INSTITUTIONS AND ENTREPRENEURSHIP: A Bibliometric Study

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Abstract

Researchs on institutions maintain that they influence the nature of the economic activity. The argument is that a favorable institutional environment, with well-defined rules, is beneficial to entrepreneurship. However, the literature available is focused on what happens at developed countries, and it is known that the entrepreneurial activity also occurs at undeveloped countries, which tend to be more socially and economically unstable. So, this paper aims to identify and analyze the main references used in published papers on institutions and entrepreneurship through a bibliometric study with citation and cocitation analysis. The initial research resulted in 1,404 publications. After applying all filters and reading titles and abstracts, the final selection included 151 publications. The analysis of the papers provided by CiteSpace brought two large clusters. The first one is based on the economic approach of the New Institutional Theory and is related to Schumpeter's and other author’s argument that entrepreneurs are promoters of innovation that disrupt the equilibrium state of the economy. The second one is based on the sociological approach of the New Institutional Theory with the predominance of Shane’s studies and Kirzner’s thoughts, relating the entrepreneur with the agent who is alert to the opportunities of the environment. From the two clusters identified and its relationship with the entrepreneurship authors, the authors of this paper came up with two general conclusions: C.01: The less developed the country is, the knowledge, understanding and compliance with the formal rules are less important for the beginning of a new business. C.02: The less developed the country is, interpersonal relationships and the legitimacy obtained (informal rules) are more important for the beginning of a new business.

Key words: Institutions, entrepreneurship, bibliometrics.
INSTITUTIONS AND ENTREPRENEURSHIP: A BIBLIOMETRIC STUDY

1. Introduction

From Douglas North publications (1986, 1990), the economic literature recognizes the importance of institutions in defining the strategies of the firms. The relationship showed in several empirical studies (Alston; Eggertsson; North, 1996; Acemoglu, Johnson, Robinson, 2001; Bjornskov; Foss, 2008; Bjornskov; FossS, 2013) is that institutions influence the nature of the economic activity and, consequently, entrepreneurship, encouraging and regulating the behavior of actors that are in a particular context.

In addition, a premise widely used in researches on firms that operate in more than one institutional framework supports the necessity of specific internal arrangements to survive in different markets. Busenitz, Gomez and Spencer (2000) point out that those different national institutions can lead to different levels of entrepreneurial activity between countries. Several authors, including Peng and Luo (2000), Bruton and Ahlstrom (2003), Peng (2003) and Bruton, Ahlstrom and Obloj (2008) argue that the empirical academic researches are mostly focused on developed countries, not representing completely what occurs in transition and developing economies.

Thus, if institutions matter (North, 1990), the relationship between these and entrepreneurship in countries with different levels of development and / or institutional quality may be different too. That is, what is the importance of informal institutions, such as interpersonal relationships, local knowledge and cultural knowledge for entrepreneurship in both contexts? What is the relevance of the formal knowledge, such as laws in place, in both groups of countries?

Starting from the situation presented, the paper looks for to identify and analyze the main references used in published researches about institutions and entrepreneurship through a bibliometric study with citation and cocitation analysis. Moreover, the paper will seek to understand the theoretical relationship between such authors, how they are important in the conception of the literature that addresses the issue and how they consider entrepreneurship in developing countries. A second objective is to develop a critical discussion on the subject, linking institutions with entrepreneurship and the main theoretical trends identified. The problem question that the paper will seek to answer is:

How do researches about institutions address entrepreneurship?

The concept adopted of institutions maintains that these are the rules of the game, covering both the formal and informal rules (North, 1990). From the set of prevailing views after the 2000s, entrepreneurship is understood as the activity of discover (Kirzner, 1973; Shane, 2000), evaluate (Casson, 2005) and explore (Foss; Klein, 2012) opportunities.

That said, after the study is done, it is expected to have a view of the state of the art of the theory that links institutions to entrepreneurship, especially in developing countries. With this, it will be presented two general conclusions of the literature to be used ad subsidy in further researches.
2. Methods

As already mentioned, the method used for the development of this study is the bibliometric analysis. The bibliometrics is defined as a quantitative and statistical measurement technique of the production and dissemination rates of scientific knowledge that was born because of the need to study and evaluate the production activities and scientific communication (Araújo, 2006, p. 12). Using this method, it is possible to systematize and obtain the desired information of the available scientific publications.

