How to Improve the Impact of Journal Articles in Technology Innovation Policy Evaluation: Bibliometric Analysis Based on Core Journals in China

He Huang[1,*], Ruyan Yang[2] and Fang Wen[3]

*[1]School of Economics and Management, Inner Mongolia Normal University, Hohhot,
Inner Mongolia Autonomous Region, 010022, China*
[2]School of Public Administration, Inner Mongolia University, Hohhot, Inner Mongolia Autonomous Region, 010021, China
*[3]Youth College of Political Science, Inner Mongolia Normal University, Hohhot,
Inner Mongolia Autonomous Region, 010022, China*

Keywords: Technology Innovation, Policy Evaluation, Impact of Journal Articles, Bibliometric Analysis.

Abstract: The rapid development of China's technology innovation has attracted worldwide attention and the technology innovation policies has played an important role in this process. Simultaneously, more and more journal articles focus on China's technology innovation policy evaluation, but how to increase the impact of these journal articles has not received enough attention. This paper constructs a theoretical framework based on citation internationalization and method focalization of journal articles, and proposes three research hypotheses, and carries out multiple linear regression and t-test on 73 China's core journal articles. The results show that higher citation internationalization and method focalization have a significant effect on improving the impact of journal articles; the impact of competitive type research (with high citation internationalization and high method focalization) is significantly higher than that of loose type research (with low citation internationalization and low method focalization). This study provides a clear theoretical framework for increasing the impact of journal articles on policy evaluation, and reconfirms the promotion role of citation internationalization in the field of policy evaluation.

1 INTRODUCTION

Technology has become the "primary productive force" in the world (Qiu, 2012), and countries around the world continue to increase policy support for technology innovation (Baumgartner, 2009). Since the founding of the People's Republic of China, governments at all levels have continuously increased policy support for technology innovation (Xue, 2018). The policy theme has gradually shifted from a single policy to cooperation with the policies in other fields (Peng, 2008), and the policy forms have also been expanded to a variety of "plans, schemes, laws, regulations, measures, guidelines and codes of conduct". The corresponding policy design has also begun to change from "single policy" to "policy combination" (Liu, 2017). In 1982, the Ministry of Finance of the People's Republic of China issued the "Regulations on Financial Treatment of Technology Development and New Product Trial Expenses" (guan yu ji shu kai fa he xin chan pin shi zhi fei yong de cai wu chu li gui

ding) (Fang, 2007), which can be described as China's first technology innovation policy. With the promulgation of "the Law of the People's Republic of China on Technology Progress" (zhong hua ren min gong he guo ke xue ji shu jin bu fa) in 1993, the policy density increased year by year. From 1985 to 2000, 151 policies were issued (Chen, 2004). With the enactment of policies, theoretical research on technology innovation is also increasing. A search on CNKI (https://www.cnki.net/) with the title of "Technology Innovation" yielded more than 100,000 results, with more than 70,000 journal articles accounting for more than half of them. In short, there are many journal articles on the evaluation of China's technology innovation policy, and how to improve the impact of these journal articles becomes more and more important.

The first journal article on technology innovation policy evaluation in China appeared in 1997, which was an evaluation of Russia's technology innovation policy (Li, 1997). Since 2007, the number of journal articles in this field has increased steadily, indicating

such studies has attracted more and more attention by Chinese academia. It should be noted that there are many aspects involved in technology innovation policies, and policy evaluation varies according to the evaluation objectives, evaluation subjects, and evaluation methods. In general, those evaluation includes both "policy facts" and "policy values" (Xin, 2008). In term of research methods, the former focuses on quantitative research, and the latter focuses on qualitative research. This paper focuses on quantitative research which applying evaluation of "policy facts".

In addition to the introduction, the structure of this paper is arranged as follows. firstly, the research questions are clarified on the basis of literature review; secondly, the theoretical framework is constructed based on the citation internationalization and method focalization and research hypotheses are proposed; thirdly, the data are analyzed by multiple linear regression and t-test, and the research findings of this paper are discussed based on the results; finally, a brief conclusion is presented.

