

Practice and Thoughts on Procurement Performance Management in Colleges and Universities Based on Balanced Scorecard

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Abstract: With the continuous increase of the state's investment in construction of colleges and universities, procurement expenditures of colleges and universities have also risen. How to effectively promote the improvement of procurement management level has become an important issue demanding urgent solution for most colleges and universities. This paper investigates and analyzes feasibility of implementing procurement performance management in colleges and universities from aspects of system construction, indicator setting, evaluation and reward implementation, and summarizes a set of performance appraisal management mechanisms based on balanced scorecards to effectively promote the improvement of college procurement management level. At the same time, this paper fully learns from the practice of corporate procurement performance management, sets differentiated performance indicator weights according to the different organizational functions of colleges and universities, innovatively proposes a three-level setting model of warning value, target value and challenge value with focus on accuracy and effectiveness of procurement performance evaluation management.

1. Introduction

The full implementation of budget performance management is an inherent requirement for advancing the modernization of the national governance system and governance capabilities, which constitutes an important content in our effort to deepen the fiscal and taxation system reform, and establish a modern fiscal system. In recent years, with the increase of the state's investment in education funds, colleges and universities have gradually expanding procurement scale year by year. The performance in the use of national fiscal education funds directly affects the development of education, the efficiency of fiscal expenditures and the public's satisfaction with higher education [1]. However, the current research on the construction of government procurement performance management system in domestic academic and practical circles is still in the exploratory stage. Procurement in colleges and universities is an important part of government procurement, but colleges' budget performance evaluation is still in the preliminary stage of construction, which is even not yet incorporated in the scope of management system construction [2]. This paper attempts to learn from the practical results of corporate procurement performance management. Based on the actual procurement management in colleges and universities, it studies and designs a set of practical and feasible performance appraisal mechanism based on balanced scorecard to help colleges and universities implement procurement performance management and achieve high-quality development.

2. The status quo of university procurement and its performance management

Colleges and universities are institutions that focus on teaching and scientific research in nature, which generally do not pay much attention to procurement management. Most procurement functions are performed concurrently by the asset management department or financial management department. The part-time duty personnel are generally teachers or administrators who lack

professional research and analysis on the market, lack procurement management knowledge in bidding, law, and finance. Moreover, the decentralization of procurement functions results in "every man for himself", leading to decentralized procurement content, small scale, slow procurement progress, and difficulty to form a joint force in colleges and universities [3].

Although some colleges and universities have full-time government procurement departments, the procurement personnel have uneven procurement management level, who have insufficient understanding of policies at work. In particular, they have weak concept of procurement performance management, with performance management only staying in the cognitive level, not the implementation level. For example, the organization setting in procurement performance management is not clear, and there is often no special performance evaluation organization, which leads to problems such as unclear evaluation subjects, unstable evaluation frequency, and lack of binding force for evaluation results. Most colleges and universities lack a complete indicator system in the evaluation of government procurement performance. Unable to measure the entire procurement work, they mainly evaluate common indicators such as finance and engineering, see whether technology and capital are compliant, but pay no attention to expanded contents such as supplier relationship. Due to the limited indicators, the evaluation results are unreasonable. At the same time, since the entire indicator system fails to distinguish the importance of the indicators, it is impossible to grasp the key indicators, wasting a lot of manpower and material resources in the evaluation process [4]. Inability to effectively improve procurement performance management level in colleges and universities has lasted for many years.

3. The significance of using balanced scorecard for procurement performance management in colleges and universities

As an advanced performance management method, balanced scorecard provides an important tool for effective communication between managers and departments at all levels within the organization. Balanced scorecard divides the organizational strategy into operation goals at four levels: finance, customers, internal processes, and learning growth. By designing appropriate performance measurement indicators, it effectively combines the above indicators together via scientific design and step-by-step implementation, thereby creating the organization's strategic execution power. Colleges and universities as social welfare organizations have three functions: talent training, scientific research and social service. To implement these functions, the school will propose different target positioning in a certain period in view of its own conditions and reality, which also reflects strategic goals of colleges and universities [5]. University procurement is the foundation for universities to implement their organizational functions. The construction of procurement performance management system based on balanced scorecards in colleges and universities can effectively stimulate employees' vitality, help the organization achieve unity and coordination under the objectives of various departments and units, thereby continuously improving universities' procurement scale efficiency, capital efficiency, administrative efficiency and supervision efficiency, effectively avoiding "black box operation" by the procurement department, and standardizing procurement behavior [6].