The research began with the selection of scientific papers in the database ISI - Web of Science, owned by Thonson Reuters. The consultation was held with three groups of keywords: (1) institution and entrepreneur*, (2) institutional and entrepreneur*, (3) new institutional economics and entrepreneur*. After the search based on the keywords mentioned, some refinements of the system itself were used. First, only management, business and economics categories were considered. Then, it was used the filter to get only articles and reviews\(^1\) that were published in English, Portuguese or Spanish. The search of articles was held on June 24\(^{th}\) and the reviews on August, 8\(^{th}\), both in 2014.

The consultation resulted in 1,404 publications. Next, another filter was defined according to the impact factor of the journals selected. The final selection for the start of individual reading considered only papers published in scientific journals with impact factor, of the year 2012 alone or the last five years (with reference in 2012), higher than three in the business, economics and management categories, according to data of ISI - Web of Science on May, 14\(^{th}\) 2014. After the execution of all filters, the consultation included 578 publications. The next step involved the individual reading of all the titles and abstracts to identify the papers that were actually covered by the study proposal. After the exclusion of non-relevant work, the final consultation of publications considered for further analysis was composed of 151 scientific studies.

The main focus of the development of the study was the analysis of citations and cocitations, which may be conceptualized as a group of one or more bibliographical references that, included in a publication, evidences links between people, institutions, and research areas, whereas that they show the relationship between one publication to another (Foresti, 1989, cited by Araújo, 2006). The cocitation analysis studies how the authors had been mentioned together and are fundamental subsides for the formation of networks and clusters.

With the selection of the relevant publications and the choice by focusing on the citation and cocitation analysis, it is important to highlight that it is understood that the authors of the selected papers cites the documents which they consider the most relevant for the development of their researches. Thus, the documents with the highest frequency of citations should be the ones that most influenced a particular field of study during the time period considered.

Likewise, it is important to mention that the CiteSpace tool was used to perform the bibliometrical analysis. The CiteSpace is a software developed under the coordination of

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\(^1\) Papers in the review format, also called literature review or secondary sources, synthesize and analyze previous studies on primary sources. They usually summarize the current state of the art of a particular topic research while research papers reports the original research, typically includes the introduction, methods, results and conclusions of sessions (Johnson & Wales University, 2012).
Professor Chaomei Chen at Drexel University, Philadelphia, United States. It is a Java application, available free of charge, for the visualization and analysis of emerging trends and changes in the scientific literature (Chen; Ibekwe-Sanjuan; Hou, 2010).

3. Analysis of the publications that cover institutions and entrepreneurship

This section is composed of an analysis, mostly quantitative, of the 151 published papers, including articles and reviews, which make up the base of the initial study. The future evaluations were carried out with reference to the data from the ISI - Web of Science and the individual reading of the titles and abstracts of all selected papers.

The first analysis is the one that lists the number of publications per year. Despite having been placed any time restriction in the filter of the papers, the distribution of years presented reveals that the oldest publication selected is from 1993 and the latest from 2014, the year in which the survey was conducted. Moreover, 80% of selected papers, i.e. 121, were published between 2008 and 2014. This highlights the growing importance of the academic study of such lines of research, institutional theory and entrepreneurship.

The data from the ISI - Web of Science also allowed the examination of the distribution of publications by journal. In total, this research considered articles from 29 international scientific journals. It was found that about 50% of selected papers, i.e. 75, are from four journals: Entrepreneurship Theory and Practice, Journal of Business Venturing, Asia Pacific Journal of Management and International Entrepreneurship and Management Journal.

From the individual reading of the titles and abstracts of the 151 papers, it was noted that 80 of them have a predominant qualitative approach and 71 have a predominant quantitative approach. It is noteworthy that there are papers that use the two approaches, qualitative and quantitative at the same time, in which cases they were classified according to the most relevant focus to the proposed objectives and achievements.

Specifically on the papers with qualitative approach, 41 of them, or about 50%, are theoretical papers that aim to develop and discuss the theory. The number of theoretical papers is related to the method of selection that was chooses, which included reviews. Meanwhile, 30, or 37.5% are empirical papers that use case studies and the remaining nine are also empirical papers, but they use other methodologies, as well as bibliometrics and documental analysis.

