Information **2015**, *6*, 162-182; doi:10.3390/info6020162

OPEN ACCESS

information

ISSN 2078-2489

www.mdpi.com/journal/information

Article

Analysis of Scholarly Communication Activities in Buddhism and Buddhist Studies

Edoardo Magnone

Department of Chemistry and Biochemical Engineering, Dongguk University, Manhae gwan 304-278, 30, Phildong-ro 1gil, Jung-gu, Seoul 100-715, Korea; E-Mail: magnone.edoardo@gmail.com; Tel.: +82-2-2260-4977

Academic Editor: Willy Susilo

Received: 2 April 2015 / Accepted: 28 April 2015 / Published: 4 May 2015

Abstract: There is little knowledge regarding the exchange of academic information on religious contexts. The objective of this informational study was to perform an overall analysis of all Buddhism-related communications collected in the Web of Science (WoS) from 1993 to 2011. The studied informational parameters include the growth in number of the scholarly communications, as well as the language-, document-, subject category-, source-, country-, and organization-wise distribution of the communications. A total of 5407 scholarly communications in this field of study were published in the selected time range. The most preferred WoS subject category was Asian Studies with 1773 communications (22.81%), followed by Religion with 1425 communications (18.33%) and Philosophy with 680 communications (8.75%). The journal with the highest mean number of citations is *Numen: International Review for the History of Religions*—with 2.09 citations in average per communication. The United States was the top productive country with 2159 communications (50%), where Harvard University topped the list of organization with 85 communications (12%).

Keywords: religion; Buddhism; Buddhist studies; Web of Science; language and cultural biases

1. Introduction

Managing cultural diversity and human knowledge as a function of understanding our current information production and exchange system is one of the crucial social issues of our time.

Identifying various communications outputs and information exchange opportunities is undoubtedly necessary nowadays. Religion—although its definition remains controversial and "*continues to be a matter of dispute among scholars*" [1]—is one of the social forces of the world that leads to cohesion [2] or conflict [3], and it is one of the factors affecting the expansion of science [4]. Religion is one of the most powerful motivators of human behavior in all cultures, and it has been so throughout the entire span of human history [5]. For these reasons religion has also been recognized as one of the first-level categories (or 10 pillars) of human knowledge [6] and, at the same time, as a fundamental characteristic of humankind [7].

Even if a recent mathematical model based on a simple differential equation has predicted the decline of religious affiliations in societies [8], the exchange of information in religious contexts is not an abstract question but a concrete one about the ways in which we interact with each other, and on which we base our everyday decisions [9,10].

Generally speaking, the World Religion Database [7] gives the distribution of the first four religious groups as Christians 32.8% (2.26×10^9 people), Muslims 22.5% (1.55×10^9), Hindus 13.8% (9.49×10^8), and Buddhists 7.2% (4.95×10^8) out of a total of 6.90×10^9 adherents in 18 different categories, including Agnostics (9.8%, 6.77×10^8) and Atheists (2.0%, 1.37×10^8). These numbers show that religion in itself, as a private orientation to reality [11], is much more than a niche problem affecting only a small minority of the world's population. On the contrary, it is a social and societal phenomenon and important issue that covers the whole world.

Statistical and bibliometric methods of analysis [12] can characterize the exchange of information and knowledge by studying the scientific production in a specific field [4,9,13–16]. Many bibliometric studies have appeared in the scientific literature focusing on the global trend of research productivity in the most varied subjects [17–19]. However, even though it is well known that "*current widespread curiosity and interest in Buddhist practices and teachings in Western countries*" [20] is growing in recent years thanks to the Internet [21] and "*attracting many people across the world for the philosophy it had to offer*" [22], there have been no scientometric studies analyzing scholarly production and publishing activity on Buddhism and Buddhist studies.

It is important that we look into these last terms across diverse disciplines as they apply to multiple fields of human studies including anthropology, philosophy, literature, linguistic, medicine, history, logic, practice, meditation, cultural study, and so on. Lopez [23] introduces this point as follows:

> Buddhism, perhaps more than any other "non-Western" religion, has long been an object of fascination, both popular and academic. It has been variously represented as a form of idolatry, as an atheistic religion, as a religion of reason, as a religion of science, and as no religion at all. (Page 1)
>
> —Donald S. Lopez Jr. [23]

The Lopez definition focuses on the interdisciplinary and multidisciplinary nature of Buddhism and then, as a consequence of this, Buddhist studies. In addition, in terms of continental localization, Buddhism is an interesting case study because Buddhists are geographically localized in the Asian area [7]. For proof, we have only to remember that 98.4% (about 4.87×10^8 people) of the world's Buddhists live in Asia, particularly South-eastern (Thailand, Vietnam, *etc.*) and Eastern (China, Japan, Korea, *etc.*) [7]. This type of localization is interesting because Buddhists need to adapt and change their message to suit

different cultures, languages, countries, and ways of life and peacefully cohabit—at the same time and in the same person—with other religions [22]. In addition, there has also been a rise in digital religion and this too has changed how Buddhists and non-Buddhists engage with Buddhist ritual/philosophy online [21].

In conclusion, all these characteristics make Buddhism a perfect case study. In this vein, the focus of the present scientometric analysis is upon the scientific productivity and scholarly dissemination in any aspects of Buddhism and Buddhist studies without any differentiations between different (1) schools or other differentiations among societies and communities, as well as research, aim, field, subject category, methodology, discipline, *etc*.; (2) disciplinary approaches to the subject (e.g., archaeology, art-history, anthropology, Asian studies, religious studies, theology, comparative religion, ethics, law, Oriental studies, moral conduct, sociology, philosophy, philology, psychology, ecology, *etc*.); or (3) historical and contemporary aspects or cultural areas where Buddhism exists or has existed.

In the light of the above observations, the aim of the present informational study was to quantitatively determine the overall growth of the literature on Buddhism and Buddhist studies in terms of scholarly communications (sometimes called "article(s)" or "item(s)") collected in the Web of Science (WoS) from 1993 to 2011. The literature was analyzed to study the scholarly activity on Buddhism and Buddhist studies in general—as above defined—and to see the change in the publication pattern of communications. From this point of view the present study is the first all-inclusive scientometric analysis in these fields.

The results of this study are useful for understanding the overall academic production on Buddhism and Buddhist studies in the period from 1993 to 2011.

The impact of this research on scholars of Buddhism—their universities or students, as well as their database—is also significant. Moreover, it should be obvious that the globalization of ideas is an extremely complex and multifaceted set of processes that involves, among other things, connecting groups of people and individuals or a variety of subjects. In this last sense, this work can be viewed also as the first tentative multi- and interdisciplinary approaches to a complex of social and cultural systems in the selected field of study.

