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## Highly Cited Research Efforts in Business, Management and Accounting: An Analysis

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# Highly Cited Research Efforts in Business, Management and Accounting: An Analysis

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## Abstract

The study assesses highly cited research works in the area Business, Management and Accounting retrieving data from Scopus database for the period 1998-2017. It found total 49417 publications which received 769676 citations. The study identifies about one third (32.88%) of papers have remained uncited during the period. Among rest, papers' having one citation (10.60%) is higher. It is inferred from the analysis that older publications get more citations. Indian citation distribution is almost similar with global citation distribution pattern. The study identifies Cranfield University of UK has greater impact. International collaboration brings higher citations and Netherlands has higher citation per paper (27.33) due to its international collaborative research. Besides, language may be a barrier of research communication. *Clusters and the new* is highly cited paper. Out of top ten highly cited research papers, six papers are single authored and two papers have international collaboration. Maximum authors are from USA. Harvard business review is the quality journal.

**Keywords:** Bibliometrics; Citation Analysis; Research Impact; Exergy Indicator; Relative Citation Impact; h- index

## 1. Introduction

Bibliometric methods are well known to uncover the usage/ impact/ quality of research papers, journals, researchers, institutions, subject areas, and countries. Analysis of citation is a method used for such purpose. It also helps in assessing the quality of research in macro and micro scale

comparisons (Aksnes and Rip<sup>1</sup> 2009; Radicchi and Castellano<sup>2</sup> 2012). It is assumed that the greater the citations the more the impact/ influence it has.

Business affects our daily lives as we work, save, spend, invest, travel, our incomes, jobs and developments. It not only influences our standard of living but also the environment where we live. Business studies include assessing the needs, problems, challenges faced by the society and generating its solutions. By providing the knowledge of creating goods and services it helps to get better the quality of life. As the business environment is ever changing, business studies can teach to build up abilities to cope with the change. The present study intends to explore the influential research works in Business, Management and Accounting that have greater research impact on the academic community.

## **2. Review of Literature**

Reviews of literature pertinent to the study are important part of research work. Here some of the studies are presented, like Zhao and Strotmann<sup>3</sup> (2020) Suggested a method of citation analysis which distinguishes citations in the introduction and background parts, and gives weight age to the in text citations. While analyzing, the method gave higher rank to authors contributing biomedical themes and lower rank to authors of bibliometrics or scientometrics contents. Renirie and Harper<sup>4</sup> (2020) conducted a citation analysis giving flipped and traditional instructions to two sections of the same class. The study recognized that more educational resources are used by flipped class students. Saikia<sup>5</sup> (2020) analysed 80 paper publications that received 1624 citations by the journal *Annals of Library and Information Studies* during 2017 – 2019. As the study identifies, a majority of authors are from India and most of the papers are double authored. The study reveals that journals are mostly cited and particularly “*Scientometrics*” is the highly cited journal. Reale, Khelifaoui, Montiglio and Gingras<sup>6</sup> (2020) using co-citation network analysis quantified research patterns of ecology and evolution during 1975 to 2014. No such stronger combination found among these two areas as expected. Literature output on population/community ecology; evolutionary ecology; and population/quantitative genetics remained steady over the study period. Baek et al.<sup>7</sup> (2018) compared the uses of articles of 41 radiology journals through the count of downloads and citations. The study found 596 highly downloaded and 596 highly cited articles which are

analysed and reveals that review articles following case studies are more among downloaded articles and most of the downloaded articles are originated from UK.

### 3. Objective

The objectives of the study are to analyse:

1. Citation Distribution in Papers
2. Research Impact
3. Citations Distribution in Indian Business Research
4. Citation Distribution in Productive Institutions
5. Productive Countries and their Citations
6. Highly Cited Papers

### 4. Methodology

Scopus database is selected as data source. Within the database, the data collection method consists of - in document search, the term “business management” is searched for “Article Title, Abstract, Keywords”. After that, Subject area “Business, Management and Accounting” is limited. Further data is limited for the period 1998 to 2017 during which resulted 49417 (89.95%) number of data. When required, data is refined using different parameters like Year, Affiliation, Country/territory and exported or downloaded as CSV Excel file. The method of study is bibliometrics.