About the quantitative papers, it was employed several econometric methods for the data analysis. Including panel analysis, Probit model and logistic regression model. There are researchers that choose questionnaires for collecting data and there are researchers that choose to use available databases. Among the databases, the one that most appears in the summaries of the selected papers is the Global Entrepreneurship Monitor (GEM), employed in 20 of the quantitative papers, or 28% of them and 13.25% of the total papers. Graph 1 shows the distribution of quantitative and qualitative studies, as well as representes their distribution.
Also according to the reading of titles and abstracts, it was observed that 54 papers, or 35.75% of all papers selected and 49% of all the empirical ones, covering both with quantitative and qualitative approach, explicitly study emerging or transition countries. There are some papers that do not specify, nor in the title, nor in the abstract, the countries that were studied, identifying them only as emerging or transition economies. And there are papers that study more than one country simultaneously. China is the country with the highest frequency of mentions, appearing nine times, Russia is mentioned in seven papers, India five times and Brazil was the option of four of the 151 studies.

Thus, the analysis of the papers that make up the initial basis of the present study reveals that the empirical papers published have focused on understanding the dynamics of entrepreneurship in emerging and transition economies.

3. Citations and cocitations analysis

The citations and cocitations analysis was performed based on CiteSpace software. The basic principle of the citation analysis in the bibliometric research is related to the number of times a particular reference was used in the papers selected in the initial database. In addition, the program itself generated the cluster analysis with the relationship between the most frequent citations.

This study considered the 35 most cited researches on the initial base of 151 scientific papers. The analysis was performed without considering the time variable, the citations were counted without considering its evolution and temporal distribution. Considering that the objective was to identify the most important authors as a whole, and not the evolution of the theory in time, which would not be very enlightening, because the yearly distribution of selected papers presented in the previous section, shows that about 80% were published between 2008 and 2014. Thus, the cocitation network with the identification of the clusters is

![Graph 1: Qualitative and quantitative researches](attachment://graph.png)
shown in Figure 1. It is worth noting that the image only brings the name of the first author of each research and its year of publication.

Before further analysis of the six clusters generated, it is important to understand the statistics provided by CiteSpace, two of them should be considered in this study:

1. Modularity Q: varies between 0 and 1, with 0 indicating a complete union between the clusters and 1 a perfect separation between the clusters. In the cluster analysis it was found the value of 0.7206, which, according to Chen and Hou Ibekwe-Sanjuan (2010) and Chen (2014) is a high and good rate, indicating that the network is reasonably divided into clusters that have low coupling between them;

2. Mean Silhouette: ranges from -1 to 1, and assists in identifying the cluster nature. The generated index was 0.8519, meaning that there is an internal homogeneity among the clusters (Chen; Ibekwe-Sanjuan; Hou, 2010; Chen, 2014).
3.1 Cluster 01: The Institutional Theory in the view of the economy

The first cluster identified in Figure 1 with the light blue color and the number 1, has six studies, one of which has the highest centrality\(^2\) of the entire network. This is North's publication (1990), which is also the study with the largest number of all network citations, presented in 62 of the 151 selected publications. The publications of the first cluster have a theoretical approach focused on economic stream of the New Institutional Theory, the New Institutional Economics (NIE). Empirical articles based on the same approach seek to understand the business environment of emerging and transition economies, especially China.

The NIE is a theoretical current that was born to complement the traditional economic theory, the neoclassical theory. In the modeling of the neoclassical theory, theorists rely on the assumption that agents do rational choices with full information. However, North (1990) acknowledges that the agents make choices based on subjectivity derived from models that differ between individuals and incomplete information, in most of the cases, not converging trends. Accordingly, the institutions exist to reduce uncertainties surrounding human interactions. Such uncertainties arise as a consequence of the complexity of problems to be solved and the amount of information to be processed. Moreover, it is noteworthy that the institutions are not necessarily efficient (North, 1990; North, 2005).

3.2 Cluster 02: Entrepreneurship, disruption of market equilibrium and innovation

In the cluster number 2, identified by the dark blue color, five studies are linked to the rest of the network by the cluster number 1, North (1990) and Baumol (1990) are the connection points. In the cluster, publications are more focused on the understanding of the characteristics of the entrepreneurial activity itself and of the development of this theory.

