

## **BIBLIOMETRIC ANALYSIS: THE ASIAN JOURNAL OF CHEMISTRY**

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### **ABSTRACT :**

*Thus paper present a bibliometric analysis of the Asian Journal of Chemistry, for the period between 2010 to 2013. Asian Journal of Chemistry, a Multidisciplinary Chemistry Journal is an Peer Reviewed International Journal and publishers from India. The journal has been established since January 1989 on a firm foundation of International Quality Research. This Journal encompasses all branches of chemistry and its sub - disciplines like Pharmaceutical, Biological activities of Synthetic Drugs, Environmental Chemistry, Biochemistry, Polymer Chemistry, Petroleum Chemistry, and Agricultural Chemistry, etc.*

*Bibliometrics is relatively a new subject in information science. It helps us to evaluate information centers by the quantitative analyzed information. It deals with the mathematical and statistical analysis. The analysis of bibliometric study of contribution which was published in Asian Journal of Chemistry. Study covers the bibliometric analysis of distribution of contribution volume-wise, distribution of contribution issue-wise, authorship patterns, institutions-wise and average citation per contribution volume-wise.*

*Concluding result from the analysis of this journal are presented in a manner corresponding to objectives of the study.*

**KEYWORD – Bibliometric, content analysis, Asian Journal & online journal.**

## **INTRODUCTION**

Bibliometrics method is used to study or measure text and information (Wikipedia, 2014). Bibliometric studies have been mainly to scientific fields like title, subject, author, citations etc. The subject of bibliometrics was 1<sup>st</sup> defined by **Pritchard in (1969)** as “*the application of mathematical and statistical methods to books and other media*”. Another important work was **Bradford’s (1934)** article on the distribution of literature in lubrication research. It is an important part of the theoretical foundation of bibliometrics, “*Bradford’s Law of Scattering*”.

In 1948 the Father of Indian Library Scientist, Dr. Ranganathan, coined the term “librametry”, Bibliometrics is analogous to Ranganathan’s librametrics, the Russian concept scientometrics, informetrics, and subdisciplines like econometrics, psychometrics, sociometrics, biometrics, technometrics, chemometrics and climetrics, where mathematics and statistics are applied to study and solve problems in their respective fields. (Thanuskodi, 2010).

Review of relevant literature is an important step for research. After formulating research problem, the process of reviewing the related literature starts. The relevant data was

collected from various books, journal, articles which were published from time to time and was treated as a basis for the study.

The aim of Scientometrics is to provide quantitative characterization of scientific activity; Scientometric is branch of library and information science. Because of the particular importance of publication in scientific communities, it largely overlaps with bibliometrics, which is quantitative analysis of media in any written form. In addition to disciplines of measurement, Scientometrics has strong connection with information and library science.

## **DEFINITIONAL ANALYSIS:**

### **Analysis :**

A process of studying the existing system is known as analysis. The basic purpose of analysis is to know which activities are performed in the current system. The analysis determines what should take place in the new system.

### **Bibliographical Analysis :**

Bibliographical analysis consists the bibliographical details & its analysis about referred literature by title, author, publication, p.p. edition, etc.

### **Statistical Analysis :**

Cole and Eales ( )study on the "*The History of Comparative Anatomy Part-1: A statistical Analysis*" is considered to be the first Bibliometrics study, where for the first time in 1917, the expression .Statistical Analysis has been used in the literature.

## **DEFINITIONAL OF BIBLIOMETRICS:**

The term Bibliometrics was first used by Alan Pritchard in his article *“Statistical Bibliography or Bibliometrics”* in 1969 published in the Journal of documentation.

**Pritchard in [1969]** defined bibliometrics as *“The application of mathematics and statistical method to books and other media of communication”* which means Bibliometrics is a sort of measuring technique by which inter-connected aspects of written communication can be quantified.

**I.N. Sengupta [1985]** has defined the term more explicitly that, *“Bibliometric is the organization, classification and quantification or quantitative evaluation of publication patterns of all macro and micro communication along with their authorships by mathematical and statistical calculus.”*

**Hawkins [1977]** in his on-line Bibliometric study interpreted, *“Bibliometric as quantitative analysis of the bibliographic features of a body of literature.”*

**Nicholas and Ritchie [1978]** opined, *“Bibliometrics provide information about the structure of knowledge and how it is communication,”*

**Broadus, [1987]** *“Bibliometric is the study of quantitative aspects of production, dissemination of related information.”*

In general “Bibliometrics” therefore may be defined as the quantitative analysis of the characteristics, behaviour and productivity of all aspects of written communication, library staff and information users. Recently another term 'Webometrics' is being used for studying Internet and WWW, These terms will be discussed a little later in detail.

