

## Behavioral Economics: A Review & Bibliometric Analysis



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### ABSTRACT

**Purpose** – Existing literature has been reviewed on Behavioral economics to analyze the theoretical foundation. This paper aims to study the trend of publication. Based on the analysis further research agenda will be analyzed.

**Research Method** – Bibliometric analysis of papers from the web of science database has been conducted. Comprehensive explorations of papers on behavioral economics have been done. Systematic literature reviews of a few papers were also conducted to get insights into the directions and content of the research. Different analytical tables of the web of science have been presented. Further Vosviewer has also been utilized to represent the trend with the help of map, bar, treemap visualization techniques.

**Findings** – Different types of bibliometric analysis were done and got presented in this paper. Further review of literature for the past few years, has been done by selecting papers based on relevance. Findings have been identified and based on that further research themes have been projected.

**Research Limitations/Implications** – Web of science search reflected behavioral economics themes in many subjects. This research can be extended on the database of Scopus also for an extended number of years to gain deep insights on this topic. Multiple dynamics of behavioral economics have not been explored, which is required to be explored to evaluate its impact specifically in the domain of economics.

**Originality/value** – To develop an exhaustive overview & understanding of the research in the area of behavioral economics, bibliometric analysis & literature review has been done. Future researchers will be able to orient their research in the identified area.

**KEYWORDS:** Bibliometric, Behavioural economics, Literature Review

### 1. INTRODUCTION

Behavioural Economics argues about people behaving irrationally, why people weigh losses more highly than gains. For ages the theories of economics have been based on the principle of rationality stating that the consumer mind is intelligent enough to identify gains and opportunity costs hence they tend to invest in activities /products which provide more utility, the earlier theories say that if you inform your customer about the number of calories in burger they tend to eat wisely but still, people make mistakes that are rather than investing money in insurance or gym they invest in eating because they have self-control problem.

Research has raised serious questions about the rationality of many judgments & decisions that people make. Behavioral economics answers such questions, it blends psychology & economics it helps in identifying the right nudges for better decision making. Kao & K. Vela in their research about utility deduced the concept of bounded rationality and how realistic utility functions are. They identified the difference between classical and modern behaviour.

Behavioral economics has emerged as a result of the failure of traditional economics which is more computational in nature. Most of the early work in behavioral economics was in the area of finance by Jones & Andrei Shleifer who argued against the efficient market model. Richard Thaler the founder of behavioral economics was inspired by Kahneman & Tversky's work on human behaviour, he coined the concept of mental accounting in 2015. The basic concept was people treat money differently depending on factors such as the origin of money & intended use, rather than in terms of financial accounting. The implications of behavioral economics are far-reaching with its application in various domains including, health, personal finance, policymaking, understanding consumer behaviour & many more.

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### 2. A REVIEW OF THE LITERATURE

**Table 1: Literature Review**

S. no	Article Title (References)	keywords	Focus Area Level of Analysis/ Research Methods/Types of Respondent	Key Findings
1	Behavioural Economics Does And Can Shape Public Policy (Leigh, Andrew, June 2015) (Leigh, 2015)	Behavioural economics; framing; hyperbolic discounting; loss aversion; trials, Market inefficiencies,	Behavioural economics has been found to predict consumer behaviour, exercise routines, and substance addiction tendencies empirically.	Finally, the authors provide six recommendations for behavioural policymakers. It was examined how a growing understanding of behavioural economics has influenced the evolution of public policies.
2	Behavioural economics: Classical and modern (Kao & Velupillai, 2015)	Subjective expected utility; modern behavioural economics; Classical behavioural economics; subjective probability; computational complexity; model of computation	The roots and evolution of behavioural economics are tracked and examined in this study, beginning with Herbert Simon and Ward Edwards' pioneering publications.	Two types of behavioural economics were pioneered: classical and modern.
3	How Behavioural Economics Relates To Psychology - Some Bibliographic Evidence (Braesemann & Braesemann, 2018)	Economic methodology; citation analysis; behavioural economics; social network analysis; bibliographic data mining	Behavioural economics is shaped by large-scale content imports from psychology or not. Using network analysis, two data sets from the intersection of behavioural economics and psychology are compared to sets of economic and psychology publications. To quantify the usage of mathematics, the percentage of empirical contributions, the authors' academic backgrounds, and cross-citations.	Statistical data demonstrate content transfers from psychology via behavioural economics only to a limited extent, contrary to some methodologists and behavioural economists' claims.
4	Bounded sociality: behavioural economists' truncated understanding of the social and its implications for politics (Frerichs & Frerichs, 2019)	Behavioural economics; sociology; policy implications; cognitive biases; social preferences; rational choice	This article examines the various interpretations of the term "social" used in behavioural economics and its policy consequences. Both perspectives, however, place a greater emphasis on our human character than on the peculiarities of modern culture.	The cognitive strand of behavioural economics has limited knowledge of the social, resulting in a narrow kind of behavioural politics; the social strand provides a more comprehensive account of social variability and dynamics, allowing for more room for politics in theory.
5	Richard H. Thaler: A Nobel Prize for Behavioural	Anomalies in economics; heuristics and	The goal of this paper is to provide a quick overview of Richard Thaler's career and contributions to	It focuses on his collaboration with Cass Sunstein on the notion of libertarian paternalism and

