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Analysis on the International Situation and Evolution of Research: Quantitative Analysis on the SSCI Theses from 2005 to 2014*

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Abstract

Bibliometrics and descriptive statistical analysis on the research papers published on the 74 kinds of journals of journalism and communication included in SSCI from 2005 to 2014 will be conducted through key variables, like annual distribution, regional distribution, research institutional distribution, authors distribution, frontier of research, knowledge base and its evolution, subject impact index, etc. From the qualitative and quantitative perspective, we will reveal the international posture of journalism research and the international prestige and potential problems in studies of journalism and communication in Mainland China to promote the internationalization process of domestic journalism and communication research.

Keywords

Journalism and Communication, SSCI, Document Statistics and Analysis, Internationalization

1. Introduction

Journalism and communication is one of the most popular research directions in the humanities and social sciences and the internationalization of the research results is a major problem. In recent years, concerning China's journalism and communication studies, the vision, and the scope of it has expanded, but the depth is insufficient and the academic level is not high enough. Some scholars believe that strengthening method training and grasping the international theory research is the key to improving the academic level of China's journalism and communication studies (Liao et al., 2014). Therefore, it is urgent to establish the international awareness of the

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research on journalism and communication, to understand and master the research orientation, the research trends and the development trend of the international mainstream academic journals and representative results. However, the wave of big data is coming, mastering and using correctly the empirical research methods to deal with the mass of information is a challenge for the journalism and communication researchers. Science Citation Index Social (SSCI) is generally considered to be an important tool for collecting data from various fields of social science. The number and level of the papers published in the journals included in the SSCI can reflect the degree of internationalization (Liu & Liu, 2009). Journalism and communication science is an important subject of SSCI, which is helpful to promote the development of domestic journalism and communication, and to promote the international progress of the academic achievements and academic journals. Some scholars had carried on the analysis of the study of journalism and communication in China on the basis of SSCI. For example, Li Wu, Huang Pei and other scholars take the research papers of journalism and communication included in the SSCI, A&HCI and CPCI-SSH as the study subject, to dissert on the foreign new media research progress from several perspectives by using mapping knowledge domain (Li, Huang, & Li, 2013; Liu et al. 2013; Li, 2013). The analysis and discussion undoubtedly have given us great help to understand some part of the present international situation of the research on journalism and communication science. However, there are still shortcomings on the aspects such as the holistic overview of journalism and communication studies, especially the study of the frontier, knowledge base and the whole evolution characteristics, and the effect of journalism and communication research on other disciplines, etc. In view of this, this paper takes research papers published on 74 kinds of journal of journalism and communication studies included in SSCI from 2005 to 2014 as research object. We try to answer the following questions: 1) what kinds of form features do journalism and communication study papers included in SSCI take on? What are the evolution characteristics of them? 2) What major issues do journalism and communication study papers included in SSCI concern? What is the frontier area, the knowledge base and the evolution of the research? 3) What are the implications of these papers on the research field of social science?

2. Data Sources and Analysis Methods

2.1. Data Sources

JCR data show that there are 74 kinds of journal of journalism and communication included in the SSCI (38 in Britain, 25 in the United States, 4 in Holland, 3 in Germany, 1 in Spain, 1 in Switzerland, 1 in Australia, 1 in Slovenia). Concerning the research field they are involved, in addition to the research of journalism and communication, these journals are also involved in psychology, business, linguistics, library and information science, political science and other fields (Table 1). Retrieve simultaneously in the two fields of Publication Name and Published Year in SSCI. The preliminary retrieval results include 30,100 records and there are 20,647 of re-

Table 1. Journals of journalism and communication included in SSCI (IF > 1.5).

Publication source	Publication cycle	Country	IF(2013)	Other subjects
Communication Research	Bimonthly	America	2.444	No
Research on Language and Social Interaction	Quarterly	Britain	2.421	Psychology, Linguistics
Journal of Communication	Bimonthly	America	2.076	No
New Media Society	Monthly	Britain	2.052	No
Public Opinion Quarterly	Bimonthly	Britain	2.033	Political Science、Social Sciences
Journal of Computer-Mediated Communication	Quarterly	America	2.019	Library and Information Science
Public Understanding of Science	Bimonthly	Britain	1.932	Philosophy of history
Human Communication Research	Quarterly	America	1.886	No
Journal of Health Communication	Monthly	America	1.869	Library and Information Science
Political Communication	Quarterly	America	1.825	Political Science
International Journal of Press-Politics	Quarterly	America	1.761	Political Science
International Journal of Advertising	Bimonthly	Britain	1.754	Business
Journal of Advertising Research	Quarterly	America	1.651	Business
Interaction Studies	3 Issues/year	Holland	1.564	Linguistics

search papers, 6878 of book reviews, others are conference abstracts, editorial material, communication and news, etc. After above retrieval, 20,647 of sample papers are obtained excluding editorials, news, biographies, book reviews, conference abstracts and other types of documents.

