A Bibliometric Analysis of the *Journal of Bhutan Studies*, 1999-2017

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Abstract

This paper describes a 19-year bibliometric dimensions and characteristics of the Journal of Bhutan Studies (JBS), from the earliest available data in 1999, to 2017. The result of the bibliometric analysis is based on two methodologies, namely descriptive statistics for quantifiable bibliometric characteristics, and impact analysis using both Garfield's formula and Harzing's Publish or Perish (PoP) software citation analysis program. Longitudinal trends were examined regarding the number of articles published, the number of citations received, the immediacy index, and the journal's impact factor. A list of most prolific authors and highly cited articles were also established, including geographic distribution and subject matter of the articles.

Keywords: bibliometric analysis, citation analysis, JBS, immediacy index, impact factor, h-index

Introduction

Bibliometric analysis - the quantitative study of the communication and utilization of literature – has become a central means to evaluate scholarly publications and their producers (Bayer, 1982). Citation analysis as a tool for journal evaluation was originally developed by Eugene Garfield when his company, the Institute for Scientific Information (ISI),

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introduced the ISI Web of Science citation database and published the Journal Citation Report (JCR) in 1976 (Smith, 2009). Similar to the ISI Web of Science (now owned by Clarivate Analytics) are Elsevier's Scopus and Google Scholar. Journal citation measures are designed to assess significance and performance of individual journals, their role and position in the international formal communication network, their quality or prestige as perceived by scholars (Glanzel and Moed, 2002).

Currently, the tool most widely used to determine the quality of scientific publications is the journal impact factor (IF) published annually in the JCR. It was developed by Eugene Garfield and Irving H. Sher in the 1960s (Garfield, 2006). The IF is the average number of times articles from the journal published in the past two years have been cited in the JCR year – for example, 2007 – by the total number of articles published in the two previous years – 2005 and 2006 (Bornmann and Daniel, 2009). Its formula is: Impact factor = citations to recent items/number of recent items (Andres, 2010). If the total citations in 2007 to items published in 2005 and 2006 for a journal is 2000 and the total number of items published in 2005 and 2006 is 45, the impact factor for the journal is given by: 2000/45= 44.444. In this case, articles published during the previous two years have received an average of around 44 citations each. It should be noted that impact factor of a journal cannot be compared with another journal of different area of research because they vary tremendously between fields. Even the best and most highly recognized journals from other fields such as social sciences or mathematics obtain only small impact factors because of the lower citation propensity in these fields (Archambault and Larivière, 2009). Thus, a great number of literature (Seglen, 1997; Wolfram, 2003; Ogden and Bartley, 2007; Petsko, 2008; Simons, 2008) has criticized the impact factor (IF) for its bias, limitations, and contradictions.

Another bibliometric indicator of citation analysis is the immediacy index. The immediacy index is an indication of the speed with which items published in journals are cited in other literature (McVeigh, 2004). A high immediacy index indicates that the content of this journal is quickly noticed, highly valued and topical within the field of study (Davarpanah and Aslekia, 2008). The immediacy index is calculated by the following formula: Journal immediacy index = Number of citations given to articles published in a given year/ Number of articles published in that year.

In August 2005, Jorge Hirsch – a physicist at the University of California, USA – introduced an alternative to other bibliometric indicators called the h index. He defined it as follows: "A scientist has index h if h of his or her Np papers have at least h citations each and the other (Np – h) papers have ≤ h citations each (Hirsch, 2005). An h-index of 8 means that an author has published eight papers that each have at least eight citations. The h-index can now be calculated automatically for Web of Science, Scopus, Google Scholar or any other databases that includes the references cited in the publication. It is now already regarded as the counterpart to the IF (Gracza and Somoskovi, 2007). Another well-known index for measuring and comparing the output of scientific researchers is the g-index, which was introduced by Leo Egghe in 2006 as an improvement of the Hirsch-index (Woeginger, 2008). Google Scholar has become a very popular alternative data source for citation analysis (Harzing and Wal, 2008; Lopez et.al, 2018). In order to calculate the h-index and other measures of impact from Google Scholar the most common way is to rely on "publish or perish" (PoP), a computer program developed by Anne-Wil Harzing which provides a graphical interface to Google Scholar data for bibliometricians (Baneyx, 2008; Dinkel, 2011). PoP is free and can be downloaded from harzing.com.

This study investigates a bibliometric analysis of 196 articles appearing in the *Journal of Bhutan Studies* (JBS) through 1999-2017. The study uses both descriptive statistics and Google Scholar to calculate the impact factor, h index and other measures of impact for JBS 1999-2017. JBS is a bi-annual publication of the Centre for Bhutan and Gross National Happiness (GNH) Studies. The Centre publishes scholarly and researched articles on social, cultural, political and economic aspects of Bhutan. The objectives of the study are to investigate two clusters of bibliometric dimensions and characteristics. The first cluster concerns the population of articles published by JBS over the past 19 years. This includes the number and year-wise distribution of articles, length of the articles, authorship patterns and ranking of authors, geographical distribution of articles, and most productive institutions and countries. The second cluster of questions concerns the population of bibliographic citations found in JBS articles over the study period, namely citation distribution, frequency of citation, relationship between page length and total citation, most-cited authors, most-cited articles, and the subject matter of the articles. The profiling of most-prolific authors and most-cited JBS articles in this study does not intend to diminish other JBS authors or their contributions to the journal.

