



Article

# Research on the Introduction Strategy of Social Capital for the Sustainable Development of Academic Journals

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**Abstract:** The purpose of this study is to systematically analyze the challenges and research directions of current academic journals, and then analyze the necessity of introducing social capital into academic journals by taking domestic journals in the field of ships as an example, and put forward practical solutions to provide theoretical basis and practical guidance for the future development of academic journals. By using the JCR database to analyze the number of published papers in the global JCR journals in the past 7 years, combined with the bibliometric method, Citespace was used to study the development direction of academic journals, and the research direction and methods were obtained. It can be seen that academic journals in China are facing many challenges in the current stage of rapid development. Academic journals need to actively embrace change, optimize internal management and evaluation system by introducing social capital and technical support, and enhance their academic influence and social value.

**Keywords:** Academic Journals; Social Capital; Development; Ships

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## 1. Introduction

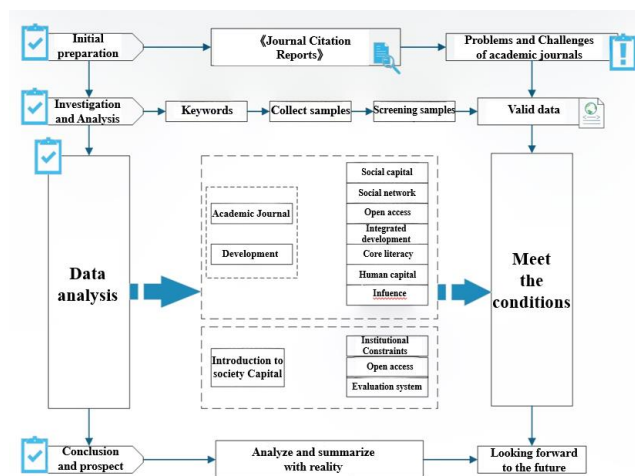
Academic journals serve as pivotal conduits for the dissemination of distinguished scholarly findings, thereby playing an essential role in fostering academic advancement and societal evolution<sup>[1]</sup>. However, amidst the swift proliferation of information technology and the concomitant profound alterations in societal contexts, these journals confront a myriad of

challenges. These include a limited distribution reach, inadequate resource allocation, and an inability to autonomously manage the entire publishing process. Particularly within the Chinese landscape, academic journals predominantly fall under the purview of higher education and research institutions, necessitating adherence to regulatory frameworks set by higher authorities. Their primary revenue streams encompass top-tier funding, operational earnings (encompassing paper publication, layout charges, advertising, etc.), special grants (such as the 'Excellence Program'), and institutional subsidies. Capital, technological, and human resource endowments are relatively sparse, with digital transformation and platform development being especially constrained, thereby impeding the overall operational efficacy and expansion of academic journals to a significant degree.

This study hopes to improve the social awareness of academic journals and enhance their internationalization level by introducing social capital, optimizing internal management and evaluation systems, and ultimately enabling academic journals to adapt to new environmental needs and become an important platform for academic exchanges. Promote the sustainable development of academic journals and make greater contributions to academic progress and social development [2].

## 2. Research Methods

There is a scarcity of comparative studies examining the research directions for the sustainable development of Chinese academic journals and the strategies for integrating social capital. Based on an extensive review of literature on the development of academic journals, the author has decided to conduct a statistical study of the outstanding journals from various countries included in the "Journal Citation Reports" (hereinafter referred to as "JCR journals") to identify the issues faced by Chinese academic journals through journal data from different nations. Furthermore, by employing bibliometric methods, this research retrieves papers related to the development of academic journals in the China National Knowledge Infrastructure (CNKI) to determine the research directions and focal points.



**Figure 1.**Comprehensive Analysis Process for Academic Journal Development

Finally, the necessity of introducing social capital is verified by taking ship journals as an example ( **Figure 1**).