2.2. Methods and Tools

This paper will carry on analysis of the basic characteristics, research frontier, knowledge base, discipline influence and other aspects of the papers in journalism and communication included in SSCI in order to answer the above questions. 1) For the basic characteristics of the papers, we select the annual distribution, national/regional distribution, research institutions, the authors distribution and other variables of sample papers to carry on statistical analysis by using Online Analyzer of SSCI database; 2) For the research frontier of the papers, we select the author key words of sample papers (Author Keyword field in SSCI database) to carry on data processing and statistical analysis by using Endnote, Excel and Citespace. 3) For the knowledge base of the papers, we select the reference literature (References Cited field in SSCI database) of sample papers and use Citespace software to carry on the visual analysis, and use Excel and Endnote to carry out data processing and statistical analysis; 4) For the discipline influence of the papers, we select literature from sample papers(Citing Articles field in SSCI database) to carry on citation analysis to reveal the impact of journalism and communication studies included in SSCI on other social sciences field.

3. Data Analysis

3.1. Basic Features of Journalism and Communication Research Papers

The total number of journalism research papers published on 74 kinds of journals during 2005-2014 is 20,647 and the annual distribution and change trend is shown in **Figure 1**. The data shows that the annual output of the research papers in the field of journalism and communication studies is stable and the average output is about 192 every year in the 10 years. These papers are from 115 countries/regions respectively, showing a trend of focus on a small number of countries/regions. The total number of papers of the top 10 countries is 18,317 which accounts for 88.72% of the total. Among them, a total of 10,903 papers of the United States accounted for 52.81% of the total (see **Table 2**), which is the most. It is worth noting that, although the data in **Table 2** shows that China (not including Taiwan) ranks ninth place with 586 papers, but there are only 183 published papers, of which the first author or the corresponding author are from mainland China. The number of papers published by the author from Hong Kong is 259 and from Macao District is 20. There are 124 papers for cooperation. This indicates that the international visibility and influence level of the research achievement of journalism and communication in the Mainland China is very low and the research level is not only significantly behind the western developed countries, such as the United States and other western countries, but also there is a big gap behind Hong Kong. One of the important obstacles may be the language problem: English in the SSCI papers accounted for the absolute advantage. In the sample papers there are 20,245 ones are written in English, accounting for 98.05% of the total. In addition, China has not yet any kind of periodical of journalism and communication studies to be collected by SSCI, which also greatly restricted the pace of the research results of China's journalism and communication studies to the world.

The research status of representative writers group in a certain subject field reflects the trend of the research in this field. We can grasp the depth and breadth of the research field of journalism and communication by analyzing those representative writers group. From the ranking of the number of papers published by the Research Institute (see **Table 3**), we can see there are 9 American universities published more than 200 papers, which indicates that the United States occupies the leading place in the research field of the international journalism and communication. From the number of papers published by the author (see **Table 4**), we can see there are 16 people published more than 25 papers, among whom 10 are from the United States, 3 from Holland, 1 each from Hong Kong, Taiwan and Belgium. There is no doubt that these scholars, especially from the United States, are the leading figures in the study of journalism and communication, and have an immeasurable effect on the promotion of its research.