2 CONCEPT DEFINITION AND LITERATURE REVIEW

2.1 Concept Definition

"Technology Innovation" includes two dimensions: "technology" dimension and "innovation" dimension. For the "technology" dimension, it also involves two parts: "science" and "technology". In terms of public policy, science policy refers to policy for scientific research, technology policy refers to policy for technological application. However, the two dimensions can be comprehensively summarized by the term "technology innovation policy". "Technology innovation policy" in Chinese includes many aspects, such as "enterprise technology innovation, scientific research system, transformation of technology achievements, technological talents, technology innovation governance, technology finance" (Li, 2017). In order to be consistent with the existing research, "technology policy", "innovation policy" and "technology innovation policy" (Zhou, 2011) are considered as synonymous categories. Similarly, "policy evaluation", "policy assessment" and "policy impact" are also considered as synonymous categories.

2.2 Literature Review

The topic of this study is the impact of journal articles and its impact factors, which has been extensively studied by academia (Guo, 2006). Specifically, existing studies have extensively discussed the number of citations (mainly on number of references), length (number of pages), number of tables and figures (Zhang, 2018), journal rank, author gender, and paper title (Jian, 2011). In order to analyze the international impact, the study examined the impact of journal articles from the citation dimension.

The role of references in promoting the impact of journal articles is a hot topic for multidisciplinary research. It is found that the increase of references is a trend for many disciplines. From 1970 to 2005, the average number of citations in SCI journal articles increased from 8.40 to 34.63 (Biglu, 2008). This trend also emerged in Chinese technology journal articles, with the average number of citations increasing from 5.98 in 1995 to 6.99 in 2000. A study carried out bibliometric analysis on 19 core journals in library and information science and found that the average number of citations increased from 12.55 to 13.11 within two years (Zheng, 2011). In the face of this trend, academia has begun to pay attention to the role of citations in promoting the impact of journal articles. It is worth considering whether high-impact journal articles also have more citations (Wang, 2016).

Early bibliometric analysis found that more references in a journal article means the more probability they were cited (Webster, 2009; Mao, 2003). Although the early research methods were rough, the results were basically consistent with the later more refined research results (Wang, 2016), and this relationship was confirmed by multidisciplinary research (Xu, 2008). In addition, there are more diverse findings on the relationship between the two, such as the "inverted U-shaped" relationship (Chen, 2019), and even a cubic polynomial relationship (Ge, 2015). Recent studies have found that the proportion of foreign literatures in citations, especially in English, has increased year by year, becoming an important factor affecting the impact of journal articles (Mou, 2018). In the field of technology innovation policy evaluation, does the proportion of citation of foreign literature (or "citation internationalization" (Gao, 1992)) also promote the impact of journal articles? It is not difficult to see that exploring the role of citation internationalization in promoting the impact of journal articles is a hot topic in current academia.

In addition, this study also explores the promotion effect of method focalization on the impact of journal articles. Focalization means the degree of attention to a certain matter, and the higher the degree of focalization, the higher the degree of attention (Johanson, 2000). Similarly, the method focalization means that

methods for policy evaluation are used relatively accurate. However, to be "accurate" instead of "inaccurate" requires the comparison of research methods. For policy evaluation, research methods are comparable only under similar research paradigms (Wu, 2011). In short, policy evaluation focuses on the degree of realization of policy objectives (Zhao, 2014), and the methods used can be divided into two categories: one is based on the comparison of results, which evaluates the policy effect by constructing an index system, such as PMC index method, AHP method (Liu, 2011), ISM method (Zhang, 2017); the other is based on the causality relationship test, and classical methods widely used are inferential statistics such as multiple linear regression method. Such a diversity of research methods shows a high degree of freedom of choice for policy evaluation methods. But the question is whether the more diverse the choice of policy evaluation methods, the better, or the opposite? In other words, if a policy evaluation focuses more on targeted methods, will research have a higher impact?

To sum up, a theoretical framework could be constructed from the perspectives of citation internationalization and method focalization. Bibliometric analysis on the journal articles of China's technology innovation policy evaluation by the framework can not only expand the classical research in the field of bibliometric analysis on policy evaluation, but also provide a clear and feasible path for increasing the impact of journal articles on China's technology innovation policy evaluation.