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	Economics(Earl & Earl, 2018)	biases; mental accounting; libertarian paternalism; nudge, Libertarian paternalism; marginal analysis; loss aversion; anomalies; heuristics; fairness	behavioural economics, which earned him the Nobel Memorial Prize in Economic Sciences in 2017. It then critically assesses his achievements and considers how, in contrast to earlier behavioural economics, Thaler was able to persuade mainstream economists to accept his novel approach to behavioural economics.	the 'nudge'-based behavioural approach to economic policy, as well as his role in exposing and explaining empirical discrepancies in mainstream economics
6	Does 'behavioural economics' offer an alternative to the neoclassical paradigm? (Etzioni, 2010)	Behavioral economics; socio-economics; economics; economy, Psychology; Rationality	Amitai Etzioni, Michael Piore, and Wolfgang Streeck explored the possible contributions of behavioural economics to socio-economics during the 2009 SASE meeting in Paris.	Researchers consider behavioural economics as a helpful adjustment to traditional economics, an attempt to rescue it from its rising theoretical and practical difficulties, even if this is not always acknowledged and appreciated by the general public.
7	Richard Thaler and behavioral economics: From the lab experiments to the practice of nudging (Nobel Memorial Prize in Economic Sciences 2017) (Belyanin, Alexis V,2018)	behavioural economics; libertarian paternalism; Nobel Memorial Prize in economics Expected-utility-theory; prospect-theory; loss aversion; libertarian paternalism; equity premium; risk-aversion; choice; fairness; model; uncertainty	The study examines Richard Thaler's contribution to contemporary behavioural economics as a distinct field of economic research, as awarded by the Nobel Memorial Prize in Economic Sciences in 2017. It discusses how behavioural economics interacts with experimental and empirical research, as well as how behavioural models may be used to explain a variety of phenomena such as individual decisions, group interactions, financial market behaviour, and so on.	The technique of behavioural "nudging" and its methodological roots (libertarian paternalism) are discussed in detail, as well as the significance and place of behavioural research in modern economics in general.
8	What is the meaning of behavioural economics (Heap, 2013)	Behavioural economics; Explanation; Prescription; Method Markets; Expectations; Rationality; Preferences; Psychology; Fairness; Bubbles; Welfare	This article looks at how behavioural economics provides insights into how individuals behave and how this influences economic explanation and prescription. It claims that explanation implications will almost always be debatable.	The behavioural insights suggest that public policy should be more concerned with human autonomy than with forms of choice fulfillment.
9	Behavioural Economics, Experimentalism And The Marketization Of Development(Berndt, 2015)	Geographies; Markets, behavioural economics; experiments; marketization; pro-poor development; geography	This paper examines the birth of behaviourism and experimentalism as a challenge to neoclassical orthodoxy and its more recent transition into an important policy script, using market-based pro-poor development policy in the global	The behavioural approach to poverty, according to a review of policy documents, project reports, and academic interventions, transfers the focus from the market to the market subject and engages in often

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			South as an example. The study moves on to the marketization of anti-poverty policy in the global South after tracking the growth of behavioural economics and discussing the essential conceptual building blocks of the growing behavioural mainstream in economics.	thinly veiled attempts at behavioural engineering. This is accomplished by combining behavioural economic knowledge with socio-technical market mechanisms.
10	Mechanism of Behavioural Economics (Trokhymets, Olena) 2019	Financial literacy; Behavioural economics	The goal of this study is to investigate the irrational motivations that drive people's economic actions and to identify how to incorporate behavioural economics mechanisms into Ukrainian government policy.	The economy is getting guided by new methods of influencing human consciousness, due to digitalization of society. To make economic decisions Psychological aspects are considered as the most important components of the modern economy.
11	Implications of behavioural economics for financial literacy and public policymaking	Financial literacy; Behavioural economics; Imperfect information; Heuristics; Trust; Nudging; Decision-making environment; Ecological rationality, Bounded Rationality; Heuristics; Psychology; Decisions	This study outlines and highlights distinct scientific approaches to behavioural economics, as well as the consequences of these varied methodological methods for financial literacy, related institutional transformation, and public policy. Improvements in financial literacy, according to conventional economics, will have no significant impact.	Behavioural economics opens the door to the improvement in decision making through financial education

### 3. RESEARCH METHODS

#### 3.1 Search query designing

Literature review papers on Behavioral economics were consulted.

Keywords for the literature search was Behavioral economics

#### 3.2 Collection of data

Articles were collected from the Web of Science database. The query was done for the keyword Behavioural economics.

#### 3.3 Results

Ramos-Rodríguez and Ruiz-Navarro (2004) suggested that scientific articles published in peer-review journals can be considered as certified knowledge it was quoted in Qamar & Samar's paper (2021).500 papers were selected for analysis.

#### 3.4 Bibliometric analysis

Bibliometric analysis helps us to get the breadth of the research. Structured Literature review provides better insights. Conventional methods of the literature review are more sustainable & robust. Bibliometric analysis can't substitute the traditional method but both methods can complement each other to get better depth & insights from the research.

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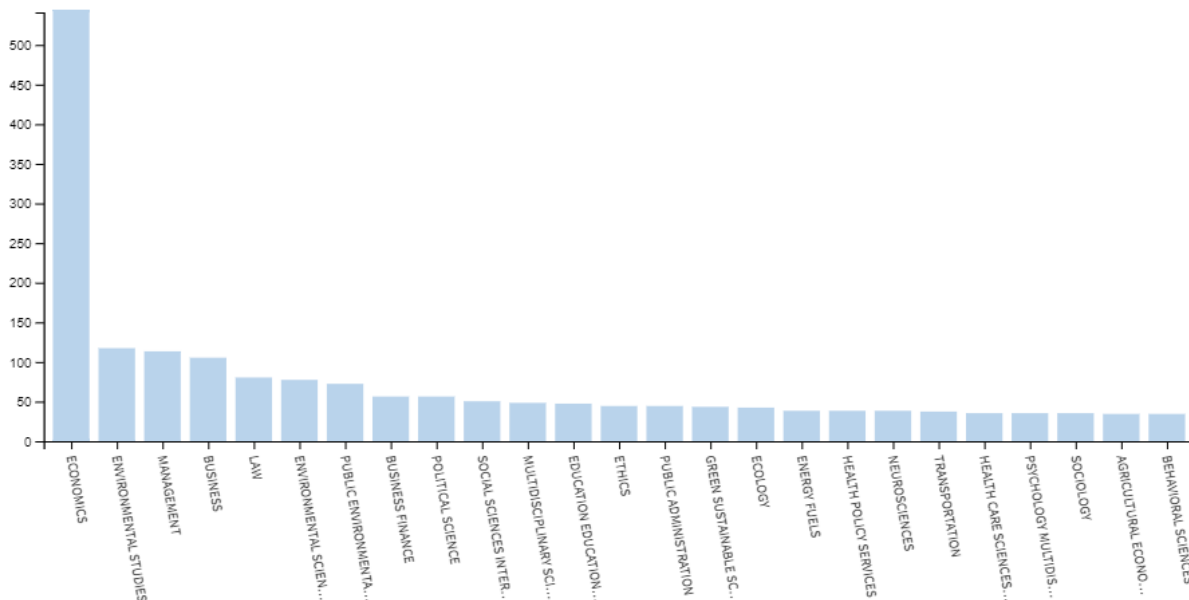
## 4. ANALYSIS AND FINDINGS