The cluster is influenced by the classic book Theory of Economic Development, of the Austrian school economist Joseph Schumpeter, published in English in 1934 and originally in in German in 1912. Schumpeter's ideas analyze the commercially organized society that have private property, labor division and free competition. The author maintains that there is a general equilibrium trend in the economy, as in neoclassical theory, and that changes occur in times of disruption in this balance, also known as moments of "creative destruction." At the beginning of a new development process, it appear the figure of the entrepreneur and the importance of innovation to the capitalist system.

\(^2\)The centrality is measured for each network node, it measures the degree to which the node is in the middle of a route, linking the other nodes on the network. Higher values indicate potentially revolutionary scientific publications, if a node is the only connection between two clusters, then this work will have a high value of centrality (CHEN; Ibekwe-SANJUAN; HOU, 2010).
3.3 Cluster 03: Entrepreneurship and NIE in the context of emerging and transition countries

The third cluster, identified by brown color in Figure 1 presented before, has seven references that are connected to the rest of the map by Peng paper (2003) of the cluster number 1. The connection between cluster 1 and 3 occurs with the study of Hitt et al. (2004). The more centrality of cluster 3 refers to Busenitz, Gomez and Spencer (2000) article. The aspect that differentiates this cluster to the others is related to the use of the economic approach of the New Institutional Theory in researches on entrepreneurship in emerging economies or transition economies, the ones that have shown the highest growth rates in comparison to developed countries, especially after the year 2000. The other clusters tend to contemplate authors who are more focused or in the institutional theory or in researches on entrepreneurship.

3.4 Cluster 04: The relationship and connection of Institutional Theory in economy and sociology

The cluster with the highest number of connections in the network and the lowest number of studies is the cluster number 4, represented by the color purple. The cluster contains important researches that address the Institutional Theory. However, unlike the clusters 1 and 5, that have an economic and social approach, respectively, the cluster 4 integrates and discusses both approaches, as well as features important works on legitimacy of the organizations, more focused on the sociological approach.

Douglas North, with the book Institutions, Institutional Change and Economic Performance, from 1990 and from cluster number 1, binds to the book entitled Institutions and Organizations of W. Richard Scott, which has had its first edition published in 1995 and the second in 2001. In this book, Scott brings the evolution of the institutionalist approaches in the field of economics, political science and sociology. Their analysis of the relationship between institutions and organizations rely of these different approaches, which explains the central position of the author in Figure 1. The analytical model of institutions proposed by the author was used in several of the papers that were the base for the composition of the different clusters of the present study.

3.5 Cluster 05: The Institutional Theory in the view of the sociology

Six publications compose the cluster number 5, indicated by the green color and having as a point of connection with the network, and the most central point, the article of DiMaggio and Powell (1983), published in the American Sociology Review. This group of studies is related to traditional and sociological approach of the Institutional Theory, addressing more issues related to informal institutional environment, i.e. the influence of the myths and cultures to formal organizations. The ideas and studies of the sociologist Max Weber are very used as a basis for the discussions presented in the cluster.
DiMaggio and Powell (1983) study the institutional isomorphism and the collective rationality in the organizational field. The authors define institutional isomorphism as the constraints process that force a unit of a given population to resemble to other units that are inserted into the same set of environmental conditions. In other words, it's studied the trend of homogenization of the practices and the formatation of the organizations. Thus, the decision makers of society in general, and of the organizations in specific, tend to learn and to operate in accordance with the answers that are more efficient in a particular context, and who fails to do so are doomed to failure.

3.6 Cluster 06: Entrepreneurship, market imbalance and opportunity discovery

Finally, cluster number 6 is composed of seven publications, three of which have Scott Shane as author, current reference in studies about entrepreneurship. The focus of the cluster is to understand the entrepreneurial activity under a practical perspective, with the formulation of models and the concern of understanding the subject according to the real world.

The inspiring author of the cluster is Kirzner. In his 1997 work, the author discusses the relationship between the entrepreneurial discovery and the competitive market process from the contemporary Austrian economists perspective, the neo-Austrians. It is understood that the process of entrepreneurial discovery don’t occurs through an infallible market equilibrium process that happens all the time, but through the enhancement of economic forces that are continually encouraging this balance movement (Kirzner, 1997). The work also shows that economists of the Austrian tradition tend to favor market solutions in the solution of the societal problems. Moreover, the work suggests that the neo-Austrian chain argues that government regulation of market activities tend to obstruct and frustrate the spontaneous entrepreneurs adjustments, which may occur through the recognition of opportunities by potential entrepreneurs.

