

Research on the Construction of the Third-Party Evaluation Index System of Science and Technology Achievements

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Abstract: The evaluation of science and technology achievements is directly related to its transformation, and the construction of a third-party evaluation index system for its achievements is an important prerequisite for its evaluation. The third party refers to a service organization with high business capabilities and evaluation qualifications, which is relatively more objective, independent and fair. The authors explore and analyzes the problems existing in the evaluation of science and technology achievements, and puts forward an effective strategy for the construction of a third-party evaluation index system for science and technology achievements, hoping to help the smooth development of its third-party evaluation.

Keywords: Science and technology achievements; Third-party evaluation; Index system

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1. Introduction

The third-party evaluation of science and technology achievements refer to entrusting third-party organizations to carry out acceptance, review and evaluation of science and technology research activities and results in accordance with corresponding principles and standards. The evaluation of science and technology achievements play a very important role in promoting science and technology innovation. However, judging from the actual situation of its evaluation of achievements at this stage, there are still some problems that affect the full play of its important value of achievements. For this reason, it is very necessary to build a complete third-party evaluation index system for science and technology achievements.

2. Problems in the Evaluation of Science and Technology Achievements

The evaluation of science and technology achievements are relatively complicated. It is not only closely related to science and technology itself, but also closely related to the quality level of its personnel, and its current management system being implemented. Judging from the actual situation of the evaluation of science and technology achievements at this stage, the main problems existing in it are shown in **Table 1**.

These problems in the evaluation of science and technology achievements will seriously hinder the smooth development of its third-party evaluation. In order to give full play to the important effects of third-party evaluation, it is very necessary to build a complete third-party evaluation index system for science and technology achievements.

Table 1. Problems in the evaluation of science and technology achievements

Problems in the evaluation of science and technology achievements	Specific contents
The coexistence of government evaluation and third-party evaluation	Some scientific research and teaching units are still accustomed to appraisal of science and technology achievements, and some science and technology management departments have not stopped appraisal of science and technology achievements in order to ensure their own interests, which will cause certain obstacles to the smooth development of third-party evaluation of science and technology achievements.
Too much emphasis on the evaluation of the level of science and technology achievements	When third-party organizations are evaluating science and technology achievements, they are too inclined to evaluate the level of science and technology achievements, ignoring their evaluation of the application prospects and market value.
The legal effect of the evaluation of science and technology achievements are weak	The relevant departments of the Chinese government have not clearly defined the scope of application of the “Science and Technology Achievement Evaluation Report,” and the legal validity of the third-party evaluation report needs to be further clarified.
The evaluation level of the third party needs to be improved	The evaluation level of the third party directly affects the full play of the effectiveness of the third-party evaluation of science and technology achievements. Judging from the actual situation of third-party evaluation organizations at this stage, their evaluation levels are uneven, and the evaluation level of some third-party evaluation organizations needs to be further improved.

3. Effective Strategies for Constructing a Third-Party Evaluation Index System for Science and Technology Achievements

3.1. Fully highlight the characteristics of science and technology

In modern science and technology management, the evaluation of science and technology achievements are a very important link. A complete and effective third-party evaluation index system for science and technology achievements can not only carry out the management of science and technology achievements more efficiently, but also help the improvement of the level of science and technology^[1]. In addition, it also has a certain role in promoting the development of economy in our country. In the process of constructing a third-party evaluation index system for science and technology achievements, it is necessary to highlight the characteristics of science and technology. The main features of science and technology achievements are shown in **Table 2**.

Table 2. Characteristics of science and technology achievements evaluation

Characteristics of science and technology achievements evaluation	specific contents
Long research cycle of science and technology achievements	The science and technology methods involved in the research of science and technology project achievements are relatively advanced and superb, and lack of rich experience support. Therefore, the research on the achievements of a science and technology project usually takes several months, and even the research on the achievements of some science and technology projects may take several years.
Regional limitations	Part of the research on science and technology achievements also has the characteristics of regional limitations. The research of some science and technology achievements also has the characteristics of regional limitations. For example, the research of some agricultural science and technology achievements usually has a relatively large degree of influence on the natural environment of the region. As we all know, our country has a vast land, and there are great differences in climate conditions and natural environments in different regions, which leads to a certain agricultural science and technology achievement that may be well promoted and applied in some areas, but it may not be suitable for all areas.
Common beneficial characteristics of science and technology achievements	In the process of applying and popularizing science and technology achievements, greater economic and social benefits will be produced, and many economic benefits from the promotion and application of science and technology achievements will be directly obtained by producers in this field. Therefore, most science and technology achievements have the commonweal characteristics.