The bibliographic data were analyzed using a web of science database and VOS viewer

### 4.1 Descriptive analysis using a web of Science Database Analysis

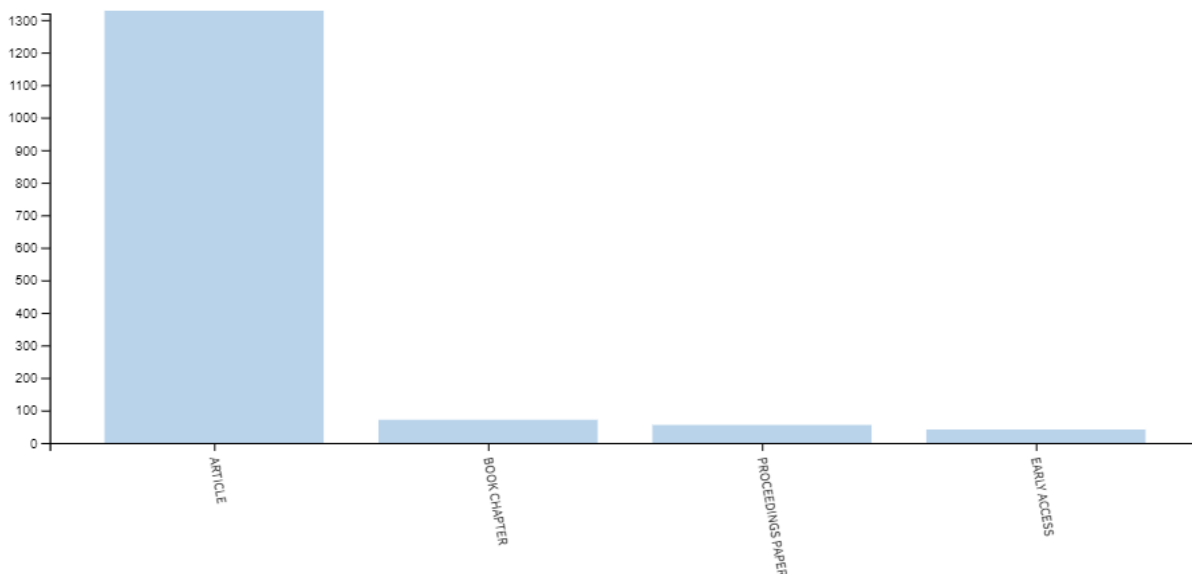
#### 1) Basic Search:

BE title search yielded 242 papers only, whereas BE topic search yielded 1,665 papers from the different web of science categories. Under topics search, Economics has 541 papers, Management 110 & Business 102. The scope of this topic is very vast and it has been explored that this topic has been researched in 45 domains. Bar Graph reflects the relevance of this topic in the field of Economics followed by Management, Business & other subjects. The great scope of research in the field of economics as a researcher has immense literature support in this subject area.



Bar Chart 1: Bar Graph for Basic Search on Web of Science Categories

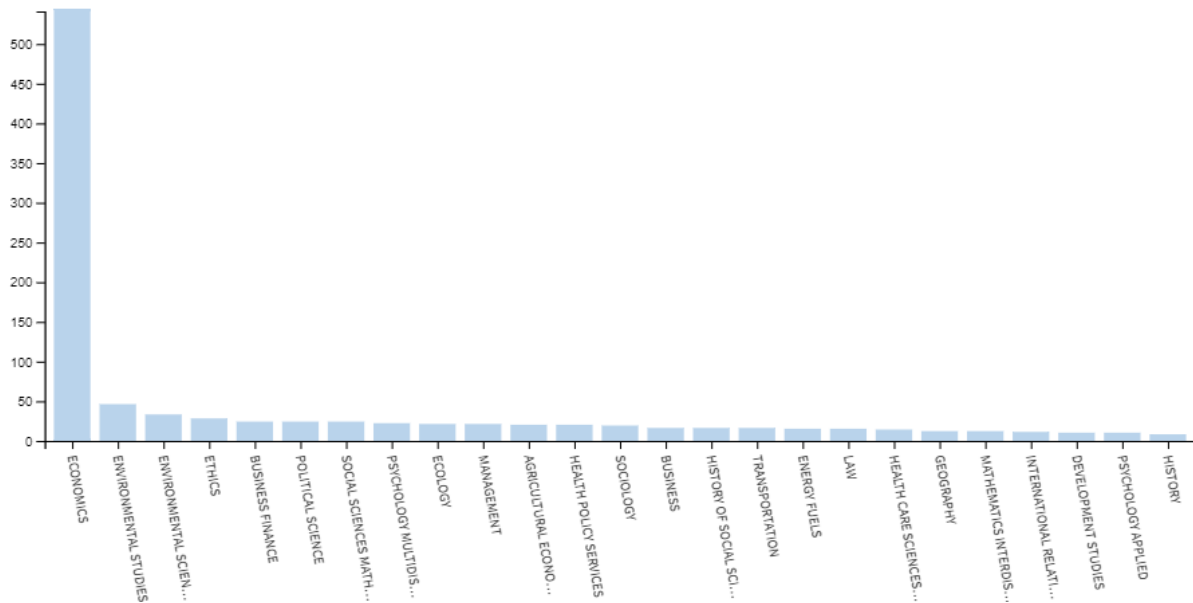
#### 2) Basic Search of Document Types: analysis was necessary to perform for further refinement based on documents.