3.2. Frontier and Knowledge Base of Journalism and Communication Research Papers

The research area normally can be defined as a series of related issues and concepts, which are concerned by the
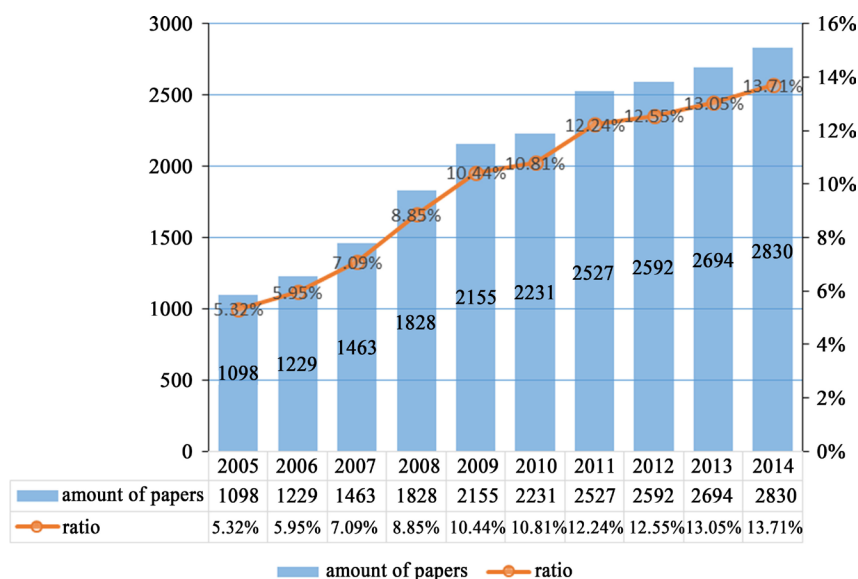
Figure 1. Annual distribution of the journalism and communication papers.

Table 2. Countries/regions distribution of the journalism and communication papers (Top 10).

Countries/Regions	Number of papers	Proportion	Cumulative ratio
America	10,903	52.81%	52.81%
Britain	1694	8.21%	61.01%
Australia	1384	6.70%	67.72%
Holland	925	4.48%	72.20%
Canada	730	3.54%	75.73%
Germany	631	3.06%	78.79%
Spain	598	2.90%	81.68%
China (including Hong Kong, Macao)	586	2.84%	84.52%
Korea	490	2.37%	86.89%
Belgium	376	1.82%	88.72%

Table 3. Research Institute distribution of the journalism and communication papers (number of papers > 200).

Organization name	Country	Number of papers	Proportion
Wisconsin University	America	400	1.94%
University of Illinois	America	361	1.75%
Michigan State University	America	358	1.73%
University of Amsterdam	Holland	336	1.63%
University of Texas at Austin	America	323	1.56%
Ohio State University-Columbus	America	320	1.55%
Pennsylvania State University	America	312	1.51%
University of Pennsylvania	America	266	1.29%
University of Georgia	America	232	1.12%
Indiana University	America	227	1.10%
Purdue University	America	223	1.08%
University of North Carolina	America	222	1.08%
University of Michigan	America	216	1.05%
University of Missouri	America	210	1.02%
University of Calif Santa Barbara	America	202	0.98%

Table 4. Authors distribution of the journalism and communication papers (number of papers > 25).

Author's name	Research institution	Number of papers
Valkenburg, Patti M.	University of Amsterdam (Holland)	33
Scheufele, Dietram A.	Wisconsin University (America)	33
Knobloch-Westerwick, Silvia	Ohio State University-Columbus (America)	33
de Vreese, Claes H.	Leiden University (Holland)	33
Lee, Francis L. F.	The Chinese University of Hong Kong (China)	32
Chang ChingChing	National Chengchi University (Taiwan)	32
d'Haenens, Leen	The University of Leuven (Belgium)	30
Paek, Hye-Jin	Michigan State University (America)	28
Walther, Joseph B.	Michigan State University (America)	28
Niederdeppe, Jeff	Cornell University (America)	27
Shah, Dhavan V.	Wisconsin University (America)	27
Peter, Jochen	University of Amsterdam (Holland)	26
Dutta, Mohan J.	Purdue University (America)	26
Brossard, Dominique	Wisconsin University (America)	26
Tamborini, Ron	Michigan State University (America)	25
Levine, Timothy R.	Michigan State University (America)	25

academic community. The key words and their frequency distributions are often used to reveal the subject areas of their research (Chen, 2006). If we take a series of related issues and concepts concerned by the highly cited papers lately published in the last several years as the latest developments in the field, then the references of the frontier study form their knowledge base (Persson, 1994). Therefore, through statistics and analysis of the highly cited papers and keywords of the references of these papers published during 2005-2014, we reveal the frontiers, knowledge base and the evolution process of the journalism and communication research

