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# A Scientometric Analysis of Urban Economic Development: R Bibliometrix Biblioshiny Application

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**Informasi Naskah**

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**Abstract**

*This study aims to analyze the development of scientometric research from the theme of urban economic development. The analysis was carried out on 360 articles indexed by Dimension.ai. The method used is scientometric using R Bibliometrix Biblioshiny and VosViewer as processing tools. The results obtained are that this theme has begun to develop significantly in 2020 until now. Research in urban economic development is dominantly published by Chinese authors and affiliates in reputable journals. Research opportunities from urban economic development in emerging themes found the topics of city, innovation, metropolitan, planning, future, and change. This indicates that the potential research themes are in the city planning area which is "innovative", "future-oriented" and able to "adapt the technology" in "the face of change". Potential topics in urban economic development were found to have changed from 1964-2013 to 2014-2020 which focused on urban, data, local, contemporary, design and cities. These results can be used as input in compiling research on the theme of urban economic development research and to help researchers find novelty and sustainable impact contributions.*

***Abstrak***

Penelitian ini bertujuan untuk menganalisis perkembangan penelitian scientometric dari tema pembangunan ekonomi perkotaan. Analisis dilakukan pada 360 artikel yang diindeks oleh Dimension.ai. Metode yang digunakan adalah scientometric dengan menggunakan R Bibliometrix Biblioshiny dan VosViewer sebagai alat pengolah. Hasil yang didapat adalah tema ini mulai berkembang secara signifikan pada tahun 2020 hingga sekarang. Penelitian dalam pembangunan ekonomi perkotaan secara dominan diterbitkan oleh penulis Cina dan afiliasinya di jurnal-jurnal bereputasi baik. Peluang penelitian dari pengembangan ekonomi perkotaan dalam tema yang muncul menemukan topik kota, inovasi, metropolitan, perencanaan, masa depan, dan perubahan. Hal ini menunjukkan bahwa tema penelitian yang potensial berada di wilayah perencanaan kota yang "inovatif", "berorientasi ke masa depan" dan mampu "menyesuaikan teknologi" dalam "menghadapi perubahan". Topik potensial dalam pengembangan ekonomi perkotaan ditemukan telah berubah dari 1964-2013 ke 2014-2020 yang berfokus pada perkotaan, data, lokal, kontemporer, desain dan kota. Hasil ini dapat digunakan sebagai masukan dalam menyusun penelitian dengan tema penelitian pembangunan ekonomi perkotaan dan untuk membantu peneliti menemukan kontribusi dampak kebaruan dan berkelanjutan.

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## INTRODUCTION

The development of science today has increasingly referred to the development of multidisciplinary science. One of the results of this development is urban economic development. Urban economic development identifies a number of avenues in business and government policies to increase the productivity of urban economic activities that promote sustainability (Staley, 2006). In urban economic development, it combines a number of applicable theories and practices from economics and urban studies to increase productivity, sustainability, and economic development and inclusive education through urban economic policies (Z. Chen et al., 2013) . In carrying out practical and dynamic understanding and adjustment of development, theoretically-sound scientific development is needed in various perspectives, this is what makes urban economic development in the central position of urban economic development.

The development of urban economic development has become one of the research topics in strategic economics in viewing the urban scope as an entity of economic actors. The development of economic activity, population, urbanization, inequality in urban and rural development can be strategic research materials in economics, all of which are carried out through the study of urban economic development. The development of social welfare which is the main goal in urban areas is very complex to discuss, problems of urbanization, infrastructure, poverty, crime are among the many urban economic problems that need to be resolved (Namangaya, 2014; Rondinelli et al., 1998) . This settlement can be done with good urban management, the formation of a fair socio-economic community and there is a projection of the sustainability of the sustainability of economic activities in urban areas. By looking at this, the study in urban economic development will be very broad about studying how social welfare can occur in complex urban settlement patterns.

The development of the study of urban economics development has developed very quickly as a sub-science of economic planning from year to year. Urban economic development as a multidisciplinary scientific field is currently dominated by the concept of Local Economic Development (LED) which involves the participation of all local people from various sectors to jointly move the city's economy (Namangaya, 2014) . Planners and economists have a role to play in bringing up this study which specifically provides a knowledge of urban management, land, property markets, auctions and other themes related to the urban economy (Agboola, 2015, 2018; H. et al., 2017) , also provides a practical and analytical basis in urban planning as a basis (P. Zhang, 2016) . Significant concentration is needed by all urban areas to regulate settlements and very complex areas in order to avoid economic, environmental and socio-political problems (Adisasmita, 2013; Firmansyah, 2021; The International Bank for Reconstruction and Development/World Bank, 1991) . One example of the concentration in question is in the development of urban economic development in economics, namely the active role of community behavior, politicians, civic leaders and economics in providing juggling multiple considerations which are studied in regime power theory (Wong & Pritz, 2004) . Developments brought from urban planners and economists, these developments are also supported by companies and non-profit organizations that foster confidence in the importance of urban economic development as part of the best interest in supporting local business and financial activities.

Urban Economic Development focuses on contemporary themes of urban economic development, including increasing focus on high technology development (Drucker et al., 2019; Shachar & Felsenstein, 2016) . Technology is still considered a necessity in urban management. In addition, a number of studies have included the concept of urban innovation and smart cities that focus on how the government adds public services in urban areas (Chilton & Jung, 2018) . In terms of studies on the role of government, the position of urban economic development can be an effort to improve the performance of the city economy, improve planning approaches, population control and policies that may result in trade-offs in urban communities (S. Chen et al., 2018; Sun & Cui, 2018) . Urban economic development tries to answer every challenge in themes such as globalization, liberalization, financial technology, digital era, climate change and many more (Drucker et al., 2019; Rondinelli et al., 1998; J. Zhang et al. , 2020) . Urban economic development is considered not only to see the increase in productivity but also to be followed by sustainable regional economies, such as in the study of the impact of the global economy on urbanization patterns and their consequences for poverty and pollution in cities. This will be

related to the economic development of the city which basically places housing as a main basis in city planning based on ecology, circular economy and environmental quality (Jang et al., 2018).