Bar Chart 2: Bar Graph on Basic Search of Documents Types

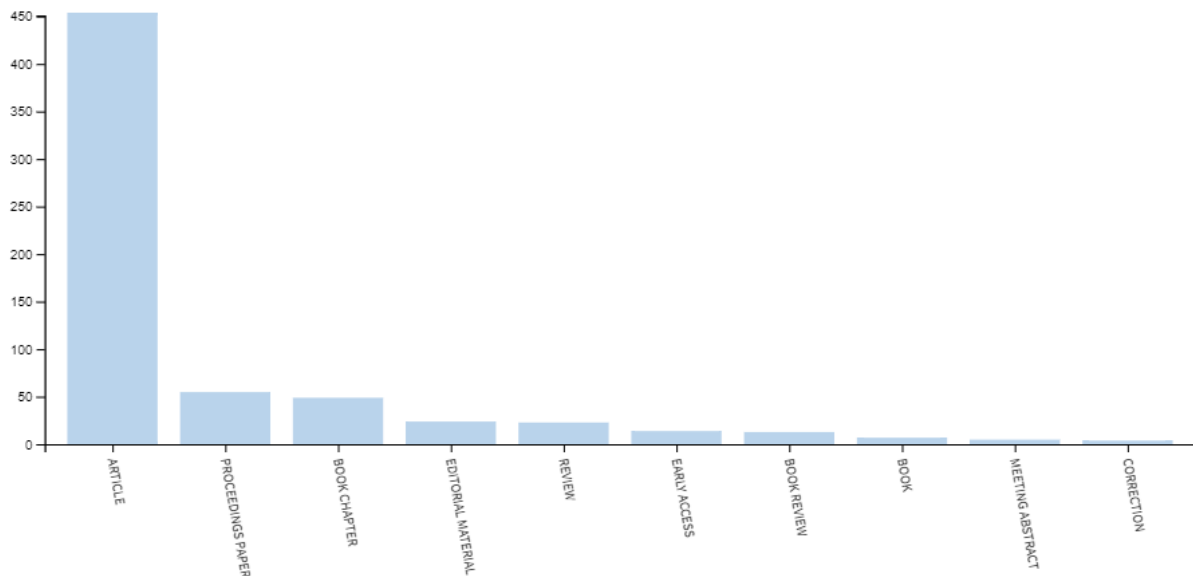
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3) Now Web of Science categories got refined to Economics only which yielded 541 results



Bar Chart 3: Bar Graph on Web of Science Categories

4) Further refinements were done on document types-Article which further yielded 451 results

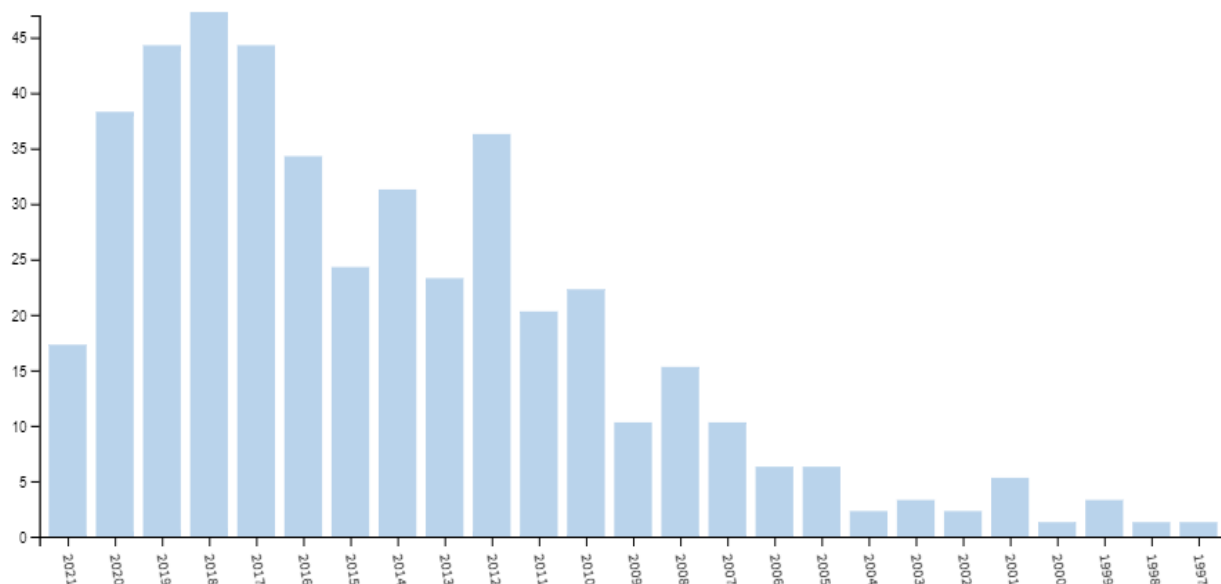


Bar Chart 4: Bar Graph of Document types

Now analysis will be performed on 451 Articles of Economics. In this bibliometric only articles of Economics will be considered.

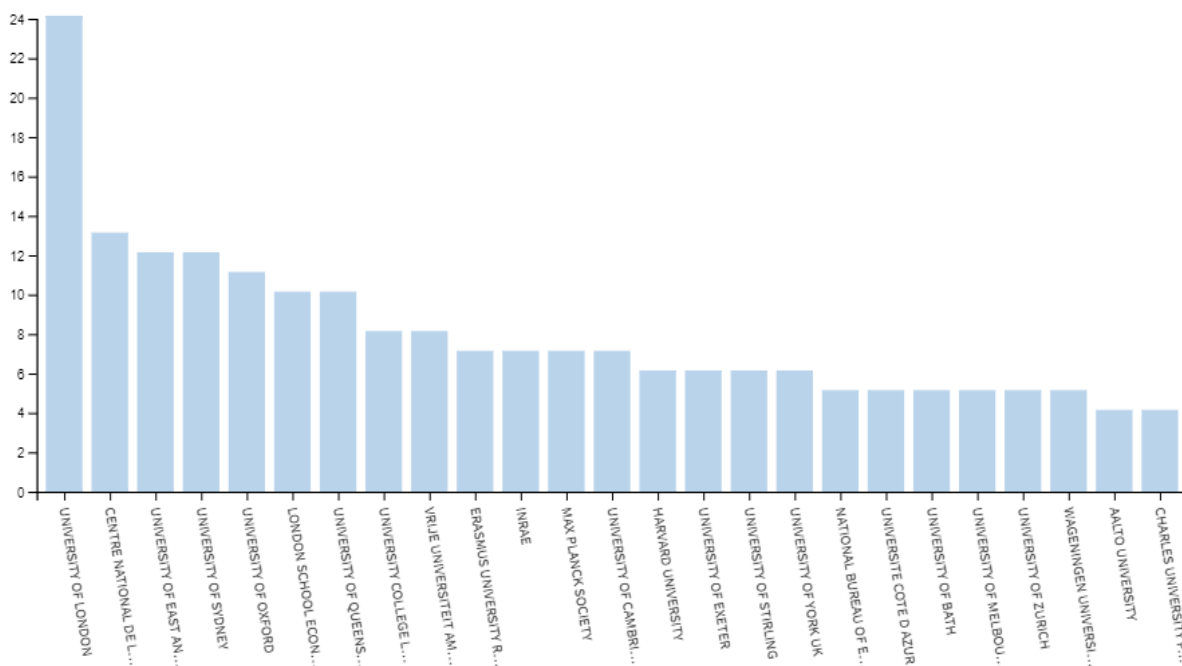
5) Publication Years: In a basic search it was found that one article got published in 1972 too, and after that publication started from 1992 onwards. Articles on this topic have been published from 1997.2018 have witnessed a maximum of 47 publications followed by 44 publications in 2017 & 2019.

