

Higher Vocational College Small-Sum Procurement Management Price Comparison System Design and Implementation

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How to cite this paper: He, W. T. (2021). Higher Vocational College Small-Sum Procurement Management Price Comparison System Design and Implementation. *Journal of Service Science and Management*, 14, 461-468.

<https://doi.org/10.4236/jssm.2021.145029>

Received: August 14, 2021

Accepted: September 4, 2021

Published: September 7, 2021

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Abstract

This paper focuses on the problems in the course of small-sum procurement for higher vocational colleges as a starting point and analyzes the causes, in order to offer the construction of micromanagement price comparison system and improve standardized management of supply and equipment procurement.

Keywords

Higher Vocational College, Small-Sum Procurement, System

1. Introduction

In recent years, along with the colleges' procurement system of perfect, various college goods, projects and services has been included in the scope of government procurement and brought into the sight of government and public supervision. According to the higher authorities' requirements, the colleges also gradually purchase supplies through the internet platform. China's higher vocational education has developed rapidly in the past two years, the investment of education founding in both the school scale and education grows year by year. School procurement is an extension of government procurement, it is the decentralized individual behavior under the control of the government procurement plans, therefore, it must accept the leadership and guidance of government procurement. In the context of government accounting system reformation, although the schools' procurement system is constantly perfecting and improving, many laboratory equipments for education and research are gradually included to the scope of government procurement. However, for goods that are not on the

procurement catalog or below the quotas standard, there is no unified standard and specification for the procurement management of small-amount projects. Due to lack of strict requirements and supervision mechanism for procurement management of small sporadic projects that schools occupy, the phenomena of “disintegration” and “dismantling” often occur in procurement processes which easily cause increase in corruption (Wu, 2018).

In accordance with the relevant provisions of the government procurement law of the People’s Republic of China and the measures of Shanghai Municipality for the implementation of government procurement, as well as the notice of the Ministry of Finance on printing and distributing the guidelines for the catalogue and standards of government centralized procurement of local budget units, Shanghai Municipal Bureau of Finance issues the catalogue and standards of Shanghai centralized procurement of this year to all units at the beginning of each year, all budget units shall carry out various operations of government procurement in accordance with the catalogue and standards. For items outside the centralized procurement catalogue and the amount which does not meet the decentralized procurement quota standard, the purchaser shall organize the procurement in accordance with relevant budget expenditure management regulations and procurement procedures for internal control of the unit.

2. The Status of College Small-Sum Procurement Management

Currently, small-sum procurement is defined as goods, services and engineering projects that are not in the government procurement catalogue or below the quota standard (Song, 2018).

In order to comply with the development of the times, especially the in-depth promotion of government procurement platform in recent years, the material procurement in Colleges and universities has gradually changed from the original centralized and unified plan distribution form to the diversified market procurement form based on the network mode. However, this has exposed the problems of the small-sum procurement management of school supplies such as:

- 1) Irregular management of small-sum procurement.
- 2) Insufficient intra-school small-sum procurement information platform.
- 3) Small-sum procurement management lacks basic data collection methods and corresponding management methods.
- 4) Small-sum procurement management lacks intermediate progress tracking management, has not utilized digital retracement for procurement history record, lacks of informational means of internal control mechanism.

3. Small-Sum Procurement Management’s Problem and Deficiency in SPPC

Currently, many schools in our nation are gradually constructing their own asset management information system. However, implementing small-sum procure-

ment management lacks corresponding informatization construction in terms of digitalization, informatization and networking.

Using Shanghai Publishing and Printing College as an example, the school logistics security office is the central department in charge of the procurement of school supplies and equipment, and is responsible for the management of the school's materials and equipment procurement activities. While excluding procurements unlisted on the Shanghai Government Procurement Network electronic market procurement catalog and non-dual-use supplies that have supply unit price lower than the fixed assets storage standard (less than 1000 yuan), all supply procurement activities must apply for item procurement through digital school information platform's asset management system. This is then included into the procurement execution plan after been verified by executives of the user department, finance department and relevant competent department. For equipment unlisted on the government procurement catalog single or batch subscription plan exceeding the school's bidding limit, it is required to fill in a "online commission form" entrust a qualified third-party bidding agency to conduct the bidding. For supplies and equipment procurements and service procurements exceeding the price comparison requirements, the user department must fill in "Tripartite Price Comparison Form", and sign a (supply) contract with the supplier after the department head and the school leaders agree. For procurement items with an amount exceeding 10,000 yuan and below the price comparison requirement, it is recommended to use the contract or agreement between the department and the supplier to reduce risk (Zhao, 2018).