2. Subjects and Methods

The Thomson Reuters' Web of Science (WoS, http://wokinfo.com/) is the most widespread database on different scientific fields that is frequently used for searching the literature [24–27]. WoS includes over 12,000 journals worldwide, 150,000 conference proceedings, and 275,000 books and book chapters. WoS citation databases are Science Citation Index Expanded (SCI-Expanded from 1900 to the present), Social Sciences Citation Index (SSCI from 1900 to the present), Arts & Humanities Citation Index (A&HCI from 1975 to the present), Conference Proceedings Citation Index-Science (CPCI-S from 1900 to the present), Conference Proceedings Citation Index-Social Sciences & Humanities (CPCI-SSH from 1900 to the present), Book Citation Index-Science (BKCI-S from 2005 to the present), Book Citation Index-Social Sciences & Humanities (BKCI-SSH from 2005 to the present), and two chemistry databases named Index Chemicus (IC from 1993 to the present) and Current Chemical Reactions (CCR-Expanded from 1985 to the present).

The WoS database (Version 5.12) was used to analyze the scholarly communications related to Buddhism and Buddhist studies, as defined in Section 1. There are no subject headings to control a search by Title (Search Fields) in the WoS and, as a consequence of this, a search for "Buddhist" may return undifferentiated articles about Buddhist practices, Chinese Buddhist art, Eastern Buddhism, Buddhist ethics, Buddhist monks, Buddhist nuns, and so on, without returning articles about, for example, Dharmic traditions [28], maybe because the word "Buddhist" is not cited in the publication title. Indeed, the analytical strategy was based on a search of the publications from 1993 to 2011 and involved the extraction of communications with a right-hand truncation word Buddh* as Topic. No distinction was made between other words (*i.e.*, Buddhist, Buddhism, Buddhists, Buddhology, Buddha, *etc.*) because a WoS search query can also find spelling variants of all words that start with the letters "buddh".

Moreover, to find the relevant Buddhism and Buddhist studies in terms of scholarly communications, it was decided to use the Topic—and not other Search Fields—because it permits one to search the five-letter right-hand truncation (*) word Buddh* in the Title, Abstract, Author Keywords, and Keywords Plus. With this strategy, 5407 scholarly communications (as Articles, Reviews, Editorial Material, Meeting Abstract, *etc.*) were found in total with the five-letter right-hand truncation (*) word Buddh* in the Title, Abstract, Author Keywords, or Keywords Plus, within the target range of time. The search on WoS database was performed at the Dongguk University (Seoul, Korea).

The results evaluation from 1993 to 2011 was based on different informational parameters, including the time-wise distribution of: scholarly publications and citations, language, document type, categories, source titles, countries, and organizations.

It is well known that citation analysis is an important sub-field of information science because the number of citations received by a scholarly communication is intuitively considered as an index of its scientific quality and its impact on the scientific community [29].

From this perspective, a further part of the informational study was focused on the analysis of citations that were made during the first three years after the original scholarly communication's publication. To clarify, "citation" in this work is the sum of the citations in every published work (reported in WoS citations database as above introduced) during the first three years (*i.e.*, 2012, 2013, and 2014) after the publication year (*i.e.*, 2011) of the original communication. Similarly, "citation per communication" (sometimes called "citation per article" or "citation per item") represents the number of citations per scholarly communication during the first three years after the publication date, divided by the annual number of communications in a given year.

However, a methodological question remains: is our analytical strategy comprehensive enough? To ensure that the strategy adopted is adequate and that the 5407 scholarly communications obtained over the range of 18 years are sufficiently representative (in other words, that the data are sufficiently accurate), a basic validation of analysis was performed by the extraction of the communications with right-hand truncation word Buddh*, and in addition, Dharmic words in the same search query as Topics (double search queries) in the same range of years (1993–2011). The Boolean operator "AND" is not required in the WoS search query. In this last case, 5410 scholarly communications (as Articles, Reviews, Editorial Material, Meeting Abstract, *etc.*) were found in total and this means that the data obtained by the extraction of communications with only the word Buddh* as Topic in WoS are correct, with a margin of error of approximately 0.055%. This percentage was calculated as total communications

obtained from a research of Buddh* words as Topic divided by total of communications obtained by Buddh* plus Dharmic words in the same Search Fields.

In order to explain the intrinsic limits of the adopted methodology, we must remember that (1) all databases are working by finite, limited, and selective bibliometric information [24–26], because in general, regardless of the size of a data set, it is always subject to some bias and limitation. In addition, in the particular case of selected WoS database for the present research, the following points should be also noted: there is a possible (2) "geographical" limitation on the access to the Thomson Reuters' WoS from researchers in some non-developed countries in the Third World [30,31] or isolated countries [32], and (3) the number of citations will be partially underestimated during the first period (1993–2005) of the present scientometric analysis (1993–2011) in the particular cases of BKCI-S and BKCI-SSH, with both of these databases covering a 10-year period from 2005 to today.

Despite the above limitations and biases in comparison with other databases [33], the present scientometric work hopes to offer the reader a state-of-the-art description of Buddhism and Buddhist publications in the WoS from 1993 to 2011.

3. Results and Discussion

3.1. Year-Wise Distribution of Scholarly Communications and Citations

Table 1 shows the distribution of the scholarly communications published each year in the field of Buddhism and Buddhist studies—as defined in the above section—from 1993 to 2011.

Five thousand, four hundred and seven scholarly communications were published in total with an average of about 284.6 communications per year from 1993 to 2011. Out of these 5407 communications, the highest number of scholarly communications was published in the year 2010 with 492 communications (9.10% of total communications) followed by the year 2009 with 445 communications (8.23%). The lowest number of scholarly communications were published in the year 1994 with 190 communications (3.51% of obtained 5407 communications), followed by the year 1993 with 194 communications (3.59%). Between 1995 and 2008, the number of communications was between 200 and about 400.

Table 1 also reports the results of citation analysis. In particular, in Table 1 are collected some result details such as the total (from the publication year to 2011) and in a three-year spot (during the first three years after publication date) of citations, as well as the average citations per item and year. The last column of Table 1 contains the number of citations received by the most cited paper that year.

The number of citations by entire set of 5407 communications (1993–2011) was 2107, with an average of about 111 citations per year during the studied period. Out of these 2107 citations, the highest numbers of citations per year were obtained in the year 2011 with 313 citations from 2011 to 2013, followed by the year 2010 with 311 citations from 2010 to 2012. The lowest number of citations was obtained in the year 1994 with only 13 citations from 1994 and 1996.

Table 1. Growth of research productivity and citation analysis of the 5407 indexed scholarly communications published in the field of Buddhism and Buddhist studies from 1993 to 2011.