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Bar Chart 5: Bar Graph of Publication Years

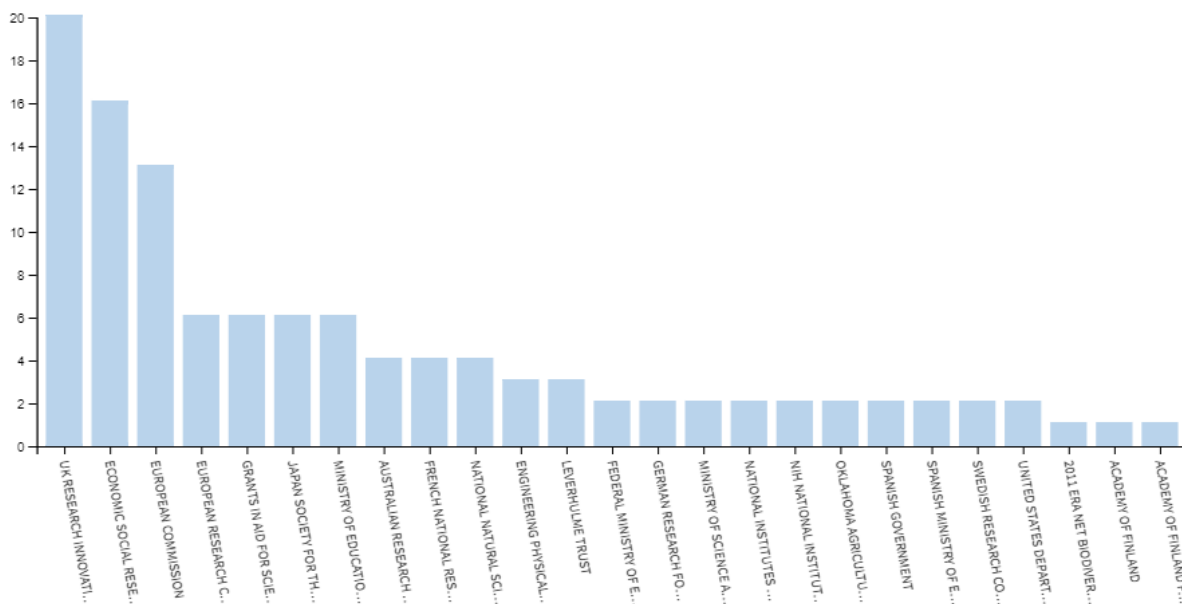
6) Organizations which has written Article on this topics are: the University of London has the highest no of articles 24,



Bar Chart 6: Bar Graph of Organizations

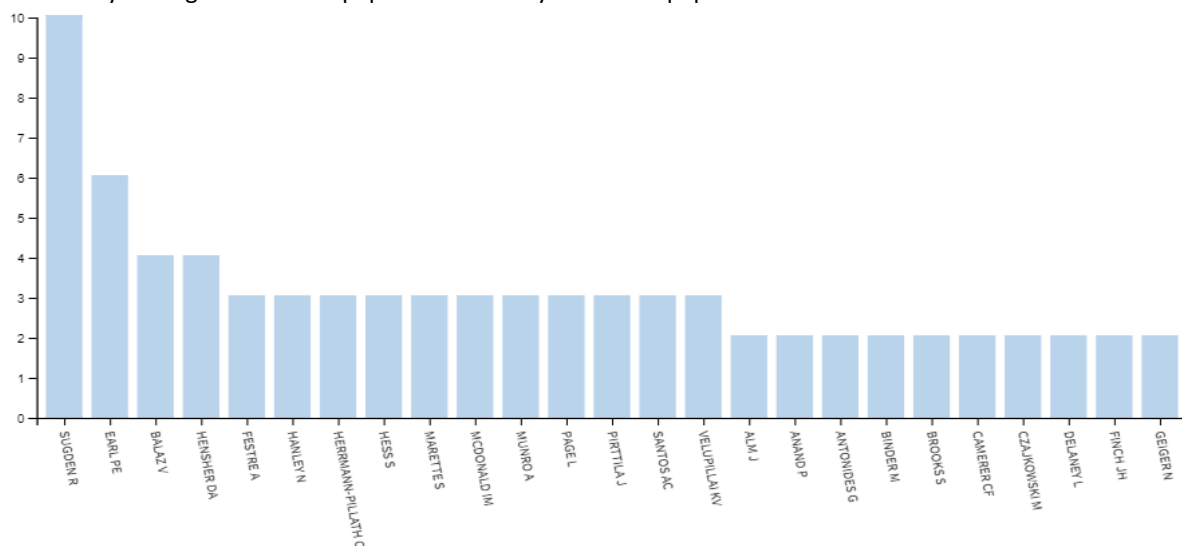
7) funding agencies: UK Research Innovation UKRI has funded 20 pieces of research followed by 16 pieces of research from the Economic Social Research Council ESRC

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Bar Chart 7: Bar Graph of Funding Agencies

8) Author's Analysis: Sugden R has 10 papers followed by Earl PE 6 papers.