3 THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

This study constructs a theoretical framework based on citation internationalization and method focalization (Fig. 1). As shown in the figure, if both internationalization and focalization are high, it is competitive type research; if only the internationalization is high, it is imitative type research; if only the focalization is high, it is autonomous type research; if both internationalization and focalization are low, it is loose type research. In a word, there are four types of research based on internationalization and focalization. To explore the relationship between citation internationalization, method focalization and research impact, three research hypotheses are proposed:

- H1. The citation internationalization in technology innovation policy evaluation has a significant influence on its impact;
- H2. The method focalization of technology inn

ovation policy evaluation has a significant influence on its impact;
- H3. The impact of competitive research is significantly higher than those of other types.
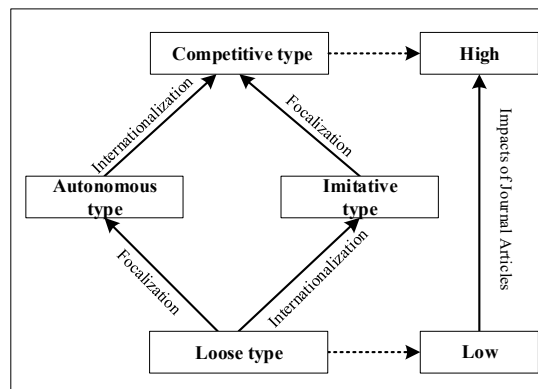

Figure 1: The theoretical framework of the study.

4 RESEARCH DESIGN AND RESEARCH METHODS

The data of this study are extracted from CNKI (https://www.cnki.net/), which is the most comprehensive academic database in China. In order to ensure the representativeness and quality of the journal articles, the literature sources are limited to the "A Guide of the Core Journals in China" and "Chinese Social Science Citation Index" (CSSCI), and 137 journal articles were obtained (Table 1). In order to ensure the comparability of the samples, the journal articles were screened as follows. Introductory journal articles, review articles and theoretical research irrelevant to technology innovation policy evaluation were excluded; short articles, qualitative evaluation articles and substandard articles were excluded, and 73 journal articles were finally obtained.

Specific screening criteria are as follows. Introductory journal articles were mainly about introduction of policies in developed countries, but did not evaluate the effect of policies, which is not in line with the theme of this study; similarly, review articles and theoretical research journal articles did not involve the evaluation of policy effects and were excluded; short articles were only 1 page short and no more than 2 pages, and their research methods were relatively weak; qualitative evaluation journal articles were very different in research methods and were also excluded. In addition, some articles' published journal could not retrieve the comprehensive impact factor score, were classified as substandard journal articles.

Table 1: Data retrieval conditions and results.

Title keywords	Preliminary results	Elimination	Final result
Innovation policy + evaluation	32	11	21
Innovation policy + assessment	27	12	15
Innovation policy + effect	10	2	8
Innovation policy + impact	23	11	12
technology policy + assessment	8	7	1
technology policy + evaluation	11	5	6
technology policy + effect	4	2	2
technology policy + impact	22	14	8
Total	137	64	73

Note: Journal sources include: A Guide of the Core Journals in China" and "Chinese Social Science Citation Index" (CSSCI); retrieval time is January 1, 2020.

Table 2: Statistics of the basic characteristics of the research objects (n=73).

	Mean value	Standard deviation	Minimum value	Maximum value	Variable type	Data sources
Impact score	3.252	3.328	0.321	18.047	Ratio variable	Calculation
Length (page)	7.397	3.226	3	18	Ratio variable	Text statistics
Age (year)	5.219	3.702	1	17	Ratio variable	Calculation
Internationalization score	0.334	0.239	0	0.857	Ratio variable	Calculation
Focalization score	0.918	0.277	0	1	Dummy variable	Code

and excluded from the study. In summary, the 73 final journal articles all used quantitative methods to evaluate the effects of technology innovation policies in a certain field, region or period

For the coding of each variable, the study ensured high reliability and efficiency as much as possible. For the evaluation of the impact of journal articles, the impact score was used for calculations (Huang, 2020). For the method focalization, the research methods mentioned in the journal articles were coded. Overall, among the methods used in these journal articles, the most methods are more than 3, and the least methods are only 1. In this paper, those with three or more methods were considered as having a low degree of focalization, whereas those with less than three methods were considered as having a high degree of focalization. For the citation internationalization, the proportion of English citations was calculated based on the statistics of the number of citations in all languages. In order to increase the reliability of data coding and reduce the error caused by the subjective factors of the researcher, the coding process was simultaneously conducted by two researchers. According to the coding standard, two researchers coded 73 journal articles respectively to form the initial coding, and then retested the initial coding results. The retested results showed that the consistency of coding are more than 80%, showing high reliability.