Years	Records	Percentage	Citations (Total)	Citations (3-years)	Average Citations per Item (Total)	Average Citations per Item (3-years)	Average Citations per Year (Total)	Average Citations per Year (3-years)	Highest Number of Citations
1993	194	3.59	279	32	1.44	0.16	13.29	10.67	35
1994	190	3.51	174	13	0.92	0.07	9.16	4.33	15
1995	203	3.75	252	26	1.24	0.13	13.26	8.67	47
1996	231	4.27	257	35	1.11	0.15	14.28	11.67	35
1997	245	4.53	328	35	1.34	0.14	19.29	11.67	37
1998	245	4.53	501	53	2.04	0.22	31.31	17.67	113
1999	227	4.20	369	38	1.63	0.17	24.60	12.67	26
2000	256	4.73	321	38	1.25	0.15	22.93	12.67	47
2001	312	5.77	680	68	2.18	0.22	52.31	22.67	134
2002	243	4.49	513	68	2.11	0.28	42.75	22.67	51
2003	233	4.31	760	77	3.26	0.33	69.09	25.67	142
2004	261	4.83	710	116	2.72	0.44	71.00	38.67	222
2005	276	5.10	667	116	2.42	0.42	74.11	38.67	62
2006	261	4.83	800	167	3.07	0.64	100.0	55.67	92
2007	301	5.57	620	171	2.06	0.57	88.57	57.00	74
2008	374	6.92	542	208	1.45	0.56	90.33	69.33	66
2009	445	8.23	476	222	1.07	0.50	95.20	74.00	66
2010	492	9.10	444	311	0.90	0.63	111.0	103.67	30
2011	418	7.73	315	313	0.75	0.75	78.75	104.33	30
Total	5407	100	9008	2107	32.96	6.52	1021.23	702.33	1324
Average	284.58	5.26	474.1	110.9	1.73	0.34	53.75	36.96	69.68

The average numbers of citations per communication were 0.75 and 0.07 in the year 2011 and 1994, respectively. The highest number of citations for a single scholarly communication was obtained in the year 2004 with 222 citations from a scholarly communication in the category of Neurosciences, where the authors found that long-term Buddhist practitioners self-induce sustained electroencephalographic high-amplitude gamma-band oscillations and phase-synchrony during meditation [34].

Although there was some dispersion in the scholarly communications, it is equally interesting to observe that the number of citations in the obtained 5407 communications has grown almost every year from 1993 to 2011, and maybe this reflects (1) the growing impact and importance of these fields of study and, at the same time, (2) the increasing use of the Internet (*i.e.*, citation databases) by academics/students.

3.2. Language-Wise Distribution of Scholarly Communications

Twenty-one different languages were used to write the 5407 scholarly communications during the studied period. As reported in Table 2, English was the most frequently used language in the field of Buddhism and Buddhist studies with 4884 communications (90.31%) from 1993 to 2011. The other languages used in more than 50 communications were French, German, and Chinese with 233, 127, and 61 communications, respectively. Other minor languages included Russian, Spanish, Slovenian, Japanese, Croatian, Czech, Dutch, and Italian with a percentage between 1% and about 0.1%. However, it can be noted here that there is bias associated with language study sources because WoS is an English-language bibliographic database covering a range of subjects and the majority of the scholarly articles it includes are from English-language sources [35].

Table 2. Language-wise distribution and citation analysis of the 5407 indexed scholarly communications published in the field of Buddhism and Buddhist studies (1993–2011).

Languages	Records	Δ	%	Citations	Citations per Item	Ranking
English	4884	0	90.31	8916	1.83	1
French	233	–4651	4.31	13	0.06	8
German	127	–106	2.35	42	0.33	3
Chinese	61	–66	1.13	10	0.16	7
Russian	37	–24	0.68	21	0.57	2
Spanish	12	–25	0.22	2	0.17	6
Slovenian	8	–4	0.15	0	0.00	9
Japanese	7	–1	0.13	0	0.00	9
Croatian	5	–2	0.09	1	0.20	5
Czech	5	0	0.09	0	0.00	9
Dutch	5	0	0.09	0	0.00	9
Italian	5	0	0.09	0	0.00	9
Lithuanian	4	–1	0.07	1	0.25	4
Portuguese	4	0	0.07	1	0.25	4
Turkish	3	–1	0.06	1	0.33	3
Afrikaans	2	–1	0.04	0	0.00	9
Slovak	1	–1	0.02	0	0.00	9
Danish	1	0	0.02	0	0.00	9

Table 2. *Cont.*

Languages	Records	Δ	%	Citations	Citations per Item	Ranking
Korean	1	0	0.02	0	0.00	9
Polish	1	0	0.02	0	0.00	9
Romanian	1	0	0.02	0	0.00	9

"Δ" is the mathematical difference of the number of scholarly communications between two successive rows, and the "ranking" in the last column of Table 2 is defined according to the volume of the average citations per communication (or item). With regard to language, English appears to attract more citations than other languages.

As can be seen, the scholarly communications published in English had the highest number of citations with 1.83 citations per communication, followed by Russian with 0.57, and German, along with Turkish, with 0.33 citations per communication, each.

Table 3 shows how the number of scholarly communications has grown and how their language distribution across the world has changed during the studied period of time. The usage of Chinese has increased only in the second decade, whereas the usage of French has decreased through the years.

Table 3. Year-wise cumulative publications of the top five languages (English, French, German, Chinese, and Russian) on Buddhism and Buddhist studies from 1993 to 2011.

Years	Records				
	English	French	German	Chinese	Russian
1993	174	13	4	0	0
1994	169	10	4	0	2
1995	185	13	4	0	0
1996	204	13	9	1	3
1997	223	12	2	1	3
1998	222	15	3	2	0
1999	196	15	6	1	5
2000	237	5	8	1	2
2001	272	26	8	1	0
2002	216	14	10	1	0
2003	207	14	7	2	1
2004	240	10	6	1	1
2005	259	9	4	3	1
2006	231	19	3	6	1
2007	279	7	7	5	2
2008	334	11	13	6	3
2009	411	11	6	6	5
2010	452	8	14	11	2
2011	373	8	9	13	6
Tot.	4884	233	127	61	37
Average	257.05	12.26	6.68	3.37	1.84

3.3. Document Type-Wise Distribution of Scholarly Communications

The 5407 scholarly communications related to Buddhism and Buddhist studies were divided into 19 document types in the WoS database. Table 4 shows the document type-wise distribution of the Buddhism and Buddhist studies (1993–2011). This table indicates the total number of scholarly communications in various WoS document types.

The top five document types amounted to about 96% of the total number of relevant scholarly communications. Out of these 5407 communications, 2649 (48.99%) were published as Article, followed by 2314 communications (42.80%) published as Book Review, 103 communications (1.90%) as Editorial Material, 83 communications (1.54%) as Review, and 47 communications (0.87%) as Meeting Abstract. The lowest were in the following WoS document types: Discussion, Excerpt, Note, and Reprint.

The highest number of citations per communication was seen in communications published as Review with 8.02 citations per communication, followed by Article and Letter with 3.02 and 2.02 citations per communication, respectively. This result confirms the common view that Reviews attract more citations than other types of communications [36].

Table 4. Document type-wise distribution in order of number of scholarly communications (minimum record count = 2) and citation analysis of Buddhism and Buddhist studies (1993 and 2011).