Material and Methods

A total of 196 full-text articles published in the Journal of Bhutan Studies (JBS) from 1999-2017 were accessed and extracted from the website of the Centre for Bhutan Studies (CBS) and GNH Research. Keynote speeches, opening remarks of conference presentations, and a catalogue list were excluded. Using a computerized file, a database consisting of quantifiable characteristics of each of the 196 articles was compiled for analysis. This was named database 1. The quantifiable bibliometric characteristics included authorship

pattern, length of articles, year of publication, geographical distribution of authors, most cited articles, and the number of times each article was cited or not cited during 1999-2017. As JBS was not indexed in ISI Web of Science or Elsevier's Scopus, the citation metrics for each individual article was obtained from Google Scholar for citation analysis. Harzing's Publish or Perish (PoP) software program was used for this purpose. This was named database 2.

A Google Scholar (GS) query was carried out using the keywords "Journal of Bhutan Studies" in Publication/Journal search box of Harzing's Publish and Perish tool and limiting the year of publication from 1999-2017. 51 articles were generated by PoP. Citations for these articles were retrieved from the following sites and search engine indexed by Google Scholar: University of Cambridge, UK [repository.cam.ac.uk]; Centre for Bhutan Studies, Bhutan [bhutanstudies.org.bt]; the University of British Columbia, Canada [ubc.ca]; and CiteSeer [citeseerx.ist.psu.edu], among others. The authors and titles of the articles were cross-checked carefully to avoid any duplication in the data.

Since the GS query output of 51 articles (66.8%) was significantly representative of the sample size for the study, thus Harzing's PoP was used to calculate the following measures of impact: total number of citations; cites/year; cites/paper; cites/author; papers/author; authors/paper; h-index; and g-index. Correlation between page length and total citations were analysed using SPSS 21.

Results

Year wise distribution of articles

Journal of Bhutan Studies published a total of 196 articles between 1999 and 2017 with an average of 5 articles per issue. It published one issue in its first year (1999) and from the year 2000 onwards it became a bi-annual publication with a total of 35 volumes published between 1999 and 2017 (Table 1).

Table 1. Year wise Distribution

Sl. No.	Year	No. of Articles	% of Records
1	1999*	5	2.55
2	2000	15	7.65
3	2001	15	7.65
4	2002	9	4.59
5	2003	12	6.13
6	2004	16	8.16
7	2005	10	5.10
8	2006	13	6.63
9	2007	11	5.62
10	2008	12	6.13
11	2009	10	5.10
12	2010	8	4.08
13	2011	8	4.08
14	2012	9	4.59
15	2013	10	5.10
16	2014	8	4.08
17	2015	9	4.59
18	2016	12	6.13
19	2017*	4	2.04
	Total	196	100

**Note:* The year 1999 and 2017 has only 1 issue each at the time of study.

Article length

The page length of the articles varied between 3-10 pages to 51-60 pages long. However, the typical articles in JBS were those between 11-20 pages and between 21- 30 pages long, which constituted 61% of the total articles published in JBS 1999-2017 (Fig. 1).