### 3. Trends of international academic journals

#### 3.1 Data acquisition

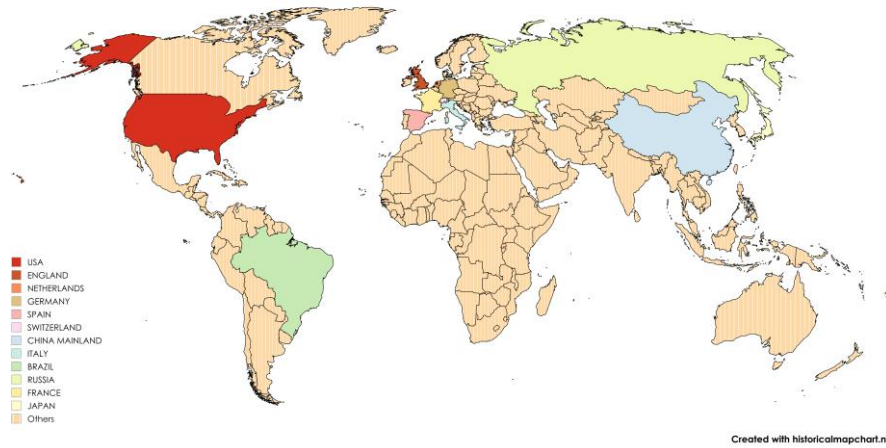
Through the JCR database of KRVIAN, the data of JCR journals in all countries from 2017 to 2023 were downloaded through the Countries / Regions screening function. Seventeen countries (the United States, the United Kingdom, the Netherlands, Germany, Spain, Switzerland, Mainland China, Italy, Brazil, Russia, France, Poland, Japan, Canada, India, Australia, South Korea) with more than 300 JCR journals in 2023 were selected for research. The number of JCR journals in these 17 countries accounts for 84.406 % of the global JCR journals, which can be approximately considered as the main publishing countries of global JCR journals. At the same time, the number of Q1 journals in JCR journals published by 17 countries in 2023 is collated.

#### 3.2 Statistical result

In the selection process, it is found that 2020 is the node of the development of global academic journals, so the data of three years before and after 2020 are selected for comparison (**Table 1**). Through the data of 2023, the distribution level of global JCR journals is drawn (**Figure 2**). The data show that the number of JCR journals in the United States, the United Kingdom, the Netherlands and Germany has ranked among the top four in the world in the past seven years. The proportion of JCR journals in the United States has shown a downward trend, from 35.02 % in 2017 to 27.11 % in 2023. The United Kingdom, the Netherlands and Germany are slightly floating, and the overall trend is downward. The proportion of other countries has increased slightly in the past seven years, but the proportion has not exceeded 4 %, and has fluctuated in 2020 [错误!未找到引用源。].

**Table 1.** Annual Overview of Academic Journal Publications by Country

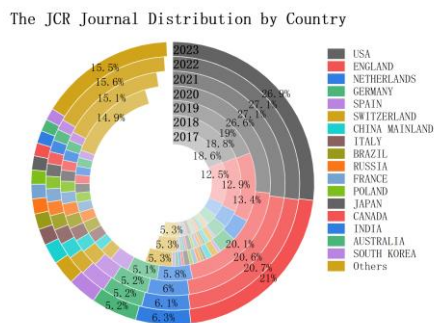
Year	Number of countries	Total JCR	USA	ENGLA ND	NETHERLA NDS	GERM ANY	SPAIN	SWITZE RLAND	CHIN A	ITAL Y	BRAZ IL	RUSSI A	FRANC E	POLAN D	JAPA N	CANA DA	INDIA	AUSTR ALIA	SOUTH KOREA	Others
2017	79	11681	4,091	2,748	903	718	120	244	205	120	122	153	199	142	247	124	103	159	127	1,156
2018	80	11896	4,142	2,838	930	722	122	279	223	119	123	151	193	142	248	121	102	159	127	1,155
2019	82	12186	4,187	2,947	956	753	125	309	252	120	122	150	193	143	247	122	103	162	134	1,161
2020	111	20994	5,850	4,432	1,285	1,116	719	466	355	425	410	384	365	346	335	319	315	323	274	3,275
2021	111	21494	5,951	4,526	1,329	1,150	719	543	406	425	410	390	371	348	350	319	332	309	285	3,331
2022	112	21762	5,953	4,563	1,352	1,151	738	543	449	433	408	388	369	352	353	338	330	317	297	3,428
2023	112	21848	5,923	4,625	1,383	1,150	725	603	514	417	391	381	366	357	352	327	319	304	304	3,407



