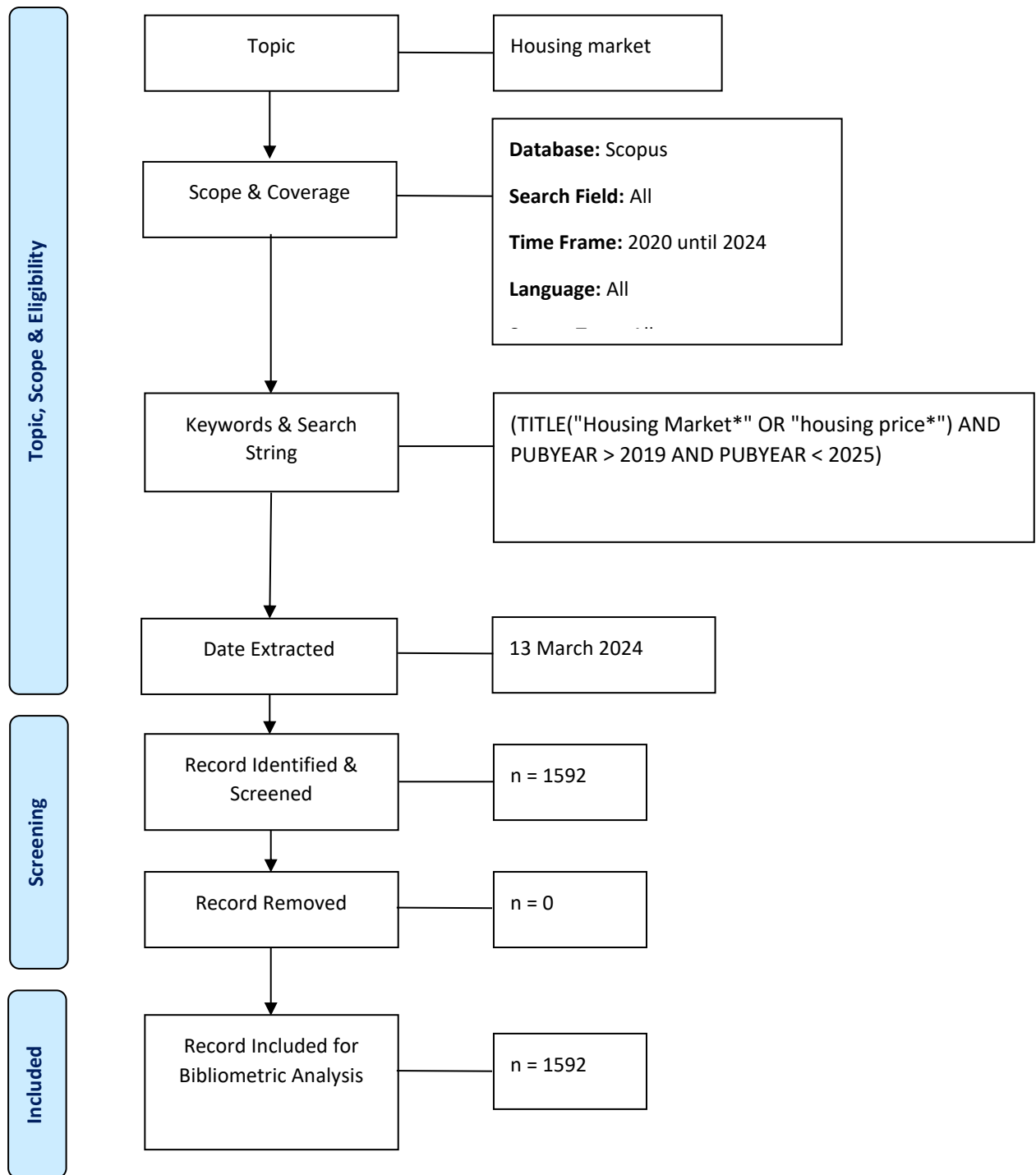


Figure 1. Flow diagram of the search strategy.

Results

Citation Metrics

Table 2

Citation's Metrics

Metrics	Data
Start Year	2020
End Year	2024
Total Publications	1592
Number of Contributing Authors	4287
Number of Cited Papers	1061
Total Citations	7,996
Citation per Paper	5.02
Citation per Cited Paper	7.54
Citation per Author	1.87
Citation sum within h-Core	2,854
Citable Year	5
h-index	33
g-index	46
Publication Years	2020 - 2024
Citation Years	4
Citation per Year	1999.00
Author per Paper	2.69
m-index	6.60

Table 2 encapsulates several key bibliometric indicators, presenting a comprehensive overview of the scholarly impact and reach of housing market literature. The citation metrics provide insight into the volume of research activity, the spread of academic collaboration, and the influence of published work within the field. From 2020 to 2024, a total of 1,592 publications were identified, authored by 4,287 contributing researchers. The body of work accumulated 7,996 citations, indicating significant interest and engagement from the academic community. With an average of 5.02 citations per paper, and 7.54 citations per cited paper, the data reflect a healthy citation rate, suggesting that a considerable number of studies were recognized and referenced by peers.