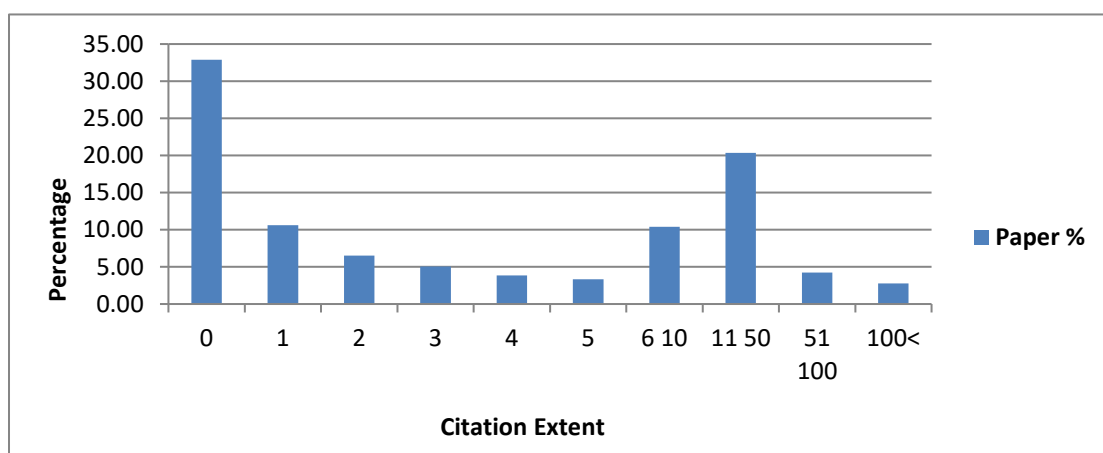
### 5. Results and Discussion

#### 5.1 Citation Distribution in Papers

**Table 1: Citation Distribution in Papers**

<b>Citation Extent</b>	<b>Papers</b>	<b>%age</b>	<b>Citations</b>	<b>%age</b>
0	16249	32.88	0	0
1	5239	10.60	5239	0.68
2	3224	6.52	6448	0.84

3	2492	5.04	7476	0.97
4	1892	3.83	7568	0.98
5	1657	3.35	8285	1.08
6	1334	2.70	8004	1.04
7	1108	2.24	7756	1.01
8	1050	2.12	8400	1.09
9	868	1.76	7812	1.01
10	780	1.58	7800	1.01
11 20	5032	10.18	74198	9.64
21 30	2486	5.03	62337	8.10
31 40	1531	3.10	53899	7.00
41 50	1017	2.06	45908	5.96
51 100	2086	4.22	146931	19.09
100<	1372	2.78	311615	40.49
<b>Total</b>	<b>49417</b>	<b>100</b>	<b>769676</b>	<b>100</b>
<b>Citations per Paper C/P</b>		<b>15.58</b>		



**Figure 1: Citation Distribution in Papers**

Table 1 and figure 1 shows extent of citations distributed in papers published during 1998 to 2017. Total 49417 business research papers received 769676 citations. About one third (32.88%) of papers have remained uncited during the period. Out of the rest 67.12% cited papers; papers' having one citation (10.60%) is higher. It is observed that 39.75% papers cited between 1-10 times. Rest 27.37% papers were cited more than 10 times out of which 1372 (2.78%) papers

received more than 100 times citations each. Here we can infer that a majority of papers (67.12%) have been used, cited and had an impact over the global business community. The citation per paper for the whole study period is 15.58.

## 5.2 Research Impact and Exergy Indicator(X)

Exergy indicator (X), a robust performance indicator is introduced by Prathap<sup>8</sup> (2011).  $X = iC = i^2P$ . And  $i = C/P$ . Here,  $i$  = Impact,  $C$  = Citation,  $P$  = Paper. He suggested this indicator to assess impact to be better than citation( $C$ ) itself. The research impact is demonstrated through the application of Exergy Indicator in table 2.

**Table 2: Research Impact(i ) and Exergy Indicator(X)**

Year	TP (P)	Citations (C)	Impact (i) =C/P	Exergy (X)
1998	721	32408	44.95	1456696.90
1999	792	32115	40.55	1302238.92
2000	881	36020	40.89	1472690.58
2001	936	46385	49.56	2298684.00
2002	1128	42303	37.50	1586475.01
2003	1519	46878	30.86	1446706.31
2004	1609	49712	30.90	1535912.33
2005	2141	60565	28.29	1713273.81
2006	2312	56496	24.44	1380535.47
2007	2501	59156	23.65	1399213.25
2008	2794	54614	19.55	1067533.64
2009	3190	47347	14.84	702739.31
2010	3465	51615	14.90	768862.40
2011	3651	38619	10.58	408498.26
2012	3196	34709	10.86	376944.52
2013	3593	29539	8.22	242847.90
2014	3272	21060	6.44	135551.22
2015	3622	17175	4.74	81441.37
2016	4349	9612	2.21	21244.09

