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Research evaluation of IIPHG Publicatisons : Altmetric analysis

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Abstract

This paper aims to study the scholarly impact of IIPHG. Through social Media using interaction tools, researchers can easily share and manage their published works. In this study, we analyzed all 558 documents published by Indian Institute of Public Health Gandhinagar that had both Dimensions citations and Altmetric attention scores using Altmetric Explorer. It determined the contribution of 2017 to 2021 in the particular times as well as the correlation among Altmetric attention scores (aggregated and individual). A study of 558 documents published by the Indian Institute of Public Health in Gandhinagar using both Dimensions and altmetric attention scores was conducted. in this study, the Indian institute of public health Gandhinagar received the most Mendeley readers with a score of 47.98%, Altmetric score of 20.14 %, Dimensions citation of 17.20 %. Among the retrieved articles, Twitter had the highest Altmetric coverage, followed by a News outlet, a Facebook page, and a Blog. In the study, Dimensions citations and Mendeley were significantly positively correlated. The Altmetric attention scores and the Dimensions citations help to evaluate the academic productivity of only IIPHG. Current research focuses primarily on the relationship between the number of citations and the Altmetric indicators. The majority of studies that analyzed citations and Altmetric indicators used the Scopus, Web of Science, or Google Scholar databases. This study examined the relationship between Dimensions database citations, Altmetrics score, and social media readership counts.

Keywords: Dimensions, Altmetrics, Socialmedia, Citations, Scholarly communication, Comparative analysis, Research evaluation,

Introduction

In the absence of traditional indicators of research impact, altmetrics, which have been offered as substitutes for traditional indicators of research impact, are becoming more popular. Citation impact is measured based on an impact factor or h-index on the number of citations through internationally recognized index systems such as WOS, Scoups, and Dimensions (Thelwall, 2018). Altermetrics measures the social impact of research by analyzing interactions and traces left by academics who communicate online web. (Patel et al., 2021) When analysing the societal impact of

research, data is typically collected by surveys. There are also other methods of social networking, such as Twitter, Facebook posts, Mendeley bookmarks, etc. The primary goal of Altmetrics research has been to investigate whether it replaces or supplements traditional metrics. This study explores the relationship between the impact of a typical evaluation method and the quantity of citations. (Luo, Sun, Erdt, & Ramkumar, 2018)

The way today's authors share ideas and information is more open. Authors actively use social media tools and reference materials for sharing and managing their research publications. Altmetrics, or alternative metrics, give us the ability to measure these attributes. Tools like Altmetric and Dimensions have been used to track interaction between researchers and social media such as Facebook, Twitter, Mendeley, News outlets, Blogs, Policies, Wikipedia, Redditors, CiteUlike, Video uploaders, Research Highlights, and Patents and can also be tracked by tools such as Plum Analytics, Impact Story, and Reader Meter (Chhtrapati, Chaudhari, Mevada, Bhatt, & Trivedi, 2021). Social media platforms are being extensively used to measure academic outputs that show positive correlations between citations and altmetric attention scores. Altmetric Explorer is an important data collation tool that analyzes many varying sources and can be used to measure immediate impact in fields without citations. (Lamba M. , 2020)

We examine how many of the IIPHG's research articles have a good altmetrics score, as well as citations from corelanship. This study investigates which countries and users access this research relating to public health.

RQ. 1 What are the altmetrics score of IIPHG Publications.

RQ. 2 What is the relationship with Altmetrics score and citation.

RQ. 3 Which social media more using Authors.

RQ. 4 What is Impect of social media in Citation

Literature review

Altmetrics is an assessment of how research publications respond to social media on the Internet, as well as an analysis of research impact using these methods as an alternative to citation-based impact evaluation. Since the concept of altmetrics became widely known, web-based programmes have been developed and used to assess the social impact of research, such as PlumX (plumanalytics.com) and Altmetric (Adie, altmetric.com, 2021). Using the Web, altmetrics calculates and displays ratings for articles and research data on social media, reference management platforms, and other places. Besides being used by itself, it's also been used as a complement to other impact evaluation tools on sites like Scopus, PLOS, and BioMed Central (Batthini et al., 2015). Study shown the case of the 1000 most-cited Nature articles, a significant positive correlation was found between Altmetric and bibliometric indicators (Ouchi, Saberi, Ansari, Hashempour, & Isfandyari-Moghaddam, 2019).