3.2.1. Analysis of the Frontier Areas of Journalism and Communication Research Papers

Statistics indicates that during 2005-2014 there are 14,389 SSCI papers quoted more than once in journalism and communication research, which accounted for 69.69% of the total number of the sample papers. The highest cited times of a single paper was 659. The total number of keywords in these 14,389 papers was 36,038 (the average number of keywords in each paper is 2.5). After classification, summarization and eliminating numbers, symbols and words that means nothing substantive to the journalism and communication study area, the results of using Citespace software to do visualization analysis are shown as **Figure 2**. In particular, the keywords with frequency more than 600 times are in **Table 5**. After using Citespace to further analyze the link between high frequency keywords, we found that (**Figure 2**): communication, media, Internet, information, has been the research hotspots of journalism and communication in recent ten years. In recent years, the main focus of the frontier areas of journalism and communication research is on the following areas: 1) the study mainly on news reports. The study mainly concerns the application of mass-media in the news reports, the media of the news reports, press and the news reports of journalism and communication in the field of natural science, such as climate change, etc.; 2) in social support area, the study mainly concerns stress, adjustment of personality and quality, physical and mental health of family, children, adolescents and women, etc., such as depression, breast-cancer, et al.; 3) The study on interpersonal relationship including close relationship and romantic relationship, etc.; 4) through analysis of the sharp changes of key words We can find the new research areas of journalism and communication , such as the application of Twitter, Facebook and other social media and computer media on journalism and communication.

3.2.2. Analysis of the Knowledge Base of Journalism and Communication Research

As mentioned above, the references of these 20,647 sample papers constitute the knowledge basis of journalism and communication research. Therefore, we can reveal the knowledge basis of the journalism and communication research though analyzing these references, especially the highly cited ones. We got the following results as
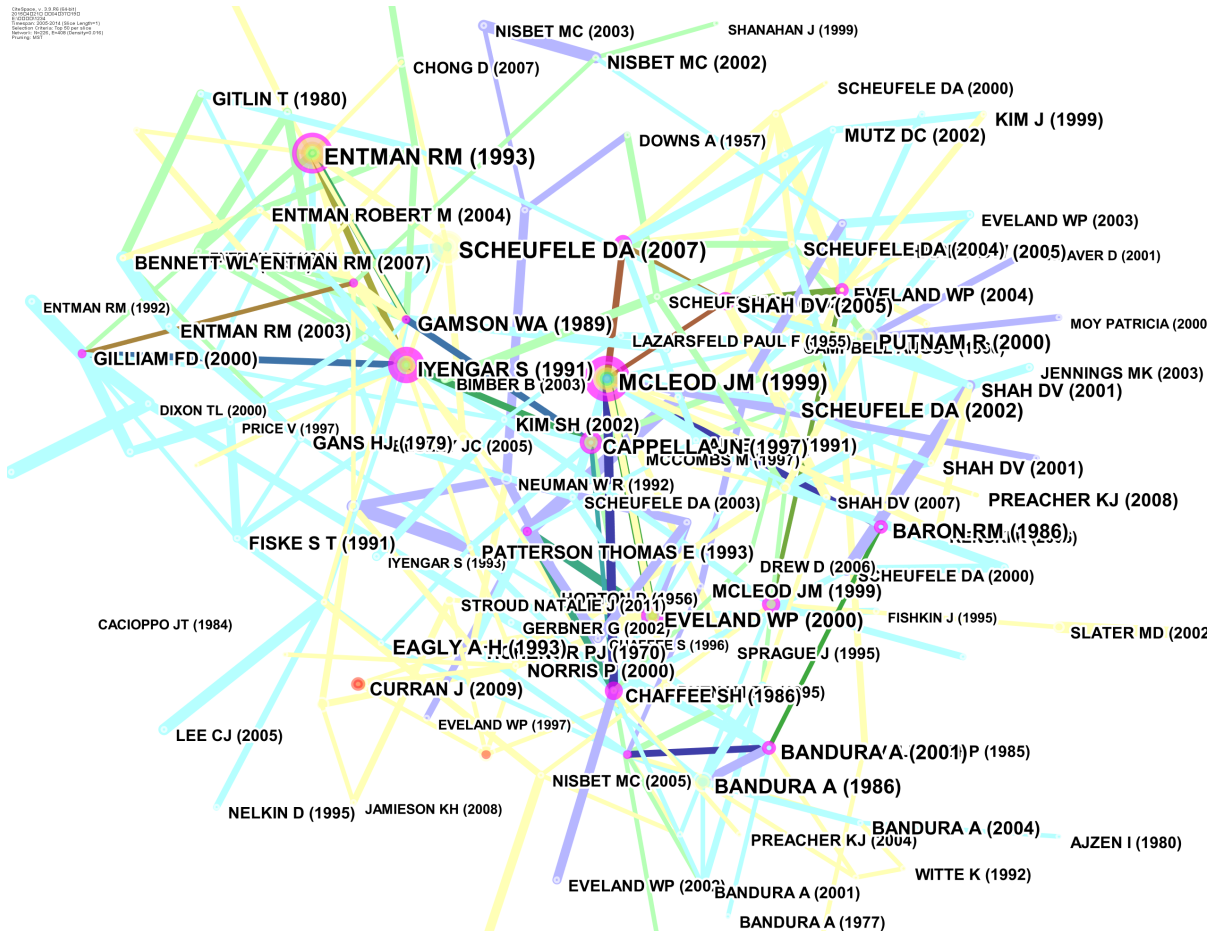
Figure 2. Relation map of high frequency keywords from high cited papers.