2017	3745	3348	0.89	2993.09
<b>Total</b>	<b>49417</b>	<b>769676</b>		

Here higher Exergy (X) indicator indicates greater research performance or usage or impact or influence of the year. The Exergy (X) Indicator is higher in 2001, following 2005, 2002, 2004, 2000, 1998, 2003, 2007, 2006, 1999 and 2008. It has a decreasing trend from 2009 onwards which shows lower research impact during the later period. It is perceived that older publications get more citations. Hence times required these papers to be used, get citations and prove its quality and impact in the global environment.

### ***5.3 Citations Distribution in Indian Business Research***

**Table 3: Citations Distribution in Indian Research Papers**

<b>Citation Extent</b>	<b>Papers</b>	<b>%age</b>	<b>Citations</b>	<b>%age</b>
0	519	33.75	0	0.00
1	220	14.30	220	1.38
2	101	6.57	202	1.27
3	99	6.44	297	1.87
4	63	4.10	252	1.59
5	57	3.71	285	1.79
6	44	2.86	264	1.66
7	35	2.28	245	1.54
8	30	1.95	240	1.51
9	26	1.69	234	1.47
10	24	1.56	240	1.51
11-20	135	8.78	1905	11.99
21-30	67	4.36	1668	10.50
31-40	37	2.41	1282	8.07
41-50	18	1.17	820	5.16
51-100	45	2.93	3128	19.69
100<	18	1.17	4603	28.98
<b>Total</b>	<b>1538</b>	<b>100.00</b>	<b>15885</b>	<b>100.00</b>
<b>Citations per Paper C/P</b>		<b>10.33</b>		

An attempt has been made in table 3 to analyse the citation distribution in Indian business research. The uncited papers (33.75%) are about one third of the total Indian research papers. Among the rest 66.25% cited papers, papers having one citation (14.30%) is higher. There are 35.11% papers cited 1-5 time. Total 45.45% papers have been cited 1-10 times. Papers cited more than 10 times are 22.37%. Indian citation distribution is almost similar with global citation

distribution pattern. As majority of papers (66.25%) have been cited means these papers have been used and influenced the society. Citation per paper for the whole study period is 10.33.

#### ***5.4 Citation Distribution in Productive Institutions***

**Table 4: Top 10 Institutions and their Citations**

<b>Institution</b>	<b>Country</b>	<b>Paper</b>	<b>Cit</b>	<b>C/P</b>	<b>RCI</b>
Hong Kong Polytechnic University	China	353	8117	22.99	1.48
Aalto University	Finland	297	7426	25.00	1.61
University of Manchester	U K	265	6488	24.48	1.57
Cranfield University	U K	258	9630	37.33	2.40
The University of Warwick	U K	237	6657	28.09	1.80
Monash University	Australia	235	4771	20.30	1.30
Erasmus University Rotterdam	Netherlands	231	7836	33.92	2.18
Copenhagen Business School	Denmark	200	4276	21.38	1.37
University of South Australia	Australia	197	2120	10.76	0.69
Universidade de Sao Paulo - USP	Brazil	196	1338	6.83	0.44

Research performance of top ten productive Institutions with respect to usage is reflected in table 4. These top ten institutions contribute 5% of the global productivity and share 7.62% of the global citations received. Two quality indicators that is citation per paper and relative citation impact (RCI) are applied in the data to measure quality output of these institutions which shows the similar results. RCI is achieved by dividing institution's citation share with world by institution's publication share with world and presented to the world average of 1.

With regard to influential research papers Cranfield University of United Kingdom has greater performance followed by Erasmus University Rotterdam of Netherlands. However except University of South Australia and Universidade de Sao Paulo – USP, other institution's citation performances are higher than world citation performance. It is investigated that Universidade de Sao Paulo - USP of Brazil published 31 research papers in Portuguese language which may be difficult to usage by the global community.



### 5.5 Productive Countries and their Citations

In table 5 top ten productive country's citation impact is displayed which have 68.67% publication share and 94.76% citation share. Among these China has higher 48.84% uncited papers. Netherlands has higher citation per paper (27.33), following United States (26.90) and Canada (26.60). International collaboration brings higher citations (Garg and Kumar<sup>9</sup> 2013) and Netherlands Internationalisation Index is 88.81 which may be the reason of Netherlands having higher citations or research impact.