In this study, multiple linear regression and t-test were used to analyze the data. In multiple linear regression, the dependent variable was the impact score, and the independent variables were the citation internationalization and the method focalization. To ensure the robustness of the results, the study also introduced two control variables, article length (number of pages) and article age (time interval from publication to 2020). Then, t-test was used to examine the impact difference between different research types.

5 RESULTS

5.1 Basic Characteristics of the Research Objects

From the basic characteristics (Table 2), the highest impact score was 18, the lowest was only 0.3, while the mean was 3.3. This means that a journal article with an impact score of higher than 3.3 can be considered as having a relatively high impact, and vice versa, low impact. In terms of length, the shortest was 3 pages, the longest was 18 pages, and the mean was 8 pages. In terms of age, the shortest was 1 year, the longest was 17 years, and the mean was 6 years. In terms of the citation internationalization, 13 journal articles did not have any English references, the lowest score of internationalization was 0, and the highest score was 0.86. In terms of the method focalization, only 6 journal articles had low focalization, which was less than 9%, and most journal articles had relatively high method focalization.

Table 3: Multiple linear regression results (n=73).

	Model 1	Model 2	Model 3
Page	0.072		0.059
	[1.875]		[1.637]
Age	0.008		0.015
	[0.233]		[0.464]
Internationalization score		1.221***	1.051**
		[3.093]	[2.513]
Focalization score		0.893**	0.912**
		[2.619]	[2.678]
Constant	0.230	-0.427	-0.900
	[0.547]	[-1.169]	[-1.741]
F	2.33	7.38**	4.47**
R^2	0.062	0.174	0.208
AR^2	0.036	0.151	0.162
BIC	192.763	183.496	189.006

Note: Dependent variables were processed with logarithm during regression analysis; the value above the brackets is the standardized beta coefficients, and the value in the brackets is the t value; *, **, *** indicates significant differences at the levels of 0.1, 0.05, and 0.001, respectively.

5.2 Multiple Linear Regression Results

In this study, multiple linear regression was used for data analysis. A total of 3 models were constructed: model 1 included 2 control variables, model 2 included 2 independent variables, and model 3 included all variables (Table 3). From model 1 to model 3, R^2 increased from 0.06 to 0.21, and the adjusted R^2 increased from 0.04 to 0.16, indicating that model 3 has better fit and explanatory power. Only the F values of model 2 and model 3 passed the significance test, indicating that the results are still robust after controlling the length and age of journal articles.

The results show that higher citation internationalization and method focalization have a significant effect on improving the impact of journal articles, especially after controlling the length and age of journal articles. More importantly, the standardized beta coefficients of the two variables were almost the same. The above results show that high citation internationalization and high method focalization can indeed improve the impact of journal articles, which confirms the hypothesis H1 and hypothesis H2.

In order to examine the impact difference between different types research, t-test was used for analyzation. First, journal articles were classified into two categories of higher and lower internationalization based on the median citation internationalization score. Second, the two categories of the citation internationalization were combined with the types of method focalization. Although there were four combinations in theory, unfortunately, the data showed that there were only 2 types in 73 journal articles, 35 loose types and 38 competitive types. The results of

t-test showed that the t value between the two types was 1.33, and there was a significant difference in impact scores of journal articles at the level of 0.1. This showed that the impact of competitive type research was significantly higher than that of loose type research, which partially proves the hypothesis H3.