Currently, no scientometric research has been found that has the main focus on urban economic development. This makes this research the earliest study to analyze scientometrics and map research developments in urban economic development. A number of previous studies using scientometric analysis in various approaches have shown the ability to perform developmental analysis and mapping of a field of scientific study. This is useful to see the development of a scientific study and to see the research potentials obtained from the results of scientometric research. The research developed by Ghaleb et al., (2022) with the theme of scientific research in construction project complexity presents potential research in safety performance, integrated project delivery (IPD) and organizational resilience.

The study conducted by Wang et al. (2020) in scientific research in global health research has succeeded in finding research frontiers, including global health governance and antimicrobial resistance. Scientomteric is also used in operational management research, namely in the study of Forghani et al. (2021) in supplier selection research in selecting the best method. Other studies such as Ahmad Hajam (2018) in the analysis of the journal of social work 2001-2010, Rashid et al. (2021) in research on social support in education, Henandez-Pozo & Rius (2013) in a research feminist perspective, even identified conference proceedings conducted by Serenko et al. (2009) at the McMaster World Congress on the Management of Intellectual Capital and Innovation 1996-2008 period. Because this research is the first original paper to analyze scientific research in urban economic development, it becomes an important aspect in the global development of urban economic development in the future.

The most commonly used framework for conducting thematic analysis involves a six-step process: familiarizing yourself with the data, generating initial code, searching for themes, reviewing themes, defining and naming themes, and generating reports (Kiger & Varpio, 2020) . Bibliometric research is research that uses a qualitative research approach by using a number of scientific articles to obtain information on the development of research topics (Cobo et al., 2011; Martínez et al., 2015) . Bibliometric mapping is research that is in the realm of bibliometric studies and can be used in various scientific studies (Aria & Cuccurullo, 2017) .

This study aims to see the development of research on the topic of urban economic development with a bibliometric-based research approach. This research is the first research that presents analysis in scientometric (which is a combination of bibliometric analysis and application using R Bibliometrix Biblioshiny packages) with the theme of urban economic development. This study will discuss the introduction, literature review, methodology, result and discussion also provided a conclusion and recommendation on a scientometric analysis of urban economic development. The research question in this study is how is the development of urban economic development research using scientometric analysis?

## RESEARCH METHODS

This study uses data sourced from Dimension.ai. This study uses descriptive research based on a number of articles on Urban economic development published in scientific journals between 1989 and 2021. This article uses an applied bibliometric method that traces research developments in Urban economic development. The applied bibliometric review method focuses on the specifications of a number of scientific articles written so that a special and unique polarization can be obtained that can map a number of new research achievements. The software used in this research is R Bibliometrix Biblioshiny using biblioshiny. Biblioshiny for bibliometrix is a Java-based software developed to carry out functional combination research using the bibliometrix package with web apps used is the shiny package environment in R Studio (Huang et al., 2021) .

The results found from the use of R Bibliometrix are datasets (main information, annual scientific production and three-fields plots), this scientometric approach combines performance analysis tools and mapping tools in bibliometrics to analyze research fields, generalization and visualization of conceptual subdomains as well as developing thematic evolution on a particular research topic (Muñoz-Leiva et al., 2012) . In forming a research with a bibliometric approach,

there are two aspects that need to be completed, namely bibliometric mapping and explanation of bibliometric findings, as well as graphic presentation (Taqi et al., 2021) . Bibliometrics that combines mapping and graphical can be turned into scientometric-based research. Scientometric analysis is defined as an analysis of publications in a scientific field through different perspectives and mapping with a general approach in that field (Makkizadeh & Sa'adat, 2017) .

This research in scientomeric, bibliometric and thematic will help researchers to avoid research errors due to bias in literature review and bias in seeing the latest research developments (Dormezil et al., 2020) . By using this comprehensive approach, it is believed that it will lead to better studies in scientometrics to map the development of a specific and actual scientific study in the identification of the past and the identification of the future. The stages in conducting a scientometric analysis refer to the application of the analysis stages for a systematic literature review.

## RESULT AND DISCUSSION

### Main Information and Annual Scientific Production

The first output needed in scientometric research is to identify main information as the main features of the dataset (Ahnert & Krebs, 2021) . Table 2 shows the results of the collection of a number of scientific articles with the theme of urban economic development. The number of documents used in this research is 360 which consists of scientific articles. The search was carried out using the Dimension.ai databased with the keyword “urban economic development”. The range of publications with the theme of urban economic development is found from 1964 to 2022. Average years from publication are 13.9 articles per year. The average citations per document is 13.23, this provides information that documents have a high enough average citations to discuss urban economic development. The average citations per year per doc is 1,233. The research theme for urban economic development has 746 Authors, 869 Author Appearances, 135 Authors of single-authored documents, and 611 Authors of multi-authored documents. In terms of research collaboration, 147 studies were found in the Single-authored documents category. , Documents per Author obtained a value of 0.483 and a Collaboration Index value of 2.98. The development of urban economic development has made this study a position in the development of multidisciplinary scholarship in economics and regional studies. Annual scientific production from 1964 to 2022 and it is found that it fluctuates every year.

### Three-Fields Plot

The three field plot shows the data analysis regarding the relationship of the three qualitative elements. The data that can be generated to be formed into three field elements are authors, affiliations, countries, keywords, keywords plus, titles, abstracts, sources, references, and cited sources. In this research, modeling of three fields elements is used, namely sources -> title -> authors. This connectivity can describe developments in terms of publication sources, vocabulary used in titles and authors.

From figure 1, information is found from the interaction between element sources, titles and authors. The first element is showing journals that publish the theme of urban economic development research that has relationships with a number of authors in the second element. In the picture above there are 20 journals indexed as the first element with research with the theme of urban economic development. The dominant indexed journals that publish research in the field of urban economic development are urban studies, sustainability, economic development quarterly and environment and planning an economy and space, which are reputable journals at the international level. The second element is related to the third element in which each vocabulary is related to a number of authors used in research on the theme of urban economic development. The last element there are about 20 related topics that have a relationship from the second element (author). The most dominant research topics written by the author on the theme of urban economic development are urban, development, economic, china and city. Furthermore, in the last element, the 20 best authors are found where the authors are the most productive on the theme of urban economic development. The five most prolific writers were Li Y., Wang J., Zhang X., Chen Y., and Zhang J.