The citation sum within the h-core, which is the set of papers that have at least h citations each, is 2,854 for an h-index of 33. This means that 33 papers have been cited at least 33 times, indicating a foundational set of influential research within the collection. The g-index is higher than the h-index, standing at 46, which suggests that there are some highly cited papers which have significantly contributed to the overall citation count, indicating standout contributions that have garnered substantial attention. The m-index, calculated by dividing the h-index by the number of years, is 6.60, reflecting a consistent level of impact over the years. This demonstrates the "housing market" is highly influence keyword to be study for a bibliometrics analysis.

Documents Profiles

Table 3

Document Type

Document Type	Total Publications (TP)	Percentage (%)
Article	1380	86.68
Conference Paper	123	7.73
Book Chapter	42	2.64
Review	13	0.82
Note	12	0.75
Erratum	10	0.63
Editorial	6	0.38
Book	4	0.25
Data Paper	1	0.06
Retracted	1	0.06
Total	1592	100.00

The table 3 shown the types of documents that have emerged in housing market research over a five-year period. Firstly, the journal articles, with 1,380 publications making up 86.68% of the total, are the most prevalent form of scholarly communication in the housing market field. This dominance is consistent with the academic convention where articles are the primary medium for presenting new research findings. Followed by the conference papers, comprising 7.73% of the total with 123 publications, highlight the importance of conferences as platforms for the exchange of ideas and for presenting preliminary results.

Book chapters account for 2.64% of the publications, which, along with books at 0.25%, suggests that comprehensive area of the housing market subject, such as literature reviews, theoretical analyses, or extensive research findings, are also contributing to the body of knowledge. A review papers and notes represent smaller portions of the output at 0.82% and 0.75%, respectively. Errata and retractions, while comprising less than 1% of the total publications, are critical for the self-correcting nature of academic research. Editorials working document (0.38%) often provide commentary on the state of the field, whereas data papers (0.06%) are rare but significant, as they contribute datasets that can be invaluable for further research.

Table 4

Source Type

Source Type	Total Publications (TP)	Percentage (%)
Journal	1423	89.38
Conference Proceeding	102	6.41
Book	34	2.14
Book Series	32	2.01
Trade Journal	1	0.06
Total	1592	100.00

The table 4 identified a source type and data indicates that journals are the primary source of housing market research publications, with 1,423 out of 1,592 total publications, representing 89.38%. Followed by, Conference proceedings account for 6.41% with 102 publications. Books and book series represent 2.14% and 2.01% respectively. Although they make up a smaller

proportion of the sources, they are significant for providing in-depth exploration of the housing marketing topics. The lowest number of source type is a trade journal makes a marginal appearance with a single publication (0.06%).

Table 5

Languages

Language	Total Publications (TP)*	Percentage (%)
English	1517	95.29
Chinese	32	2.01
Spanish	20	1.26
German	8	0.50
Korean	6	0.38
Russian	6	0.38
French	2	0.13
Hungarian	2	0.13
Italian	2	0.13
Portuguese	2	0.13
Persian	1	0.06
Total	1598	100.00

*Six documents have been prepared in dual languages

The data in table 5 shown an overwhelming dominance of the English language, with 1,517 out of 1,598 publications (95.29%), indicating that English remains the lingua franca of academic communication in the housing market research domain. Chinese-language publications rank second with 32 publications (2.01%), reflecting significant research contributions from Chinese-speaking regions. Spanish (1.26%) and German (0.50%) languages also contribute to the field, albeit to a lesser extent, suggesting localized research interest or regional studies relevant to native-speaking audiences.

As for the Korean, Russian, French, Hungarian, Italian, and Portuguese each represent a small fraction of the total publications, ranging from 0.38% to 0.13%. A single Persian publication (0.06%) indicates that while research in these languages is limited, there is a presence of housing market research in diverse linguistic regions. It is noted that six documents have been prepared in dual languages, therefore, the total documents accumulated in table 4 is 1598.

Table 6

Subject Area

Subject Area	Total Publications	Percentage (%)
Economics, Econometrics and Finance	711	44.66
Social Sciences	687	43.15
Business, Management and Accounting	323	20.29
Environmental Science	287	18.03
Engineering	164	10.30
Computer Science	156	9.80
Earth and Planetary Sciences	89	5.59
Energy	83	5.21
Mathematics	76	4.77
Decision Sciences	56	3.52
Agricultural and Biological Sciences	37	2.32
Physics and Astronomy	32	2.01
Arts and Humanities	28	1.76
Multidisciplinary	28	1.76
Medicine	19	1.19
Psychology	16	1.01
Materials Science	14	0.88
Biochemistry, Genetics and Molecular Biology	4	0.25
Chemical Engineering	2	0.13
Health Professions	2	0.13
Neuroscience	2	0.13
Chemistry	1	0.06
Nursing	1	0.06
Pharmacology, Toxicology and Pharmaceutics	1	0.06

The intersection of various academic disciplines is evident in the study of the housing market, which spans a multitude of subject areas (Table 6). Economics, Econometrics, and Finance constitute the largest portion of publications at 44.66%, followed closely by Social Sciences with 43.15%. This prominence underscores the housing market's fundamental role as both an economic entity and a social phenomenon. Significant contributions also come from Business, Management, and Accounting (20.29%), suggesting a strong interest in the operational, strategic, and fiscal aspects of housing markets.