4. Discussion

The cluster analysis (Figure 1) reveals that there are two large groups of authors that are connected by cluster 4, specifically by Scott's book (1995) on institutions and organizations. Given this division of the cocitation analysis into two large clusters, it is clear that both of then includes authors that deal with the relationship between institutions and entrepreneurship and authors who focus their studies only in institutions or in entrepreneurship.

The main difference between the two large clusters is related to the approach of the neo-institutionalists authors. On one side, in the left part of the figure, composed by clusters 1, 2 and 3, there is the economic focus, represented mainly by North (1990) research. On the other side, in the right part of Figure 1, composed by clusters 4, 5 and 6, there is the sociological focus, which has the main publication the paper of DiMaggio and Powell (1983).
Another difference between the two groups of cocitations is related to authors that deals with entrepreneurship. It is noteworthy that on both sides there is connection with the Austrian School. In the large cluster on the left there is the presence of Joseph Schumpeter and other more recent authors defending the idea that entrepreneurs are promoters of innovation that break the state of equilibrium of the economy. Meanwhile, in large cluster on the right there is the predominance of Scott Shane’s work and the line of thought of Kirzner, relating the entrepreneur with the agent who is alert to opportunities in the environment. Thus, the entrepreneur finds and takes advantage of opportunities, helping to guide the market to its balance, which is never fully achieved.

Furthermore, it is important to note that in both clusters there is a predominance of empirical researches studying emerging and transition economies, being a further evidence that those institutional environments are receiving more focus of the academics and assuming greater importance in the researches done. It is also noted that the large cluster with economic focus (composed of clusters 1, 2 and 3) there are jobs that integrate the Institutional Theory and entrepreneurship, cluster number 3, while the large cluster with sociological focus (composed of clusters 4, 5 and 6) do not. The division of the network into two large clusters is shown in Figure 2 below.

That said, the result of the analysis of this work brought in a stylized form two large clusters. The first, composed by clusters 1, 2 and 3, is based on the economic approach of the New Institutional Theory and empirical studies with this view. The second, composed by
clusters 4, 5 and 6 is based on the sociological approach of the New Institutional Theory and empirical studies that integrate poorly with this view. Both clusters are connected by Scott (1995) and corroborate the divisions of the New Institutional Theory already performed by other authors, such as Hall and Taylor (1996), Scott (1995, 2001) Nee (2003) and Bruton, Ahlstrom and Li (2010). It is noteworthy that, although each author has its own classification of the approaches, in general can be seen groups more focused in economy, especially with the approach of the theory of Transaction Cost Economics and groups more focused in sociology, with support in the Resource Based View (RBV). It should be noted also the non-competition of the different approaches of the New Institutional Theory, which are in fact complementary, having overlapping points (Scott, 2001). Furthermore, it is important to note that, in fact, there is no exact division between the views and that the economy has incorporated many of the sociological concepts in the economic sociology.

So, Although each of the authors present their own classifications of the New Institutional Theory research lines, one can see a certain uniformity in the divisions. In all cases there is a group that is closer to studies in economics, that address exogenously formal and informal rules and how they affect organizations. And there is other group that is closer to studies in sociology, considering more cultural and cognitive aspects of how institutions are formed, are accepted and act in society as a whole.

As mentioned in this section, the economic sociology is a field of research that builds on the concepts and theories of sociology and economy, it can be considered an intersection area. In this branch of study, surveys were conducted and published on the understanding that the entrepreneur is an agent embedded in a particular social context and acting on a relational base (Granovetter, 1973, 1978, 1983, 1985, 2005; Uzzi, 1997; Dyer; Singh, 1998).