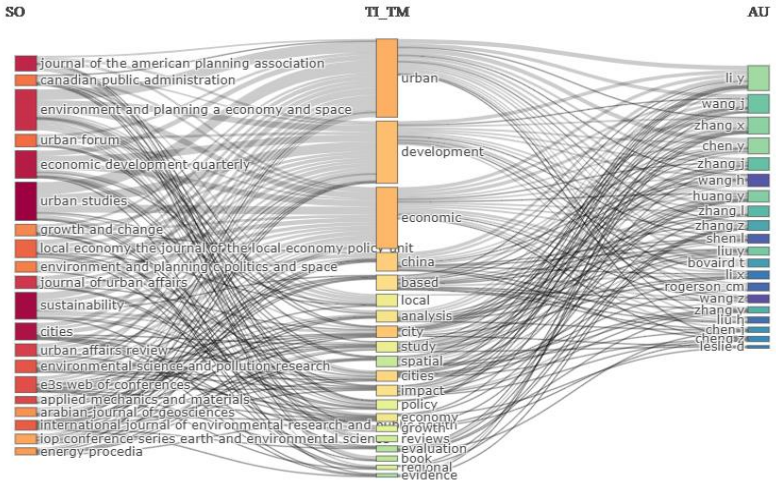


**Figure 1 Three Fields Plot by Sources-Title-Author**

## Most Relevant Sources

Most relevant sources measure by displaying a chart of a number of relevant papers on the research theme (Mutira et al., 2021) . The results found are the five journals with the best most relevant sources are urban studies (16 papers), sustainability (11 papers), cities (10 papers), economic development quarterly (10 papers) and the journal of the American planning association (9 papers). This shows that the publication of research on the theme of urban economic development can be one of the suggestions for the best place for publication. However, it is possible to publish in other reputable or unreputed journals.

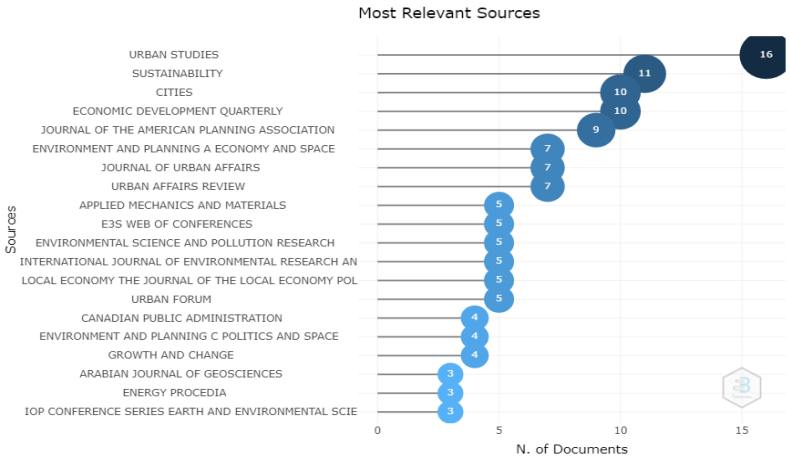


**Figure 2 Most Relevant Sources**

## Sources Local Impact, Bradford's Law and Source Growth

Sources local impact measures how much impact a publisher has on the theme of urban economic development using the H-index. Brandford's law shows a number of core sources that show a number of major publishers in the scientific development of urban economic development. And finally, source growth shows data on a number of publisher developments from year to year in the development of the theme of urban economic development. Figure 3 shows the processing results for source local impact and Bradford's law. These results found that five journals categorized as sources of local impact with H-index measurements were urban studies (10 papers), economic development quarterly (6 papers), journal of urban affairs (6 papers), sustainability (6 papers), and urban affairs review (6 papers). As for the results of Bradford's Law, it was found that there were 17 publishers who became the main publication sites, dominant and had an impact on the research theme of urban economic development. From these two results, it was found that in finding a place for research publications with consider 17 leading publishers on the theme of urban economic development research. This is important for researchers to use to place research results on the best publishers.