Environmental Science and Engineering command 18.03% and 10.30% respectively, indicating the relevance of sustainability and infrastructural perspectives in housing studies.

Computer Science (9.80%) and Earth and Planetary Sciences (5.59%) reflect the increasing use of technology and data analysis in studying housing trends, as well as the impact of geographic and environmental factors on the housing market. Fields such as Energy, Mathematics, and Decision Sciences, though representing smaller percentages, illustrate the diverse analytical lenses through which housing market dynamics are examined. Subjects like Medicine, Psychology, and various branches of engineering and natural sciences, despite their marginal percentages, reveal the housing market's broad relevance, affecting and being affected by a wide array of human activities and academic inquiries.

Publication Trends

Table 7

Year of Publication

Year	TP	NCP	NCP	TC	C/P	C/CP	h	g
2020	311	19.54	268	3326	10.69	12.41	29	40
2021	372	23.37	296	2534	6.81	8.56	23	32
2022	405	25.44	290	1562	3.86	5.39	18	24
2023	417	26.19	185	538	1.29	2.91	9	12
2024	87	5.46	22	36	0.41	1.64	3	3
Total	1592	100.00	1061	7996	5.02	7.54	-	-

Notes: TP=total number of publications; %=percentage; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; and g=g-index.

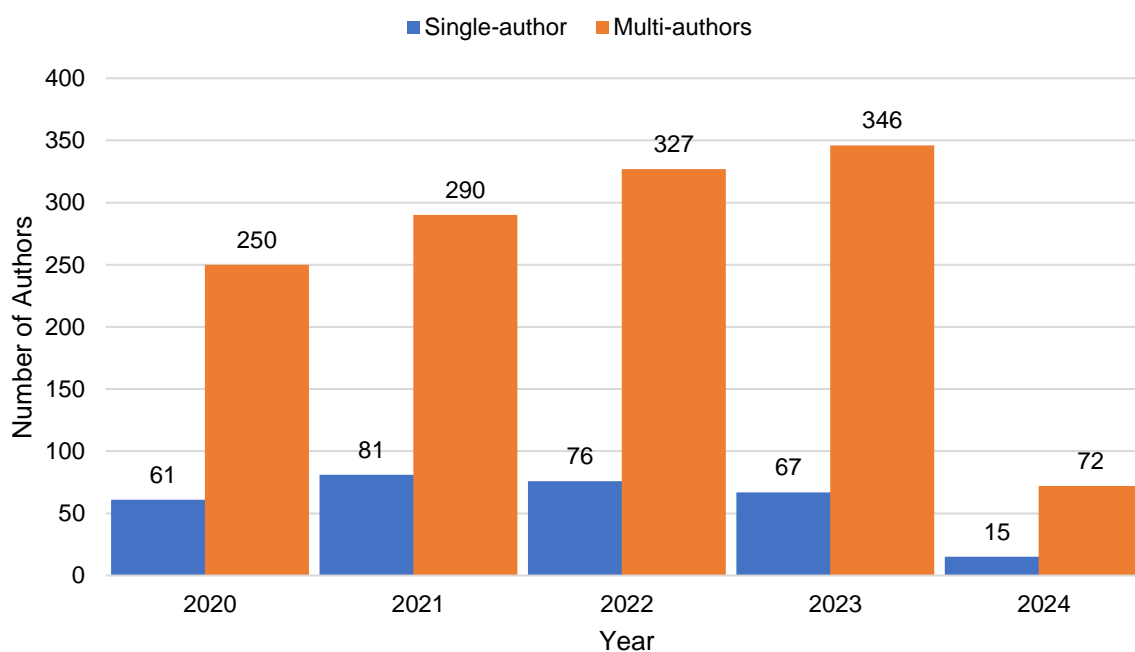


Figure 2. Compare Single-author vs. Multi-authors

The data provided in Table 7 and Figure 2 offers a detailed view of publication trends in the field of housing market research from 2020 through 2024, with a focus on publication and citation metrics as well as authorship patterns. The total number of publications (TP) related to the housing market research steadily grew from 311 in 2020 to a peak of 417 in 2023, before a decline to 87 in 2024. The total citations (TC) followed a similar trend, with the highest number of citations received in 2020 (3326 citations for 311 publications). The decline in 2024 is possibly due to the data being collected partway through the year or a downturn in research output or citation accumulation.