Document Types	Records	Δ	%	Citations	Citations per Item	Ranking
Article	2649	0	48.99	8007	3.02	2
Book review	2314	–335	42.80	99	0.04	11
Editorial material	103	–2211	1.90	96	0.93	6
Review	83	–20	1.54	666	8.02	1
Meeting abstract	47	–36	0.87	1	0.02	12
Letter	41	–6	0.76	83	2.02	3
Art exhibit review	32	–9	0.59	10	0.31	8
Poetry	30	–2	0.55	0	0.00	13
Fiction creative prose	25	–5	0.46	0	0.00	13
News item	25	0	0.46	33	1.32	5
Record review	18	–7	0.33	2	0.11	9
Film review	10	–8	0.18	1	0.10	10
Correction	8	–2	0.15	0	0.00	13
Biographical item	6	–2	0.11	2	0.33	7
Bibliography	4	–2	0.07	2	0.50	6
Discussion	2	–2	0.04	4	2.00	4
Excerpt	2	0	0.04	0	0.00	13
Note	2	0	0.04	1	0.50	6
Reprint	2	0	0.04	0	0.00	13

Table 5. Year-wise cumulative scholarly communications as Article, Book Review, Editorial Material, and Review on Buddhism and Buddhist studies collected between 1993 and 2011.

Years	Records			
	Article	**Book Review**	**Editorial Material**	**Review**
1993	69	110	2	0
1994	64	116	2	0
1995	84	96	6	4
1996	78	133	0	4
1997	83	141	3	7
1998	92	128	5	3
1999	94	123	1	4
2000	109	128	5	5
2001	137	135	7	3
2002	110	106	2	7
2003	120	99	4	3
2004	113	124	5	4
2005	134	120	2	3
2006	136	102	7	3
2007	166	101	11	5
2008	217	115	10	12
2009	273	148	7	8
2010	287	175	12	6
2011	283	114	12	2
Tot.	2649	2314	103	83
Average	139.42	121.79	5.42	4.37

The scholarly communications published as Article, Book Review, Editorial Material, and Review between 1993 and 2011 are represented in Table 5. Overall, Article and Editorial Material documents showed the greatest growth rates between 1993 and 2001 in comparison with Book Review and Review. It is well known that the opinion of editors expressed through the scholarly communications—and labeled Editorial Material in the WoS database—is a given research area that can help us to understand the dynamics and importance of the selected field of study [27]. From this perspective, it can be noted here that the growth rate of Editorial Material documents—as well as Articles—is primarily attributable to the increasing interest in the said field.

3.4. Subject Category-Wise Distribution of Scholarly Communications

WoS comprises more than 250 journal-based subject categories in science, social sciences, and arts & humanities. The WoS subject categories of each of the 5407 scholarly communications were studied. There was a great diversity within the research topics of Buddhism and Buddhist studies, including 196 subject categories identified by the WoS database from 1993 to 2011.

Table 6 lists the top 30 WoS subject categories with the greatest number of scholarly communications (1993–2011). The three core categories, Asian Studies, Religion, and Philosophy, accounted for the majority of the total communications (3878 communications) with a great percentage of about 50% and

2594 citations. The other categories with more than 100 communications were History, Area Studies, Art, Information Science-Library Science, Anthropology, Sociology, and Humanities Multidisciplinary with 424, 344, 255, 243, 193, 172, and 126 communications, respectively. On the other hand, the communications with the highest number of citations were observed in the subject category of Multidisciplinary Sciences with 12.13 citations per communication, followed by Nursing and Psychology Clinical with about 7.6 citations per communication.

Table 6. List of the top 30 WoS categories with the greatest number of scholarly communications in the field of Buddhism and Buddhist studies in order of number of scholarly communications.

Categories	Records	Δ	%	Citations	Citations per Item	Ranking
Asian studies	1773	0	22.81	918	0.52	24
Religion	1425	–348	18.33	1111	0.78	20
Philosophy	680	–745	8.75	565	0.83	19
History	424	–256	5.45	322	0.76	21
Area studies	344	–80	4.43	267	0.78	20
Art	255	–89	3.28	121	0.47	25
Information sci. library sci.	243	–12	3.13	20	0.08	28
Anthropology	193	–50	2.48	391	2.03	16
Sociology	172	–21	2.21	628	3.65	10
Humanities multidisciplinary	126	–46	1.62	24	0.19	27
Psychology multidisciplinary	99	–27	1.27	653	6.60	5
Public environ.	79	–20	1.02	347	4.39	8
Literary reviews	76	–3	0.98	2	0.03	29
Literature	72	–4	0.93	32	0.44	26
Psychiatry	72	0	0.93	498	6.92	4
Language linguistics	68	–4	0.87	48	0.71	22
Psychology clinical	61	–7	0.78	465	7.62	3
Music	52	–9	0.67	59	1.13	18
Archaeology	50	–2	0.64	91	1.82	17
Social issues	49	–1	0.63	166	3.39	11
Social sciences interdisc.	48	–1	0.62	217	4.52	7
Ethics	44	–4	0.57	109	2.48	14
Social sciences biomedical	39	–5	0.50	232	5.95	6
Environmental studies	35	–4	0.45	116	3.31	12
Education educational res.	34	–1	0.44	129	3.79	9
Folklore	33	–1	0.42	19	0.58	23
Multidisciplinary sciences	32	–1	0.41	388	12.13	1
Nursing	32	0	0.41	244	7.63	2
Linguistics	30	–2	0.39	65	2.17	15
Economics	28	–2	0.36	83	2.96	13

Figure 1 reveals the distribution of the scholarly communications in the top four categories from 1993 to 1997, from 1998 to 2002, from 2003 to 2007, and from 2008 to 2011.

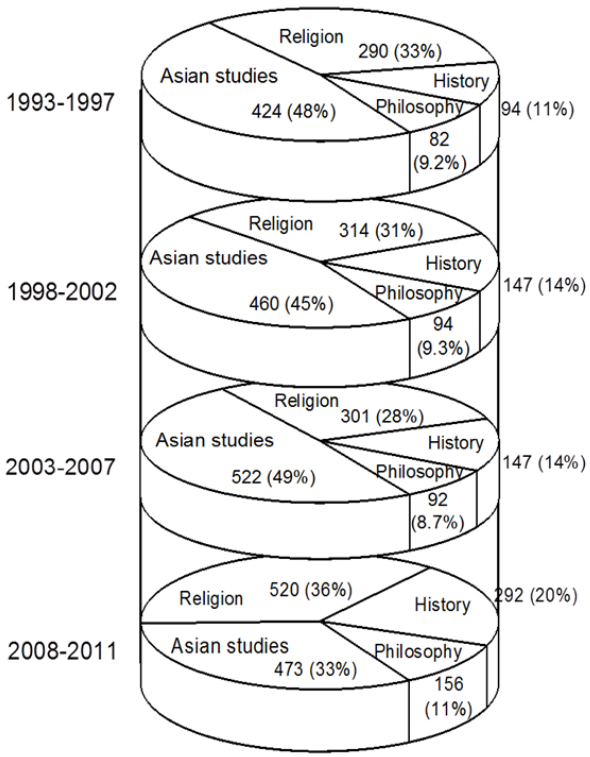

Figure 1. Distribution of the scholarly communications in the top four categories (Asian studies, Religion, Philosophy, and History) for four time windows in the range of years 1993–1997, 1998–2002, 2003–2007, and 2008–2011.