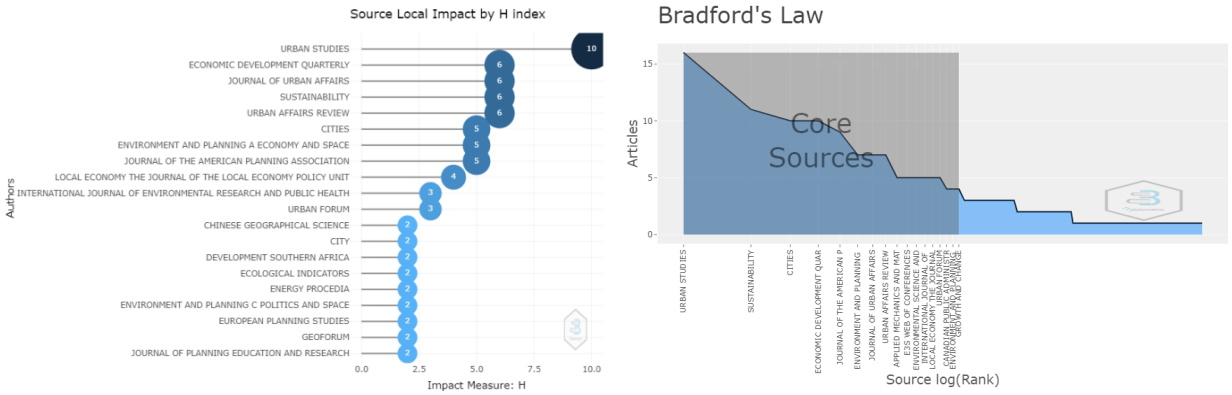


**Figure 3 Source Local Impact and Bradford's Law**

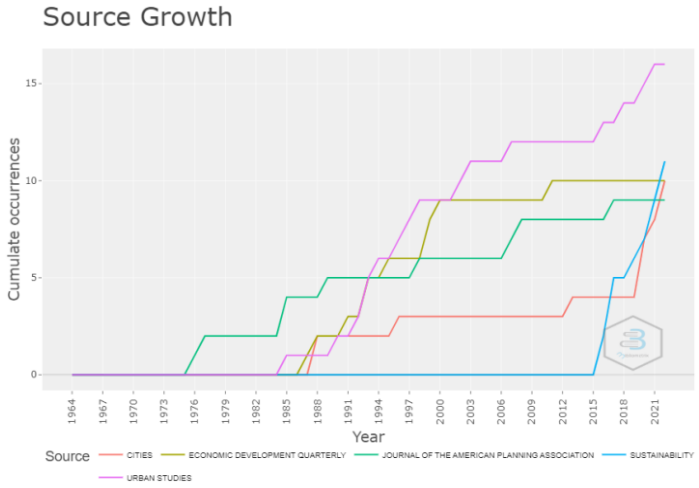


**Figure 4 Source Growth**

Figure 6 shows how the development of cumulative occurrences from each journal for the years 1964 to 2022. This figure shows the first journal that significantly publishes research in urban economic development is the Journal of the American Planning. association from 1973-1976. Furthermore, since 1982-1985 other journals began to develop which publish research themes in urban economic development.

**Documents**

Figure 5 shows the initial development of the topic, namely in 1985 with the topics of united states, social welfare and history. The development of research topics in urban economic development has stagnated until in 2005-2007 the topics of research on adolescent, trees, models, theoretical, geographic information systems and environment design emerged.

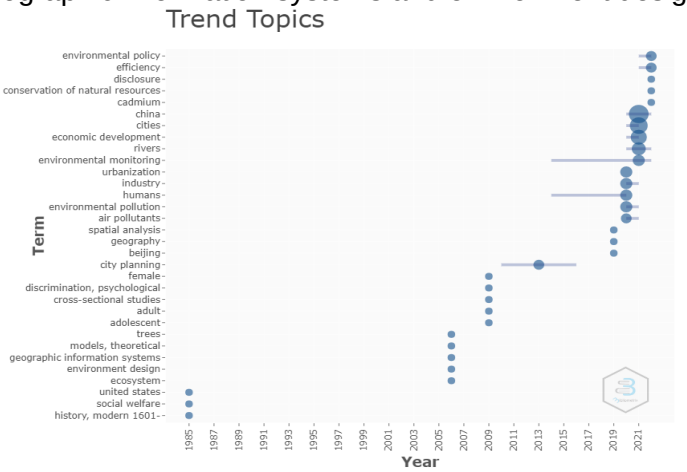


**Figure 5 Trend Topic of Urban Economic Development**

This change can be seen that since 1985 the welfare-oriented and case studies in the United States have shifted to the study of topics regarding models, GIS development and

environmental designs. In a further development in 2009 the topics that developed were female, discrimination, psychological, cross-sectional studies and adults. In this development, cross-sectional science was developed as a fairly comprehensive research, as well as a transition to population behavior problems.

A long development occurred in 2010-2017 where city planning became a major concern in urban economic development research. City planning is a strategic topic because in urban economic development the main study is the pattern of behavior and economic activity in urban areas. Furthermore, in 2013-2020 there are two trend topics that discuss urbanization and humans. In 2017-208 there was a concentration of topics on Beijing, geography and spatial analysis, while in the range of 2019-2021 there were significant developments in the environment, economic development, conservation, rivers and cities. In all measurement ranges, it was found that studies on China, cities, economic development, rivers and environmental monitoring are the five biggest trend topics being discussed in urban economic development research which is in the 2020-2022 range. Figure 6 will discuss the most global cited documents and the most frequent words on the research theme of urban economic development..