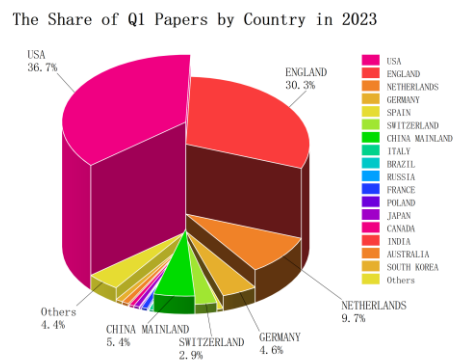
**Figure 2.** Academic Journal Publication Heatmap: A Global Overview (2017-2023)  
Then, by screening the data of 2023 (**Table 2**), the number of Q1 journals in JCR journals published by various countries is sorted out, and the pie chart is drawn (**Figure 3**、**Figure 4**).

**Table 2.** The Number of Q1 Journals in JCR Journals Published by Various Countries

Year	Number of countries	Total JCR	USA	ENGLA ND	NETHERLA NDS	GERM ANY	SPAIN	SWITZE RLAND	CHIN A	ITAL Y	BRAZ IL	RUSSIA	FRANC E	POLAN D	JAPA N	CANA DA	INDIA	AUSTR ALIA	SOUTH KOREA	Others
2017	79	11681	4,091	2,748	903	718	120	244	205	120	122	153	199	142	247	124	103	159	127	1,156
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**Figure 3.**The JCR Journal Distribution by Country



**Figure 4.**The Share Q1 Paper by Country in 2023

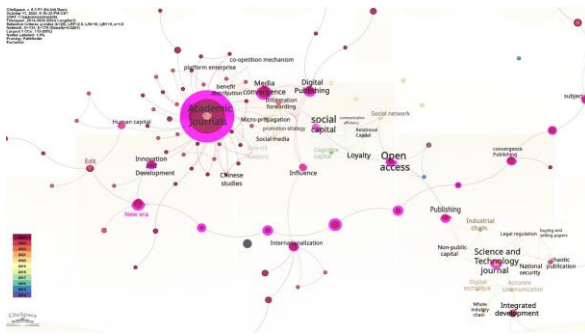
In 2023, China 's JCR accounted for 2.35 %, ranking seventh, and Q1 journals accounted for 5.36 %, ranking fourth. It can be found that China 's academic journals have developed rapidly, but the overall volume and quality still have a big gap with the major journals. China should increase the cultivation of academic journals, not only to ensure the output of academic journals, but also to ensure the quality of journals, attract more

excellent journals, promote the healthy introduction of social capital into the development of academic journals, and improve the credibility of China 's academic journals.

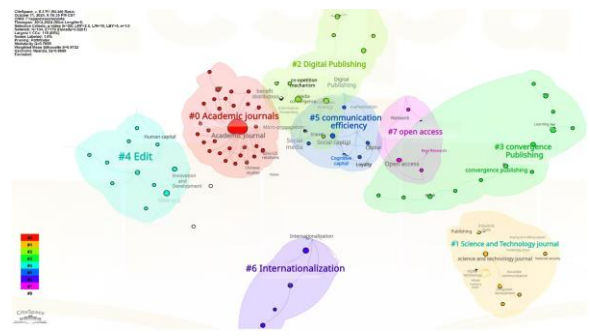
#### 4. Research direction of domestic academic journals

##### 4.1 Sample selection

This passage primarily originates from the professional search mode of the China Academic Journal Network Publishing Database (CNKI). Using "academic journals" and "development" as keywords, the research content is searched from 2014 to 2024 based on abstracts and themes, and a total of 170 papers that meet the criteria are selected.