Bar Chart 8: Bar Graph of Authors

9) Source Title:

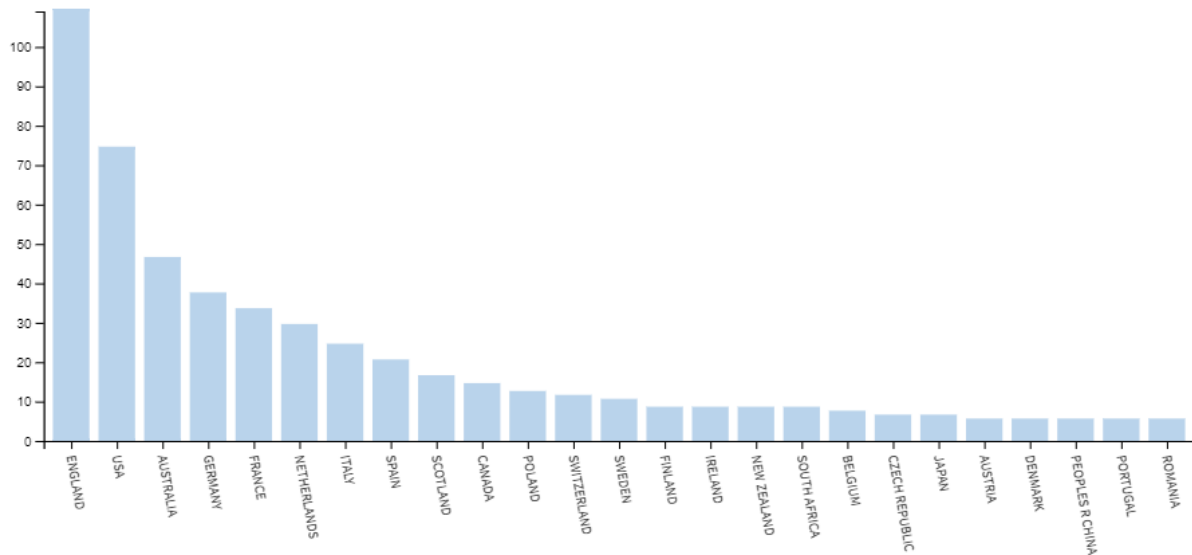


Daigramme 1: TreeMap Visualization of Source Title



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10) Country Analysis: England has 109 research followed by USA 74



Bar Chart 9:Country Analysis

### II. Analysis through Vosviewer

451 papers were added to the marked list and exported in the plain text format; full records & cited reference were added.

1) Created a map based on bibliographic data, read data from bibliographic data files. Type of analysis is co-authorship. Unit of analysis is an author based on the Full counting approach. The maximum no of authors for a document selected was 20. The minimum number of documents selected for an author is 2. The minimum number of citations of an author selected is 2. Of the 801 authors, 524 meet the .threshold

For each of the 35 authors, the total strength of the co-authorship with other authors gets calculated The authors with the greatest total link are getting displayed. Some of the 35 items in the network are not connected to each other . The largest set of connected items and the rest of the authors are independent items, all are being displayed in the below-mentioned diagramme. Hashimzade Nigar has 69 citations with 2 documents, David A.Hensher has 36 citations with 3 documents followed by others.

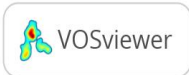
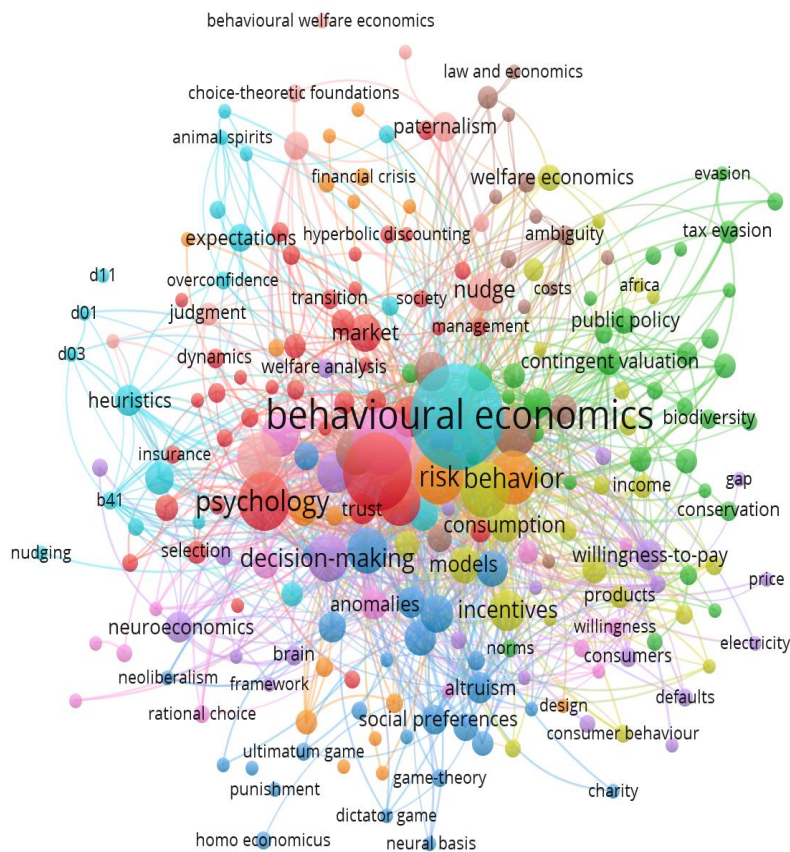


Diagram 2: Network Visualization of Author

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2) Full record and cited references were exported in plain text format. Co-occurrence of all keywords was explored, full counting methods were ticked & no of occurrence of keywords were set to 3, out of 2134 keywords, 106 meet the threshold. For each of the 232 keywords, the total strength of the co-occurrence links with others keywords gets calculated, the keyword with the total link strength gets selected.

Analysis: Behavioural Economics has 129 occurrences with 554 total link strength followed by economics 71 occurrences.



**Diagram 3: Network Visualization of Co occurrences of keywords**

1) 3. Citation Analysis: author wise, the minimum number of documents of an author is 2, minimum no of citation per author 2, of the 801 authors 38 meet the threshold. The total strength of the citation link with other authors gets calculated. For each of the 35 authors, the total strength of the citation link with other authors will be calculated. The authors with the greatest total link strength get selected.

Analysis: Sugden Robert has 235 citations and 31 documents, the total link strength is 6. The largest set of connected items are only 7, however, all disconnected and connected items are getting displayed.



Diagram 4: Overlay Visualization of Authors

4. Documents Citation Analysis

Citation document wise Out of 451 docs, all 277 docs meet the threshold & have 2 citations. For each of the 277 docs, the no of citation link gets calculated. The doc with the largest link has been displayed.

Bruni ( 2007) has 139 citations and 11 links followed by others. The largest set of connected items was 52, the rest of the items were not connected. Diagramme is showing all items connected & not connected to.