Table 5 shows the division of the six clusters identified by CiteSpace aggregated into two major subdivisions that could be identified schematically as the economic and sociological view (Figure 2), presenting comparatively the main characteristics of the two views.
Table 1: The views of the Institutional Theory in the citation and cocitation analysis

<table>
<thead>
<tr>
<th>INSTITUTIONAL THEORY VIEWS APPLIED TO ENTREPRENEURSHIP</th>
<th>ENTREPRENEUR IN THE ECONOMIC VIEW</th>
<th>ENTREPRENEUR IN THE SOCIOLOGICAL VIEW</th>
</tr>
</thead>
</table>
| **Cluster**                                            | 1: The Institutional Theory in the view of the economy.  
                                                        2: Entrepreneurship, disruption of market equilibrium and innovation  
                                                        3: Entrepreneurship and NIE in the context of emerging and transition countries | 4: The relationship and connection of Institutional Theory in economy and sociology  
                                                        5: The Institutional Theory in the view of the sociology  
                                                        6: Entrepreneurship, market imbalance and opportunity discovery |
| **Main Characteristics**                               | ✓ Entrepreneurship approach more related to Schumpeter  
                                                        ✓ Researches consider institutions, mostly, as exogenous  
                                                        ✓ Intra organizational analysis | ✓ Entrepreneurship approach more related to Kirzner  
                                                        ✓ Researches consider institutions, mostly, as endogenous  
                                                        ✓ Analysis of the environment as a whole |
|                                                        | ✓ Rational, or limited rational, behavior  
                                                        ✓ Focus on the governance structures and rules /institutional analysis | ✓ Behavior based on the social relations  
                                                        ✓ Focus on the achievement of legitimacy and on the maintenance of stability |
|                                                        | ✓ Methodological Individualism  
                                                        ✓ Utilitarian tradition  
                                                        ✓ Substantive rationality | ✓ Socialized agent  
                                                        ✓ Weberian tradition  
                                                        ✓ Subjective rationality |
| **Related Theoretical Logic**                          | ✓ New Institutional Economics (NIE) and theory of Transaction Cost Economics | ✓ Resource Based View (RBV) |
| **Conditioning for Entrepreneurship**                  | ✓ Property rights well defines (low transaction costs) | ✓ Resource ownership (interpersonal relationships) |

Although the chart present a stylized synthesis of the two approaches, it allows to point out that the NIE related work assigned to the formal rules (with well-defined property rights) the flourishing of entrepreneurial activity. Studies from this approach, in general, predict that countries with good institutions, those with higher economic development level, are those that enable greater entrepreneurship. In other words, an ideal political system is what produces an ownership structure that maximizes the economic output of a society.

5. Conclusion

Although the two identified research lines have different objectives, they have an intersection area little explored in the papers. This is the relative importance of each of the institutions - formal and informal - for the entrepreneurial activity in different institutional settings. As places North (1990), countries, or societies, as they have it’s institutions - formal and informal - at a specific moment in time, they will have the institutional framework as the responsible for defining the vector of incentives for the various social actors, especially the ones involved in entrepreneurial activities. Or, in other words, as shown in Figure 3, the
institutional framework of one country should influence in a different way the beginning of the entrepreneurial activity.

![Figure 3: Importance of the institutional framework for the beginning of the entrepreneurial activity according to the level of development of the country](image)

From the discussion and observations presented, it is found enough subsidies to identify two general conclusions that the literature brings in its publications:

**Conclusion 01:** The less developed the country is, the knowledge, understanding and compliance with the formal rules are less important for the beginning of a new business.

**Conclusion 02:** The less developed the country is, interpersonal relationships and the legitimacy obtained (informal rules) are more important for the beginning of a new business.

Thus, for an entrepreneur to begin its activities and survive in the market of a not developed country, the understanding, inclusion and acceptance in the informal institutional environment is configured as more relevant than the knowledge and compliance with formal rules.

According to the presented before, it can be said that the cocitations map prepared in this study empirically indicates the differences between the approaches of the neo-institutionalist, previously discussed by other authors. It also shows how each approach get closer to the discussions and the main author on entrepreneurship, especially the ones that consider developing countries in the analysis.

It is worth mentioning that the main limitation of this study was the use of a single database, the ISI - Web of Science. This choice was given to the relevance of this database in the academia and the limitation of CiteSpace software to analyze data from other sources. A second aspect that is worth highlight is the choice of the 35 most cited work, which left out of the citation and cocitation analysis references that are also important for studies on the topic, as well as Granovetter (1985) and Uzzi (1997). However, it is important to remember that the decision was made in view of the cluster formation statistics provided by CiteSpace and presented in the section about the methods.

### 5. References