The average citations per publication (C/P) have decreased from 10.69 in 2020 to 0.41 in 2024, which may reflect the longer time frame for earlier publications to accrue citations compared to those published more recently. The average citations per cited publication (C/CP) show a similar decreasing trend. The h-index starts at 29 in 2020 and increases to 9 in 2023 before dropping to 3 in 2024. The g-index shows a corresponding pattern. Figure 2 reveals a

substantial difference between single-authored and multi-authored papers. There is a consistent and substantial preference for multi-authorship over the years. Multi-authored publications dominate the field, which could indicate the collaborative nature of housing market research and the complexity of the subject matter that benefits from interdisciplinary input. The number of single-author publications remains relatively low and consistent over time, while multi-authored publications show a significant increase from 2020 to 2023 before decreasing in 2024. The trend suggests that the collaborative nature of research in the housing market is growing over time.

Publications by Countries

Table 8

Top 15 Countries Contributed to The Publications

Country	TP	NCP	TC	C/P	C/CP
China	437	2388	295	5.46	8.09
United States	346	2233	252	6.45	8.86
United Kingdom	112	627	86	5.60	7.29
Hong Kong	79	535	60	6.77	8.92
Australia	72	555	56	7.71	9.91
South Korea	71	195	43	2.75	4.53
Taiwan	70	207	46	2.96	4.50
Germany	54	273	36	5.06	7.58
Italy	48	297	35	6.19	8.49
Spain	43	288	23	6.70	12.52
Canada	43	355	31	8.26	11.45
Poland	43	309	32	7.19	9.66
Turkey	42	250	29	5.95	8.62
Netherlands	33	396	25	12.00	15.84
Malaysia	30	64	16	2.13	4.00

Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication

Table 8 highlights the contributions of the top 15 countries to housing market research, detailing the number of publications, cited publications, total citations, and citations per publication. China leads with the highest number of total publications (TP) at 437, followed by the United States with 346 publications. This indicates a strong research output in the housing market from these countries. When considering the total citations (TC), the United States leads with 2233 citations, followed by China with 2388 citations. The C/P metric provides insight into the average impact per individual publication.

The Netherlands stands out with the highest C/P at 12.00, indicating that, on average, Dutch publications are highly cited, suggesting a significant impact on the field despite a lower number of total publications. Looking at the average citations per cited publication, the Netherlands also leads with a C/CP of 15.84, further emphasizing the high impact of its contributions. Countries such as China, South Korea, and Australia show strong research outputs with considerable citation counts, reflecting the region's active engagement with housing market issues. Within the top 15 countries that contributed related to the housing market, Malaysia is the lowest country with 30 total publication, and 16 total papers cited.

Publications by Source Titles

Table 9

Top 10 Most Active Source Titles

Source Title	Publisher	TP	NCP	TC	C/P	C/CP	h	g
Sustainability (Switzerland)	Multidisciplinary Digital Publishing Institute (MDPI)	39	34	218	5.59	6.41	8	12
Journal of Physics: Conference Series	IOP Publishing	11	5	17	1.55	3.40	2	4
ACM International Conference Proceeding Series	Association for Computing Machinery (ACM)	7	2	10	1.43	5.00	1	3
IOP Conference Series: Earth and Environmental Science	IOP Publishing	5	3	5	1.00	1.67	2	2
Lecture Notes in Networks and Systems	Springer Nature	4	1	1	0.25	1.00	1	1
Journal of Public Economics	Elsevier	3	3	29	9.67	9.67	2	3
Environmental Science and Pollution Research	Springer Nature	3	1	2	0.67	2.00	1	1
Journal of Environmental Economics and Management	Elsevier	3	2	11	3.67	5.50	2	3
Frontiers in Psychology	Frontiers Media SA	3	1	3	1.00	3.00	1	1
Energy Policy	Elsevier	2	2	26	13.00	13.00	1	2

Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; and g=g-index.

Table 9 lists the top 10 most active source titles in the realm of housing market research, indicating their respective publishers, publication counts, citation metrics, and index scores. "Sustainability" published by Multidisciplinary Digital Publishing Institute (MDPI) leads with the highest number of publications (TP) at 39 and also has a notable h-index of 8, indicating influential source title within this field. It suggests a strong focus on the sustainability aspect of the housing market. Followed by Journal of Physics: Conference Series under the IOP Publishing with 11 total publications, then ACM International Conference Proceeding Series with 7 total publications. The h-index and g-index values provide insight into the quality and impact of the publications. "Sustainability" shows robust values in both indexes (h=8, g=12), affirming its status as a significant source of impactful research in the housing market domain. The data indicates a concentration of citations among certain source titles.