**Figure 5.**Academic Publishing Keyword Co-citation Network Map



**Figure 6.**Internationalization and Open Access in Academic Publishing: A Network Map

View Citation Burst History

## Top 8 Keywords with the Strongest Citation Bursts

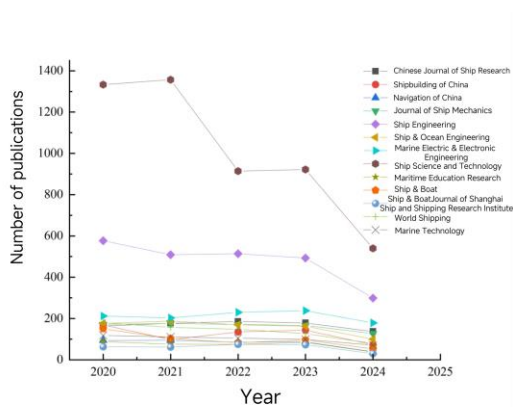
Keywords	Year	Strength	Begin	End	2014 - 2024
Social capital	2014	2.08	2014	2022	
Science and Technology journal	2021	1.94	2021	2021	
Social network	2014	1.29	2014	2018	
Open access	2014	1.29	2014	2015	
Integrated development	2021	1.01	2021	2022	
Core literacy	2023	0.91	2023	2024	
Human capital	2023	0.91	2023	2024	
Influence	2023	0.91	2023	2024	

**Figure 7.**Top 8 Keywords with the Strongest Citation Bursts

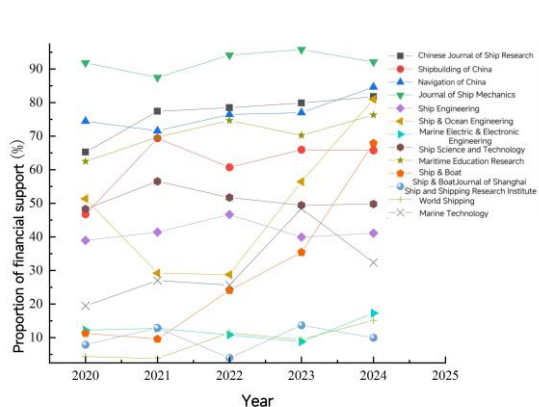
Through CiteSpaces analysis, there are 134 keyword nodes and 179 edges in the network structure. The size of the nodes in **Figure 5** is determined by the number of occurrences of keywords. The more the occurrences are, the larger the nodes are displayed. The clustering analysis of the analysis results shows that the clustering module value  $Q$  is 0.7855, and the clustering structure is significant. The clustering average contour value  $S$  value is 0.9722, and the clustering results are efficient and convincing. The cluster diagram (**Figure 6**) is mainly composed of seven large modules and several small modules. It can be seen that the research on the development direction of academic journals is relatively scattered and the research direction is relatively rich<sup>[4]</sup>. Therefore, we can see that social capital has the highest intensity by extracting eight keywords with strong centrality to the development of academic journals(**Figure 7**).

#### 4.2 The necessity of introducing social capital

Based on the domestic marine engineering journals, we selected 13 journals with a composite impact factor greater than 0.3 for analysis, and sorted out the number of articles published in 13 journals and the number of funded papers published in the five years since 2020. Using Origin for visual analysis (**Figure 8**、**Figure 9**), from the overall line chart of the number of articles published, it can be seen that the number of articles published in most journals is declining or stable. The main reasons for this phenomenon are : (1) intensified competition in the industry and uneven distribution of scientific research resources. (2) Marine engineering papers can be delivered to various mechanical journals. Lead to the outflow of high-quality resources. Therefore, in this context, the gold content of domestic marine engineering journals is not up to standard, coupled with the outflow of paper resources, forming a vicious circle.



**Figure 8.**China Marine Engineering Journal Publication Volume Change Atlas (2020-2024)



**Figure 9.**China Marine Engineering Journal Financial Support Ratio Change Trend Atlas (2020-2024)

Then through the correlation analysis of the proportion of funded articles in ship journals and the quality of journals ( measured by composite impact factor ) (**Table 3**), we find that there is a certain correlation between the two. The calculation results show that the correlation coefficient shows that the proportion of funded articles and the composite impact factor show a significant positive correlation trend. This means that within a certain



academic journals. The research activities on these paths interact frequently and jointly construct the knowledge framework in this field.