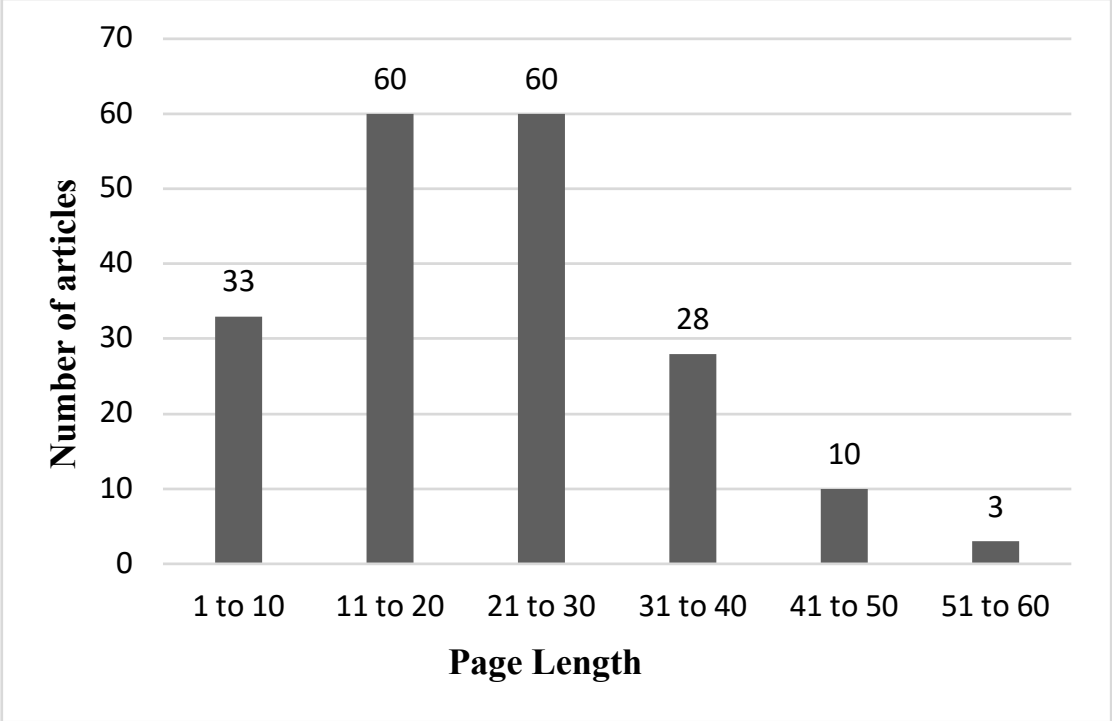

Fig. 1: Page length and number of articles

Articles which attracted the most citations were those articles with 11-20 pages long and 21-30 pages long (Fig.2). Correlation studies were performed to detect the relationship between total citation and article page length. Fig 3 shows the scatter plot of the relationship between total citation and the article page count. The Spearman's correlation test showed a weak negative correlation coefficient between the two variables (Table 2). This correlation was not statistically significant (P>0.05).

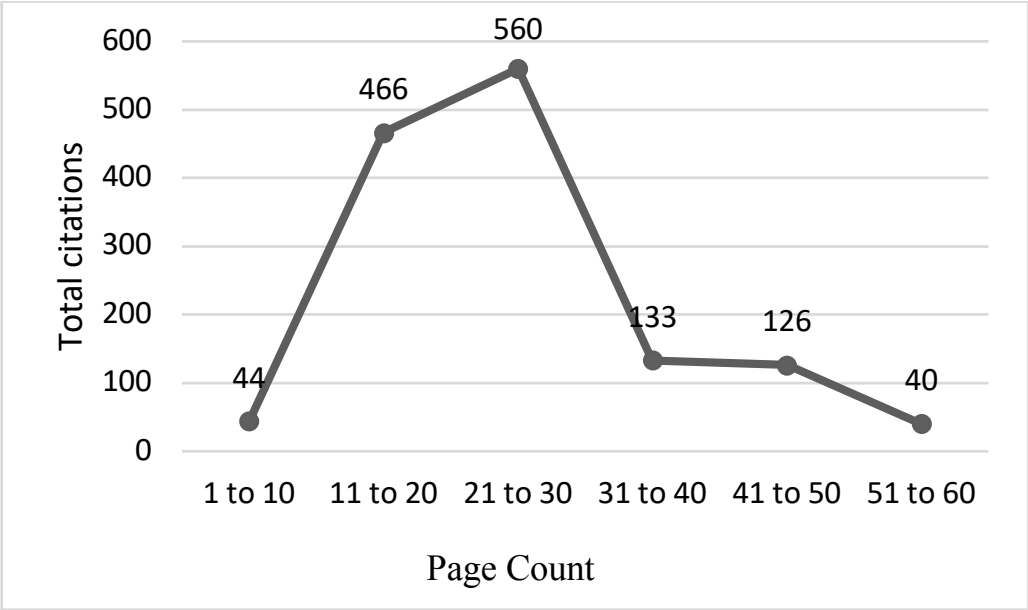

Fig. 2: Total citation count based on the range of article page count

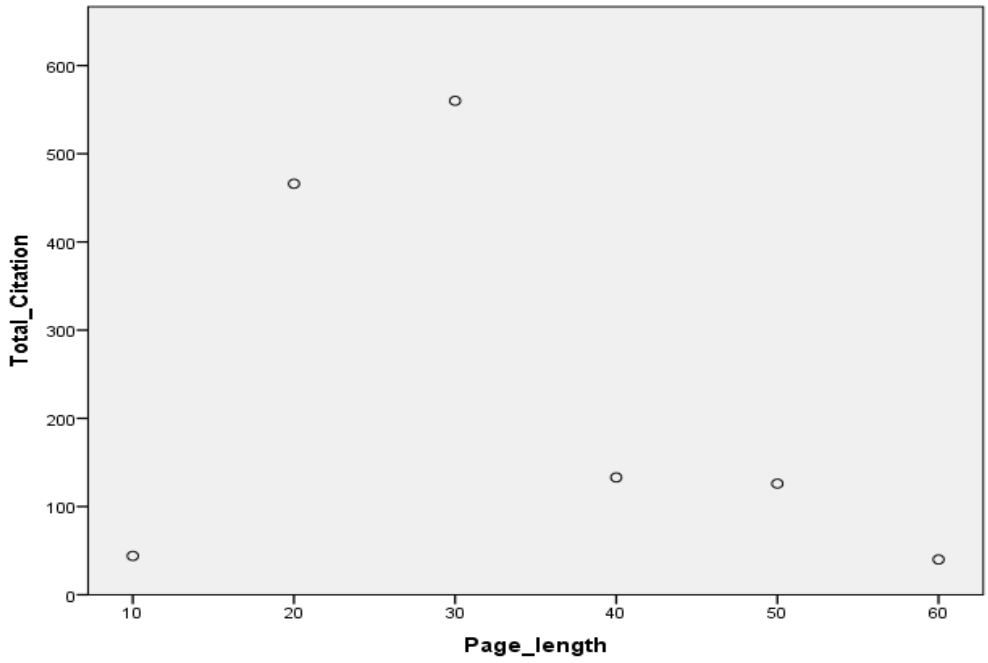

Fig. 3: Scatter plot showing the relationship between page length and total citation

Table 2: Correlation between article page length and total citations

	Mean	Sig. (2-tail) P-Value	Correlation (r)
Total Citation	228.17		
Article Page Count	35	0.468	-0.371

Values represent Mean. Spearman's correlation was used to test all data. P>0.05 was statistically not significant.