It can be found in the procurement management of benchmarking companies that many companies currently take performance appraisal as a starting point and have achieved significant results in promoting the improvement of procurement management. Led by balanced scorecard, some companies apply procurement performance appraisal management in depth to cover the entire process of procurement business: procurement plan preparation and release, procurement organization and implementation, supply chain risk management and control, procurement cost control, material backlog activation, supplier access and exit, warehouse management, etc. A complete procurement performance appraisal system is thus established. There are similarities between university procurement and corporate procurement, but the class hour-based performance system of colleges and universities is relatively single, which lacks full-range incentive and restraint mechanisms for faculty members and thus does not match the country's requirements for high-quality education development in the new era. In view of this, colleges and universities can

make exploratory attempt to introduce organizational performance concepts in administrative management fields such as procurement management, and establish a diversified university performance system of “class performance + organizational performance” to continuously deepen reform in the university education industry.

4. Implementation methods of procurement performance management in colleges and universities

4.1 Establishment of performance appraisal mechanism

4.1.1. Establish a university procurement management committee

To comprehensively improve the procurement management level of colleges and universities, effectively increase procurement efficiency and reduce procurement costs, colleges and universities can set up a procurement management committee (see Figure 1) as the decision-making body for procurement performance appraisal management, and build a three-level performance appraisal mechanism of “corporate strategic performance committee- responsible department of procurement performance management - each material user unit”. The main responsibilities of the procurement management committee include: reviewing and approving the procurement performance appraisal implementation plan, reviewing and approving the procurement performance indicator setting and weight distribution, reviewing the procurement performance evaluation indicator adjustment, reviewing the procurement performance evaluation results, organizing the procurement performance evaluation management review meeting, etc. The Office of the Procurement Management Committee is generally set in the university management departments responsible for procurement, whose main responsibility is to prepare the annual procurement performance evaluation implementation plan and organize the evaluation. The personnel composition of the Procurement Management Committee is as follows:

- a) Director: the main leader of the party and government of colleges and universities;
- b) Deputy Director: the leader in charge of procurement in colleges and universities;
- c) Members: procurement management department, asset management department, supervision and auditing department, financial management department, and various departments.

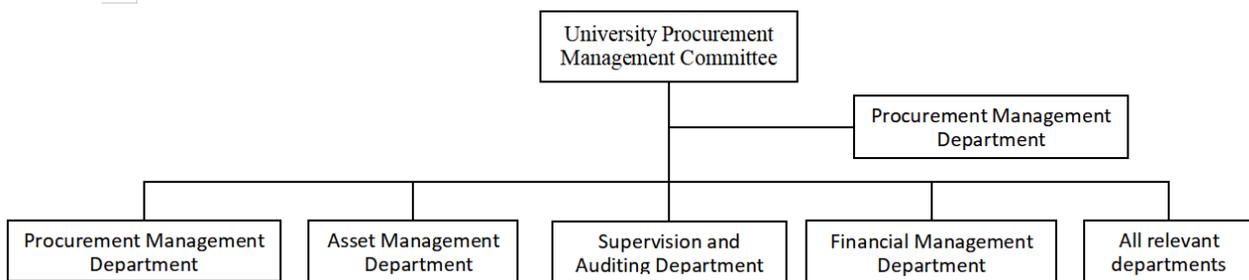


Figure 1 Structure diagram of the university procurement management committee

4.1.2. Form an efficient and standardized procurement assessment mechanism

The procurement management department is mainly responsible for organizing and implementing procurement performance appraisal management in colleges and universities. Based on the principles of “efficient procurement, high quality and low price, and punctual delivery”, goal orientation is highlighted to focus on key tasks in the procurement management business. To implement precise management requirements, preparation of annual procurement performance appraisal implementation plan is organized at the beginning of each year to implement specific appraisal management. The asset management department is mainly responsible for the management of procurement materials, distribution, registration and accounting; the supervision and auditing department is mainly responsible for integrity and risk prevention, control and supervision in procurement implementation, including the bidding process, payment of goods, and

suppliers selection; the financial management department is mainly responsible for the timely payment of goods and account management, and the relevant departments as the procurement application units are mainly responsible for proposing indicator requirements for the required procurement materials and doing a good job in preparation and execution of the procurement budget.

4.1.3 Set differentiated procurement performance appraisal weight

To improve the precision management level of procurement performance appraisal, differentiated weights of appraisal indicators are set for the management departments and relevant departments. Taking a university as an example, the basic assessment score can be set to 100 points, of which 90 points are assigned to class hours or administrative management performance, and 10 points are assigned to the procurement performance appraisal weight. Procurement performance appraisal can be implemented monthly/quarterly/annually according to the actual situation of each university. See Tables 1 and 2 for the specific procurement performance appraisal indicator weights of the management department and each department.