## 5.2 Strategy

Due to the low level of platform, limited academic resources and administrative management mode, the journals of ordinary colleges and universities are faced with challenges such as limited editing innovation and difficulty in in-depth scientific research activities, which leads to obvious deficiencies in the construction of social network and the integration of academic resources. This not only hinders the journal's ability to keep up with the academic frontier, attract high-quality manuscripts and build a high-level academic exchange platform, but also forms a vicious circle of 'declining influence-reducing high-quality manuscripts-further declining influence'. In order to break through this dilemma, it is necessary to accurately locate the direction of soliciting contributions, broaden the channels of soliciting contributions, and optimize the interaction mechanism between editors and authors<sup>[6]</sup>.

Constructing a scientific and reasonable evaluation system is very important for the long-term development of academic journals. Only when academic journals become a part of social value and play a role in promoting the innovation and development of philosophy and social sciences, can they obtain real development space and impetus<sup>[7]</sup>. Therefore, academic journals should establish a value system that matches their values, ensure that the purpose of running journals is consistent with the overall strategy of national social science construction, focus on publishing high-quality research results, and actively participate in meaningful social welfare activities<sup>[8]</sup>. In the process of exploring the introduction of social capital, academic journals must clarify their own positioning and strengthen their sense of social responsibility. As a key platform for academic exchanges, the core mission of academic journals is to disseminate outstanding academic achievements and promote progress in the academic field, not just to pursue economic interests. Therefore, journals should adhere to academic integrity, attach importance to humanistic care, and devote themselves to publishing high-level academic articles. Through these efforts, academic journals can not only gain high recognition from the academic community, but also win the trust of all sectors of society, gradually accumulate social capital, and ultimately transform into symbolic capital, effectively enhancing the competitiveness and social status of journals.

In order to further enhance the credibility and academic value of journals, it is very important to introduce a transparent and strict peer review mechanism. This requires not only the establishment of a modern online submission system that allows authors to track the progress of manuscript review in real time, but also the fairness and professionalism of the review process. By introducing external experts for peer review, journals can screen out manuscripts with more academic value, so as to attract more outstanding authors to contribute, and improve the overall quality and influence of journals. In practice, academic journals should establish a strict anonymous review system, conceal the author's



information from all incoming manuscripts, and establish a three-trial system to inform the author of the review conclusions at each stage in a timely manner, so as to avoid the phenomenon of multiple submissions of one manuscript caused by information asymmetry, and finally take the quality of articles as the only standard. In this process, it is necessary to strengthen the supervision and punishment of each link, avoid prevarication and academic anomie, so as to ensure the maximum utilization of resources of academic journals, and lay a foundation for improving the quality of journals and accumulating trust in social capital. In addition, student journals should also actively build a high-level editorial board and invite authoritative experts in the academic field to join in order to enhance the professionalism and influence of journals. Members of the editorial board can not only provide high-quality manuscripts for journals, but also promote the development of journals by recommending appropriate reviewers and participating in editorial policy formulation. As an advanced form of civilization and knowledge carrier of the times, academic journals mainly bear the function of transmitting information on the research results of professional disciplines. Therefore, academic journals are quasi-public goods with public welfare and positive externalities. This means that the publication of academic journals cannot rely entirely on commercial management means to maintain its input and output. Under certain conditions, policies are needed to protect and constrain, and financial support ( purchase ) including public finance or social capital needs to be standardized. As an explicit social norm, law and system are an important part of social capital. In order to realize the sustainable development of academic journals, relevant management departments must attach great importance to it and strive to strengthen the construction and improvement of relevant laws and regulations. From the perspective of internal system construction, it is necessary to ensure the quality of academic journal articles, avoid capital affecting the quality of journals, and strictly grasp the review part to ensure transparency and fairness. The funds are partly used to build academic platforms and increase influence, and should not affect the publication of articles. From the perspective of external system construction, on the one hand, it is necessary to establish an academic standard system and a reasonable elimination mechanism. In terms of academic norms, we should actively formulate corresponding norms in terms of journal evaluation, inspection and assessment in accordance with international standards, so as to enhance the autonomy of academic journals and provide conditions for academic journals to actively enter the market and society. At the same time, it is necessary to gradually establish the elimination mechanism of journals, integrate or eliminate academic journals with low scientific research value and profit-seeking, and force journals to continuously improve the quality of journals and form the vitality of development <sup>[9]</sup> .