6 RESEARCH FINDINGS AND ACADEMIC CONTRIBUTIONS

6.1 4 Specific Paths can be Pointed for Improving the Impact of Journal Articles

In technology innovation policy evaluation, at least two factors must be considered in order to improve the impact of journal articles. On the one hand, we should try to increase the method focalization, rather than pursue the diversity and complexity of methods. On the other hand, it is necessary to increase English references in order to have dialogue with mainstream articles. Although this study only confirms that the impact of competitive type research is higher than that of loose type research, and the differences between the other types have not been tested. To put it in another way, the paper proves a specific path for improving the impact of journal articles on policy evaluation.

It should be noted that the four types of research have different requirements for researchers. To conduct imitative research, researchers need to pay more attention to international mainstream literature; to

conduct autonomous research, researchers need to be familiar with various policy evaluation methods, and be able to accurately use relevant methods to conduct research; if both dialogue with the international mainstream literature and more accurate methods can be used, the impact of journal articles will be higher, but the requirements for researchers will also be higher. If the literature is cited within Chinese academia and the evaluation methods are complex and diverse, such a study is a waste of academic resources. Of the 73 journal articles in this study, 13 journal articles did not cite any English literatures, but did not use too many methods, not too much affecting the impact of journal articles.

6.2 Promotion Role of Citation Internationalization is Reconfirmed in Policy Evaluation

The number of citations in journal articles has always been an important part of bibliometric analysis. As early as the 1980s, international journal articles conducted bibliometric analysis on 8,251 citations in the medical field, and found that the average citations per article were between 13 and 27, with English citations up to 91% (Bböttiger, 1983). A study in China conducted bibliometric analysis on the journals of 38 universities (Natural Science Edition) in 2003 and found that the average number of citations per article was 8.08. During the same period, the international journal articles showed that the average number of citations per article was 11 (Pardo, 2001). In addition, a comparative study of citation bibliometric analysis on 5,683 journals in 59 countries and regions, and found that the average number of citations per article in international journals was 28, and that in Chinese journals was 14 (Jin, 2002). However, this comparison does not seem to be generalized. For example, in technology journals, biology has the most citations per article, 12.73, while physics has the lowest, only 9.52 (Mao, 2003). The average number of citations per article in this study is 17.62±11.16, so at least in the field of technology innovation policy evaluation, the number of citations in Chinese journal articles is not inferior to international journal articles.

In terms of the citation internationalization, the average value of the results of this study is 0.33, which is very close to the 0.35 of similar studies (Hu, 2007). It shows that the current efforts of China's technology innovation policy evaluation in citation internationalization are equal with most studies. In terms of absolute numbers, the average number of English language citations in the field of technology innovation policy evaluation is 8, which is 3 more

than in the field of library and information (Wang, 2017). For this phenomenon, some researchers call for citing Chinese journals more (Yang, 2012), but some researchers believe that Chinese authors can better grasp research hotspots by citing English journal articles (Zhang, 2020). Regardless of fields, if citing English journal articles has become a trend for improving impact of journal articles, the citation in English should not be ignored. At least in the field of policy evaluation, to obtain high impact journal articles, it is necessary to cite more international mainstream literatures.

The study also found that the high internationalization increases the impact of journal articles significantly for those with high method focalization. More specifically, the increase of citation internationalization is limited for journal articles with low method focalization. It means that the method focalization is less relevant to the increase of the impact of journal articles if the citation internationalization is low. However, for journal articles with high citation internationalization, the more complex and inaccurate the method is, the lower the impact of journal articles.

7 CONCLUSIONS

Based on the above research results, there are two important paths to increase the impact of journal articles in China's technology innovation policy evaluation: one is the citation internationalization, and the other is the method focalization. If researchers want to produce high-impact results, they should consider both. It is less difficult to increase the citation internationalization, but more difficult to increase the method focalization. Although this study reveals the path of increasing the impact of research on technology innovation policy evaluation, the specific increasing methods still needs to be explored in practice.

This study also has some limitations. First, based on the theoretical framework, only competitive and loose types are tested in the comparison of the four types. The comparisons between the other types needs to be examined in subsequent research. Second, this study only selects policy evaluation journal articles in technology innovation policy, and the comparison of other types of policy research in terms of citation internationalization and method focalization has not been conducted. In addition, due to the complexity of research method coding, the sample of this study is only 73 journal articles, which is small compared with hundreds or thousands of existing studies. If efficient and accurate coding rules can be devel-

oped, large amounts of journal articles can be effectively compared in terms of research method, and the theoretical framework of this study will be more useful, which is also the focus of future research.