Despite a lower number of total publications, "Energy Policy" demonstrates high impact per publication, which could reflect the current importance of energy considerations in housing market research. The analysis reveals that while journals are the predominant sources of highly cited publications, conference proceedings also play a significant role in disseminating influential research. The diversity of publishers—from MDPI to Springer Nature and Elsevier—reflects a wide interest in housing market studies across various scientific disciplines. The table 8 also identified the Springer Nature and Elsevier is a favorite publisher for housing market topic.

Highly Cited Documents

Table 9

Top 15 Highly Cited Articles

No.	Authors	Title	Source Title	TC	C/Y
1	Garcia-López M.-À.; Jofre-Monseny J.; Martínez-Mazza R.; Segú M. (2020)	"Do short-term rental platforms affect housing markets? Evidence from Airbnb in Barcelona"	Journal of Urban Economics	124	24.80
2	Liu S.; Su Y. (2021)	"The impact of the COVID-19 pandemic on the demand for density: Evidence from the U.S. housing market"	Economics Letters	103	25.75
3	Yang L.; Chu X.; Gou Z.; Yang H.; Lu Y.; Huang W. (2020)	"Accessibility and proximity effects of bus rapid transit on housing prices: Heterogeneity across price quantiles and space"	Journal of Transport Geography	91	18.20
4	Yuan F.; Wei Y.D.; Wu J. (2020)	"Amenity effects of urban facilities on housing prices in China: Accessibility, scarcity, and urban spaces"	Cities	79	15.80
5	Quang T.; Minh N.; Hy D.; Bo M. (2020)	"Housing Price Prediction via Improved Machine Learning Techniques"	Procedia Computer Science	73	14.60
6	Del Giudice V.; De Paola P.; Del Giudice F.P. (2020)	"COVID-19 infects real estate markets: Short and mid-run effects on housing prices in Campania region (Italy)"	Social Sciences	68	13.60
7	Qian X.; Qiu S.; Zhang G. (2021)	The impact of COVID-19 on housing price: Evidence from China	Finance Research Letters	66	16.50
8	Fuller G.W.; Johnston A.; Regan A. (2020)	"Housing prices and wealth inequality in Western Europe"	West European Politics	60	12.00

9	Xia T.; Yao C.-X.; Geng J.-B. (2020)	“Dynamic and frequency-domain spillover among economic policy uncertainty, stock and housing markets in China”	International Review of Financial Analysis	58	11.60
10	Qiu W.; Zhang Z.; Liu X.; Li W.; Li X.; Xu X.; Huang X. (2022)	“Subjective or objective measures of street environment, which are more effective in explaining housing prices?”	Landscape and Urban Planning	54	18.00
11	Francke M.; Korevaar M. (2021)	“Housing markets in a pandemic: Evidence from historical outbreaks”	Journal of Urban Economics	54	13.50
12	Yang Z.; Pan Y. (2020)	“Human capital, housing prices, and regional economic development: Will “vying for talent” through policy succeed?”	Cities	53	10.60
13	Coskun Y.; Seven U.; Ertugrul H.M.; Alp A. (2020)	“Housing price dynamics and bubble risk: the case of Turkey”	Housing Studies	49	9.80
14	Korver-Glenn E. (2021)	“Race brokers: Housing markets and segregation in 21st century urban America”	Race Brokers: Housing Markets and Segregation in 21st Century Urban America	48	12.00
15	Vinogradov E.; Leick B.; Kivedal B.K. (2020)	“An agent-based modelling approach to housing market regulations and Airbnb-induced tourism”	Tourism Management	47	9.40

Note: TC= Total Citation; C/Y=Cited Per Year

Table 9 showcases the top 15 highly cited articles in housing market research, reflecting key topics and their impact based on citation counts. Through the bibliometric analysis, this study has identified fifteen articles that are not only highly cited but have also significantly shaped scholarly conversations in recent years. At the forefront of is the study by Garcia-López et al. (2020) published in the *Journal of Urban Economics*. The article, which has been cited 124 times, achieving an impressive citation rate of 24.80 per year, critically examines the disruptive impact of short-term rental platforms like Airbnb on Barcelona’s housing market. This investigation into the sharing economy’s local implications has laid the groundwork for subsequent studies and policy considerations concerning urban housing markets.

Equally timely is the work by Liu and Su (2021) in *Economics Letters*, which explores the impact of the COVID-19 pandemic on housing density preferences within the United State with 103 citations and a notable annual citation rate of 25.75, the article sheds light on the shifting urban landscape during the global health crisis, offering a valuable lens through which to view the evolving demands of urban living. Yang et al. (2020) study in the *Journal of*

Transport Geography, with its focus on the effects of bus rapid transit systems on housing prices, has accrued 91 citations and maintains a citation rate of 18.20 per year. It distinguishes itself by illustrating how public transport infrastructure can differentially affect property values across urban spaces, thereby informing a nuanced understanding of urban economics and planning. Another significant contribution comes from Yuan et al. (2020) in *Cities*. The article, which has been cited 79 times and has an annual citation rate of 15.80, examines the amenities of urban facilities in China and their amenity effects on housing prices, emphasizing the intricate interplay between urban development and real estate values.