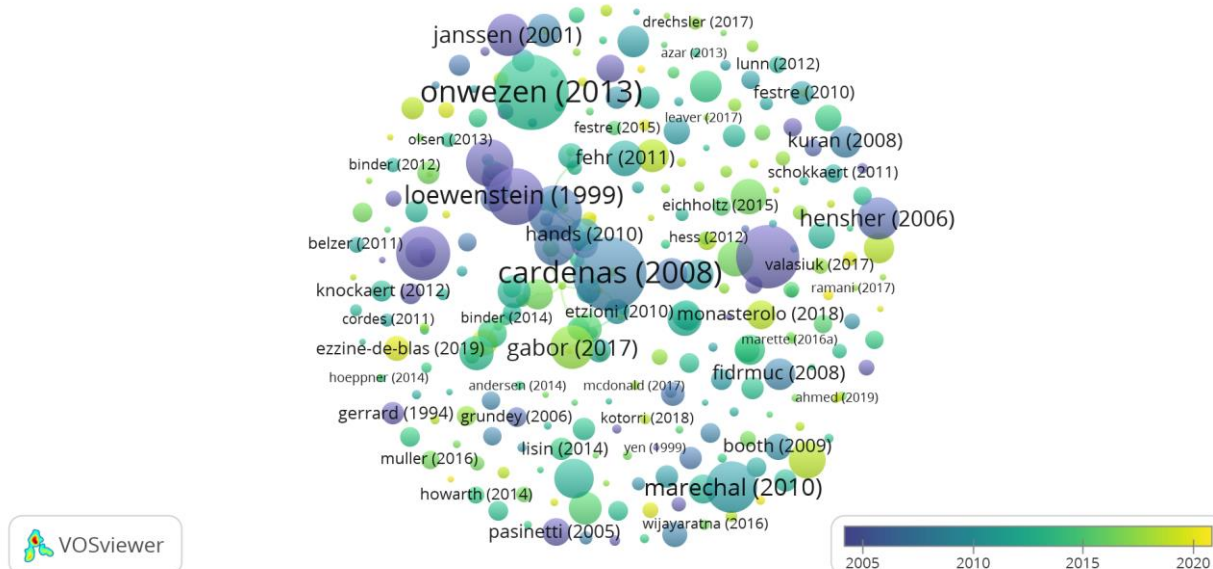


Diagramme 5: Overlay Visualization of Document Citations

4) Bibliographic coupling of the authors has been done through fractional counting. The minimum number of documents of an author is 2; a minimum number of citations of an author is 2, Of the 801 authors, 35 meet the threshold. For each of the 35 authors, the total strength of the bibliographic coupling link with other authors will be calculated. The authors with the greatest total link strength get selected.

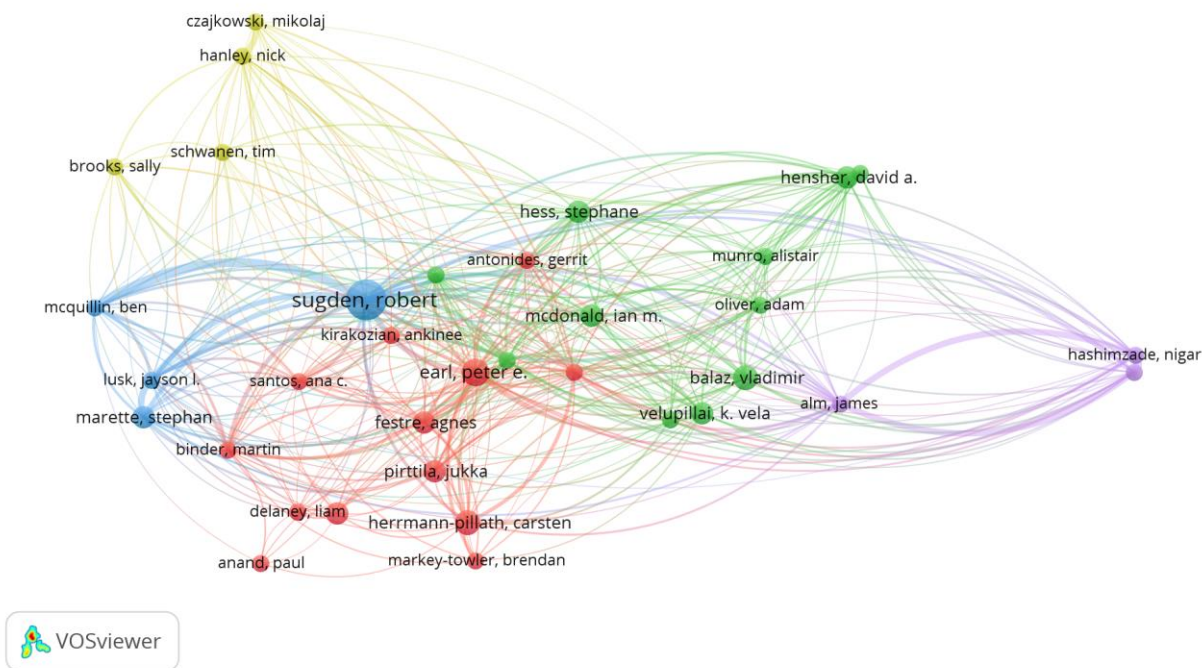


Diagramme 6: Network Visualization of Bibliographic coupling of Authors

5) Co-citation analysis of cited authors, the minimum number of citations of an author is 2, out of 12,210 authors, 3161 authors meet the threshold. For each of the 3161 authors, the total strength of the co-citation link with other authors will be calculated, the authors with the greatest strength link will be selected. 1000 authors get selected and getting displayed.