ACKNOWLEDGMENTS

REFERENCES

A. M. Wang, Analysis of foreign language citations in core journals of library and information, *Library and Information Service*, **61(S1)**, pp. 144-147+158 (2017).

B. H. Jin, J. Feng, X. Y. Zhu, etc., International comparison of quantitative indicators of SCI journals, *Chinese Journal of Scientific and Technical*, **13(2)**, pp. 89-94 (2002).

C. Pardo, M. Reolid, M. -V. Delicado, et al., Nursing research in Spain: bibliometric analysis of references of research journal articles in the decade 1985-1994, *Journal of Advanced Nursing*, **35(6)**, pp. 933-943 (2001).

D. S. Mao and J. J. Zhou, The relationship between the number of references and the quality of journal articles, *Chinese Journal of Scientific and Technical Periodicals*, **14(1)**, pp. 34-36 (2003).

D. S. Mao and J. J. Zhou, The relationship between the number of references and the quality of journal articles, *Chinese Journal of Scientific and Technical Periodicals*, **14(1)**, pp. 34-36 (2003).

F. R. Baumgartner, C. Breunig, C. Green-Pedersen, et al., Punctuated Equilibrium in comparative perspective, *American Journal of Political Science*, **53(3)**, pp.603-619 (2009).

F. C. Liu and Y. T. Sun, The course of, trend in and proposal for evolution from S&T policies to innovation policies: based on the empirical analysis of China's 289 innovation policy documents, *China Soft Science*, **5**, pp. 34-42 (2007).

G. B. Lu and F. H. Zeng, Review of China's science and technology innovation policies to build an innovation oriented country, *Science & Technology Progress and Policy*, **8**, pp. 1-4 (2007).

G. D. Webster, P. K. Jonason, T. O. Schember, Hot topics and popular journal articles in Evolutionary Psychology: analyses of title words and citation counts in Evolution and Human Behavior, 1979-2008, *Evolutionary Psychology*, **7(3)**, pp. 348-362 (2009).

H. T. Fang and Y. Zhang, A review of China's financial and taxation policies supporting technology innovation (1978-2006), *Forum on Science and Technology in China*, **9**, pp. 10-16 (2007).

H. D. Zhou, Science and technology policy studies: evolution, differentiation, and convergence, *Science of Science and Management of S.& T.*, **32(11)**, pp. 5-13 (2011).

H. Guo and Y. T. Pan, Average impact factor score: a new indicator for evaluating the quality of academic journal articles, *Acta Editologica*, **6**, pp. 475-477 (2006).

H. T. Wang, Z. Y. Tan and T. Chen. Research on the factors affecting papers' citation frequency, *Studies in Science of Science*, **34(2)**, pp. 171-177 (2016).

H. Huang, Do internationalization and focalization increase the impact of journal articles? *Journal of Intelligence*, **39(8)**, pp. 203-207 (2020).

J. S. Peng, W. X. Sun and W. G. Zhong, The evolution of Chinese technological and innovational policies and the empirical research on the performance(1978-2006), *Scientific Research Management*, **4**, pp. 134-150 (2008).

J. M. Li, Russian technology policy and its impact on economy, *The Journal of World Economy*, **8**, pp. 43-47 (1997).

J. S. Zheng, An analysis on the development of the core journals on library and information science based on bibliometrics, *Information and Documentation Services*, **4**, pp. 108-111 (2011).

J. L. Liu, The appraisal study on public science and technology policy based on the factual dimension, *Economy and Management*, **25(8)**, pp. 17-22 (2011).

L. Xue, A review and reflection on 40 years of reform and development of China's STI policy, *Studies in Science of Science*, **36 (12)**, pp. 2113-2115 (2018).

L. Zhang, W. T. Yang, Y. You, etc., Fuzzy evaluation and verification of influencing factors of paper citation frequency in journalism and communication: an empirical analysis based on 16 CSSCI journals, *Publishing Research*, **5**, pp. 65-69 (2018).