## **BIBLIOMETRICS :**

The use of statistical methods in the analysis of a body of literature to reveal the historical development of subject fields and patterns of authorship, publication, and use. Formerly called statistical bibliography. (from the ALA Glossary of Library and Information Science, 1983)

## **Bibliometrics Analysis :**

Bibliometrics is a set of tools for analyzing publication data. [Norton, 2001] defines it as the measure of texts and information. The bibliometric information associated with a publication includes author, affiliation, citations from other publication, co-citations with other publications, reader usage and associated keywords. According to [Polanco, 1995], bibliometrics is a method for description, evaluation, and monitoring of research. It can describe the research surrounding a particular field or similarly, it can describe the quantity and focus or research output by a particular organization. As an evaluation method, it can help determine the impact of a technology or the effectiveness of an author or research organization.

Finally, it serves as a monitoring tool in that it can be used to track the level of activity in a research field over time. [Porter, 2005] discusses so-called “*tech-mining*”, the processing of text databases to extract meaningful information on technologies of interest.

## **OBJECTIVES & METHODOLOGY :**

1. To find out distribution of contributions- volume wise.
2. To find out distribution of contributions- issue wise.
3. To find out the authorship pattern of contributions.
4. To find out the authorship pattern of contributions volume wise.
5. To find out the contributions institutions wise.
6. To find out the average citation per contribution volume wise.
7. To observe the number of pages used in different volume
8. To examine the authorship pattern of the contribution

## **DATA COLLECTION :**

According to ALA world Encyclopedia of library and information science (1972), information is a property of data resulting from as produced by a process research the scientometric analysis.

The Asian Journal of Chemistry reference were collected form the manual as well as online journal of the article. Consequently, the colleted information is of 40

issues in the 22 to 25 volumes and 93318 citations in the journal. The present Asian

Journal of Chemistry were referred for further analysis.

## **DATA ANALYSIS:**

Analysis of information or data is one of the important part of any study. Data analysis is done for the purpose of huge volume of data to reduce into meaning full case report.

Analysis of total **93,318** citations articles in the journal during **2010 to 2013**. It was done by using various parameters. The data or information was presented in the form of table and graphs to show the result prominently and easily.

### **1.1 Distribution of Contributions (Volume wise) :-**

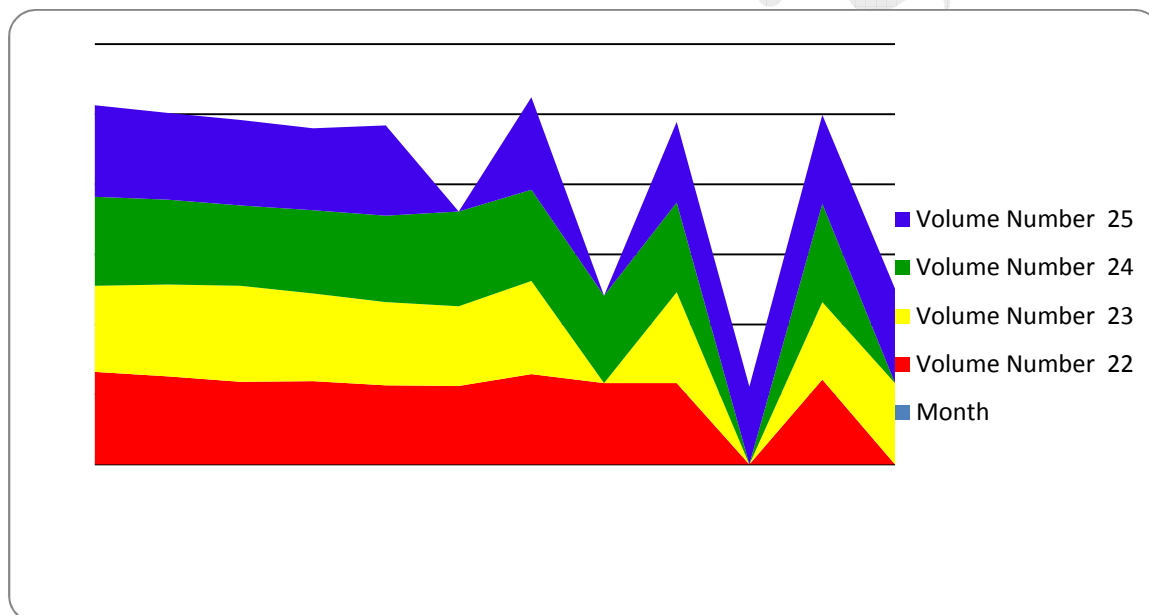
<b>Year</b>	<b>Vol .No</b>	<b>No. of Issue</b>	<b>No. of Contributions</b>	<b>Percentage</b>
2010	22	10	1202	24.29
2011	23	10	1239	25.04
2012	24	10	1263	25.53
2013	25	10	1243	25.12
<b>Total</b>		<b>40</b>	<b>4947</b>	<b>100</b>

