Study on Application of ABCM to Construction Project

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Abstract: Because of lacking effective information, the traditional cost management of construction project changes into cost calculation at presen. Through comparison of activity-based cost management and traditional cost management, the paper proposes that using activity-based cost management and strict process system of traditional cost management can solve the actual problem of construction project. The paper provides an activity-based cost management application mode and concludes that the mode's key point is first-phase preparation.
Key words: ABCM; Construction project; Construction company

1 Introduction

In China, if you ask project managers of construction how about cost control, he will answer that cost is the responsibility of accountant. But an accountant lacking professional construction knowledge and effective information on-site will change cost management into only one job: cost calculation. Activity-based cost management (ABCM) calculates cost based on activity not process. It pays more attention to analysis effective information based on activity. Thus ABCM needs to be introduced in cost management of construction project.

Before 1980s, cost management theory focus on cost calculation and cost control. During this period, fixed cost was separated from variable cost in the journal of cost management accounting. After market economy's setting up, as a paying more attention on market price cost management, target cost management appeared. During the period of late 1980s, ABCM was introduced in China. Researchers did a lot of fruitful studies in the field of ABCM theory (Wang, 2001) as a new cost accounting and cost management system, ABCM application is widely adopted in developed countries (Cooper, 1988). However, it is still under discussion in China. While some research has been done on the application of ABCM in Manufacturing (Ou, 2000), the ABCM in construction seldom has been discussed. So there is great theoretical and realistic significance to research and spread ABCM in our country.

2 Methodologies

2.1 Traditional cost management

Traditional cost management focuses on products. It is a process that real project product cost is calculated on the foundation of Confirmation and calculation quantity of resources consumed. According to construction project management rules (GB/T50362-2001) issued by construction ministry cost management of construction project include the following six steps: cost forecast, cost plan, cost control, cost accounting, cost analysis, cost assessment.

2.2 ABCM

ABCM focuses on activity-based cost calculation. On the foundation of the dynamic information provided by activity-based cost calculation analyzes and amends all activity-based cost and leads cost management deep into activity-based. It eliminates the no-Value-added activities so as to promote operation efficiency of Value-added activities. It reduces the waste of resources so as to be more competitive. Finally the level of production and management of the entire value chain will be improved continuously. Activity-based cost calculation includes two steps. The first step is activity confirmation, activity integration and Activity Cost Pool construction. The second step is resource cost accumulation. The third step is calculation of activity cost and product cost

2.3 Comparison

Through the comparison as shown in table 1 between traditional cost management of construction project and ABCM, we can find that traditional cost management has strict six steps. ABCM is so meticulous and deepgoing that it is decomposed into cost management's activity. If we preserve the strict six steps where we use ABCM idea and activity view perspective to implement. We can both have the strict six step and accurate and meticulousness.

Table 1 Advantages of Two Types of Cost Management

	traditional Construction project cost management	ABCM
Advantages:	Management system is strict.	⑴The management is meticulous and deepgoing. It is easier to find existing problems in the management. ⑵Cost information is complete and accurate. ⑶Cost control object is more centralized and helpful to control cost and improve management from the beginning. ⑷It is helpful for company to establish their own cost forecast tools. ⑸It is helpful for construction company to adapt to market development pattern in future.

3 Application of ABCM to Construction Project

3.1 Some first-phase preparation

3.11 Full-time institutions of ABCM

ABCM, as a kind of advanced cost calculation, cost analysis and improvement method, incorporates many advanced management ideas. In our country, it is Spread and exploited from manufacturing industry to services industry. This lays the foundation for construction industry how to use ABCM knowledge. At present, the large construction project want to apply for advanced cost management, but they still lack of Construction project's success experience to imitate. In order to make the ABCM knowledge can be used more quickly and effectively in construction industry, it is needed to set up Full-time institutions of ABCM and organize training sessions. Denny McGeore and Angla Palmer pointed out the ABCM team should not be too big. So far, there is not found the most Appropriate ABCM team number, but it is evidence that eight person is the maximum number. The eight people required various business knowledge and technical data, so it is feasible that training can be started from locating right persons from existing engineering and technical personnel, financial personnel and production management personnel. Then put these three kinds of people together to set up an ABCM full-time institutions. The full-time institutions play a role through exercising suggestion right, formulate the ABCM implementation regulations, and define the organization, object, working procedures and rewards method after making the economic effect of ABCM so as to ensure the full-time institutions operate efficiently

3.12 Comprehensive information communication

The basis of ABCM is information and data, so setting up an unblocked, reliable information channel is very important. Not only the construction project internal information flow should be set up, but also profession information flow and external market information flow. Accordingly, the information flow model can be set up as shown in Figure 1.