Current small-sum procurement management and procurement services in SPPC such as supplies and consumables have no related information-based comparison procurement platform. The current situation is that basic data is scattered, and data analysis and mining are not sufficient. The daily statistical report management of procurement in the school is still in a semi-manual state, the procurement process cannot be managed visually, and the procurement process is not smooth. Supplier quotations are not standardized, audit and supervision management are not transparent, and resource allocation cannot be optimized to the maximum. Further improvement and upgrading are urgently needed. At the same time, improving process standardization has become the core issue of service efficiency and quality. The awareness of procurement services in the Assets Department of SPPC is also constantly improving, especially the convenient and efficient services provided by the external market. Various supporting service methods are being completed by network means, and showing a trend of diversification. Comparative procurement urgently needs to use modern information methods and network environment to effectively improve management level and standardize processes to meet the needs of the new form (Wang, 2015a).

Small-sum procurement management in SPPC is mainly aimed at the implementation of small-sum procurement requirements below the school's bidding

limit. At present, SPPC has two types of small-sum procurement: The first is the direct selection and procurement of shortlisted suppliers. The second is the three-party price comparison procurement. The small-sum procurement management service platform in the school has to collect and process the scattered and isolated information of the demand department, suppliers, tripartite price comparison, fund management department, asset management department, project leader, project supervisor, bidder and other related links to form an information management chain. Then process, analyze, and record the management data of each link, make them interactive and organically connect, and form a comprehensive management service platform for the school's procurement. This should utilize mature technology to simplify the services currently required by teachers, and information technology makes management and campus procurement management more transparent. Simultaneously, it performs statistical query management on the use of funds, assets, supervision and resource sharing of various departments and various types of information. This reduces overall operating costs, effectively avoids operating risks, reorganizes resources, and maximizes benefits (Wang, 2015b).

4. The Main Functions of the Minor Management Price Comparison System Based on Information Construction

SPPC is actively promoting the construction of smart campus informatization in the process of building a modern college system. Among them, the existing attempts and urgent needs of administrative service reform and optimization are mainly through research and in-depth analysis of current vocational college materials and consumables. Based on the current situation of purchases, actively explore how to optimize and improve the management process based on the construction of informatization, docking the campus intelligent information management platform to establish a small-sum procurement information system such as network supplies and consumables. The functions expected to be completed are as follows:

System integration management mainly includes modules such as data synchronization, portal to-do integration, and SMS integration. The small-sum procurement system and the data center realize basic data sharing to ensure that the basic data is unified across the school. At the same time, the system and the data center are connected to realize the small-sum procurement system data and shared platform data are submitted to the data center, providing other application systems with small-sum procurement system management and basic data support for shared services. The system portal provides the integration of to-do items, and all to-do items can be viewed and approved on the portal. The system provides SMS integration function, which can realize SMS reminders and other functions by docking with school operators.

Authority control management mainly includes user management, role management module, and authorization management. User information mainly in-

cludes basic attributes such as user ID, user code, user name, belonging department, contact information, and email address. The system provides functions such as user addition, user modification, and authorization. The system user management module manages all user information in the school's public basic information platform, thereby linking each user with relevant information about the management of small-sum procurement. At the same time, it supports basic operations such as adding, deleting, modifying, and checking users in the small-sum procurement system. The authorization information includes the role number and the related attributes of the role name. The system supports functions such as authorizing and modifying authorizations. The system adopts Role-Based Access Control, through role definition, assigns different access authorizations, and finally implements user access control. The system can also grant various permissions to specific roles through authorization to meet the different needs of the school for different management content of personnel at all levels.

Process control management, the system provides process customization functions, and schools can set up a personalized approval process according to their needs.

Basic data management mainly includes department management and data dictionary management modules. Department information includes department ID, department name, superior department ID, and related attributes of department heads and purchasing administrators. The system supports functions such as department addition, department modification, assignment of administrators and department heads. The system uses a tree structure to manage the relationship between all departments and sub-departments of the school, and supports functions such as administrator setting, department name setting, and department modification. Establish a complete set of data dictionary, all code standards are set in accordance with customer requirements to ensure the standardization of data format.

Campus small-sum procurement management service platform

Procurement method management, procurement methods include direct selection of shortlisted suppliers, three-party price comparison procurement, and the management of two procurement methods.