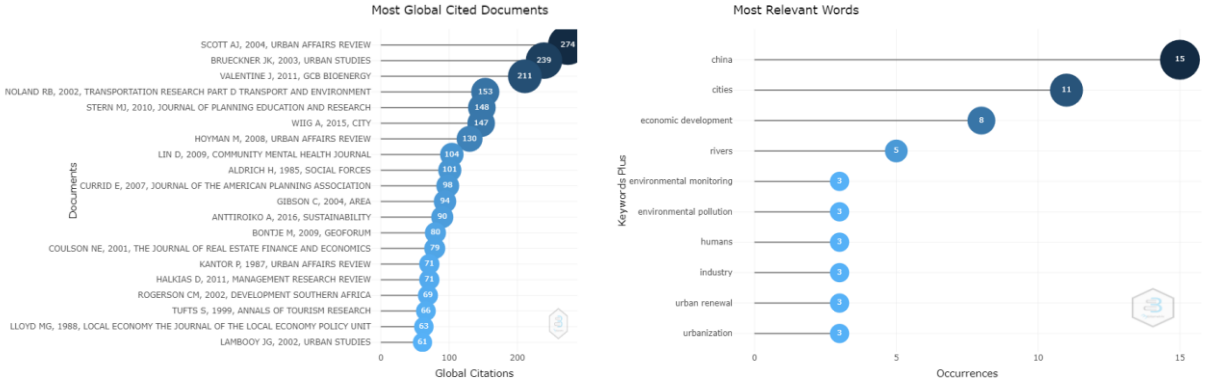


**Figure 6 Most Global Cited Documents and Most Frequent Words**

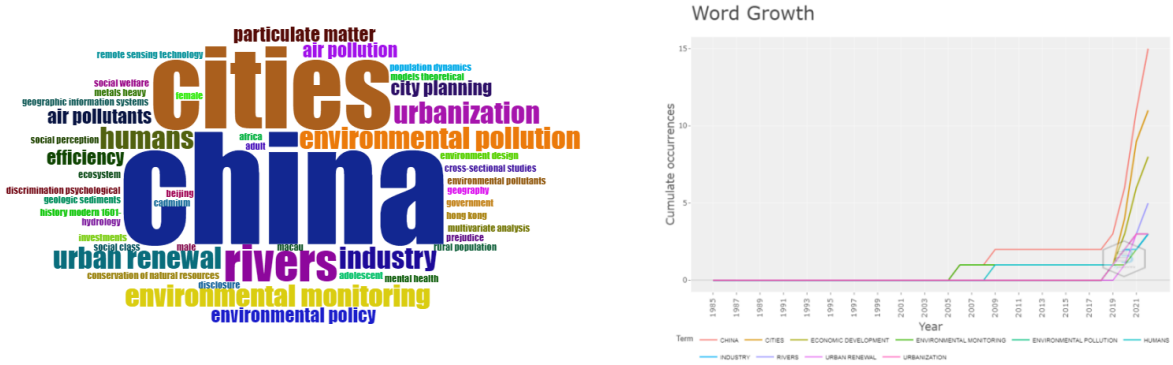


**Figure 7 Word Cloud and Word Growth**

While in Figure 7, the results of the world cloud and world growth are presented. Results from the most global cited documents selected by Scott AJ. published in 2004 published in 2004. This document was cited 274 times. As for the most relevant words found China, cities, economic development, rivers, environmental monitoring, environmental pollution, humans, industry, urban renewal and urbanization. The same thing is shown in the world cloud format in Figure 7 which places cities and China as the two dominant vocabularies in urban economic development research. Word dynamic describes the number of occurrences of keywords in each year. To display the world dynamic in research, the use of each word per year used can be identified and compared with other words in each year. Figure 7 also shows word growth resulting from word dynamics from the research theme of urban economic development. The first word that developed in urban economic development research was urbanization since 1985, the first increase by environmental monitoring was in 2005. Next, the first most significant increase was in 2007-2009 with the keywords humans and cites. The development of publications on urban economic development has grown rapidly from 2017-2022 where China, cities, economic development,

environmental monitoring, environmental pollution, humans, industry, rivers, urban renewal and urbanization have significantly increased to date.

**Top Authors Production Over The Time**

Top authors production over the time is a biblioshiny output that shows researchers with the time span of their publications. Figure 8 shows the results of processing R bibliometrix bibhlioshiny for the top authors production over the time from 1964-2022 where the top authors were presented from 1988-2022.

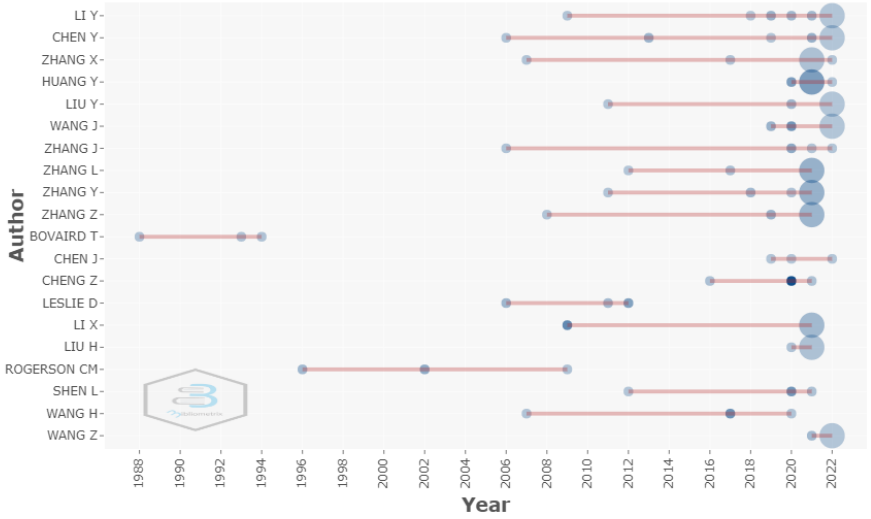


**Figure 8 Top Authors Production Over The Time**

In this result, it was found that the first researcher who was identified as the first best writer on the theme of urban economics development research was Bovaird T. in 1988. The development of publications in urban economic development has stagnated where the range from 1996 to 2006 is the top author occupied by Rogreson CM. The beginning of the emergence of researchers and authors on the theme of urban economic development was since 2006 with a peak in 2020-2022. In the analysis, it was found that Huang Y. is the top author who produces urban economic development research in the range of 2020-2022. These findings prove that research on the topic of urban economic development has only developed significantly after 2006.

**Conceptual Structure**

Conceptual structure analyzes the relationship between keywords, authors, sources, titles, abstracts or affiliations. It is necessary to map the scope of the research either described from the structured relationship pattern of keywords, authors, sources, titles, abstracts or affiliations. This research uses a conceptual structure with a co-occurrence network using keywords, titles and abstracts which are shown in figure 9. In the output of the co-occurrence network based on author's keywords, it was found that China, cities, economic development and rivers are the main research streams that form red bubbles. This indicates the relationship between the red bubbles is interconnected. Besides that, it was found that other research streams such as humans and urban renewal were located in the blue bubble zone, then in the green bubble stream, research keywords were found for particulate matter, air pollution and air pollutants. The output of the co-occurrence network based on the titles found that economic and urban development are the two dominant keywords in the titles for urban economic development research. The distribution of bubbles found four types of bubbles, namely red bubbles that dominate urban and economic development, green bubbles that concentrate on pollution research, blue bubbles on humans, and purple bubbles on city planning research trends.