In Figure 1 the proportion of the scholarly communications in the subject categories exhibited some variation during the covered research period. A distinct decrease of ranking appeared in Asian Studies, whereas the number of scholarly communications within the Religion and History areas of studies has increased with time. In particular, in the Asian Studies field, the percentage of the scholarly communications on Buddhism and Buddhist studies has decreased from 48% in 1993–1997 to 33% in 2008–2011. From this exercise, it can be concluded that there is an intrinsic interdisciplinary and multidisciplinary nature on Buddhism and, in particular on Buddhist studies in the last period, it seems that more emphasis is placed on Religion than on Asian Studies.

3.5. Source Title-Wise Distribution of Scholarly Communications

In the present section, the WoS source titles on Buddhism and Buddhist studies is taken as a tool to study the scholarly communications. There were 649 different source titles among the 5407 communications.

Table 7 shows the source title-wise distribution of Buddhism and Buddhist studies. This table indicates the top 30 source titles in the field of Buddhism and Buddhist studies from 1993 to 2011. The source title at the highest rank was the *Library Journal*—a magazine for the library community with book reviews—followed by the *Journal of Asian Studies* with 177 communications, the *Eastern Buddhist* with 151 communications, the *Philosophy East West* with 134 communications, the *Indo Iranian Journal* with 120 communications, the *Bulletin of the School of Oriental and African Studies University of London* with 115 communications, and the *Journal of the American Academy of Religion*

also with 115 communications, the *Journal of the American Oriental Society* with 113 communications, and the *Journal of Indian Philosophy* with 102 communications. *Library Journal* and *The Times Literary Supplement* are *a priori* not excluded from the computation of the amount of scholarly communications selected by this scientometric analysis because both of them are WoS source titles.

The highest number of citations per communication was obtained in 46 scholarly communications published in *Numen: International Review for the History of Religions*—with 2.09 citations per communication, followed by *Journal of Indian Philosophy* and *History of Religions* with 1.55 and 1.34 citations per communication, respectively.

Table 7. The top 30 Source Titles in order of number of scholarly communications (1993–2011).

Source Titles	Records	Δ	%	Citations	Citations per Item	Ranking
Library Journal	226	0	4.73	0	0.00	27
Journal of Asian Studies	177	–49	3.71	97	0.55	11
Eastern Buddhist	151	–26	3.16	71	0.47	13
Philosophy East West	134	–17	2.81	101	0.75	8
Indo Iranian Journal	120	–14	2.51	36	0.30	16
Bulletin of the School of Oriental and African Studies University of London	115	–5	2.41	27	0.23	18
Journal of the Am. Academy of Religion	115	0	2.41	84	0.73	9
Journal of the Am. Oriental Society	113	–2	2.37	70	0.62	10
Journal of Indian Philosophy	102	–11	2.14	158	1.55	2
Journal of The Royal Asiatic Society	97	–5	2.03	16	0.16	21
History of Religions	88	–9	1.84	118	1.34	3
Journal of Religion	86	–2	1.80	7	0.08	24
Religion	74	–12	1.55	37	0.50	12
Contemporary Buddhism	72	–2	1.51	92	1.28	4
Asian Philosophy	71	–1	1.49	61	0.86	7
Religious Studies Review	62	–9	1.30	0	0.00	27
Journal of Chinese Philosophy	60	–2	1.26	21	0.35	14
Arts of Asia	56	–4	1.17	7	0.13	22
Zeitschrift der Deutschen Morgenlandischen Gesellschaft	52	–4	1.09	4	0.08	24
Monumenta Nipponica	50	–2	1.05	6	0.12	23
Numen: International Review for the History of Religions	46	–4	0.96	96	2.09	1
Parabola: Myth Tradition and the Search for Meaning	46	0	0.96	3	0.07	25
Japanese Journal of Religious Studies	45	–1	0.94	11	0.24	17
Journal of Religion Health	40	–5	0.84	43	1.08	5
Artibus Asiae	39	–1	0.82	37	0.95	6
Oriental Art	38	–1	0.80	13	0.34	15
Studies in Religion/Sciences Religieuses	38	0	0.80	7	0.18	20
Journal of Japanese Studies	37	–1	0.77	13	0.35	14
Harvard Journal of Asiatic Studies	33	–4	0.69	7	0.21	19
The Times Literary Supplement	33	0	0.69	1	0.03	26

This section is important because it suggests that some important non-English language journals are not covered by the English-based database [37] and, as a consequence, the Thomson Reuters' WoS database contains relatively few non-English language journals specialized in Buddhism and Buddhist studies. Moreover, WoS does not cover all international journals equally; for example, the following well-known scholarly journals are not found in WoS: *Indogaku Bukkyōgaku Kenkyū* (JIBS), *Wiener Zeitschrift für die Kunde Südasiens* (WZKS), *Nagoya Studies in Indian Culture and Buddhism—Saṃbhāṣā*, *The Chung-Hwa Buddhist Journal*, *Journal of Indian and Buddhist Studies*, *Journal of the International Association of Buddhist Studies*, *Universal Gate Buddhist Journal*, *Journal of the Centre for Buddhist Studies-Sri Lanka*, *Middle Way*, *Journal of Buddhist Ethics*, *Journal of Global Buddhism*, *Pacific World—Journal of the Institute of Buddhist Studies*, *The Pure Land: Journal of Pure Land Buddhism*, *International Journal of Tantric Studies*, *Studies in Central and East Asian Religions*, *Thai International Journal of Buddhist Studies*, and so on.

3.6. Country-Wise Distribution of Scholarly Communications

In this section, we examine the distribution of Buddhism- and Buddhist studies-related communications in different countries from 1993 to 2011. The results indicated that the studied 5407 communications were published by authors from 63 different countries.

The top 15 countries contributing most to Buddhism and Buddhist studies in the WoS database are presented in Table 8. The USA has the majority of the total scholarly communications (2159 communications) with a high percentage of about 50% and 4893 citations, probably because most papers were written in English. After the USA, other countries have been categorized in two groups. England (363 communications), Canada (226 communications), Japan (198 communications), Australia (180 communications), Germany (132 communications), Taiwan (123 communications), and China (106 communications) are in the group of seven countries with more than 100 communications. Thailand (93 communications), India (82 communications), France (81 communications), South Korea (70 communications), Singapore (44 communications), the Netherlands (34 communications), and Switzerland (34 communications) are in the second group. As this categorization indicates, after the USA with 50% of the worldly production, about 30% of the scholarly communications were produced by the first group and 10% by the second group.

Table 8. Top 20 Countries in order of number of scholarly communications (1993–2011).