To generate a project, enter the "Generate Project" through the front desk of this platform or single click sign-on, and the handler will add new input relevant project information to generate the project.

Procurement demand production, according to the generated project, obtain purchasing demand data through procurement demand production or interface form, the handler selects the relevant basic information, and follows the relevant process.

The procurement announcement is released. After the procurement documents are approved, the announcement can be posted on the website to contact the supplier.

The three parties of the project compare prices, and the personnel in charge of the comparison and selection procurement business can confirm whether it is necessary to collect the paper-based comparison and selection technical documents offline, and confirm the basic information such as the number of participating units.

Registration status, check the current supplier participation status, including the number of packages, supplier name and other status. Supplier online file download, supplier login system to download project information.

Suppliers register online. After downloading the project materials, the suppliers will register online. The supplier registration list and information are automatically transferred to the project manager.

Suppliers offer online quotations, and suppliers can improve the comparison and selection documents, quotations, etc. on the Internet.

Inquire about the selected projects, and the members of the tripartite price comparison team inquire about the projects currently being compared.

Query the comparison and selection requirements file, and the members of the tripartite comparison team can open it at any time during the comparison process to view the current comparison and selection procurement information.

Query and select technical files, members of the tripartite price comparison team can open and view the current comparison and selection technical files at any time during the comparison and selection process.

The price score is automatically calculated, and the system automatically calculates the price quoted by the supplier to calculate the score.

Summarize the scoring results, and the members of the comparison team input summary opinions and automatically summarize the scores of the members of the comparison team for each content selected by the supplier.

The results announcement will be released. After the procurement report is approved, the project results announcement will be released.

Procurement item query, the system queries the quantity, amount, content, etc. of the procurement items within a period of time. You can also inquire about the details of the procurement items of each handler.

Query procurement results, query according to project completion time, project ID, project name, supplier name, transaction amount, and capital saving rate.

Supplier transaction status query, according to transaction amount, transaction supplier, and completion time to query the details of the supplier's participation in all projects.

Statistics of transaction/non-completion announcements, check the number of transaction announcements and annulled bid announcements, budget amount, and the consumption amount of transaction announcements in the current year. The statistics of the evaluation of the tripartite comparison group are based on the time period, the number of members who participated in the evaluation during the time period is checked, and the situation of the specific project is checked.

The comparison template setting supports the customization of the comparison and selection content of different procurement items, and prepares the import and export announcements according to the score of the table.

Supplier database management, establish a supplier database participating in the procurement self-service platform, and maintain and query suppliers.

Approval process setting, according to the audit function, the administrator can set the audit authority for different functions, and support the setting of multi-level auditors.

Procurement department management, according to the needs of the project, add procurement department information.

Correct the announcement, select the project editing time or the announcement content, submit it to the auditor for review, and then publish it.

Website announcement management, displaying all the results announcements that have been posted, and at the same time posting other results announcements outside the school.

Interface docking, the school's identity authentication system, asset system and this system are docked to realize the unified identity authentication of school personnel to log in to this system. The school data sharing platform is docked with this system to realize real-time sharing of school business system data.

Product library management module, the product library is mainly for the management of small-sum procurement items, furniture goods, software and service products within the school's bidding limit, and the management of basic information display, function description, price and other related index parameters of the product.

Supplier selection business process management module. The supplier selection business management is to purchase goods, software and service products in small amounts within the school's bidding limit. It is suitable for supplier selection business management processes. Supplier selection, daily management, and business processes, Management, etc. Such as small repairs, project design, etc., these projects can be directly selected from the shortlisted suppliers at the beginning of the year and signed a contract.

Three-party price comparison business process management module, three-party price comparison business management is a small-sum procurement project within the school's bidding limit, which is suitable for business process management for the needs of three-party price comparison procurement.

5. Conclusion

The characteristics of small-sum procurements are random, passive, decentralized, sporadic, small single batch, large total, complexity and difficult to manage (Liu, 2012). The existing methods are difficult to meet the characteristics and management requirements of small-sum procurements. Compared with traditional procurement, the system can initially solve the informatization methods

of data collection, procurement process, data analysis, internal control management, decision support and supervision and management in the process of small-sum procurements, and further accelerate the information construction of small purchases such as school materials and consumables to achieve the visualization and traceability of the construction and management of the school's procurement information.

However, the system also has some limitations. To improve the efficiency of the small procurement system, we need to improve the applicability of the bidding system, the audit supervision link and the openness of the system according to the actual requirements of equipment procurement in colleges and universities.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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