Furthermore, the integration of machine learning techniques in housing price prediction is masterfully addressed by Truong et al. (2020) in *Procedia Computer Science*, with 73 citations and a citation rate of 14.60 per year, this work exemplifies the growing intersection between data science and housing market analysis, heralding a new era of technologically-driven predictive analytics. Research by Vinogradov et al. (2020) in *Tourism Management*, which presents an agent-based modeling approach to examine the regulatory responses to Airbnb's influence on tourism and housing markets. Garnering 47 citations with a citation rate of 9.40 per year, this study opens dialogues on the complex dynamics between tourism, housing regulation, and the sharing economy.

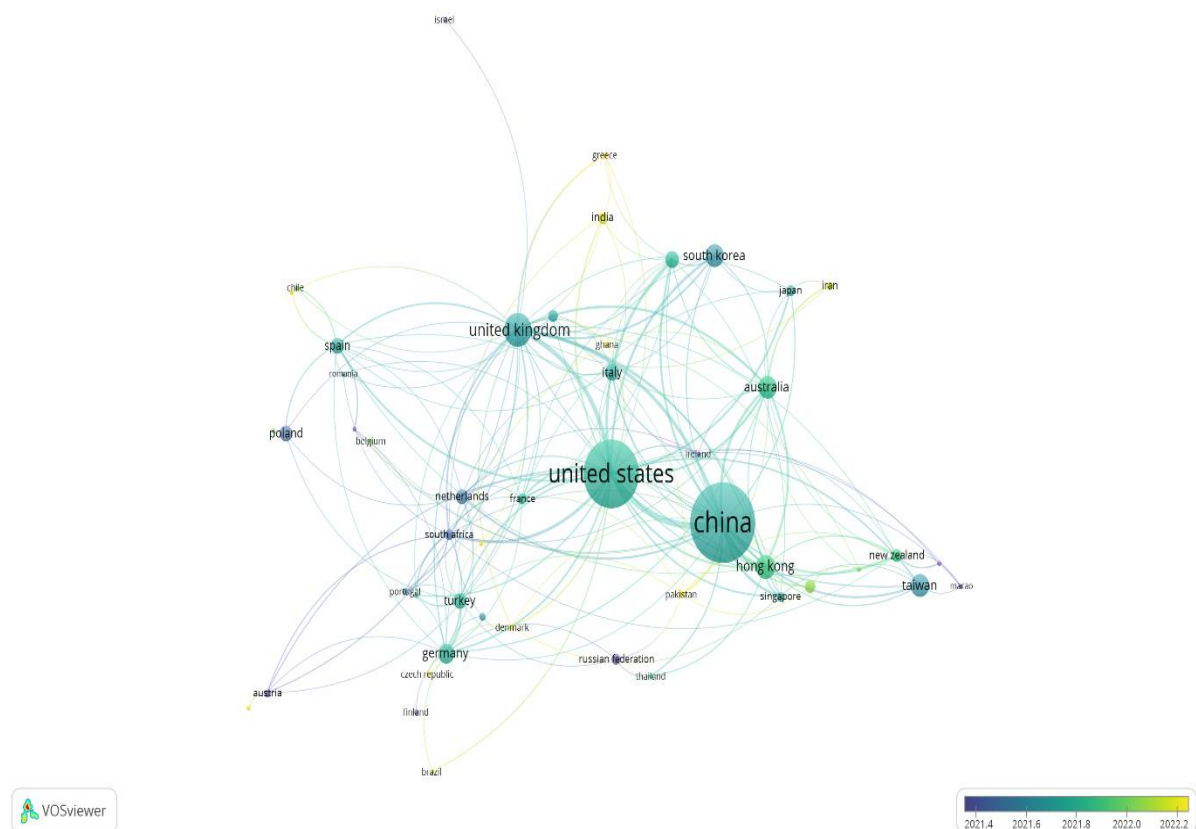


Figure 3. VOSviewer overlay co-authorship between countries

The VOSviewer overlay visualization in figure 3 provided depicts the co-authorship network among countries in the field of housing market research. The method full counting, minimum number of documents is 5, out of the 110 countries, 50 countries meet the thresholds. It is reported that 3 major countries are China, the United States, and the United

Kingdom emerge as central nodes with a large number of connections to other countries. Their size indicates a high volume of documents, and the numerous lines suggest extensive collaboration with various countries. The visualization shows regional clusters, such as those in Europe with the United Kingdom at the center, and in Asia with China as a focal point. This could reflect geographical and cultural affinities that facilitate research partnerships. The United States serves as a major hub for international collaborations, demonstrated by its connections to a diverse range of countries. The thick lines connecting the United States with China and the United Kingdom suggest a high level of collaboration between these countries. The color coding likely represents the time evolution of publications, with different shades corresponding to different years. Countries with nodes in the warmer color spectrum might represent more recent publications or a surge in collaborative activity in the latest years which are Pakistan, India, Brazil, Iran, and Greece.