Authorship patterns

The collected data showed that out of 196 articles, 164 (83.68%) were contributed by single author; 23 (11.73%) by two authors; 4 (2.04%) by three authors; and 5 (2.55%) by more than three authors (Table 3).

Table 3. Authorship pattern

#	No. of authors	Total no. of articles	% of records
1	Single author	164	83.68
2	Two authors	23	11.73
3	Three authors	4	2.04
4	>three authors	5	2.55
Total		196	100.00

Ranking of authors

Table 4 shows the ranking of authors who had published four or more than four articles in JBS 1999-2017.

Table 4. List of most prolific authors

Author	Publications	Rank	Total Citations	h-index	g-index
John A. Ardussi	7	1	91	6	7
Dorji Penjore	7	1	54	3	7
Ross McDonald	5	2	86	4	5
Karma Galey	5	2	23	2	4
Francoise Pommaret	4	3	35	3	4
P D. Hershock	4	3	25	2	4
Sonam Kinga	4	3	27	1	4
Steven Evans	4	3	26	3	4

Geographical distribution of articles

The highest contribution with 115 articles (58.67%) came from Bhutanese authors followed by authors from USA (9.69%), France (8.67%) and India (6.12%). The remainder were contributed from 12 other countries (Table 5).

Table 5. Geographical distribution

Countries	No. of Articles	Percentage	Rank
Bhutan	115	58.67	1
USA	19	9.69	2
France	17	8.67	3
India	12	6.12	4
UK	7	3.57	5
New Zealand	6	3.06	6
Australia	4	2.04	7
Japan	3	1.53	8
Switzerland	3	1.53	8
Canada	2	1.02	9
Italy	2	1.02	9
South Africa	2	1.02	9
Germany	1	0.51	10
Norway	1	0.51	10
Argentina	1	0.51	10
Netherlands	1	0.51	10
16	196	100	-

Most productive institutions

Table 6 shows the list of the most productive institutions which have contributed at least three articles to JBS between 1999 and 2017.

Table 6. Most productive institutions

Institution	Frequency	Percentage (%)	Rank
Centre for Bhutan and GNH Studies, Bhutan	35	17.86	1
Centre Nationale de Recherche Scientifique (CNRS), France	16	8.16	2
Royal University of Bhutan (Colleges)*	11	5.61	3
Ministry of Agriculture and Forests (MOAF)**, Bhutan	10	5.10	4
Ministry of Health, Bhutan	9	4.59	5
University of North Bengal, India	5	2.56	6
International Center for Ethnographic Studies, Atlanta, USA	4	2.04	7
Asian Studies of Development Program, Hawaii, USA	4	2.04	7
University of Auckland, New Zealand	4	2.04	7
Central Monastic Body, Bhutan	3	1.53	8
Ministry of Finance, Bhutan	3	1.53	8
Ministry of Education (Schools), Bhutan	3	1.53	8

*Institutions that existed as colleges and other tertiary institutions prior to the establishment of the Royal University of Bhutan in 2003 were also included under this category.

**Includes authors from Department of Forestry, National Soil Service Centre, RNR-Research Centre, Planning and Policy Division, and Nature Conservation Division, MOAF, Bhutan.

Citation distribution

The total citations received by JBS articles from 1999-2017 was 1369 citations. 14% of the articles were not indexed in Google Scholar, 19% of the articles were never cited (see note, Table 7). Among those cited, 34.35% of the articles received more than 10 citations over the period of 19 years of JBS publication.

Table 7. Citation distribution

Number of citations	Number of articles	Percentage
1	11	8.39
2	19	14.50
3	16	12.21
4	14	10.68
5	4	3.06
6	2	1.53
7	5	3.82
8	5	3.82
9	6	4.58
10	4	3.06
11-56	45	34.35
1369	131	100.00

Note: Articles not indexed by Google Scholar = 28; articles with zero citation = 37

Frequency of citations

The frequency of citations by year shows that JBS articles published in the summer of 2001 (volume 3, number 1) received the highest citations, followed by the JBS publication of 2004 (volume 10 and 11) and the publication of the year 2000 (volume 2, number 1 and 2). After a steady decrease in the citation rate from 2004 up to 2007, the publication received a higher rate of citation for the JBS articles published in 2008 (volume 18). From 2008 onwards, the citation distribution

curve has continued to decline over the years as shown in Fig. 4.

