Design of Guangdong E-commerce Park Performance Evaluation System Based on Computer-aided Technology

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Abstract. In recent years, the development of e-commerce parks economy has become an important measure of industrial restructuring in many places in China, therefore it is of great significance to strengthen the optimization of the evaluation system of e-commerce parks. This paper puts forward the problems in existing evaluation system of Guangdong E-commerce Park based on computer-aided technology, and in view of these problems, optimizes the original performance evaluation system from the aspects of identifying, judging key stakeholders and optimizing the hierarchical dimension of the evaluation system, and illustrates the rationality and operability of the optimization method of the performance evaluation system.

Keywords: Performance Evaluation System, E-commerce Park, Design, Computer-aided Technology

1. Introduction

At present, the academia has begun to realize the necessity of strengthening the research on the performance evaluation system of e-commerce parks, but the research in this field is still in its infancy. The theoretical system of the research is still incomplete, and there is a lack of literature that combines stakeholder theory with the performance evaluation system of e-commerce parks. Therefore, based on stakeholder theory, this paper puts forward the optimization method of the performance audit evaluation system of e-commerce parks, and applies the optimization method through practical cases, in order to provide valuable references for the theoretical research of the performance audit evaluation system of e-commerce parks and enrich the research literature in this field. It is of great significance to strengthen the research on the optimization of the performance evaluation system of Guangzhou E-commerce Park, which will help to give full play to the supervisory and constructive functions of performance evaluation in the field of industry.

2. Existing problems in performance evaluation system of Guangdong E-commerce Park
2.1. The existing evaluation system did not fully consider the characteristics of key stakeholders

The existing evaluation system of e-commerce E-commerce Park does not fully take into account the differences between the characteristics of key stakeholders in headquarters e-commerce enterprise zone and technology Incubation Park, nor does it identify, judge and analyse key stakeholders. In the process of E-commerce Park operation, the key stakeholders and their contribution and demand characteristics of e-commerce business district are quite different from those of general science and technology Incubator Park, compared with the key stakeholders of science and technology Incubator Park. They have different financial capital, human capital and social capital investment in the headquarters e-commerce enterprise zone, and also have different needs for the benefits of service provided by the park. Specifically, compared with science and technology Incubation Park, the characteristics of key stakeholders in headquarters e-commerce business district are different in the following aspects. The characteristics of key stakeholders in e-commerce business district are quite different from those in science and technology Incubation Park. On the basis of the existing evaluation system, the direct selection of performance evaluation system suitable for science and technology Incubator Park will also lead to many subsequent problems.

2.2. Evaluation indicators lack relevance, comprehensiveness and comparability

The function of the evaluation index is to quantitatively reflect the efficiency and efficiency of the economic activities of the audited units. Therefore, the evaluation index selected should effectively reflect the operational ability of the audited units to contribute capital to key stakeholders and the benefits obtained from the use of these capitals. Audit evaluation index should follow five principles: relevance, comprehensiveness, participation, measurability and comparability. The existing system has not fully identified and judged the key stakeholders of the audited units, and directly selected the performance evaluation system suitable for the science and technology incubator park, which also leads to the lack of relevance, comprehensiveness and comparability of the indicators in the quantitative evaluation part of the evaluation system.

2.3. Indicator weights are not adjusted reasonably according to the importance of each indicator

In terms of the service capability of the park, the existing evaluation system gives a high weight to the business supporting and counseling service indicators which are not related to the needs of the enterprises in the park of the headquarters e-commerce enterprise zone, accounting for 27.5% (22/80) of the total quantitative evaluation score and 40.7% (12/54) of the total service capability index score. Obviously, it is lack of scientificity and rationality to assign high weight to the index with weak correlation. At the same time, the more important indicators of fiscal policy service for large and medium-sized enterprises, as well as the indicators of output value and tax economic benefits concerned by government departments, are not included in the evaluation system, so they are not given due weight.

3. Design and optimization of the existing performance evaluation system

3.1. Identifying and judging key stakeholders
The identification and judgment of key stakeholders affect the rationality and scientificity of the following important work, such as the selection of indicators, the assignment of weights and the determination of standards, as well as the rational allocation of audit resources and the quality and efficiency of performance audit. This paper summarizes the identified stakeholders of the e-commerce park and their capital contribution types in figure 1 below.

Figure 1. E-commerce park stakeholders.

In view of the overall performance of e-commerce e-commerce park, including the efficiency and efficiency of its economic activities, the overall evaluation and performance audit report are made. In this paper, the strategic objectives of the auditees to achieve important stakeholders, combined with the performance audit objectives, from the audit objectives of the space, time range of stakeholders for relevance screening, so as to determine the key stakeholders.

3.2. Optimizing the level, dimension and index of the evaluation system

Based on the two dimensions of driving factors and benefits, the hierarchy and dimension design of the performance audit evaluation system for state-owned e-commerce parks is proposed. Based on this design, this paper optimizes the hierarchy and dimension of the quantitative evaluation index system in the existing performance audit evaluation system.

| Pre-optimal dimension          | Optimized dimension                                           |
|--------------------------------|---------------------------------------------------------------|
| Park service ability           | Driving factors of park operational benefits                  |
| Park performance and social contribution | Operational benefits of the park                             |

Table 1. Opportunities and challenges of national governance modernization.

Compared with the dimension before optimization, the optimized dimension reveals the logical relationship between the auditees' service capabilities and benefits. The formation of performance benefits is the result of the application of various service capabilities, and the improvement of performance also depends on the improvement of the application capabilities of various driving factors. The clarification of this logical relationship is helpful to put forward the conclusions and suggestions of performance audit from various driving factors.
3.3. Using statistical average method to ensure the rationality of evaluation index weight

For the quantitative evaluation part, the indicators related to entrepreneurship counseling services and technological innovation services in the original evaluation system accounted for 29% of the weight in the whole quantitative evaluation part. The re-determined weights removed the weak correlation indicators, and gave 11% weight to the two new indicators reflecting the ability of government departments and venture investors to operate social capital. In addition, the original evaluation system lacks indicators reflecting the economic needs of the government departments for the park. This empowerment gives a total of 10% weight to the two indicators of "average output value of the park enterprises" and "average tax payment of the park enterprises", which fully reflects the economic needs of the government departments for the park. At the same time, it also provides professional training under the social benefits and counteracts appropriately. Reflect the satisfaction of the needs of full-time staff.

For the qualitative evaluation part, this empowerment assigns 5% weight to the newly added "satisfaction evaluation of Park enterprises" evaluation project, which reflects the importance of park enterprises as a key stakeholder in the process of Park operation, and reduces the weight of the other three qualitative evaluation projects appropriately while maintaining the 20% weight of qualitative evaluation unchanged.

4. Conclusion

Starting from the current situation of performance audit evaluation system selected by e-commerce parks, this paper points out that there are some problems in the existing evaluation system, such as the lack of relevance, comprehensiveness and comparability of audit evaluation indicators, the unreasonable adjustment of the weight of audit indicators according to the importance of each indicator, and the weak relevance of audit standards and geographical applicability. In view of big data, this paper optimizes the existing performance audit evaluation system based on the actual situation of e-commerce park performance audit, including: identifying and judging key stakeholders; optimizing the evaluation system levels, dimensions and evaluation indicators; and using statistical average method to ensure the rationality of the weight of audit indicators[6].

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