Table 1 Procurement performance appraisal indicator weight table (management department)

No.	Appraisal unit	Administrative management (weight)	Procurement management		Total
			Weight	Appraisal Indicator	
1	Procurement management department	90	10	Focus on organization implementation, supplier management	100
2	Asset management department	90	10	Focus on material distribution and use management	100
3	Supervision and auditing department	90	10	Focus on process standardization, and integrity risk prevention and control	100
4	Financial management department	90	10	Focus on payment of goods and account management	100
Veto items	Violation of laws, regulations and disciplines (other veto items can be added according to the actual situation)				Procurement management weight-10

Where, the weight proportion between administrative management and procurement management can be adjusted according to actual conditions; administrative management indicators are the current business responsibilities of various departments of universities, and universities can scientifically set appraisal indicators according to respective actual conditions; veto indicators regarding “violation of laws, regulations and disciplines” are set for procurement performance appraisal, which means departments with problem can deduct the weight score of the current procurement management indicator according to severity of the problem.

Table 2 Procurement performance appraisal indicator weight table (each department)

No.	Appraisal unit	Class hour performance (weight)	Procurement management		Total
			Weight	Appraisal indicator	
1	Accounting Department	90	10	Accuracy of budget preparation, accuracy in need for procurement materials, use efficiency of procurement materials, contract management, etc.	100
2	Finance Department	90	10		100
3	Management	90	10		100

No.	Appraisal unit	Class hour performance (weight)	Procurement management		Total
			Weight	Appraisal indicator	
	Department				
4	...	90	10		100
Veto items	Violation of laws, regulations and disciplines (other veto items can be added according to the actual situation)				Procurement management weight-10

The weight proportion between class performance and procurement management can also be adjusted according to actual conditions, and universities can scientifically set procurement performance appraisal indicators according to respective actual conditions. The class hour performance indicator is the class wage of each university department (for example, a certain department should pay class wage of 100,000 yuan in a certain month/quarter/year. According to the weight assignment, the actual class performance bonus is 90,000 yuan, and the actual procurement management performance bonus is 10,000 yuan. The actual procurement management performance bonus is mainly used to reward the faculty members with outstanding performance in department procurement management).

4.2 Performance appraisal indicator setting

4.2.1 Rules for setting appraisal indicators

The procurement performance appraisal indicator setting relates to college procurement performance in main processes, which must be a key performance indicator that is “quantifiable, controllable, achievable, and assessable”. According to the indicator attributes, it can be categorized into two types: growth and control types. According to the procurement execution stage, it can be divided into budget link, purchase link and payment link. Based on the four levels of balanced scorecard, each link is refined into financial budget, procurement customer indicator and management indicator, growth and learning indicators, thereby establishing a scientific evaluation system of procurement performance indicators [7]. According to the attributes of university organizations, the setting of management department indicators mainly focuses on procurement organization implementation, supplier management, asset allocation and use, budget preparation and execution, procurement contract management, payment of goods, etc.; each department’s indicator setting mainly focuses on budget preparation accuracy, accuracy in material needs, material use efficiency and contract execution.

4.2.2 Grading in indicator value setting

The value of the procurement performance appraisal indicator can be set as target value and warning value. To promote the effective improvement of procurement business in terms of efficiency and cost reduction, challenge values can be set for individual procurement performance indicators. It is possible to refer to the level of the past three years in setting principles of target value, warning value and challenge value, specifically as follows:

- a) Warning value: It must not be lower than the lower one between the average actual completion value of the past three years and the actual completion value of the previous year;
- b) Target value: It must not be lower than the higher one between the average actual completion value of the past three years and the actual completion value of the previous year;
- c) Challenge value: It must be no less than the highest actual completion value in the past three years $\times (1 + \text{this year's planned improvement rate})$. The planned improvement rate of this year must reflect the pulling effect, which should be implemented after approval by the university procurement management committee.

4.2.3 The principle of indicators grading and scoring

Individual indicators are based on the principle of hundred-mark system. The warning value

corresponds to 0 points, the target value corresponds to 100 points, and the challenge value corresponds to 120 points. When the completion value of a single indicator reaches the target value, all weights of the indicator can be obtained. If the target value is not reached, points will be deducted according to the linear acceleration method. If the completion value of the indicator is lower than the warning value, all weight of the indicator will be deducted.

a) For growth indicators:

When the actual value is less than the warning value, the actual weight = 0.