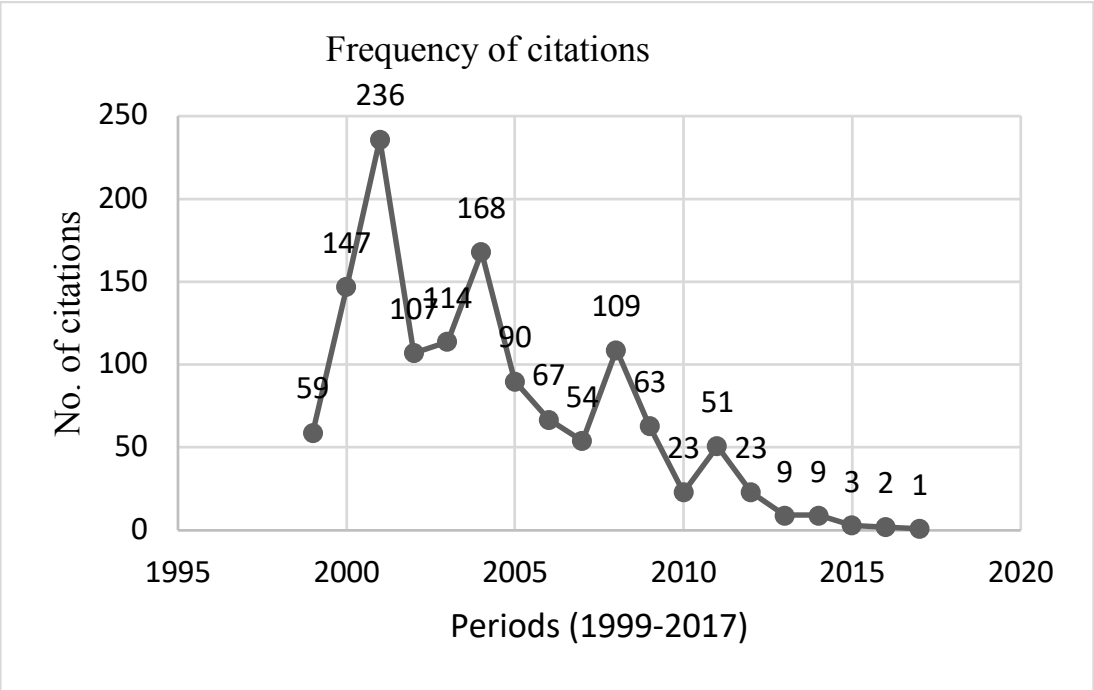

Fig. 4: Frequency of citations by year

Most-cited authors

Table 8. List of most-cited authors in JBS 1999-2017

Author	Rank	Total Citations	h-index	g-index
John A. Ardussi	1	91	6	7
Ross McDonald	2	86	4	5
Dorji Penjore	3	54	3	7
Francoise Pommaret	4	35	3	4
Sonam Kinga	5	27	1	4
Steven Evans	6	26	3	4
P D. Hershock	7	25	2	4
Karma Galey	8	23	2	4

Most cited articles

Several JBS research articles that emerged as highly cited were in the field of education, economy, politics and media in their decreasing order of citations. Most of these articles were from the issues published in the year 2000, 2001, 2002, 2004, 2007 and 2008 (Table 9).

Table 9. Most-cited articles in JBS, 1999-2017

Cited Title	Author	Year of Publication	Number of Citations
Ensuring Social Sustainability: Can Bhutan's Education System Ensure Intergenerational Transmission of Values	Tashi Wangyal	2001	56
On the Two Ways of Learning in Bhutan	Karma Phuntsho	2000	55
Multidimensional Poverty in Bhutan: Estimates and Policy Implications	Maria Emma Santos and Karma Ura	2008	55
Sustainability of Tourism in Bhutan	Tandi Dorji	2001	54
The Politics of Bhutan: Change in Continuity	Thierry Mathou	2000	52
Integral Development: Taking the Middle Path Towards Gross National Happiness	Sean Boyd Frye Hargens	2002	37
Democracy from Above: Regime Transition in the Kingdom of Bhutan	Aim Sinpeng	2007	32
Formation of the State of Bhutan ('Brug gzhung) in the 17th Century and its Tibetan Antecedents	John A. Ardussi	2004	32
Mass Media: Its Consumption and Impact on Residents of Thimphu and Rural Areas	Phuntsho Rapten	2001	31

Television, Materialism and Culture: An Exploration of Imported Media and its Implications for GNH	Ross McDonald	2004	29

Subject scatter

In order to decide the subject field, the keywords and abstract of the articles were surveyed and categorized according to the LCSH broad subject headings. Table 10 reveals the distribution of articles dealing with various subjects.