In terms of exposure to news sources in the humanities and social sciences, humanities studies, political studies, and social science studies were most exposed, whereas literature studies were the least exposed (Htoo & Jin-Cheon, 2017) we have identified and analyzed the humanities' community on Twitter. From the earliest days of altmetric studies, Twitter has been the social media platform that has received the most attention. There is a reason for this, in part, since Mendeley is the second-highest forum for the coverage of scientific literature (Robinson, Torres-Salinas, & Zahedi, 2014). The cohort study of Indian Central Universities shown Every central university was analyzed exclusively and afterward positioned in view of their middle upsides of Dimensions score and Altmetric scores. Further, Twitter had the greatest Altmetric inclusion (Lamba, Kashyap, & Margam, 2021)

paper is organized as follows, first we found which social media platfrom more using by authors, public health related literature which countries more use and types of user and profesonal subjects.

Almetrics

Digital Science funded Altmetric (www.altmetric.com) in 2011. The term "altmetric" and the "Altmetric Attention Score" (AAS) are specific to this company; however, you should distinguish these terms from "altmetrics" (the term used to define these new "social media effect" indicators). AAS is the altmetric score for this company, and it's used by Springer, Nature, Publishing Group, and Biomed Central among others. The Altmetric Attention Score is the altmetric score for this company (AAS). There are several variables that impact the altmetric computations. (Adie, Altmetric , 2022) Volume (how many times an article is mentioned)

- Sources (where do the mentions come from)
- Authors (of each mention, in order to not count the times an author interacts with his/her own work)

Research Methodology

During the five years from 2017 to 2021, this study analyzed Indian institute of public health gandhinagar publication, which includes current years, articles with Dimension database, searching for IIPHG affiliation keywords in Dimension database. After the find out 558 research articles included the term IIPHG in Dimension.com, with limitations for the search area. Altmetrics scores have been assigned to 342 (61.38%) articles in this database. This analysis was done using Altmetric.com.

Python

The Python programming language is an interpreted, interactive, object-oriented language. Modules, exceptions, dynamic typing, very high-level types of data, as well as classes, are all part of it. Additionally, it supports procedural and functional programming paradigms in addition to object-oriented programming. Develop by Python Software Foundation (1991) (Foundation, 1991)

Research take suport for accessing atmetrics score from atlemtric.com through python language coding and access atmetrics database atmetric data for research analysis using python tool developed by Viral Asjola.

Results and Discussion

Social Media Post for All Altmetric data resources:

Table 1. Altmetric Profile of IIPHG Authors

Social Media Score	Sum of Score	Percentage
Mendeley	70071	47.98
Altmetric Score	29412	20.14
Dimensions	25126	17.20
Twitter	19062	13.05
News outlet	1708	1.17
Facebook page	256	0.18
Blog	172	0.12
Policy source	70	0.05
Redditors	49	0.03
Wikipedia pages	49	0.03
CiteULike	18	0.01

Wikipedia page	13	0.01
Redditor	11	0.01
Google+ user	9	0.01
Video uploader	7	0.00
Peer review site	4	0.00
Video uploaders	4	0.00
Research highlight platform	3	0.00
Patent	1	0.00
Grand Total	146045	100.00

Today social media platfrom famas for share idea and though, and researcher also share his research article and other achivement on deferent social media platform, Generally facebook and Twittter are the prominent social media networking sites used by millions of users and share information on worldwide. but researcher mostly using Mendely and Twitter, It is clearly shown from the Table 1, that more than fifthy percent user share on menedaly score 70071 (47.98%) followed by secound highest number was Altmetric score 29412 (20.14%) third follwed by Dimensions score with 25126 (17.20%). Fourth highest number post was Twitter19062 (13.05%). From the Table 1, it also reflects researcher facebooks post less then 1% Percentage 256 (0.18%).

User Access Data

Table:2 Types of user professionals categories

Sr. No.	User categories	Count of ID	Percentage
1	Unknown Use category	418	27.32
2	Members of the public	298	19.48
3	Scientists	198	12.94
4	Practitioners (doctors, other healthcare professionals)	195	12.75
5	Science communicators (journalists, bloggers, editors)	134	8.76
6	Medicine and Dentistry	44	2.88
7	Other	42	2.75
8	Social Sciences	42	2.75
9	Nursing and Health Professions	36	2.35
10	Economics, Econometrics and Finance	15	0.98
11	Psychology	14	0.92
12	Environmental Science	12	0.78
13	Agricultural and Biological Sciences	11	0.72
14	Business, Management and Accounting	10	0.65
15	Engineering	10	0.65
16	Biochemistry, Genetics and Molecular Biology	9	0.59
17	Pharmacology, Toxicology and Pharmaceutical Science	9	0.59
18	Arts and Humanities	8	0.52
19	Immunology and Microbiology	5	0.33
20	Researcher	4	0.26
21	Computer Science	3	0.20