Distribution of contribution volume- wise depicts that out of 4947 contributions, 1202 (24.29%) contributions were contributed in 2010, 1239 (25.04%) of them were contributed

in 2011, however 1263 (25.53%) of them were published in the year 2012, and the rest of 1243 (25.12%) contribution were contributed in the year 2013.

It is inferred from the table no.1 of distribution of contributions from 2010-2013 that the level of the percentage of distribution has decreased. A notable attribute of the study is that the year 2012 shows the maximum number of contributions.

## 1.2 Distribution of Contribution ( Issue-wise ) :-



Distribution of contributions ( issue –wise ). It shows Asian Journal of Chemistry were published volume no. 24 (1263) shows the highest total number of contributions. Volume no. 25 (1243) is the second highest total number of contributions. Volume no. 22 (1202) is the minimum total number of contributions.

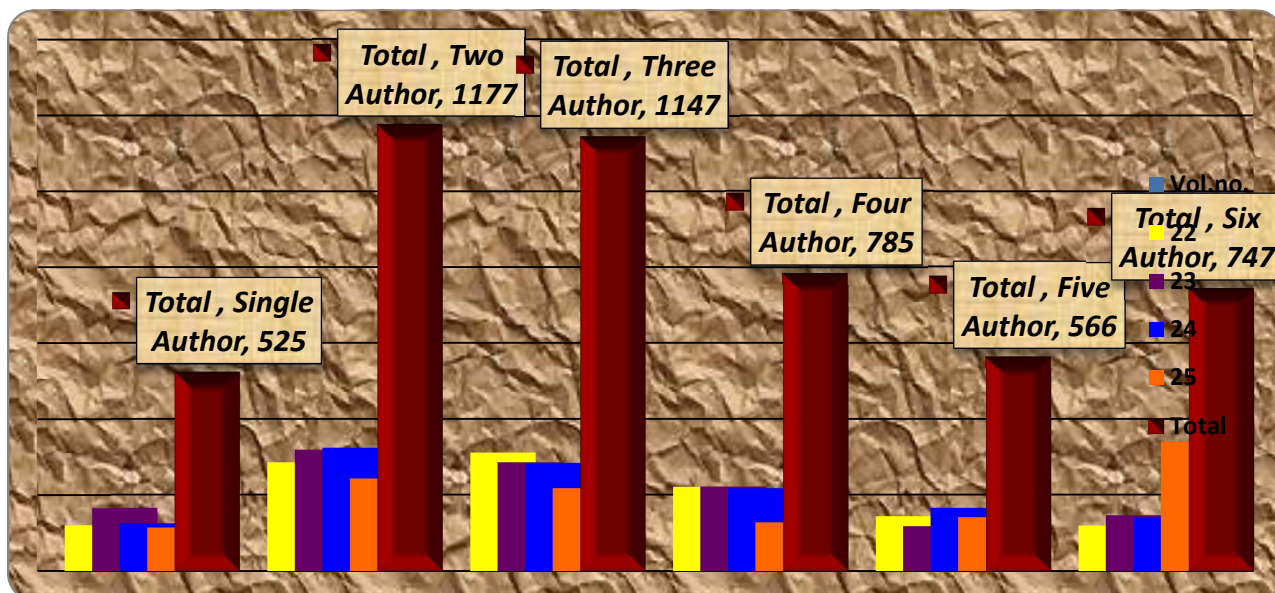


### **1.3 Authorship Pattern of Contribution :-**

<b>No. of Authors</b>	<b>No. of Contribution</b>	<b>Total No. of Authorship</b>	<b>Percentage</b>
Single Author	525	525	10.61
Two Author	1177	2402	23.79
Three Author	1147	2441	23.18
Four Author	785	3096	15.86
Five Author	566	2830	11.44
More than Six Author	747	4668	15.10
<b>Total</b>	<b>4947</b>	<b>15962</b>	<b>100</b>

Displays the authorship pattern of contributions out of total 4947 contributions, it shows single author has contributed 525 (10.61% ) of the total articles. 1177 (23.79%) of the contributions were published with two author articles, three authors have contributed 1147 (23.18%) of the total articles, 785 (15.86%) of the contributions were published with four authors, 566 (11.44%) of the contributions were published with five author, 747 (15.10% ) of the contributions were published by more than six author, a significant note of the study is that the majority of the articles are contributed by a group of authors.