Table 5. High frequency keywords from high cited papers (frequency > 600).

Keywords	Frequency	Keywords	Frequency
Business	2048	Television	822
Linguistic	1854	Language & Linguistic	820
Information Science & Library Science	1842	Culture Studies	810
Media	1595	Model	805
Film, Radio, Television	1418	Impact	710
Psychology, Social	1344	Gender	669
Internet	1256	Health Policy & Services	647
Sociology	1210	Discourse	642
Information	1084	Management	640
Political Science	998	Telecommunications	623
Behavior	914	Knowledge	619
News	902	Perceptions	603

shown in **Figure 3** and **Figure 4** by using Citespace software to visualize all the references analysis. In particular, the top 20 researchers whose papers are cited most frequently and their representative references are in **Table 6**. After further analysis we found the following characteristics: 1) Concerning the representative researchers, the research achievement of Scheufele, D.A., Iyengar, S., Eveland, W.P., Bandura, A., Entman, R.M. constitute the core references of the journalism and communication studies included in SSCI (**Table 6**). 2) Concerning the area and content of the research, these knowledge basis are related to the role of Communication theory and television news in social life, and the contrast of the influence of publication, broadcasting and internet in communication,

Figure 3. Relation map of high frequency documents of the journalism and communication papers.

context and community. For example, Scheufele, D.A. discusses the evolution of the following three models: framework, agenda setting and prediction (Scheufele & Tewksbury, 2007). Another example, Iyengar, S. studies the impact of television news on the citizen cognition of international affairs (Iyengar, 1987). 3) Concerning the relationship between the reference and the cited (see **Figure 3** and **Figure 4**), these core reference documents still have a guiding significance on today's journalism and communication study and are the focus of the follow-up study. And there is also an academic inheritance relationship between these core reference documents which shows a clear knowledge accumulation effect.