22	Neuroscience	3	0.20
23	Sports and Recreations	2	0.13
24	Chemical Engineering	1	0.07
25	Chemistry	1	0.07
26	Decision Sciences	1	0.07
27	Earth and Planetary Sciences	1	0.07
28	Student > Doctoral Student	1	0.07
29	Student > Master	1	0.07
30	Unspecified	1	0.07
31	Veterinary Science and Veterinary Medicine	1	0.07
	Grand Total	1530	100.00

Table 2 Shows the to all 31 deferent user category who menation his/her professionals category on social media platfrom. As per data shows the 27.32% user not menation his/her professionals category's. It is observed that Unknown Use has maximum of 418 (27.32%) used followed by Members of the public 298 (19.48%), Scientists 198 (12.94%), Practitioners (doctors, other healthcare professionals) 195 (12.75%), Science communicators (journalists, bloggers, editors) 134(8.76%) in the top five user category count of Id, hear, data show maximum professionals category form health, and medicine. (Trivedi et al., 2021)

Table:3 Top 15 Countries

Sr. No.	**Country Name**	**Total Twitter Count**	**Percentage**
1	Unknown (Location not showing)	12555	55.27
2	United States	2477	10.90
3	India	2437	10.73
4	United Kingdom	1677	7.38
5	Spain	672	2.96
6	Australia	586	2.58
7	Canada	541	2.38
8	France	269	1.18
9	Switzerland	188	0.83
10	Germany	145	0.64
11	Mexico	136	0.60
12	Netherlands	136	0.60
13	Chile	66	0.29
14	Italy	66	0.29
15	Colombia	64	0.28
	Grand Total	**22715**	**100.00**

According to the table, 15 countries ranked number one in geographic location tracking through IP location and social media platforms, 90 countries accessed this data in total.

There are 12555 (55.27%) Unknown (Location not shown) users who have not opted to display their geographic location. In that order, The United States is followed by India with 2437 (10.73%), the United Kingdom with 1677(7.38%), Spain with 672(2.96%), and Australia with 586(2.58%).

Table 4 Top 20 DOI With Altmetrics score

Sr.No	DOI	Altmetric Score	blog	CiteULike	Dimensions	Facebook page	Google+ user	Mendeley	news outlet	patent	peer review site	policy source	Redditor	research highlight platform	twitter	video uploader	Wikipedia page	Grand Total	Citation
1	10.1016/s0	1712	14	2	4976	10		7041	114			4	2		1585	2	16	15478	2477
2	10.1016/s0	986	11	1	3790	4		8246	106			4			160		8	13316	3756
3	10.1016/s0	931	5	2	3318	15		5492	79			5		1	399	2	2	10251	3301
4	10.1016/s0	1038	2	4	2355	8	2	5357	118			10			71		2	8967	1171
5	10.1016/s0	3065	23	0	701	15		1675	160			6	2	1	2527	1	3	8179	697
6	10.1016/s0	1565	4	0	740	24		1854	66			2			1380		2	5637	368
7	10.1016/s0	793	9	1	1734	3		2480	56			4			428	1		5509	1720
8	10.1016/s0	608	4	4	860	20		2713	14			2			756			4981	430
9	10.1016/s0	1500	6	1	375	7		1375	117			4			687	1	1	4074	373
10	10.1038/s4	1426	4	0	77	9		1087	69				2		1306		6	3986	83
11	10.1016/s0	70	2	1	1171	3		2128	4						31			3410	1164
12	10.1001/ja	172	1		687	8		1914	5	1				1	211			3000	681
13	10.1016/s0	417		1	197	1	1	1175	2			2			587			2383	197
14	10.1016/s0	295		1	443	4		1221	17			1	1		216	1	1	2201	441
15	10.1016/s0	1183	4		17	4		151	99				2		599			2059	17
16	10.1016/s2	1461			28			266										1755	27
17	10.1016/j.j	648	1		17			43							911			1620	17
18	10.1016/s0	517	2		59	2		763	50			1	1		154			1549	59
19	10.1016/s2	374	2		149	2		457	11						433			1428	149
20	10.1016/s2	517	1		152			470	50						160		1	1351	148

Notes: Number of Altmetric score considering the total altmetrics identified in Altmetric.com a DOI of the top 20 most productive DOI from the sample.
An analysis of articles published in the last five years was conducted to determine the characteristics of altmetrics at the Indian institute of public health Gandhinagar. From the included articles' web pages, the Altmetric.com website data through python plug-in was used to access the articles' Altmetric Attention Score and detailed source evidence page. The overall score, as well as the number of mentions the article received on all listed online platforms.