## 1.4 Authorship pattern of Contributions (Volume wise) :-



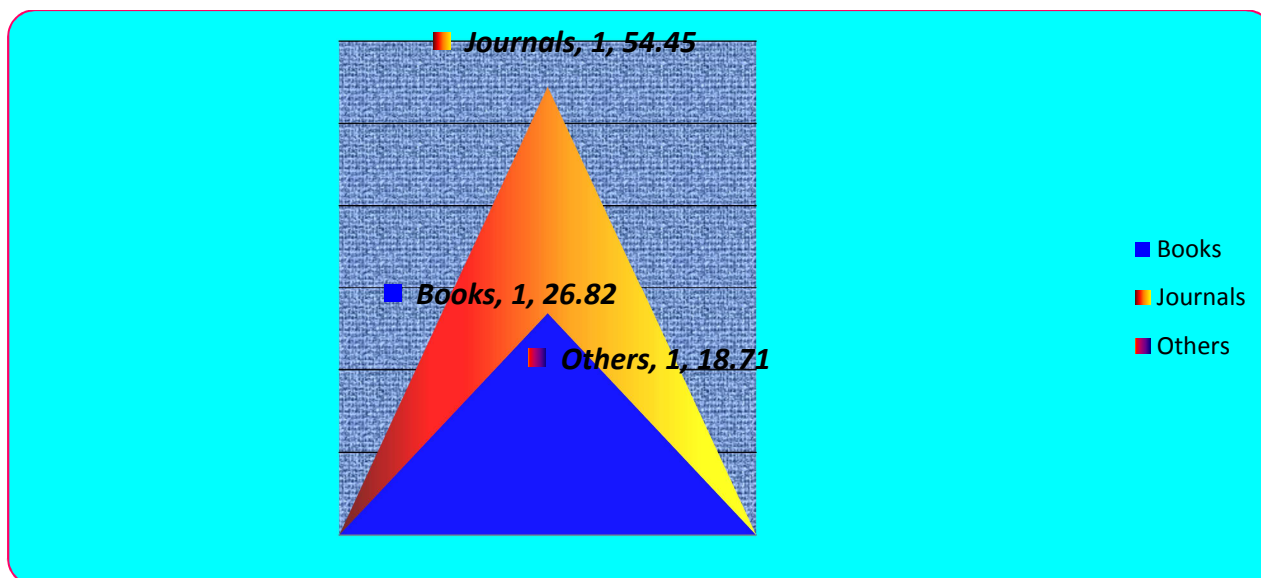
The authorship pattern of contributions. volume-wise regarding contributions by a single author, volume no.23 (165) author records the highest percentage, However the two author contributions, volume no. 24( 325) authors shows the maximum percentage, where as the three author contributions , volume no.22 (312) depicts the highest percentage, the four author contributions volume no.22 (220) reflects the maximum percentage. Whereas the five author contributions, volume no 24(165), the six author contributions, volume no. 25(341).

**1.5 Contributors (Institution wise) :**

<b>Vol. No.</b>	<b>Year</b>	<b>University</b>	<b>Institution</b>	<b>College</b>	<b>Total</b>
22	2010	875	226	101	1202
23	2011	837	240	162	1239
24	2012	888	252	123	1263
25	2013	847	232	164	1243
<b>Total</b>		<b>3447</b>	<b>950</b>	<b>550</b>	<b>4947</b>

Institution wise distribution of contributions is displayed the particular institution are arranged on the basic of the number of referred is shown. It is referred from the above that University-wise contribution maximum is no is 3447 contributions. Whereas Institution-wise is 950 contributions and College–wise minimum 550 contribution.