4. Influence of Journalism and Communication Papers by Subject Category

The citation of a paper is often used to evaluate the academic influence of that paper. In this paper, to reveal the influence of journalism and communication research on other subjects, we carry out analysis of subject categories on the citation of the research papers included in SSCI. As mentioned above, the total number of journalism and communication research papers included in SSCI cited more than once is 14,389 during 2005-2014 and the total cited number is 122,672. Due to the limitation of the number of samples, we carried out analysis on the 5000 papers which were cited the most. These papers were incited 97,022 times and 50,499 references were cited, except for the 48,068 self-citation. The analysis results are shown in **Table 7**. Firstly, this shows that the degree of cross-level and mutual influence between journalism and communication studies and Psychology is quite high. Secondly, the research results of journalism and communication studies are also cited in business and economics, public environment occupational health, computer science, linguistics, sociology, library and information science, government law, education and teaching, Health Sciences, engineering, environmental ecology and other social sciences, which shows that the influence of journalism and communication studies is very ex-
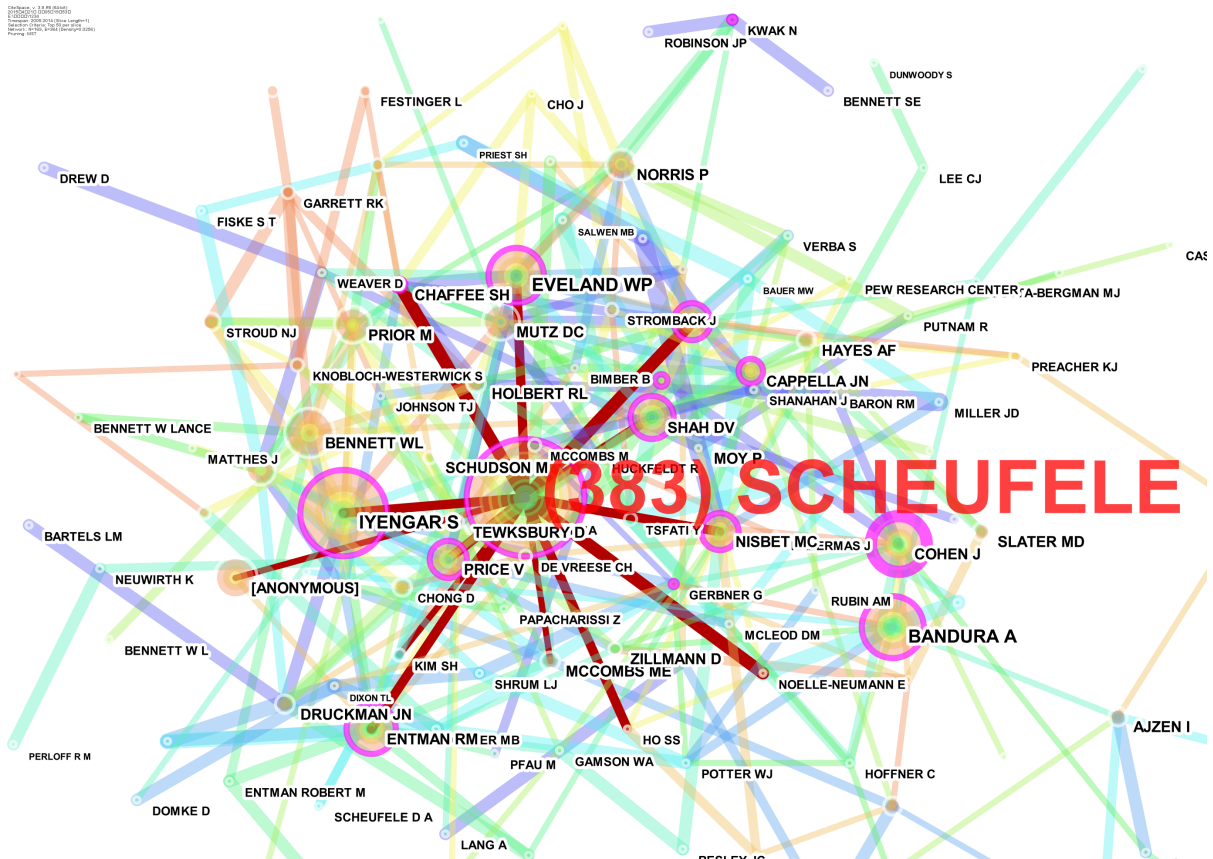
Figure 4. Relation map of high frequency authors of the journalism and communication papers.

Table 6. High frequency authors and their representative literatures of journalism and communication papers (Top 20).

Author	Total cited frequency	Representative literature	Representatives cited times
Scheufele, D.A.	383	Framing, agenda setting, and priming: The evolution of three media effects models (2007)	268
Ingra, S.	322	Television-news and citizens explanations of national affairs (1987)	95
Eveland, W.P.	253	Interactions and nonlinearity in mass communication: Connecting theory and methodology (1997)	44
Bandura, A.	245	A comparative test of status envy, social power, and secondary reinforcement theories of identificatory learning (1963)	109
Entman, R.M.	213	Blacks in the news - television, modern racism and cultural-change (1992)	158
Cohen, J.	204	Abuse and violence history of men and women in treatment for methamphetamine dependence (2003)	65
Price, V.	202	New values and public opinion: A theoretical account of media priming and framing (1997)	95
Shah, D.V.	177	Communication, context, and community - An exploration of print, broadcast, and Internet influences (2001)	177
Mcleod, J.M.	170	Understanding deliberation - The effects of discussion networks on participation in a public forum (1999)	81
Mutz, D.C.	165	The consequences of cross-cutting networks for political participation (2002)	165
Bennett, W.L.	162	Toward a theory of press-state relations in the united-states (1990)	102
Zaller, J.	160	Information, values, and opinion (1991)	87
Nisbet, M.C.	146	Pathways to political participation? Religion, communication contexts, and mass media (2003)	44