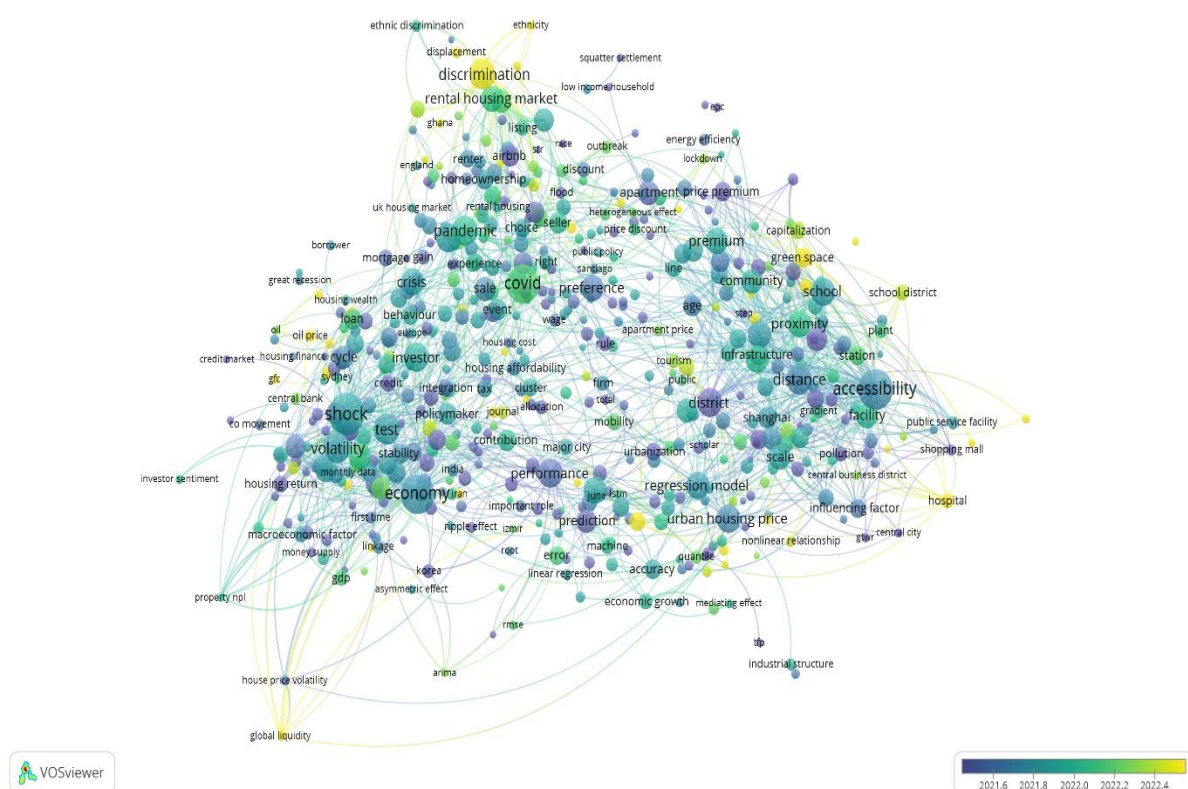


Figure 4. VOSviewer overlay co-occurrence map using title and abstract

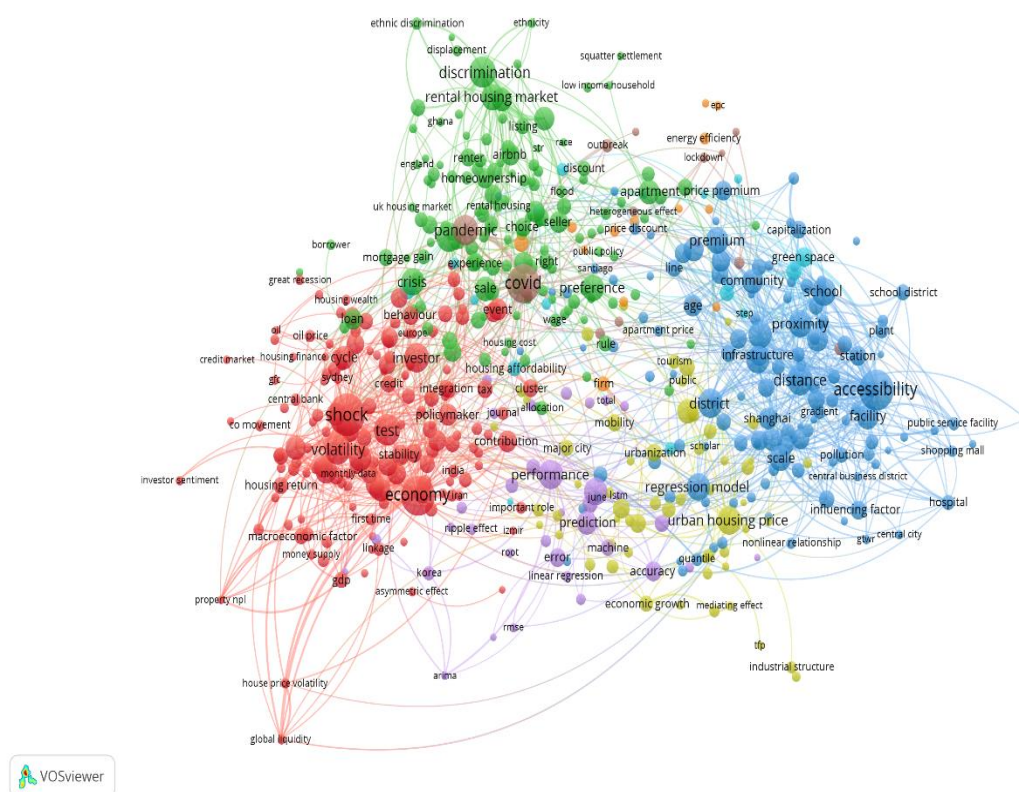


Figure 5. Network visualisation of Co-occurrence analysis based on title and abstract

The figure 4 showm the term of co-occurrence map using tittle and abstract, with the full counting method. There are 26,541 terms, and with the 10 minimum numbers of occurrences, this study found there is 951 terms meet the threshold. At the heart of the map, terms such as "economy," "market," "volatility," and "COVID" emerge as highly interconnected nodes, suggesting significant research focus on the economic aspects of housing and the profound impact of recent global events. The figure 4 can be clustering into colour groups, and there are 4 major clusters (red, blue and green). The Red Cluster can be theme as the Economic Factors and Market Dynamics. This cluster represents the economic underpinnings of the housing market, where terms like "shock", "stability", and "housing return" intersect with "crisis" and "investor sentiment." The dense interconnections reflect an acute scholarly interest in the economic forces shaping housing trends, particularly under the stress test of the COVID-19 pandemic.

However, the green cluster clarify as the asset and social problem (behavioural) theme. Emerging from the map is a vibrant concentration of terms such as "apartment", "house cause", "loan", and "discount" illustrating the term related to price of an asset. The term such as ethnicity and ethnic discrimination, are closely related with rental housing market, and household market, which can be seen as social problem within this housing market topic in certain countries. The blue cluster is relatively relevant with the urban planning and essential facilities. Another salient theme encompasses urban development and accessibility, denoted by terms like "infrastructure", "accessibility", "infrastructure", "shopping mall", "school", "public service facility" and "hospital". There are also others colour like purple, yellow, orange and brown, however the terms these colours are in small numbers.

Almost similar to figure 4, the figure 3 indicate the overlay (time frame) of terms co-occurrence map using tittle and abstract. The brighter (yellow colour) shown the latest terms (beyond 2022) are “global liquidity”, “oil price”, “hospital”, “green space”, “discrimination”, “ethnicity” and “displacement”. These terms are involved of economic and social issues, from these terms can give ideas for futures subjects in housing market topic.