When the warning value \leq actual value \leq target value,

$$\text{the actual weight} = \left[1 - \frac{(\text{target value} - \text{actual value})}{(\text{target value} - \text{warning value})} \right] \times \text{indicator weight}$$

When the target value < actual value < challenge value,

$$\text{the actual weight} = \left[1 + \frac{(\text{actual value} - \text{target value})}{(\text{challenge value} - \text{target value})} \times \frac{120 - 100}{100} \right] \times \text{indicator weight}$$

When the actual value \geq challenge value,

the actual weight = 1.2 \times indicator weight

b) For control indicators:

When the actual value > warning value, the actual weight = 0.

When the target value \leq actual value \leq warning value,

$$\text{the actual weight} = \left[1 - \frac{(\text{actual value} - \text{target value})}{(\text{warning value} - \text{target value})} \right] \times \text{indicator weight}$$

When the challenge value < actual value < target value,

$$\text{the actual weight} = \left[1 + \frac{\text{target value} - \text{actual value}}{\text{target value} - \text{challenge value}} \times \frac{120 - 100}{100} \right] \times \text{indicator weight}$$

When the actual value \leq challenge value,

the actual weight = 1.2 \times indicator weight

4.2.4 Frequency of different indicators-based appraisal

Appraisal frequency can be flexibly determined on a monthly, quarterly, and annual basis due to different attributes of procurement performance indicators. For example, indicators such as procurement budget implementation rate and payment of goods can be scored quarterly or monthly based on actual needs; anti-corruption prevention and control indicators can be scored and evaluated on an annual basis since scoring on a monthly or quarterly basis is of little significance. The quarterly and annual indicators are based on the principle of “monthly advance, quarterly settlement, and year-end total settlement”. The addition and subtraction of weight scores for the current month should be based on quarterly or annual basis, while annual indicators should be pre-settled at least once in a half-year period.

4.2.5 Performance indicator adjustment rules

The performance indicators should not be adjusted in principle after determined at the beginning of the year. When the indicators cannot be achieved on time due to objective reasons, the department/section responsible for the indicators can submit an adjustment application to the Procurement Management Committee in advance. The University Procurement Management Committee will voluntarily make adjustment without deduction of points.

4.3 Organization and Implementation of Performance Appraisal

At the beginning of each year, the University Procurement Management Committee entrusts procurement management department to organize the relevant management departments and various departments to formulate the annual procurement performance appraisal implementation plan. The plan should specify annual procurement performance appraisal indicator setting and its weight proportion (the procurement management weight has 10 points, multiple performance

appraisal indicators can be set according to the characteristics of the assessed unit within the weight range), appraisal value determination (warning value/target value/challenge value), appraisal frequency (monthly/quarterly/annual), assessed unit (related management department/department responsible for the indicators), which will be strictly implemented after discussion and approval by the University Procurement Management Committee.

The University Procurement Management Committee authorizes the procurement management department to score on indicator completion status in relevant assessed units on a monthly basis according to the appraisal frequency of different indicators before the end of each month. The indicator completion status will first be scored by the assessed unit, the scoring results and relevant supporting materials will be reported to the procurement management department for review. When indicators of the current month need to be adjusted, the assessed unit must submit an adjustment report to the university procurement management committee to obtain approval before the middle of each month. The appraisal scoring results of the current month will directly affect the monthly performance pay of the assessed unit.

At the end of each year, the University Procurement Management Committee authorizes the procurement management department to organize each assessed unit to hold an annual procurement management review meeting. Based on data analysis of the annual procurement performance appraisal results, the results and shortcomings of the annual university procurement management work will be summarized, with direction proposed for the procurement management work in the next year.

5. Conclusion

This paper takes procurement management of colleges and universities as an entry point to try to build a university performance appraisal management system based on balanced scorecard. The procurement performance model can provide references for all aspects of the management work involved in the development of college education. After a certain evaluation weight is given, it can be incorporated in university performance appraisal management system. The performance appraisal management mechanism based on balanced scorecard provides an important force for promoting internal reforms and establishing a modern university system in colleges and universities, which is an important guarantee for the development of first-class universities and first-class disciplines [8].

The excellent synergy effect of balanced scorecard can not only help universities achieve the goal of improving procurement efficiency, but also play a significant role in quantifying employee performance and encouraging advanced employees. In colleges and universities as public institutions, the salary income of faculty members basically comes from financial allocations and is relatively fixed. Moreover, the performance incentives are relatively single, making the majority of faculty members relatively ignore other education management tasks such as procurement outside teaching and rank evaluation, which is inconducive to the overall development of the education industry. It is imperative to deepen the reform of our education system. Referring to the advanced management experience of enterprises and giving full play to the stimulation and restriction role of performance appraisal will become a practical and feasible way to stimulate the enthusiasm of faculty members for entrepreneurship.

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