## **1.6 Types of publications cited ( Volume –wise ) :**



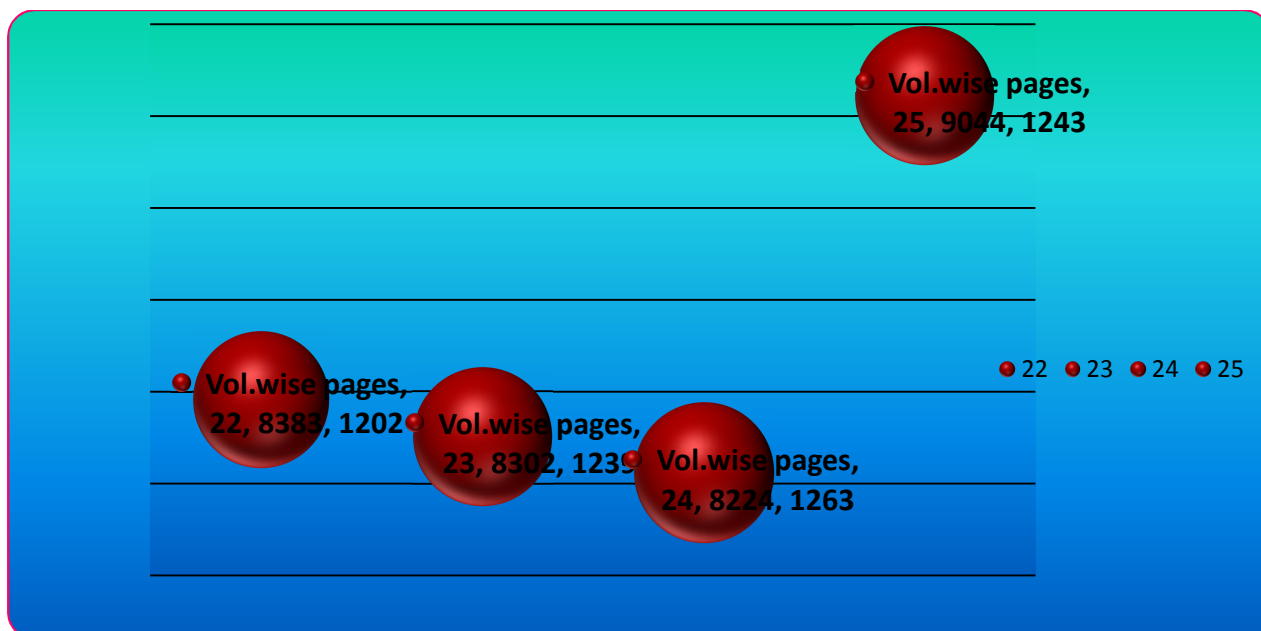
Displays that forty issue of four volumes of the Asian Journals of chemistry contained 4947 citations, Based on analysis it was found that Chemistry profession all journals articles. This is due to the fact that journals 2694 (54.45%) are the premier vehicle of nascent information dissemination. This is followed by books 1327 (26.82%) citation. The remaining 926 (18.71%) citations are from other sources, which include conference proceeding theses and dissertations personal notes etc.

### **1.7 Average citation per contribution in each volume :**

<b>Vol. No.</b>	<b>No. of Contribution</b>	<b>No. of Citation</b>	<b>Average</b>
22	1202	25,075	24.29
23	1239	23,108	25.04
24	1263	22,086	25.53
25	1243	23,049	25.12
<b>Total</b>	<b>4947</b>	<b>93,318</b>	<b>100</b>

It can be observed for average citation per contribution in each volume. Volume No.22 (24.29%) contributed 1202 contribution which is highest in numbers of citation appeared. Volume No.23 (25.04%) is second highest in numbers of citation appeared. Volume No.25 (25.12%) contributed 1243 is third in numbers of citation and the Volume no. 24 (25.53%) contribution 1263 which is minimum number of citation appeared.

### **1.8 Average pages ( per volume and per contribution ) :**



In the study average – wise contributions 1243 (72.75%) articles had the maximum number of pages. 1202 articles for total pages 8383 and percentage of (69.74%) and then 1239 articles and covered pages 8302 (67.00%) then 8224 pages covered articles of 1263 (65.11%) is a respectively. It is four that the wise studies 1202 articles the table pages but the studies average wise 1243 the maximum pages in this table.

### **CONCLUSION:-**

Bibliometrics is depends on the output of contribution, patterns of contribution and the quality of research. It help to evaluate information centers by the quantitative analyzed information. It deals with the mathematical and statistical analysis.

Concluding result from the analysis of this journal are presented in a manner corresponding to objectives of the study.

## **SUGGESTIONS:**

The research scholars citing the work of other author should cite details of the journal volume numbers, issue numbers, year of publication, authorship pattern, Geographical details, place of publication, Bibliographical details.

Citation analysis helps the libraries to subscribe useful journals. It also help research scholars to selects the document which gives the current information of related subject for their studies.

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