Conclusion

This paper discusses a comprehensive bibliometric approach of keyword housing market in the Scopus database from year 2020 until 2024. The summary of research question clarifies in the most influential paper article is “Do short-term rental platforms affect housing markets? Evidence from Airbnb in Barcelona” study by Garcia-López et al. (2020) and published in the Journal of Urban Economics. The article, which has been cited 124 times, achieving an impressive citation rate of 24.80 per year. By having a high citation in less than 5 years shown their study strongly have impact in housing market field. This study also identified China, United States and United Kingdom are the most dominant countries that produce papers in the field of housing market in the Scopus database within year 2020 to 2024. Moreover, the trend publication for housing market was strong growth topic in last recent years (2020-2024) among these 3 major’s countries.

The most active source title for housing market is “Sustainability” published by Multidisciplinary Digital Publishing Institute (MDPI) leads with the highest number of publications (TP) at 39 and also has a notable h-index of 8. The term co-occurrence map provides a bird-eye view of the research landscape, guiding scholars through the myriad of themes that have shaped the direction of future study in housing market studies. Future research can leverage these insights to delve deeper into specific areas and latest terms that interconnected facets of housing market research. The study identified that “green space” term can determine green concept or sustainable smart house, and the term “global liquidity” can be the reasons of the inflation factor that making the price of a house keep hiking annually. This social problem such as the ethnic discrimination to rental a house can also be a future topic for housing topic. As for the limitation of this study is the data use for conducting this study only base on Scopus index, and this study suggested the contribution can be conducted adding database from Web of Science to give more impact of bibliometrics study in housing market.

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Corresponding Author

Abdul Hayy Haziq Mohamad^{1,3*}

¹School of Business and Administration, University of Technology Sarawak, Malaysia

³Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia

Email: abdul.hayy.haziq@uts.edu.my

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