3.2. Fully demonstrate the value orientation of science and technology achievements

In the process of constructing a third-party evaluation index system for science and technology achievements, to give full attention to the important value of this work, it is necessary to demonstrate the value orientation of science and technology achievements. Under normal circumstances, if a science and technology achievement wants to be better promoted and applied in a competitive market environment, and to obtain better social and economic benefits, it needs to demonstrate the value orientation of science and technology achievements^[2]. For science and technology achievements, if it has no value, then its research is meaningless, also it will not be accepted and recognized by society. Therefore, when constructing a third-party evaluation index system for science and technology achievements, the social, economic and academic value of science and technology achievements must be reflected. The rapid transformation of science and technology achievements into productive forces and the corresponding

benefits can be obtained from them so as to give full importance to the value of its achievements. The purpose of science and technology

research are to serve mankind and meet the needs of mankind. In other words, the more science and technology achievements are in line with human needs, the higher their own value. Therefore, third-party organizations should consider the market and practical value of science and technology achievements when evaluating it, thus to effectively promote the transformation and application of science and technology achievements.

3.3. Establish an evaluation management system for third-party science and technology achievement

Through the analysis of the successful experience of the evaluation of science and technology achievements in foreign developed countries, it is found that if we want to ensure the smooth development of the third-party evaluation of science and technology achievements, it is necessary to have detailed rules and regulations and laws and regulations to protect it, so as to ensure the independence and effectiveness of the evaluation of third-party science and technology achievements^[3]. Therefore, when building a third-party evaluation index system for science and technology achievements, China should actively construct a corresponding management system (Table 3.).

Table 3. Third-party evaluation management system for science and technology achievements

Third-party evaluation management system for science and technology achievements	Specific contents
“Science and Technology Achievement Evaluation Pilot Work” and “Interim Measures for the Evaluation of Science and Technology Achievement Pilot Program.”	They were issued by the science and technology department in 2009 in our country, which clearly stipulated the principles of the evaluation of science and technology achievements. These two systems do not reflect the particularity of science and technology achievements, and are not as standardized and detailed as the laws and regulations on the evaluation and management of science and technology achievements in developed countries.
“Administrative Measures for Third Party Evaluation of Science and technology Achievements”	It guaranteed the standardization and legalization of third-party evaluation of science and technology achievements by means of rules and regulations.

3.4. Establish a qualification system for third-party evaluation of science and technology achievements

The third-party evaluation organization is one of the key subjects for evaluating science and technology achievements. The self-control and professional level of the third-party evaluation organization directly affects the scientific and standardized evaluation of science and technology achievements^[4]. Thus, it is necessary to build a third-party evaluation qualification accreditation system for science and technology achievements to clarify the conditions that third-party evaluation organizations need to meet:

- (1) It needs to have the qualifications to conduct business services such as science and technology consulting and evaluation, and have more than three years of science and technology consulting

and evaluation work experience.

- (2) There must be at least five staff members with a professional bachelor degree or above in the organization.
- (3) It needs to have a database of experts in the field of science and technology, and record detailed background materials and information about experts in each field of science and technology.
- (4) It has built a sound management system internally.
- (5) It has a fixed workplace, and office conditions can meet the needs of the evaluation of science and technology achievements.
- (6) It has been authorized by China's science and technology department.

Third-party organizations can only be qualified to obtain the qualification certificates of third-party evaluation organizations if they meet the above-mentioned conditions.

4. Conclusion

In summary, the effective development of science and technology achievements evaluation are directly related to the promotion and application of science and technology achievements. In order to give full attention to the important effects of the evaluation of science and technology achievements, it is necessary to change the previous evaluation methods and concepts of science and technology achievements, and give full importance to the main role of third-party evaluation organizations. In the process of constructing a third-party evaluation index system for science and technology achievements, it is necessary to reflect on the past science and technology achievements evaluation work to find out the problems in it. In the specific construction process, only by strengthening the research on the characteristics of science and technology achievements evaluation work and fully demonstrating the value orientation of science and technology achievements, therefore it will be valuable science and technology achievements to be widely promoted and applied. Additionally, it is also necessary to strengthen the construction of a third-party science and technology achievement evaluation management system, as well as strictly review the qualifications of the third-party evaluation organization, thus to ensure the level and effect of the third-party evaluation of science and technology achievements.

Disclosure statement

The author declares no conflict of interest.

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