Countries	Records	Δ	%	Citations	Citations per Item	Ranking of citations
USA	2159		50.02	4893	2.27	14
England	363	–1796	8.41	753	2.07	16
Canada	226	–137	5.24	378	1.67	19
Japan	198	–28	4.59	463	2.34	13
Australia	180	–18	4.17	436	2.42	11
Germany	132	–48	3.06	343	2.60	10
Taiwan	123	–9	2.85	441	3.59	8
China	106	–17	2.46	393	3.71	6
Thailand	93	–13	2.15	389	4.18	3
India	82	–11	1.90	184	2.24	15

Table 8. *Cont.*

Countries	Records	Δ	%	Citations	Citations per Item	Ranking of citations
France	81	–1	1.88	118	1.46	20
South Korea	70	–11	1.62	127	1.81	18
Singapore	44	–26	1.02	86	1.95	17
Netherlands	34	–10	0.79	137	4.03	4
Switzerland	34	0	0.79	133	3.91	5
New Zealand	32	–2	0.74	106	3.31	9
Sweden	25	–7	0.58	124	4.96	2
Scotland	23	–2	0.53	55	2.39	12
Israel	21	–2	0.49	138	6.57	1
Denmark	20	–1	0.46	72	3.60	7

In terms of citation per communication, Israel tops the list with 6.57 citations per communication in average, followed by Sweden (4.96), Thailand (4.18), and Netherlands (4.03) with more than four citations per communication. Buddhism and Buddhist studies related publications published by authors with affiliations in the USA had 2.27 (ranked 14th) citations per communication in average.

In addition, an exercise was carried out to determine the scholarly activity in the field of Buddhism and Buddhist studies (1993–2011) of the top 10 countries with the highest percentage of Buddhists. The information regarding all the 10 countries with the highest ratios of Buddhists was collected from the Johnson and Grim [7]. The communications from these selected countries are given in Table 9. The total number of communications from the top 10 countries with the highest percentage of Buddhists amounted to 445. In particular, out of the total 445 communications published in these 10 countries, 198 (44.9% of the total number of communications) were published in Japan (Buddhist population rate 56.45%), followed by 123 (27.6% of the total number of communications) in Taiwan (Buddhist population rate 26.5%) and 93 (20.9% of the total number of scholarly communications) in Thailand (Buddhist population rate 87.2%).

The number of the WoS scholarly communications published in the 10 countries with the highest percentage of Buddhist population [7] was also compared with the number of their universities and their Gross Domestic Product (GDP, US $Billion, 2010), as reported in Table 9. The economic and social data were collected from World Bank sources and the World Association of Universities, reactively, and are also given in more detail in Meo *et al*. [25].

The trend of the numbers of scholarly communications versus GDP in these 10 countries is displayed in Figure 2. Figure 2 shows a positive correlation between the GDP and number of the scholarly communications collected in WoS database on the field of Buddhism and Buddhist studies in the 10 countries with the highest percentage of Buddhist population.

The increase in scholarly communications was extrapolated by fitting the data with an exponential function using the data reported in Table 9. The obtained mathematical correlation of the top 10 countries with the highest percentage of Buddhists is displayed by dot line in Figure 2, wherein the ordinate is the GDP and the abscissa is the number of scholarly communications published from 1993–2011 reported in WoS database. Each data point reported in Figure 2 also shows the percentage of the Buddhist population (%), as well as the number of universities (Uni).

Table 9. Top 10 countries with the highest percentage of Buddhists [7], research productivity as number of records in the field of Buddhism and Buddhist studies from 1993 to 2011, gross domestic product (GDP), and number of universities.

Countries	% of Buddhists	Records	GDP $Billion	Universities
Thailand	87.2	93	646	150
Cambodia	84.9	6	36.6	37
Bhutan	84	0	4.8	1
Myanmar	74.7	0	89	28
Sri Lanka	68.9	16	126.2	18
Japan	56.4	198	4575	703
Mongolia	54.2	0	15.2	15
Laos	52.2	0	19.2	4
Vietnam	49.2	7	320	63
Taiwan	26.5	123	902	111

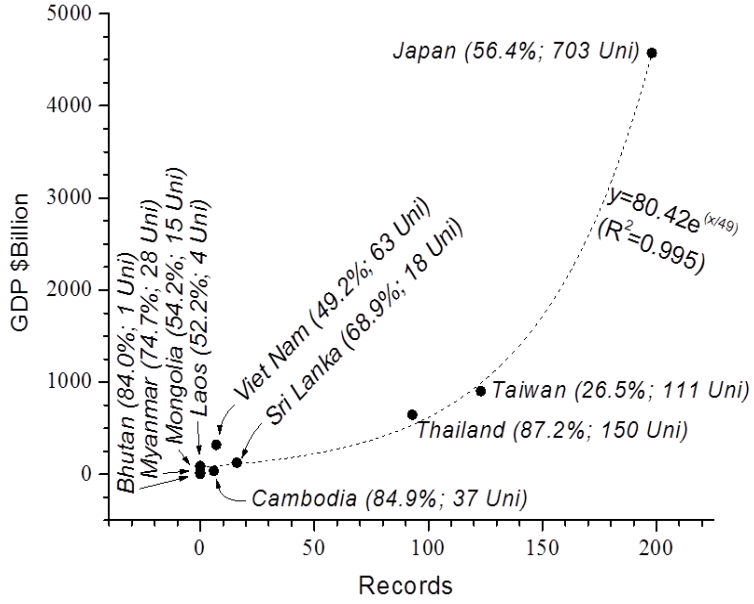

Figure 2. Correlation between GDP and number of publications in the field of Buddhism and Buddhist studies for the top 10 countries with the highest percentage of Buddhists amongst the population [7]. Percentage of Buddhists (%) and number of universities (Uni) in each country are given in parentheses.

One important point in Figure 2 is the fact that the numbers of scholarly communications on Buddhism and Buddhist studies are not correlated with the percentage of Buddhists in a country but only with national GDP. This fact is interesting because it means that economic factors (*i.e.*, GDP) have more influence than non-economic factors (*i.e.*, Buddhist population) on a country's productivity of Buddhism-related papers; it is also in agreement with the work of Meo *et al.* [25] on the impact of GDP, as well as the expenses on R&D, and the number of universities on the overall number of research publications in Asian countries. The authors found that there is a positive correlation between spending on R&D, the number of universities, and the number of published documents in various science and social science subjects [25]. In general terms, the findings are also in agreement with results published

by Choung and Hwang [38] and Zhang [39]. Similarly, the results observed in the present study indicate a positive association between GDP and the quantity of scholarly communications published in the field of Buddhism and Buddhist studies.

3.7. Organizations-Wise Distribution of Scholarly Communications

A total of 1164 organizations contributed to 5407 scholarly communications in the field of Buddhism and Buddhist studies from 1993 to 2011. As shown in Table 10, the most productive institution was Harvard University with 85 communications, the University of Chicago with 71 communications, the University of California-Los Angeles with 48 communications, the University of North Carolina with 42 communications, and Columbia University with 40 communications.

The highest number of citations per communication was obtained from the University of Pennsylvania with 10.81 citations per communication, followed by the University of Wisconsin and the University of Washington with 10.19 and 8.59 citations per communication, respectively. As noted above, the exclusion of non-English language communications (*i.e.*, Japanese, Korean, Chinese, *etc.*) in WoS database may introduce bias in the organizations-wise distribution of scholarly communications [37]. In this regard, it can be noted that University of Vienna, "*home to a strong tradition of Tibetology*" [40], is not counted in the Table 10.