Table 10. Subject scatter*

Subject categories	Frequency	Percentage (%)	Rank
Bhutanese Economy [a]	28	14.29	1
Historical Account of Important Political and Religious Figures	19	9.69	2
Politics and Governance [b]	19	9.69	2
Folktales, Folksongs and Oral Tradition	17	8.67	3
GNH Related Papers [c]	15	7.65	4
Environment Related Papers [d]	15	7.65	4
Historical Account of Ancient Monuments [e]	14	7.14	5
Others subjects [f]	14	7.14	5
Bhutanese Tradition and Culture [g]	13	6.64	6
Health [h]	11	5.61	7
Education	9	4.59	8
Bhutanese Media	8	4.08	9
Bhutanese Language and Linguistics	4	2.04	10
Bhutanese Publication	2	1.02	11
Total	196	100	-

*The data indicates that some subjects dealt with more than one subject

[a] Bhutanese economy: *Economic policies; money and finance; ancient migration, historical trade accounts and trade routes in Bhutan; domestic trade, international trade and poverty related issues*

[b] Politics and governance: *political history, symbols in Bhutanese politics, democracy*

[c] GNH related papers: *GNH policy framework and models; GNH and economic development*

[d] Environment Related Papers: *Bhutanese landscape; land system and land act; land use and grazing management; soil survey; land degradation; environment pollution; environment conservation*

[e] Historical Account of Ancient Monuments: *Dzongs, temples, monasteries and stone inscriptions*

[f] Others subjects: law, public administration, tourism, archeology, social life, food diversity, philosophy

[g] Bhutanese tradition and culture: *traditional festivals; mask dances; religious tradition; cultural reforms*

[h] Health: *Public health; historical record of medicinal practice in ancient Bhutan; health and religious practice*

Immediacy Indices and Impact Factors

The immediacy index peaked for 4 years in 2001, 2005, 2008 and 2011 at 15.733, 9, 9.083 and 6.375 respectively, and averaged 6.207 over the entire 19-year period. The journal's impact factor experienced two separate peaks, firstly in 2003 at 14.291 and again in 2010 at 7.818. The overall average impact factor score for JBS was 6.588, as indicated in Table 11.

Table 11. Immediacy index and Impact factor for JBS 2001-2017 by year

Journal/ publication year	Total citations received in the past two years	Total number of articles published in the past two years	Immediacy Index (II)	Impact Factor (IF)
JBS 1999	-	-	11.8	-
JBS 2000	-	-	9.8	-
JBS 2001	206	20	15.733	10.3
JBS 2002	383	30	11.888	12.766
JBS 2003	343	24	9.5	14.291
JBS 2004	221	21	10.5	10.523
JBS 2005	282	28	9	10.071
JBS 2006	258	26	5.153	9.923
JBS 2007	157	23	4.909	6.826
JBS 2008	121	24	9.083	5.041
JBS 2009	163	23	6.3	7.086
JBS 2010	172	22	2.875	7.818
JBS 2011	86	18	6.375	4.777
JBS 2012	74	16	2.555	4.625
JBS 2013	74	17	0.9	4.325
JBS 2014	32	19	1.125	1.684
JBS 2015	18	18	0.033	1
JBS 2016	12	17	0.166	0.705
JBS 2017	5	21	0.25	0.238
Overall	6.207	6.588		

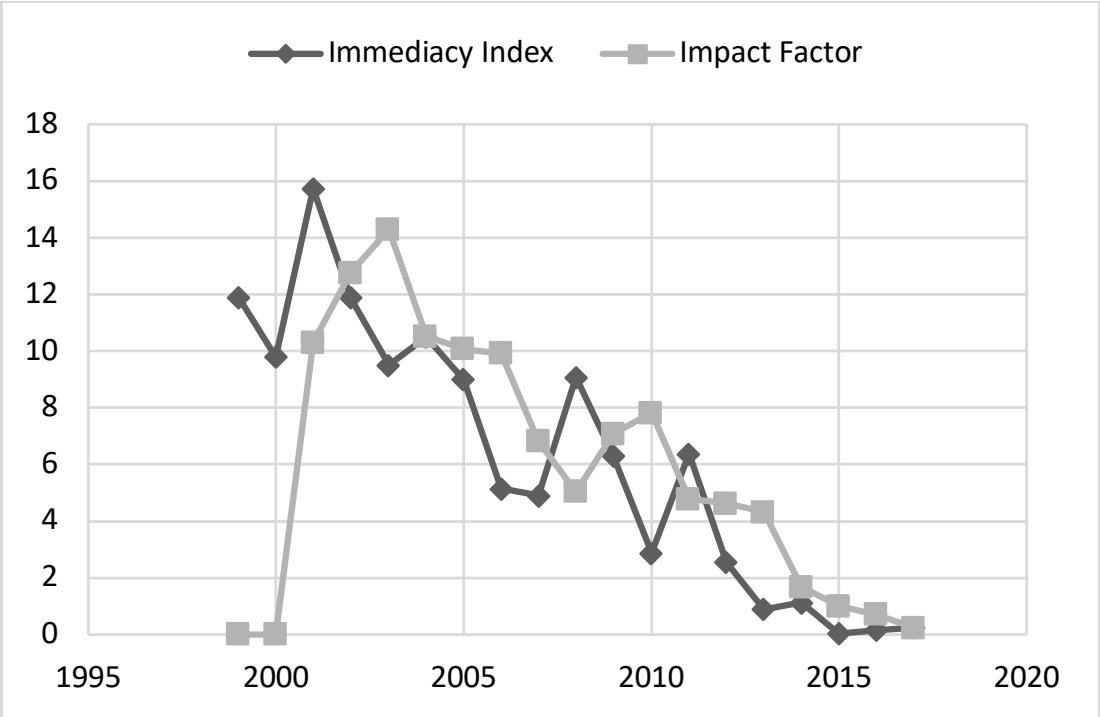

Fig. 5. Impact factors and immediacy indices at JBS 1999-2017

h-index and g-index

A Google Scholar (GS) query carried out for JBS articles in Harzing's Publish or Perish tool and limiting the year of publication from 1999-2017 yielded a total result of 51 articles. The GS query output of 51 articles (66.8%) was significantly representative of the sample size for the study. Harzing's PoP yielded the following measures of impact for JBS 1999-2017. The h-index of 7 was almost equivalent to the impact factor of 6.588.