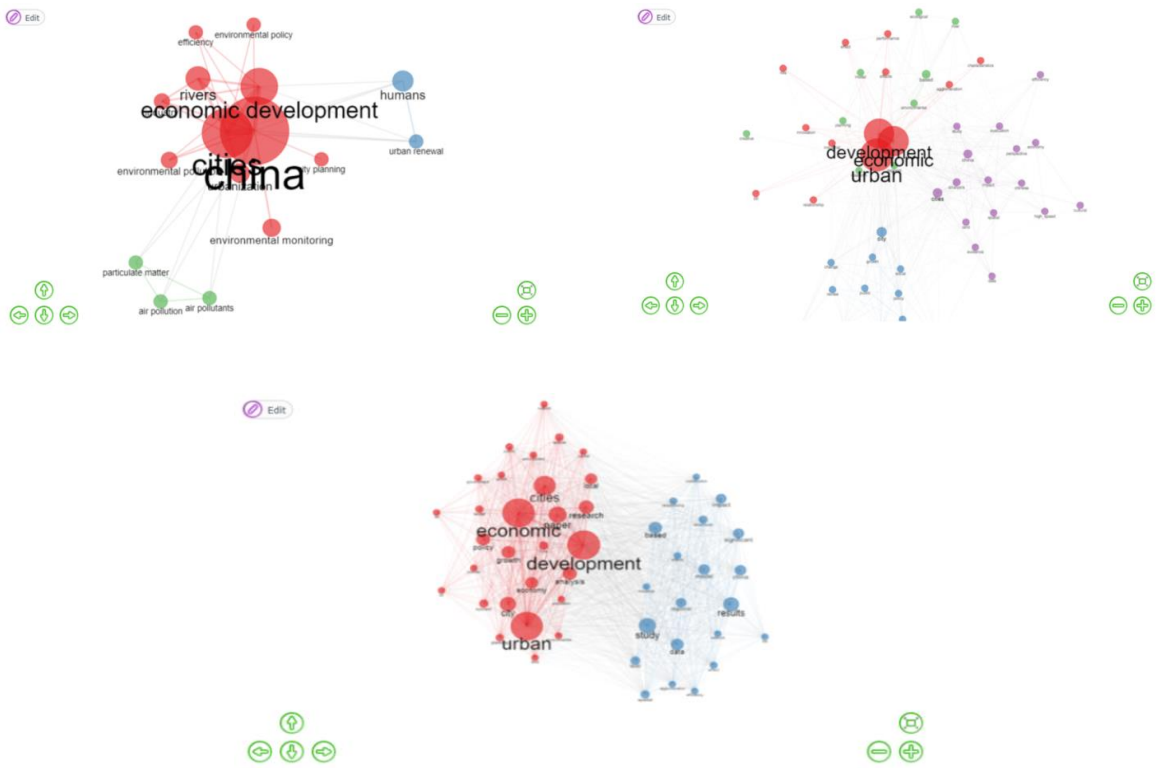


**Figure 9 Co-occurrence Network on Author's Keyword (left), Titles (right) and Abstract (bottom)**

The findings using a co-occurrence network based on the abstract found two polarization flows, namely those that concentrate on urban, economic and development as well as on study, based, data, and significant. Both of them compose two streams where the red bubble has a flow in vocabulary that refers to the research topic, while the blue bubble refers to the vocabulary for the data analysis methods and techniques used.Vos Viewer is used to analyze network visualization and graphic-based overlay visualization. Based on the findings, it is found that different streams of urban economic development are as follows:

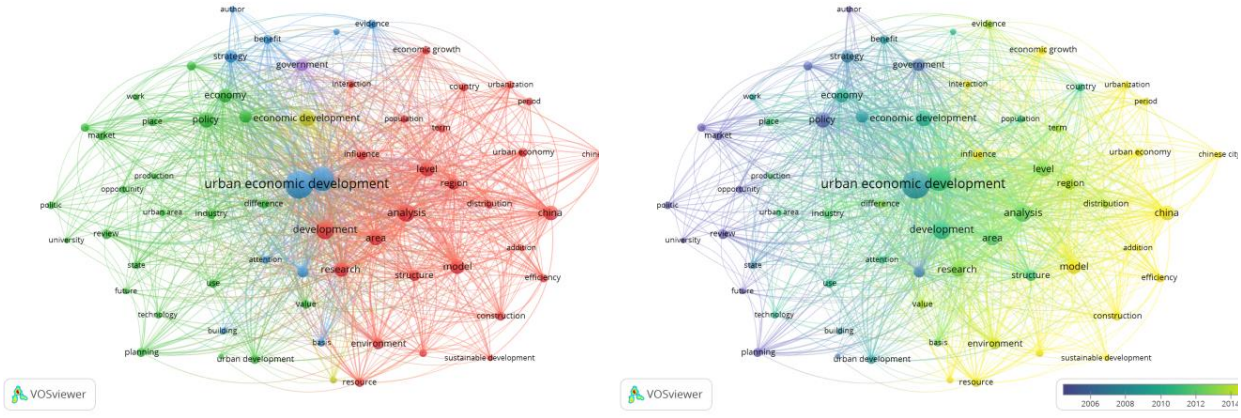


**Figure 10 Network Visualization and Overlay Visualization**

Figure 10 shows the results of the network visualization and overlay visualization outputs. In the picture, it is found that there are three streams in urban economic development research, namely the red bubble which has focus streams on economic development, urban economy, the environment and its causes. In addition, other research directions were found, such as the blue bubble, namely urban economics, strategy, problems, attention, building and so on. In the green bubble, keywords such as policy, urban development, planning, technology, and industry are found. As for the yellow bubble, it is closely related to economic development and the purple bubble in government. The findings from this network visualization corroborate the findings of R Bibliometrix on a co-occurrence network where there are at least four streams of research in

provisional allegations, namely (1) economic development and urban planning, (2) environment monitoring (including pollution and pollutant), (3) rivers, area, and specific countries, (4) humans, pcychology and urban behaviour, and (5) methods and data analysis technique on urban studies.

**Thematic Map**

Thematic map is a centralization by taking into account a number of clusters that are connected to other clusters in a particular frame and stream division (Yu & Muñoz-Justicia, 2020) . The thematic map is divided into two concentration boxes, namely the top left identifies che themes, the bottom left is merging or lining them, the top right is motor themes and the bottom right is basic themes (Della Corte et al., 2019) . In figure 10, it is found that research results from R Bibliometrix Biblioshiny for thematic map using the plus keyword are concentrated on humans (blue bubbles) categorized as niche themes, environmental monitoring (green bubbles) categorized as motor themes, and china, cities and economic development (red bubbles) that categorized general themes.