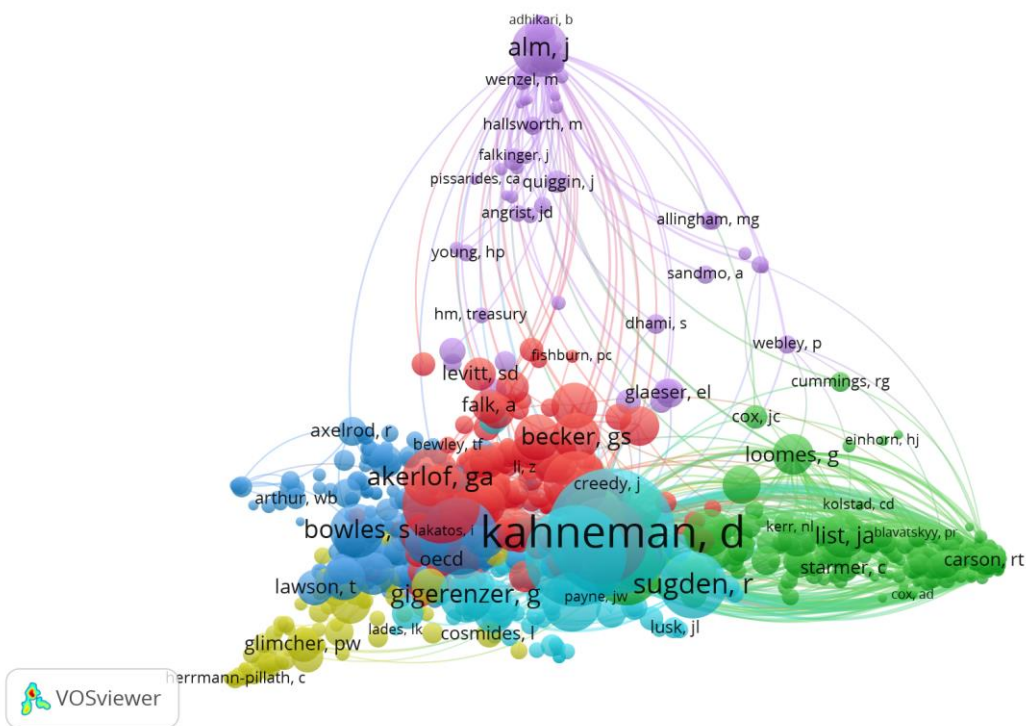


Diagramme 7: Network Visualization of Co-citation analysis of cited authors

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### 7) Bibliographic coupling of Documents:

The minimum no of citations of the document is 4, 215 documents out of 451 documents meet the threshold. For each of the 215 documents, the total strength of the bibliographic coupling link with other documents gets calculated, Documents with the greatest link strength link will be selected. The largest set of connected items are 204

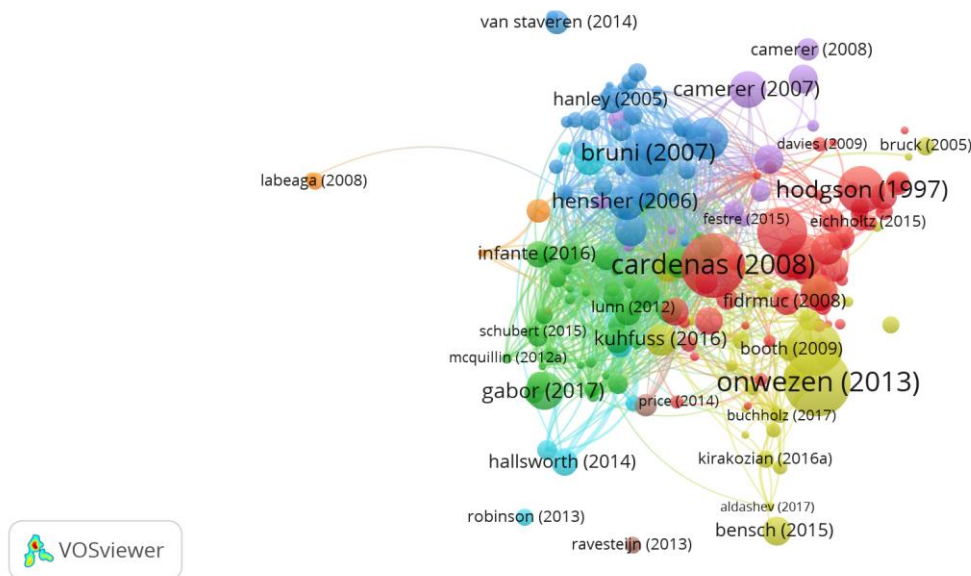


Diagramme 8: Network Visualization, Bibliographic coupling of Documents

## 5. DISCUSSION & SCOPE FOR FUTURE RESEARCH

Scope for future research has been cited from the extensive literature review. Research directions have been dissertated by highlighting research gaps. Based on the clusters studied many themes can be derived. From literature, behavioral economics, ethical themes can be pertained to be the gap. More studies are required to evaluate the impact of behavioral economics on ethics, values, law, people sentiments, resolving problems related to poor, enhancing intentions for better implementation of policies, etc Future research are required to provide an in-depth analysis of behavioral economics & its influence on values and ethics. The impact of behavioral economics on employees' performance from an employer perspective needs to be studied. .. Research in the area of developing consumer models and different buying patterns is yet to be explored. Though its implementation in the field of public policy has been studied certain areas like why people in emerging and poor economies are not responding even to freebies by government or why plucking of low hanging bananas is still a challenge in these nations have not been answered hence exploration in this regard is required. How behavioral economics theories can help in reducing inflation, generating employment, or creating a culture of innovation is yet to be discovered. Its implementation in developing value models and definition of ethics in this new normal needs to be studied.

## 6. CONCLUSIONS AND LIMITATIONS OF THE STUDY

. This topic's prominence and popularity are widespread. Various studies have been carried out in various subject areas like financial investment, Consumer buying pattern, Decision making, public policy, welfare economics, etc. the base of behavioral economics lies in utility analysis which was initially proposed to be cardinal with an underlying assumption of rationality of consumer. Initial research related to consumer behavior was based on the rational behavior principle only. Behavioral economics revealed the concept of irrationality and explained the reasons for the irrational behaviour of the consumers. Interest in behavioral economics is growing, and the theoretical evolution of behavioural economics in various subjects still has a lot of room to develop. With the aid of this paper, the author has attempted to add to the body of knowledge in behavioral economics by presenting the most prolific author, most prominent domain in which this subject is receiving coverage, most influencing journals, university, and country involved in this field. To review and provide a summary of this research area, articles and papers from the many years were examined. The most cited publications as well as emerging key terms have been investigated. Behavioral economics is developing, and several different dynamics in various fields have been investigated.

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**Table 2: Summary Table**

Research Focus	Main Gap	Research Questions
Bibliometric analysis of Behavioral Economics	Implementation of theories developed to answer some emerging issues like poor implementation of government policies, value system, reducing inflation, generating employment, creating a culture of innovation & enhancing employee productivity is yet to be explored.	Why do people behave irrationally?
Variables	Risk behavior, public policy, behavioral analysis, poor economics, utility analysis, financial implications, investment planning, Decision making, welfare economics	
Methodology	Secondary data analysis followed by the experimental research method has been adopted by most of the researchers.	

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