Among the 558 articles a group of 20 was observed (Table 4), 8 DOI has been altmetrics score more than 1000 times, follwe by 6 DOI has been more 500 altmetrics score. Citation

score 6 DOI has been more then 1000 times cited. which indicates the relevance of these studies in the research on Altmetrics analysis show interrelavance between altmentrics and citations. Maximum authors using Mendeley for sharering information, follow by twitter.

Table 5 Citations and Altmetrics score.

Numbers of Citations	Article	Percentage	Number of Altmetrics	Article	Percentage
Over 3000 Citations	2	0.36	Over 3000 Altmetrics	1	0.18
2000-3000 Citations	2	0.36	1000-3000 Altmetrics	7	1.25
1000-2000 Citations	4	0.72	500-1000 Altmetrics	9	1.61
500-1000 Citations	2	0.36	400-500 Altmetrics	2	0.36
400-500 Citations	3	0.54	300-400 Altmetrics	4	0.72
300-400 Citations	3	0.54	200-300 Altmetrics	9	1.61
100-300 Citations	4	0.72	100-200 Altmetrics	13	2.33
50-100 Citations	15	2.69	50-100 Altmetrics	16	2.87
1-100 Citations	339	60.75	1-50 Altmetrics	281	50.36
No Citations	184	32.97	No Altmetrics	216	38.71
Total Articles	558	100.00	Total Articles	558	100.00

Hightest score of Altmetrics The analysis of the number of altmetrics and citations of the articles (Table 5) shows a set of works more altmetrics score and citation score, and also about 32.97 percent of the articles without citations and 38.71 percent of articles withot altmerics score (data through October 2021).

Table 5 Results of citation and altmetrics score of indian institute of public health research publications Table 5 indicates the recived citation and altmentrics score. First 2 article cited more then 3000 (0.36%) times, same follow one article altmetrics score 3000 times. Second 2 article recived more then 2000 (0.36%) time cited same follow 7 article altmetrics score 1000 (1.25%). Third 4 Article cited more 1000 (0.72%)times. Same follow 9 article altmetrics score 500(1.61%)

Conclusion

The present study of altmetrics analysis fulfill attempts to investigate the researcher and reders social media using behaviers to access deferent platform. IIPHG publication using throgh social media reference to altmetrics analysis and citation analysis performed with help of Python© tool. Research domain is analyzed on the basis of their number of publication, altmetrics score, social media platform, dimetions score, citation, country aceess, and types of user access by the data, and Mendeley rank. Of 70071(47.98%) researcher and reders share on Mendely. Dimensions/WOS/Scoups database could be a better source for citations analysis for IIPHG or any other organization for journal publications from India. Researchers should consult two or more databases when determining citations for any citation analysis research, IIPHG received the maximum number of Dimensions citation and Mendeley readers. The United State geographical locatotion access highest IIPHG data. maximum user catagories form public health and medical professtional, Twitter had the maximum Altmetric coverage, followed by News outlet, Facebook page and for the retrieved articles.

This study examines the correlation among the Altmetric attention score Dimensions citation and Mendeley readership for Public health research articles published by India

Institute of Public Health Gandhiangar. From a organisational opinion, this work may hold interest for bibliometricians and scientometricians. Moreover, this paper will be most useful to the researchers working in public health proresenal. This paper can be extended to determine the research productivity of other fields and universities.

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How to Cite:

APA

Chaudhary, A. S., Mandalia, S. H., Chaudhari, S. P., & Parmar, A. B. (2022). Research evaluation of IIPHG Publicatisons : Altmetric analysis. International Conference on Knowledge Organisation in Academic Libraries (pp. 91 -98). DPS Publishing House.

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Chaudhary, Ashok S, et al. "Research evaluation of IIPHG Publicatisons : Altmetric analysis." International Conference on Knowledge Organisation in Academic Libraries. DPS Publishing House, 2022. 91 -98.

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Chaudhary, Ashok S, Shishirkumar H Mandalia, Shanti P Chaudhari, and Amita B Parmar. 2022. "Research evaluation of IIPHG Publicatisons : Altmetric analysis." International Conference on Knowledge Organisation in Academic Libraries. DPS Publishing House. 91 - 98