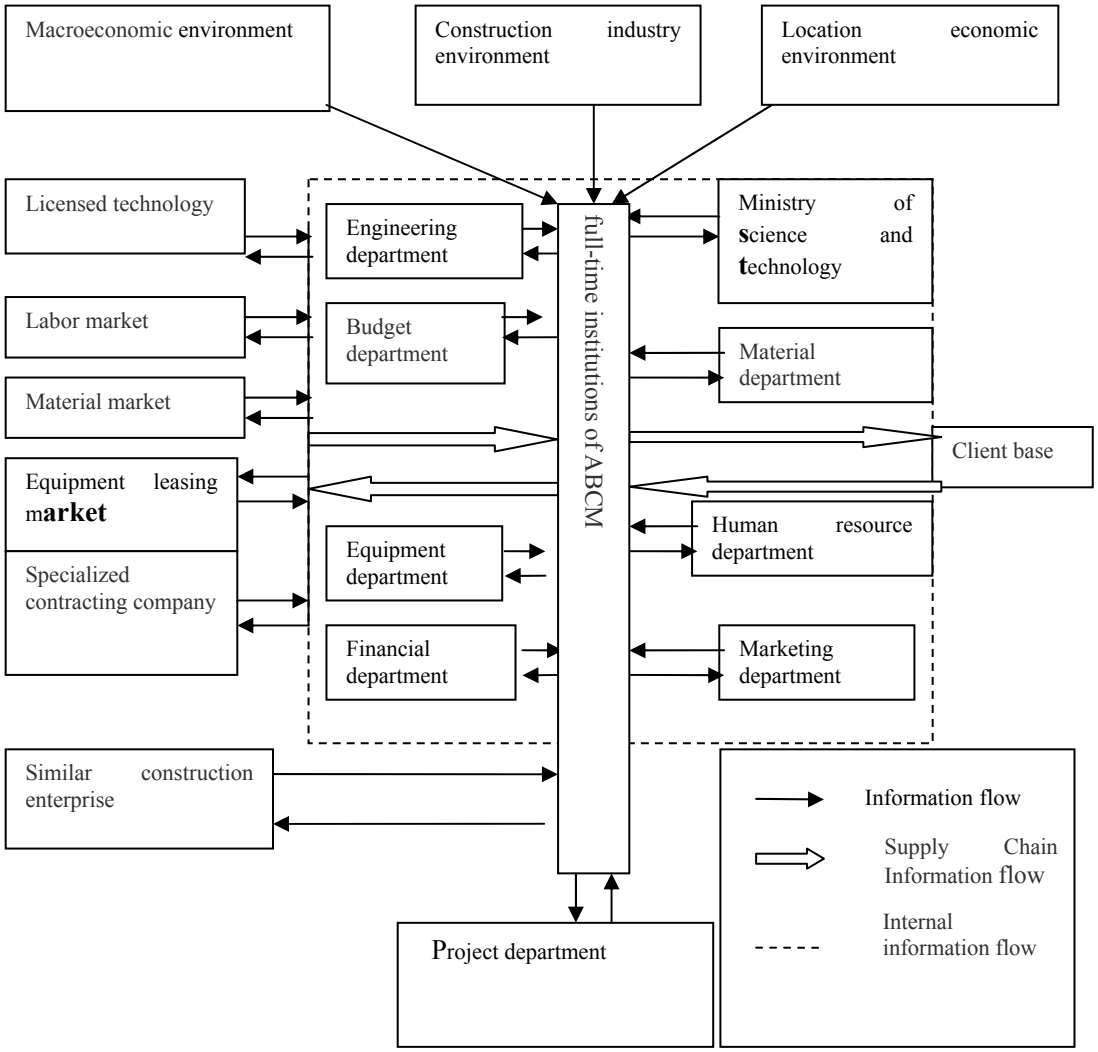

Figure 1 ABCM Information Flow Model

3.13 Construction project's activity coding system and foundation database

If a construction project wants to specifically control its every part of activity-based cost, it must classify project into some activity easy to control through the coding system. This is coding system's basic function. It is needed to set up unified construction project's activity-based coding system within the company based on traditional coding system of construction industry so as to make the different construction project's classification caliber of activity be same. Construction Company has not established coding system whose classification caliber is activity until now. It is a bottleneck for ABCM application in Construction industry. Lack of unified activity-based coding system can lead to different project participants decompose the same project but the activity system is different, so as to be difficult to communicate with each other. When it is time to account, cost analyze and economic assess there is not same caliber and the advice from activity-based cost management team is difficult to be adopted. When A construction project is completed, it is classified some activity using activity-based unified coding system. This construction project's activity-based data can be easily put into the computer system to preserve. These data are preserved continuously in order to form Construction Company will form their own database. Project Management personnel can easily make cost forecast and control on the foundation of their own database. When project finish, Project Management personnel make project's management assessment on the foundation of their own database. The data are enriched unceasingly. This is a dynamic improvement process and virtuous cycle system.