Table 10. Top 20 organizations in order of number of scholarly communications (1993–2011).

Organizations	Records	Δ	%	Citations	Citations per Item	Ranking
Harvard Univ.	85	0	12.01	168	1.98	11
Univ. Chicago	71	–14	10.03	138	1.94	12
Univ. Calif. Los Angeles	48	–23	6.78	299	6.23	4
Univ. N Carolina	42	–6	5.93	131	3.12	9
Columbia Univ.	40	–2	5.65	132	3.30	8
Australian Nat'l. Univ.	39	–1	5.51	7	0.18	19
Nat'l. Univ. Singapore	37	–2	5.23	53	1.43	14
Univ. London	34	–3	4.80	12	0.35	18
Univ. British Columbia	31	–3	4.38	165	5.32	5
Univ. Calif. Berkeley	31	0	4.38	113	3.65	7
Univ. Penn.	31	0	4.38	335	10.81	1
Univ. Wisconsin	31	0	4.38	316	10.19	2
London Sch. Orien. Afr. Studies	29	–2	4.10	15	0.52	17
Univ. Michigan	29	0	4.10	113	3.90	6
Univ. Washington	29	0	4.10	249	8.59	3
Indiana Univ.	28	–1	3.95	15	0.54	16
Penn. State Univ.	26	–2	3.67	31	1.19	15
Univ. Colorado	24	–2	3.39	36	1.50	13
Univ. Toronto	23	–1	3.25	59	2.57	10

4. Conclusions

The objective of this descriptive informational study was to perform a scientometric analysis of global publications in the field of Buddhism and Buddhist studies conducted between 1993 and 2011. Above all, the results of this study revealed that a total number of 5407 scholarly communications related to Buddhism and Buddhism-related study were collected in the Web of Science (WoS). The number of citations—within a time frame of three years since the publication of the original communication—by entire set (1993–2011) of the 5407 scholarly communications was 2107.

From the scientometric analysis of Buddhism-related communications, the conclusions of the present informational study are the following.

(1) The number of scholarly communications in the field of Buddhism and Buddhist studies has shown fast increase between 1993 and 2011.
(2) English is the most commonly used language: used in 4884 communications (90.31%).
(3) Article is the most commonly used document type: 2649 communications (48.99%).
(4) Asian Studies, Religion, and Philosophy are the most common WoS categories: 3878 communications (49.89%).
(5) *Journal of Asian Studies* is the most commonly used WOS scholarly title: 177 communications (3.71%).
(6) Most of the publications were from the USA: 2159 communications (50.02%).
(7) Harvard University is the most productive organization in the world: 85 communications (12%).

About the citation analysis—within a time frame of three years since the publication of the original scholarly communication—of 5407 scholarly communications related to Buddhism and Buddhist studies, the conclusions of the present study are the following.

(8) The number of citations has shown a strong growth from 1993 to 2011.

The highest number of citations per communication was obtained in the scholarly communications which were published:

(9) In English, with 1.83 citations per communication;
(10) As Review document type, with 8.02 citations per communication;
(11) In the subject category of Multidisciplinary Sciences, with 12.13 citations per communication;
(12) In *Numen: International Review for the History of Religions*, with 2.09 citations per communication;
(13) In Israel, with 6.57 citations per communication;
(14) From the University of Pennsylvania, with 10.81 citations per communication.

As outlined above, a potential source of intrinsic uncertainty was found to be due to the English-based nature of Thomson Reuters' WoS database. On the other hand, although the growth in number of the scholarly communications is not measured precisely enough to match the real-world situation in all languages, their relative weight (*i.e.*, language-, document-, subject category-, source-, country-, and organization-wise distributions) as a source of uncertainty maybe is not so big. The findings also suggest that—in order to better understand the efficiency and limitations of the Thomson Reuters' WoS database in this modern English-based culture of scholarly journals—there is a need to investigate the possible

cultural, geographical, and language biases by analyzing, for example, the historical data record of (1) high-quality non-English journals published in this particular field in different Asian countries (*i.e.*, *Indogaku Bukkyōgaku Kenkyū*, *Wiener Zeitschrift für die Kunde Südasiens*, *Nagoya Studies in Indian Culture and Buddhism-Saṃbhāṣā*, *The Chung-Hwa Buddhist Journal*, *Journal of Indian and Buddhist Studies*, *Journal of the International Association of Buddhist Studies*, *Universal Gate Buddhist Journal*, and *Journal of the Centre for Buddhist Studies-Sri Lanka*) or (2) English research papers published in English journals but not indexed by the WoS (*i.e.*, *Middle Way*, *Journal of Buddhist Ethics*, *Journal of Global Buddhism*, *Pacific World—Journal of the Institute of Buddhist Studies*, *The Pure Land: Journal of Pure Land Buddhism*, *International Journal of Tantric Studies*, *Studies in Central and East Asian Religions*, and *Thai International Journal of Buddhist Studies*).

In summary, the results provide a current Thomson Reuters' WoS database view of the publication activity in Buddhism and Buddhist studies but, when taken together, the findings also suggest that both multi- and interdisciplinary approaches are needed to study the overall behavior of this complex of social and cultural systems including the information flow through the non-English Asian channels of scholarly knowledge. From this perspective, the novelty of this pilot informational study is that it produces a multi-faceted view of the complexity in different branches of sciences, disciplines, and culture such as religious studies, science of religions, and knowledge-related informational analysis.

In the end, it is pertinent to point out that the scope of this analysis of scholarly communication activities in Buddhism and Buddhist studies is not conclusive or complete; on the contrary, it forms a preliminary basis for further quantitative and qualitative studies and is left open to other contributions on this extremely complex topic. One interesting point for future work would be to study the exchange of academic information on the religious contexts for non-English-speaking databases such as, for example, Indian and Buddhist Studies Treatise Data-base (INBUDS in http://www.inbuds.net/eng/index.html), *Indogaku Bukkyōgaku Kenkyū* (JIBS in http://www.jaibs.jp/en/article), *Wiener Zeitschrift für die Kunde Südasiens* (WZKS in http://hw.oeaw.ac.at/0084-0084), and so on.

Conflicts of Interest

The authors declare no conflict of interest. The opinions expressed in this research are those of the author and do not necessarily reflect the opinions or views of Dongguk University or of any other individual employee.

References

1. Herbrechtsmeier, W. Buddhism and the definition of religion: One more time. *J. Sci. Study Relig.* **1993**, *32*, 1–17.
2. Zhao, Z.; Bohorquez, J.C.; Dixon, A.; Johnson, N.F. Anomalously slow attrition times for asymmetric populations with internal group dynamics. *Phys. Rev. Lett.* **2009**, *103*, 148701.
3. Ispolatov, I.; Krapivsky, P.L.; Redner, S. War: The dynamics of vicious civilizations. *Phys. Rev. E* **1996**, *54*, 1274–1289.
4. Schofer, E. Cross-national differences in the expansion of Science, 1970–1990. *Soc. Forces* **2004**, *83*, 215–248.