Globally, open access ( OA ) of research papers and data is becoming a key driving force for scientific progress <sup>[10]</sup> . According to the existing data, more than 70 % of JCR journals are in the top 50 % of the impact factors in various fields, and the proportion of OA journals is as high as 88.4 %, which has a significant advantage. At present, the academic influence of 59.5 % of OA journals in China is greater than 1, showing a strong journal influence <sup>[11]</sup> . In order to conform to this trend, the interaction and cooperation between

journal associations, research groups and academic journals should be strengthened to ensure the coordination of the development strategies of the two sides, and actively promote these groups to play an auxiliary role in the development of academic journals, such as promoting the innovation of service models and promoting the effective integration of resources, so as to accelerate the growth of academic journals. The theory of social capital is particularly important in this context. It emphasizes the transformation of private special interests into broader public interests through investment in social networks<sup>[12]</sup>. The relational capital under the OA model not only provides participants with a platform for resource sharing, convenience, efficiency, and mutual benefit, but also promotes the construction of trust, deepening cooperation, and the formation of a win-win situation<sup>[13]</sup>. It has brought many benefits to participants: at the economic level, the OA model has reduced publishing costs, accelerated the publishing process, and enhanced the availability and timeliness of research results; at the political level, by eliminating information barriers, the OA model helps to narrow the information gap between different countries, regions and even individuals and promote social equity; at the social level, the OA model accelerates the dissemination and application of knowledge, improves the efficiency and quality of scientific research activities, helps to maintain academic integrity, and improves the social influence of scientific research results<sup>[14]</sup>.

Academic journals should actively use various effective channels for self-publicity to enhance their social influence. As the saying goes, 'wine is also afraid of deep alleys', academic journals should not only have high-quality content, but also master certain marketing skills. With the popularity of social media, the way of information dissemination has undergone fundamental changes. Studies have pointed out that nearly 35% of tweets on Twitter and nearly 65% of content on Weibo are transmitted through forwarding<sup>[15]</sup>. This reflects the basic role of forwarding as social media communication and its important position in online interpersonal relationships. Because of its high professional threshold, the forwarding behavior of academic information usually involves multiple subjects and levels, showing obvious micro-propagation characteristics. In terms of communication motivation, it includes the influence of multiple dimensions such as behavior cognition, personal image shaping and social capital accumulation. In view of this, academic journals should take the initiative to cultivate core reader groups and implement precise communication strategies. For example, special reports can be planned around interdisciplinary themes to attract the attention of professionals in different fields. At the same time, academic content can be combined with social hot spots to achieve cross-border dissemination of knowledge. In addition, journals also need to actively expand their social networks on social media, and use the interpersonal network chain to promote the effective circulation of academic information, so as to build a strong academic micro-communication ability<sup>[16]</sup>.

## 6 Conclusion

China's academic journals are facing many challenges in the current stage of rapid development, including the simplification of management system, the limitation of capital sources and the low social awareness. With the rise of big data and self-media, traditional

academic journals are experiencing unprecedented impact. In order to cope with these challenges, academic journals need to actively embrace change, optimize internal management and evaluation mechanisms, and enhance their academic influence and social value by introducing social capital and technical support.

( 1 ) Introducing social capital : Encourage social capital to participate in the construction of academic journals, integrate resources through market-oriented operation, and enhance the self-hematopoietic ability and market competitiveness of journals.

( 2 ) Optimize the internal management : improve the existing management mode, break the traditional " fighting alone " and " each camp " situation, optimize the incentive mechanism of editors, develop journal evaluation system, improve work efficiency and quality of journals.

( 3 ) Enhance social awareness : through a variety of channels to improve the social awareness of academic journals, enhance their influence in the public, expand the scope of the audience, enhance the social value of journals.

( 4 ) Enhance the level of internationalization : learn from foreign advanced experience, accelerate open access, enhance the international influence of academic journals and academic quality creative ability, enhance its position in the global academic community.

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