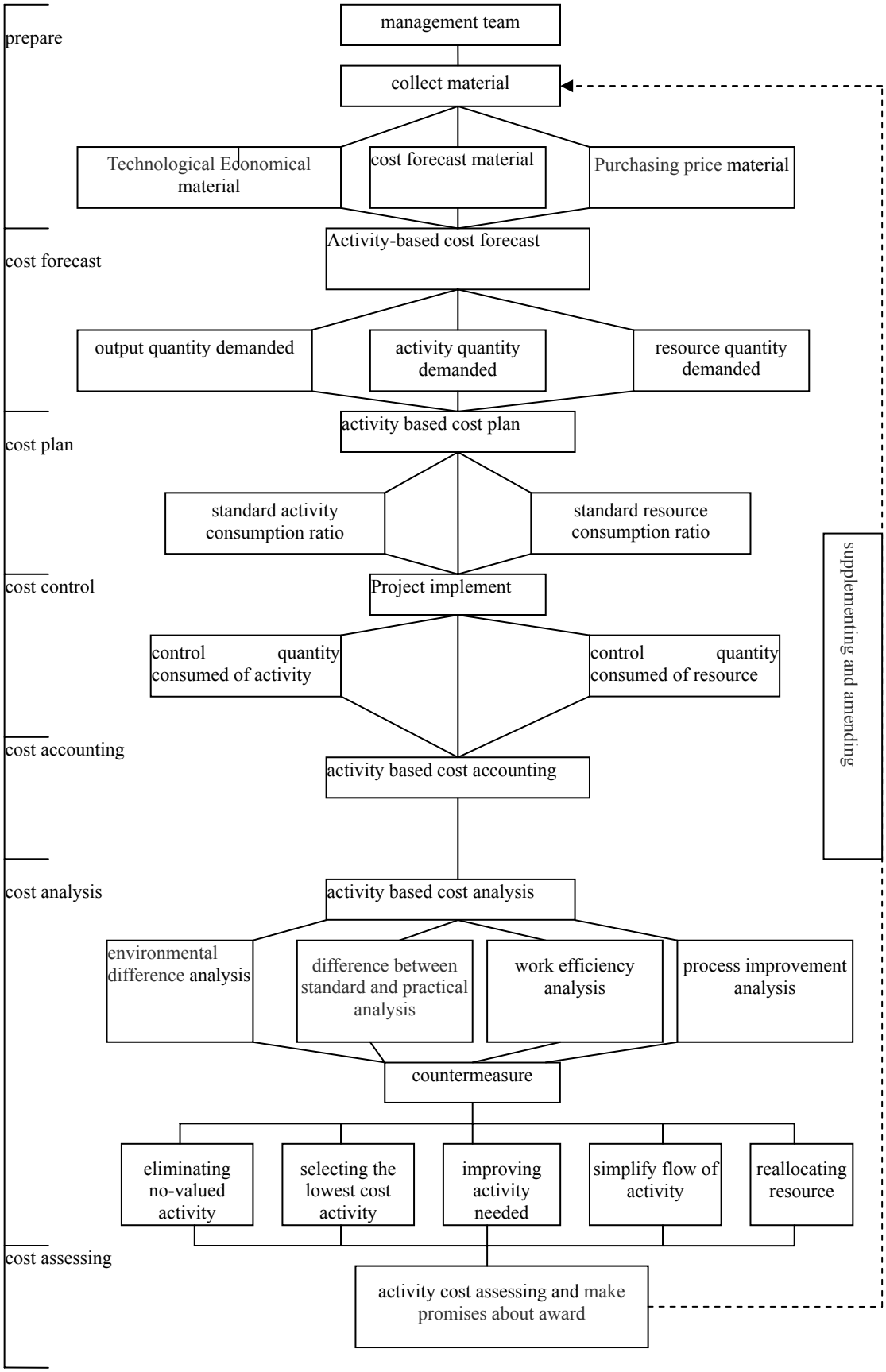

Figure 2 Cost Management of Construction Project Based on ABCM Flow

4.2 Action step

There are eight action steps as shown in figure 2. The first step is preparation; the second step is cost forecasting; the third step is cost planning; the fourth step is cost controlling; the fifth step is cost accounting; the sixth step is cost analyzing; the seventh step is cost assessing.

5 Conclusion

Construction project does not set up cost responsibility, because of lacking effective information. It can not find where resource is wasted and what we can do to reduce cost .ABCM using the activity-based cost calculation's dynamic information analyzes and amends cost. ABCM can solve the Inauthentic Information. But ABCM is a complete new idea for construction company, whether is used in point is unknown. Experience from developed country and conclusion of researcher in china indicate that ABCM Apply to Industry where management level is advanced. For Construction project, introducing ABCM Is not completely abandoning the existing project management mode and setting up a new system. That Advantages of Traditional cost management and ABCM are united to utilize is an optimal choice. In this mode, first-phase preparation is necessary. The contribution of this paper is not only providing an ABCM mode for construction project but also the giving direction for Construction Company that is setting up an unblocked, reliable information channel and collection material and data in order to set up Construction project's activity coding system and foundation database.

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