Table 12. Results of the journal impact analysis for JBS 1999-2017 using Harzing's Publish or Perish (PoP)

"Journal of Bhutan Studies", "Journal of Bhutan studies" from 1999 to 2017 Publish or Perish 6.36.6305.6864 Search terms Publication/Journal: "Journal of Bhutan Studies" The phrase: "Journal of Bhutan studies" Years: 1999 to 2017 Data retrieval Data source: Google Scholar Query date: 23/10/2018 14:29:50 Cache date: 23/10/2018 14:32:08 Query result: [0] The operation completed successfully. Metrics Reference date: 23/10/2018 14:29:50 Publication years: 1999-2017 Citation years: 19 (1999-2017) Papers: 51 Citations: 148 Citations/year: 8.22 Citations/paper: 2.90 Citations/author: 124.50 Papers/author: 45.75 Authors/paper: 1.29/1.0/1 (mean/median/mode) Age-weighed citation rate: 23.62 (sqrt=4.86), 18.37/author Hirsch h-index: 7 (a=3.02, m=0.39, 79 cites=53.4% coverage) Egghe g-index: 9 (g/h=1.29, 90 cites=60.8% coverage) PoP hI,norm: 6 PoP hI,annual: 0.33

Discussion

JBS has published a total of 196 articles between 1999 and 2017 at a rate of one volume per year, with each volume having two regular issues. By summer 2018, it had published 35 volumes with an average of 5 articles per issue. The typical page length of articles in JBS were those between 11-20 pages and between 21- 30 pages long, which constituted 61% of the total articles published over the period 1999-2017. These

articles attracted the most citations, with 466 citations for article length between 11-20 pages long, and 560 citations for article length between 21-30 pages long respectively. A Spearman's correlation test performed to detect the relationship between article page length and total citations showed a weak negative correlation coefficient between the two variables. This correlation was not statistically significant. However, it could be inferred that article length between 11-30 pages emerges as the standard article length for social science journals. This result closely parallels the standard article length of 20-25 pages prescribed for academic journals (Kotze, 2007). This is a healthy sign that suggests the scholarliness of the JBS articles.

A total of 163 authors contributed 196 articles to JBS from 1999-2017. Of these, 91 were Bhutanese, 71 were foreign authors, and one was anonymous (translator of a Buddhist text). Gender wise, two-third of the authors were male and one-third was female. Of the total of 163 contributing authors, 105 were first authors.

Authorship pattern showed that most of the articles were contributed by single authors. A quarter of the publications were contributed by two authors. Authorship collaboration between three or more than three authors constituted only 4 percent of the total contributions. Of the 105 first authors published by JBS, over 70 percent of them contributed only one article during the 19-year period under study. Over 6 percent of all first authors contributed four or more articles during this time. These authors were: John A. Ardussi, Dorji Penjore, Ross McDonald, Karma Galey, Francoise Pommaret, P D Hershock, Sonam Kinga, and Steven Evans.

An analysis of the geographic distribution of JBS articles revealed that authors from 16 countries contributed articles to

JBS from 1999-2017. The highest contribution came from Bhutanese authors with 115 articles, followed by authors from USA, France and India with 19, 17 and 12 contributions respectively. The remainders were contributed from 12 other countries. Over 7 percent of the articles were collaboration between national and international authors. The contributing JBS authors belong to various institutions: universities, research centres, colleges and schools, hospitals, and government ministries and departments, among others. By institution productivity, the Centre for Bhutan and GNH Studies contributed the highest number of articles, followed by the Centre Nationale de Recherche Scientifique (CNRS), France; Royal University of Bhutan; Ministry of Agriculture and Forests, Bhutan; and Ministry of Health, Bhutan.

The 196 articles published in JBS during the period under study received a total of 1369 citations. 19 percent of the articles were never cited. Among those cited, over 30 percent of the articles received more than 10 citations over the period of 19 years of JBS publication.