5. Cheong, P.H.; Poon, J.P.H.; Huang, S.; Casas, I. The internet highway and religious communities: Mapping and contesting spaces in religion-online. *Inf. Soc.* **2009**, *25*, 291–302.
6. Zins, C.; Santos, P.L. Mapping the knowledge covered by library classification systems. *J. Assoc. Inf. Sci. Technol.* **2011**, *62*, 877–901.
7. Johnson, T.M.; Grim, B.J. *The World's Religions in Figures: An Introduction to International Religious Demography*, 1st ed.; John Wiley & Sons: New York, NY, USA, 2013; pp. 10–80.
8. Abrams, D.M.; Yaple, H.A.; Wiener, R.J. Dynamics of social group competition: Modeling the decline of religious affiliation. *Phys. Rev. Lett.* **2011**, *107*, 088701.
9. Magnone, E. A scientometric look at calendar events. *J. Informetr.* **2013**, *7*, 101–108.
10. Wan-Chik, R.; Clough, P.; Sanderson, M. Investigating religious information searching through analysis of a search engine log. *J. Assoc. Inf. Sci. Technol.* **2013**, *64*, 2492–2506.
11. Crockett, C.; Strenski, I.; Paden, W.E.; DiCenso, J.; Segal, R.A.; Pals, D.L.; McCutcheon, R.T.; Wiggins, J.B. On the disorientation of the study of religion. In *What is Religion? Origins, Definitions, and Explanations*, 1st ed.; Idinopulos, T.A., Wilson, B.C., Eds.; Series: Studies in the History of Religions, Volume 81; Brill: Boston, MA, USA, 1998; pp. 1–14.
12. Thelwall, M. Bibliometrics to webometrics. *J. Inf. Sci.* **2008**, *34*, 605–621.
13. Tague-Sutcliffe, J. An introduction to informetrics. *Inf. Process. Manag.* **1992**, *28*, 1–3.
14. Bar-Ilan, J. Informetrics at the beginning of the 21st century—a review. *J. Informetr.* **2008**, *2*, 1–52.
15. Magnone, E. An analysis for estimating the short-term effects of Japan's triple disaster on progress in materials science. *J. Informetr.* **2012**, *6*, 289–297.
16. Magnone, E. A general overview of scientific production China, Japan and Korea of the Water-Gas Shift (WGS) process. *Information* **2012**, *3*, 771–789.
17. Mehrdad, M.; Heydari, A.; Sarbolouki, M.N.; Etemad, S. Basic science in the Islamic Republic of Iran. *Scientometrics* **2004**, *61*, 79–80.
18. Pouris, A. Is fundamentalism a threat to science? Evidence from scientometrics. *Scientometrics* **2007**, *71*, 329–338.
19. Gundolf, K.; Filser, M. Management research and religion: a citation analysis. *J. Bus. Ethics* **2013**, *112*, 177–185.
20. Baumann, M. Global Buddhism: Developmental periods, regional histories, and a new analytical perspective. *J. Global Buddh.* **2001**, *2*, 1–43.
21. Campbell, H. *Digital Religion: Understanding Religious Practice in New Media Worlds*; Routledge: New York, NY, USA, 2012.
22. Raghavan, S. (De)ethnicizing Buddhism for a globalized world order. *J. Orient. Studies*, **2014**, *24*, 169–179.
23. Lopez, D.S., Jr. *Critical Terms for the Study of Buddhism*, 1st ed.; University of Chicago Press: Chicago, IL, USA, 2005; p. 1.
24. Chadegani, A.A.; Salehi, H.; Yunus, M.M.; Farhadi, H.; Fooladi, M.; Farhadi, M.; Ebrahim, N.A. A comparison between two main academic literature collections: Web of Science and Scopus Databases. *Asian Soc. Sci.* **2013**, *9*, 18–26.
25. Meo, S.A.; Al Masri, A.A.; Usmani, A.M.; Memon, A.N.; Zaidi, S.Z. Impact of GDP, spending on R&D, number of Universities and scientific Journals on research publications among Asian Countries. *PLoS ONE* **2013**, *8*, e66449.

26. Meho, L.I.; Rogers, Y. Citation counting, citation ranking, and h-index of human-computer interaction researchers: A comparison of Scopus and Web of Science. *J. Assoc. Inf. Sci. Technol.* **2008**, *59*, 1711–1726.
27. González, L.; Campanario, J.M. Structure of the impact factor of journals included in the social sciences citation index: Citations from documents labeled "editorial material". *J. Assoc. Inf. Sci. Technol.* **2007**, *58*, 252–262.
28. Ranchhod, A.; Gurau, C. India: A Dharma based country in 2050. *Futures* **2014**, *56*, 30–34.
29. MacRoberts, M.H.; MacRoberts, B.R. Problems of citation analysis: A critical review. *J. Assoc. Inf. Sci. Technol.* **1989**, *40*, 342–349.
30. Shrum, W.; Campion, P. Are scientists in developing countries isolated? *Sci. Technol. Soc.* **2000**, *5*, 1–34.
31. Whitney, G. Access to third world science in international scientific and technical bibliographic databases. *Scientometrics* **1992**, *23*, 201–219.
32. Shelton, R.D.; Lewison, G. Scientific collaboration as a window and a door into North Korea. *Scientometrics* **2013**, *97*, 3–11.
33. Keown, D. The journal of Buddhist ethics: An online journal. *Learn. Publ.* **1996**, *9*, 141–145.
34. Lutz, A.; Greischar, L.L.; Rawlings, N.B.; Ricard, M.; Davidson, R.J. Long-term meditators self-induce high-amplitude gamma synchrony during mental practice. *Proc. Natl. Acad. Sci. USA* **2004**, *101*, 16369–16373.
35. Meho, L.I.; Yang, K. Impact of data sources on citation counts and rankings of LIS faculty: Web of Science versus Scopus and Google Scholar. *J. Assoc. Inf. Sci. Technol.* **2007**, *58*, 2105–2125.
36. Shaw, J.G. Article-by-article citation analysis of medical journals. *Scientometrics* **1987**, *12*, 101–110.
37. Van Leeuwen, T.N.; Moed, H.F.; Tijssen, R.J.W.; Visser, M.S.; Van Raa, A.F.J. Language biases in the coverage of the Science Citation Index and its consequences for international comparisons of national research performance. *Scientometrics* **2001**, *51*, 335–346.
38. Choung, J.Y.; Hwang, H.R. National systems of innovation: Institutional linkages and performances in the case of Korea and Taiwan. *Scientometrics* **2000**, *48*, 413–426.
39. Zhang, L. Research on relationship between expenditure for Science & Technology activities and economic growth in China. *Adv. Mater. Res.* **2012**, *433–440*, 1528–1534.
40. Bayer, A. *The Lama Wearing Trousers: Notes on an Iron Statue in a German Private Collection*; Numata Zentrum für Buddhismuskunde, Universität Hamburg: Hamburg, Germany, 2002; Available online: https://www.buddhismuskunde.uni-hamburg.de/pdf/5-personen/bayer/bayer-2012-trousers.pdf (accessed on 24 April 2015).