L. Jian, J. He and J. Zhou, Document factors impacting on the citation of an article: multi-fields view, *Library and Information Service*, **55(20)**, pp. 32-35 (2011).

L. S. Gao, J. B. Zheng, H. Y. Chen, etc., On the references of technology journal articles, *Acta Editologica*, **3**, pp. 166-170 (1992).

L. Johanson, *Viewpoint operators in European languages*, in *Tense and Aspect in the Languages of Europe,* eds. Ö. Dahl., (Berlin: de Gruyter, 2000), pp.27-187.

L. X. Zhao, Research on theoretical method of innovation policy evaluation—based on the evaluation framework of public policy evaluation *Studies in Science of Science*, **32(2)**, pp. 195-202 (2014).

L. E. Bböttiger, Reference lists in medical journals—language and length, *Journal of Internal Medicine*, **214(1)**. pp. 73-77 (1983).

L. L. Hu, L. B. Liu and J. Li, Statistical analysis of references in 26 university journals, *Journal of Tianjin University of Commerce*, **3**, pp. 66-69 (2007).

L. J. Yang and X. Y. Wan, The impact of cite habits to the citations of journal articles in China—a case study of information science, *Information Science*, **30(7)**, pp. 1093-1096 (2012).

M. H. Biglu, The impact of references per article in the SCI to Impact Factors and the Matthew Effect, *Scientometrics,* **74(3)**, pp. 453-470 (2008).

Q. F. Xu, X. D. Kang and C. B. Zhang, Study on some factors affecting paper's citation counts in multi-journal comparative perspective, *Journal of Intelligence*, **37(2)**, pp. 147-153 (2018).

R. Z. Liu, Y. X. Gong, Review and reflection: the misuse of quantitative research in public administration, *Journal of Public Management*, **17(1)**, pp. 152-158+176 (2020).

S. C. Qiu and H. H. Cui, A modern review of "Technology is the Primary Productive Force", *Productivity Research*, **9**, pp. 78-79+89 (2012).

W. L. Wang, B. You, P. Zhang, et al., Implications on editing of the highly cited papers in Sci-Tech journals, *Acta Editologica*, **28(6)**, pp. 572-574 (2016).

X. D. Chen and P. Hu, Empirical study on innovation policy performance in China, *Studies in Science of Science*, **1**, pp. 108-112 (2004).

X. W. Xin, Public policy evaluation: systems & procedures, *Chinese Public Administration*, **2**, pp. 58-62 (2008).

X. Y. Mou, K. L. Gong, J. Xie, etc., Contributing factors of citations: an empirical study of library and information science in China, *Documentation, Information & Knowledge*, **4**, pp. 43-52 (2018).

X. Wu and R. Wei, Hesperian social policy evaluation: philosophical foundation, methodology, content and paradigm, *Journal of Northeastern University (Social Science)*, **13(4)**, pp. 328-334 (2011).

Y. Chen, C. Song, J. S. Zhou, etc., Study on the factors affecting the citation frequency of papers from the perspective of bibliometrics—comment on the relationship between usage and citation, *Journal of Intelligence*, **38(4)**, pp. 96-104 (2019).

Y. G. Zhang and H. T. Qi, The quantitative evaluation research of Mass Entrepreneurship and Innovation—based on ten Dual Innovation Policies of 2017, *Journal of Intelligence*, **37(3)**, pp. 158-164+186 (2017).

Y. G. Zhang, C. C. Song, Y. N. Wang and Y. Qi, Research on the effect of science and technology innovation policy based on web search data, *Soft Science*, **32(09)**, pp. 24-29 (2018).

Z. Li, Hot spots and discussion on China's science and technology innovation policies, *Studies in Science of Science,* **35(2)**, pp. 177-182 (2017).

Z. Q. Ge, L. Miao, D. L. Zhao, etc., A preliminary study on the quantitative relationship between the number of references in technology journals and some citation indicators, *Acta Editologica*, **27(5)**, pp. 423-425 (2015).

Z. J. Zhang and L. P. Yu, Can the foreign-language references improve the influence of academic journals? *Library Tribune*, **1**, pp. 1-7 (2020).