**Table 5: Top 10 Productive Countries and their Citations**

Countries	Papers	Uncited Papers	% Uncit Papers	Cited Papers	% Cit Papers	Citations	C/P	h- index
United States	12019	2277	18.95	9742	81.05	323294	26.90	249
United Kingdom	6404	887	13.85	5517	86.15	151195	23.61	157
Australia	2952	507	17.17	2445	82.83	54813	18.57	102
Germany	2594	667	25.71	1927	74.29	36903	14.23	93
China	2541	1241	48.84	1300	51.16	19942	7.85	65
Canada	1740	279	16.03	1461	83.97	46291	26.60	113
India	1538	494	32.12	1044	67.88	17013	11.06	62
Spain	1535	279	18.18	1256	81.82	27259	17.76	78
Italy	1350	306	22.67	1044	77.33	18181	13.47	65
Netherlands	1260	174	13.81	1086	86.19	34435	27.33	94

Lower international collaborations also may be the reason of lower citation impact of China and India. Besides, China published 89 papers in Chinese language. Spain also published 148 papers in Spanish and 10 papers in Portuguese languages. This may be a barrier of research communication to the global community.

### 5.6 Highly Cited Papers

**Table 6: Top 10 Highly Cited Papers**

<b>Title, Authors, Year, Source title</b>	<b>Pages Used</b>	<b>Cit</b>	<b>C/Y</b>
Clusters and the new economics of competition., Porter M.E., 1998, Harvard business review	14	3389	178.37
What's your strategy for managing knowledge?, Hansen M.T., Nohria N., Tierney T., 1999, Harvard business review	12	2327	129.28
Corporate social and financial performance: A meta-analysis, Orlitzky M., Schmidt F.L., Rynes S.L., 2003, Organization Studies	39	2266	161.86
Putting the enterprise into the enterprise system., Davenport T.H., 1998, Harvard business review	11	1961	103.21
Strategy and the Internet., Porter M.E., 2001, Harvard Business Review	18	1896	118.50
Value creation in e-business, Amit R., Zott C., 2001, Strategic Management Journal	28	1841	115.06
Knowledge management: An organizational capabilities perspective, Gold A.H., Malhotra A., Segars A.H., 2001, Journal of Management Information Systems	30	1634	102.13
Business models, business strategy and innovation, Teece D.J., 2010, Long Range Planning	23	1524	217.71
Green supply-chain management: A state-of-the-art literature review, Srivastava S.K., 2007, International Journal of Management Reviews	28	1439	143.90
Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency, Sarasvathy S.D., 2001, Academy of Management Review	21	1408	88.00

Table 6 lists top ten highly cited papers with publication and citation details. Here we can find Clusters and the new is highly cited research paper authored by Porter, M. E. Out of these, six papers are single authored which brought 1.51% global citation share and among rest four multi authored papers two papers have international collaboration with 0.53% citation share. Maximum authors are from USA. The publication period range between the years 1998 to 2003 and we already found that older papers got more citations. Four of these papers are published in Harvard business review and got 9573 citations. It is considered to be the quality journal in business and preferred to express research findings in a concise manner concluding within 13 pages. Excepting one, nine of the papers are article and the average page used by these papers is 22.4.

## 6. Conclusion

Total 49417 business research papers received 769676 citations. About one third (32.88%) of papers have remained uncited during the period. Among rest 67.12% cited papers, papers'

having one citation (10.60%) is higher. It is inferred from the analysis that older publications get more citations. Indian citation distribution is almost similar with global citation distribution pattern. The study identifies Cranfield University of UK has greater impact, following Erasmus University Rotterdam of Netherlands. Netherlands has higher citation per paper (27.33), following United States (26.90) and Canada (26.60). International collaboration brings higher citations and Netherlands Internationalisation Index is 88.81 which may be the reason of Netherlands having higher citations or research impact. Besides, language may be a barrier of research communication. *Clusters and the new* is highly cited paper authored by Porter, M. E. Out of top ten highly cited papers, six papers are single authored and among rest papers two papers have international collaboration. Maximum authors are from USA. Harvard business review is the quality journal. Out of ten nine of the papers are articles. The study may be helpful for the research scholars in the subject area in providing the quality research statistics with greater usage.

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