Continued

Norris, P.	139	"To entertain, inform, and educate": Still the role of public television (2001)	45
Prior, M.	138	Post-Broadcast Democracy: How Media Choice Increases Inequality in Political Involvement and Polarizes Elections (2007)	138
Chaffee, S.H.	122	Political knowledge and the campaign media of 1992 (1994)	96
Cappella, J.N.	113	Argument repertoire as a reliable and valid measure of opinion quality: Electronic dialogue during campaign 2000 (2002)	56
Ajzen, I.	109	Attitudes, personality and behavior (1988)	103
Petty, R.E.	108	Mass media attitude change: implications of the elaboration likelihood model of persuasion (2002)	41
Zillmann, D.	106	Female responses to provocation after exposure to aggressive and erotic films (1978)	20

Table 7. Distribution of journalism and communication citing articles (Top 20).

Subject category	Citation quantity	Proportion
Psychology	8999	21.036
Communication	8769	20.498
Business Economics	5166	12.076
Public Environmental Occupational Health	3024	7.069
Computer Science	2922	6.83
Social Sciences Other Topics	2913	6.809
Linguistics	2388	5.582
Sociology	2306	5.39
Information Science Library Science	2289	5.351
Government Law	2227	5.206
Education Educational Research	2102	4.914
Health Care Sciences Services	1648	3.852
Engineering	1282	2.997
Environmental Sciences Ecology	1202	2.81
Psychiatry	735	1.718
Biomedical Social Sciences	677	1.583
Family Studies	675	1.578
General Internal Medicine	651	1.522
Public Administration	579	1.353
Substance Abuse	552	1.29

tensive and the interdisciplinary study of the journalism and communication is becoming more and more powerful.

5. Discussion

Through carrying out literature measurement analysis and descriptive statistical analysis on the journalism and communication research papers included in SSCI during 2005-2014 and combing related literatures, we revealed the basic situation of the research on the International journalism and communication in the last ten years: 1) The European and American countries represented by the United States, Britain and Holland occupy the dominant position leading the international journalism and communication study. While the study of journalism and communication in mainland China is lagging far behind the international level; 2) Business, Media, Internet and Information Science and so on are the most concerned areas of journalism and communication studies. Facebook and Twitter and so on are emerging research areas; 3) Internationally, the research on the journalism and

communication shows the characteristic of problem-solving orientated and the micro application based, which pays great attention to the guiding role of the research on the educational practice, and has a relatively clear knowledge accumulation and academic inheritance path; 4) The influence of journalism and communication studies on other subjects is increasing, which shows the interdisciplinary characteristics of social science research from another side.

Through comparative analysis of domestic journalism and communication studies, we find the following phenomena and problems: 1) The international visibility and international level of the domestic journalism and communication studies are relatively low and the number of papers written by the authors from mainland China is only 183 among 14,389 samples. Although it may be related to the factors such as periodical source and language barrier, the key lies in the theory of the research itself is not strong and the depth of the research is not enough. 2) Domestic journalism and communication studies tend to take a more macro perspective and many research papers have been staying at the basic study on the theory of journalism and communication, business knowledge and development model, without reflecting the practical application of journalism and communication. Furthermore, the specific practice of journalism and communication in the business, economic and social livelihood and other areas needs to be strengthened. 3) The achievements of the domestic journalism and communication studies are more simple repetition and show obvious characteristics of knowledge fragmentation. Their theoretical foundation is weak and their effect on the knowledge accumulation and development of the journalism and communication is not obvious. 4) In the 20,647 journalism and communication research papers, only 234 papers were co-authored by Chinese authors and foreign authors, which showed deficiency in international cooperation and exchange. In order to change this situation, the researchers of journalism and communication need to establish the international awareness, to track and learn from the advanced research results and methods, to optimize the main content, structure and discipline distribution, to strengthen international cooperation and academic exchanges, and to strive to improve the international status of domestic journalism and communication studies and academic visibility on the basis of focusing on the specific situation in China.

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