The citation dynamics of JBS articles shows that the articles published in the year 2000, 2001, 2004 and 2008 received the highest citations. The journal appeared to experience separate peaks at the interval of 3-4 years after publication. This fluctuation in citation frequency is consistent with previous research conducted in some other fields (Lee and colleagues, 2005; Ogden and Bartley, 2007). However, for JBS, this citation lag times continued consistently for the first 10 years of the publication only. From 2009 onwards, the citation distribution curve has continued to decline over the years. A comparative bibliometric analysis between the journals published by JBS during its first 10 years and the ones succeeding it (JBS 2009-2017) showed that the average number of articles published per issue during the first ten

years was higher (average of 6 articles per issue) than those that were published after 2009 (average of 4 articles per issue). This indicates that more the number of articles published in a journal volume/issue, higher is the rate of citation. Another important factor that affected the citation dynamics of the articles published after 2009 was that 28 JBS articles published during this time were not indexed by Google Scholar. A deeper investigation carried out to determine this cause confirmed that the Digital Himalaya Project, which had co-hosted the journal with the Centre for Bhutan Studies, had stopped archiving the journal from the year 2010 onwards.

The most-cited author was John Ardussi, followed by Ross McDonald, Dorji Penjore, Francoise Pommaret, Sonam Kinga, Steven Evans, Peter Hershock, and Karma Galey. Five of the eight most cited authors were foreigners from top ranked international institutions, and the rest three were researchers from the Centre for Bhutan Studies.

What was true of the pattern of most-cited author was not necessarily true of the rate of citation for their articles. In other words, the most-cited articles did not necessarily belong to the most-cited authors. It is important to note here that although high quality scholarship might be highly cited, citations are not in and of themselves a measure of quality (Harzing, 2010; Smith, 2010). The authors with the most-cited articles were: Tashi Wangyel, Karma Phuntsho, Maria Emma Santos and Karma Ura, Thierry Mathou, and Tandi Dorji. The most cited articles were those published in the field of education, economics, politics, and media.

Subjects frequently addressed in JBS during the period of time under study were history, economics, politics, GNH, environment, health, education and media. When subjects are ranked by subject categories, the following pattern emerges:

1. History – historical account of important political and religious figures; historical trade accounts and trade routes in Bhutan; ancient monuments; tradition and culture; folktales, folksongs and oral tradition

2. Economics - economic policies related to GNH; money and finance; domestic trade; international trade; poverty

3. Politics – political history of Bhutan; symbols in Bhutanese politics; Bhutanese democracy

4. GNH - GNH and governance; GNH and democracy; GNH and economic development

5. Environment - Bhutanese landscape; land system and land act; land use and grazing management; soil survey; land degradation; environment pollution; environment conservation

6. Health - Public health; traditional medicines; religious practice and health

7. Education – modern education; monastic education; youth education

8. Media – mass media; television; social media

It can be stated from the pattern of subject matter of articles published in JBS that the treatment of subjects in the journal are purposively aligned towards the four pillars of GNH namely, good governance, sustainable socio-economic development, preservation and promotion of culture, and environmental conservation. When comparing the subject matter of the articles with the nine domains of GNH [i.e. psychological wellbeing, health, time use, education, cultural diversity and resilience, good governance, community vitality, ecological

diversity and resilience, living standards] (Ura et.al, 2012), the journal covered eight of the nine domains. Research paper dealing with 'time use' was not covered during the period under study.

The immediacy index was highest in 2001 at 15.733. By 2011, it was highest at 6.375 only. Similarly, for the impact factor, the journal experienced two separate peaks, firstly in 2003 at 14.291 and again in 2010 at 7.818. The journal experienced the highest immediacy index and impact factor in its first 5 years at an average of 11.744 and 11.590 respectively. However, both the immediacy index and the impact factor continued to drop after the first 5 years, and by 2017, the overall average immediacy index score for JBS was 6.207 and the overall average impact factor was 6.588. This finding is indicative of the journal reaching its citation age or age of obsolescence, as is the case with most scientific literature (Price and John, 1965; Andres, 2009). Studies have suggested that impact factors can also fall or even disappear altogether, particularly when a journal changes its name and the old and new titles are not unified (Linde, 1998; Smith, 2009). This result was further confirmed by a Google Scholar (GS) query carried out for JBS articles using Harzing's Publish or Perish (PoP), which yielded an h-index score of 7, which was almost equivalent to the impact factor of 6.588. The g-index for JBS 1999-2017 was 9 with 2.90 cites per paper; 124.50 cites per author; 45.75 papers per author; 8.22 cites per year; and 1.29 authors per paper.

Conclusion

This study has been designed to show readers the most significant statistics related to the publication practices and scholarly communication trends of the *Journal of Bhutan Studies* during the last nineteen years. While the journal has

diversified its contents over the last decade, its impact, as measured by the disciplines that cite it has slowly begun to dissipate over the years. Nevertheless, the journal continues to be one of the most prominent journals in the field of social sciences and GNH studies in Bhutan. The main conclusion of this analysis is that JBS publications have contributed notably to the overall discussion and impact on the social, cultural, political and economic aspects of Bhutan. It has also encouraged a growing number of emerging scholars from Bhutan to contribute to the research field as well as collaborate with established international scholars. As the journal moves forward, it will be useful for the editorial board of the journal to consider the following strategies to improve the impact factor and prestige of the journal: publish a larger number of short review articles (Silobrcic, 2015); publish issues with special subjects (aimed at interested groups); expand the electronic distribution of the journal through a wider network of journal citation databases such as the Web of Science and Social Sciences Citation Index (SSCI).

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