In Figure 11 for the findings of the author's keyword it is found that the same polarization is found with the plus keyword. Further developments are found in Figure 11 for titles, this figure shows the basic themes they have, consisting of china, spatial impact (blue bubbles) and the dominance of cities, based and analysis (purple bubbles). Furthermore, for motor themes found in policy, growth and regional (orange bubbles). For niche themes, we found urban economic development (red bubbles) and architecture (brown bubbles), while emerging themes were found, namely city, innovation and metropolitan (green bubbles).

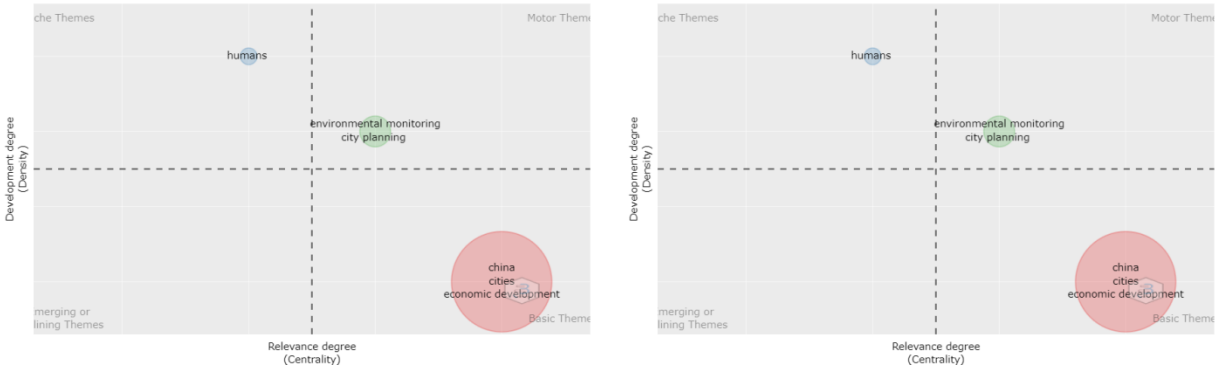


**Figure 11 Thematic Map: Keyword Plus (left) and Author's Keywords (right)**

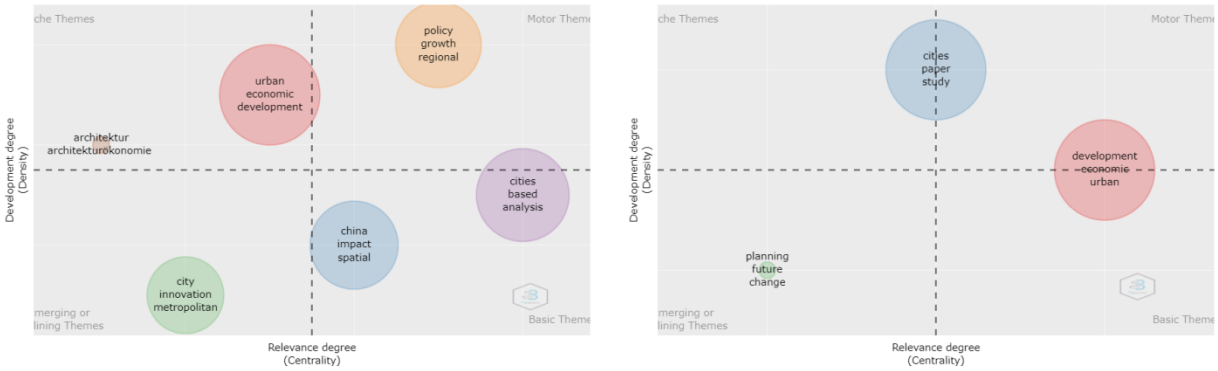


**Figure 12 Thematic Map: Titles (left) and Abstracts (right)**

For a search based on the abstract in Figure 12, it is found that the basic themes and motor themes are part of the economic and urban development in these two streams (red bubbles). The same thing happened from cities, paper and study (blue bubbles) between motor themes and niche themes. Meanwhile, those categorized as emerging themes are planning, future and changes. These findings result in a research opportunity, namely if we look at emerging themes, we find research opportunities from urban economic development, namely city, innovation, metropolitan, planning, future, and change. This indicates a potential research theme for further urban planning areas that are innovative, future-oriented and able to face change.

**Thematic Evolution**

Thematic evolution is the output of R Bibliometrix Biblioshiny which describes how keyword groups move and evolve from one period to another (Hernandez-Cruz, 2021) . In this study, thematic evolution with unigrams was used. Thematic evolution consists of two parts, namely the left side is the initial development of the study and the right side is the continued development of a study. In the results shown in Figure 13, it is found that a significant shift in research topics has occurred, namely since 1964-2013, the dominant focus on metropolitan, competition, market, urban, cultural and global research has shifted to data, local, contemporary, design and cities in 2014- 2022. In addition, there are research themes that have not changed throughout this evolution, namely urban and city which are still the same as the two dominant topics that persist in the study of urban economic development. The results of data processing are as follows:

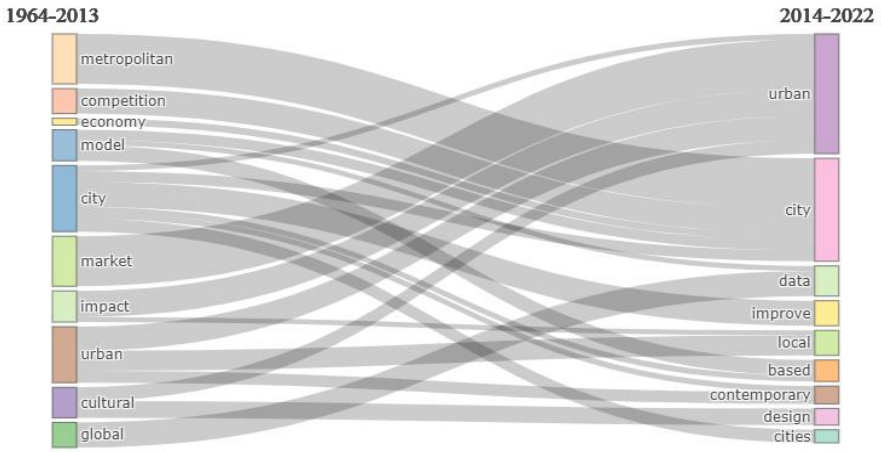


**Figure 13 Thematic Evolution: Unigrams**

**Streams Analysis of Urban Economic Development**

Based on the findings, it is found that different streams of urban economic development are as follows:

**Table 1**
**Different Streams of Urban Economic Development (2015-2021)**

| Main Streams of Literature | Sub-Streams of Literature | Topic/Relevance Methods |
|---|---|---|
| A. Titles | | |
| Urban Economic Development | Urban | Urban Design/Quantitative, Qualitative, Mix |
| | Economic | Economics/Quantitative, Qualitative, Mix |
| | Development | Economics Development/Quantitative, Qualitative, Mix |
| Economics Policy | Policy | Economics Policy/ Qualitative, Mix |
| | Growth | Economic Development/Quantitative, Qualitative, Mix |
| | Regional | Regional Economics/Quantitative, Qualitative, Mix |
| Urban Design | Cities | Urban Design/Quantitative, Qualitative, Mix |
| | Based | Urban Design/Quantitative, Qualitative, Mix |
| | Analysis | Research Skills/Quantitative, Qualitative, Mix |
| Asia Far East Region Analysis | China | Regional Economics/Quantitative, Qualitative, Mix |
| | Impact | Research Skills/Quantitative, Qualitative, Mix |
| | Spatial | Regional Economics/Quantitative, Qualitative, Mix |
| Urban Innovation | City | Urban Design/Quantitative, Qualitative, Mix |
| | Innovation | Urban Design/Quantitative, Qualitative, Mix |
| | Metropolitan | Urban Design/Quantitative, Qualitative, Mix |
| B. Abstract | | |
| Urban Design | Cities | Urban Design/Quantitative, Qualitative, Mix |

| | | |
|---|---|---|
| | Paper | Research Skills/Qualitative, Mix |
| | Study | Research Skills/Quantitative, Qualitative, Mix |
| Urban Economic Development | Development | Economic Development/Quantitative, Qualitative, Mix |
| | Economic | Economics/Quantitative, Qualitative, Mix |
| | Urban | Urban Design/Quantitative, Qualitative, Mix |
| Urban Innovation | Planning | Urban Design/Quantitative, Qualitative, Mix |
| | Future | Urban Design/Quantitative, Qualitative, Mix |
| | Change | Urban Design/Quantitative, Qualitative, Mix |
| C. Keywords Plus | | |
| Asia Far East Region Analysis | China | Regional Economics/ Qualitative, Mix |
| | Cities | Urban Design/Quantitative, Qualitative, Mix |
| | Economic Development | Economic Development/Quantitative, Qualitative, Mix |
| Urban Innovation | Environmental | Environmental Engineering/Quantitative, Qualitative, Mix |
| | Monitoring | Environmental Engineering /Quantitative, Qualitative, Mix |
| | City Planning | Urban Design/Quantitative, Qualitative, Mix |
| Sociology | Humans | Sociology/Qualitative, Mix |

From the results of combining the thematic map and thematic evolution, it was found that there were at least seven scientific fields that contributed to the development of urban economic development studies from 1964-2022. The seven studies are urban design, economic development, economics, regional economics, research skills, environmental engineering and sociology. There are a number of comprehensive methods that can be used in any scientific study, namely quantitative research, qualitative research and mix research. Subsequent developments will provide more insight for researchers in the field of urban economic development because in the research mapping there are only seven scientific studies that have contributed greatly. Future research may consider a number of new studies as shown in the following table 2.

**Table 2**
**Future Streams of Urban Economic Development**

| First Streams | Second Streams | New Streams |
|---|---|---|
| Urban Economic Development<br>- Economics<br>- Development<br>Urban Design<br>- Cities<br>- Innovation | Information Engineering<br>- Artificial Intelegence<br>- Data Science | Artificial Intelegence in Urban Development |
| Sociology<br>- Humans<br>Urban Innovation<br>- Monitoring<br>- City Planning | Microeconomics<br>- Game Theory<br>- Auction | Multiplier Effect on Social Habit Context in Urban Development |
| Urban Design<br>- Cities<br>Urban Innovation<br>- Innovation<br>- Metropolitan | Information Engineering<br>- Artificial Intelegence<br>- Data Science | Data Science and System Information in Urban Development |
| Research Skills<br>- Study<br>- Impact<br>Economics Policy<br>- Policy<br>- Growth | Econometrics for Policy Evalutation<br>- Difference-in-Differences<br>- Propensity score matching<br>- Natural experiments | Econometrics for Policy Evaluation in Urban Development |

## CONCLUSION AND SUGGESTION

This research uses an analysis of 360 indexed articles from Dimension.ai with the research theme, namely urban economic development. Sources found that urban studies, sustainability, journal of the American planning association, economic development quarterly and journal of urban affairs are the leading journals in the development of urban economic development science. As for the author, it was found that the five most productive writers were Li Y., Wang J., Zhang X., Chen Y., and Zhang J. and generally dominated by Chinese authors. In addition, when referring to affiliations, the same thing is found where the dominant affiliation in carrying out research in urban economic development is dominated by universities and research institutions from China.

When referring to trend topics, in the entire measurement range, it was found that studies on China, cities, economic development, rivers and environmental monitoring are the five biggest trend topics being discussed in urban economic development research which is in the 2020-2022 range. These findings result in research opportunities from urban economic development based on emerging themes, namely city, innovation, metropolitan, planning, future, and change. This indicates a potential research theme for further urban planning areas that are innovative, future-oriented and able to face change. In looking at the potential topics for research in urban economic development, it was found that since 1964-2013 the dominant focus on urban economic development research has occurred in metropolitian, competition, market, urban, cultural. In addition, in 2014-2022 the research focused on the topic of data, local, contemporary, design and cities. Furthermore, there is a research theme that has not changed throughout this evolution, namely urban and city which are still the same as the two dominant topics that persist in the study of urban economic development. Research in urban economic development is growing so that the potential for development and getting novelty in the development of science will be wide open.

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