

## On the Activity-Based Budget of Teaching Business in Colleges and Universities

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### Abstract

**Activity-Based Budget (ABB) is a kind of Activities-Based Cost Method (ABC), adopting the basic principle of "products consume activities and activities consume resources", which has very strong industry practicability and has the research in the other industries. Up to now, the Activity-Based Budget is still in the stage of discussion in the non-profit organizations, and has not been widely used, and is also less applied to colleges and universities. Therefore, based on the theory of activity-based budget, using inductive analysis and qualitative analysis methods, this paper analyzes the application of activity-based budget in colleges and universities, and expounds in detail the feasibility and necessity of the application of activity-based budget in teaching business in colleges and universities and the framework and steps formulated. Finally, it points out the enlightenment and significance of the activity-based budgeting of teaching activities in colleges and universities.**

### Keywords

**Activity-based budget, teaching business in colleges and universities, budgeting.**

### 1. Introduction

The teaching business in colleges and universities refers to a series of activities such as teaching organization, implementation, management and so on in order to cultivate students. It is the main work of the operation of colleges and universities, and the teaching business occupies a relatively large proportion in the whole business of colleges and universities with a large consumption of resources. This requires a reasonable and effective way to allocate resources, while the traditional budget method is a rolling method, which can not allocate resources reasonably, nor can it establish a medium- and long-term target plan. Therefore, it is necessary to explore the application of new budget method in teaching business in colleges and universities.

For the research of activity-based budget, scholars all over the world mainly focus on the concept, budgeting, and management system. On the basis of collecting relevant data for analysis and research, Cooper and Kaplan put forward the viewpoint that activity-based budget is "activities-based cost method", which is based on the principle of "products consume activities and activities consume resources", and the calculation path is: product (service) activity resource. From the concept, activity-based budget includes four factors: product, activity, resource and cost driver. At present, the research on the application of activity-based budget in enterprises has been mature, and has been gradually introduced into the budget management of enterprises. It has been involved in the manufacturing industry, public hospitals and communications enterprises, which lays the foundation for the application in colleges and universities. And the operating mechanism of the activity-based budget is consistent with the teaching business in colleges and universities, which can fully understand the causes of each cost in colleges and universities, effectively control the expenditure of related expenses, and promote the efficient operation of colleges and universities. Therefore, this paper

discusses the activity-based budget from the aspects of the necessity, feasibility, framework, steps and so on.

## **2. The Necessity and Feasibility of the Application of Activity-based Budget in Teaching Business in Colleges and Universities**

### **2.1. The Necessity Analysis of the Application of Activity-based Budget in Teaching Business in Colleges and Universities**

With the development of higher education, the school scale of colleges and universities is expanding and the number of colleges and universities is increasing. From 2005 to 2015, the number of colleges and universities has increased from 1792 to 2560 with an increase of 768. The corresponding financial investment is also gradually increasing. The proportion of national fiscal expenditure of education in GDP has been increasing. Although there was a decrease, the margin was very small. In 2000, the proportion was 2.56%, while it had increased to 4.28 by 2012. Although it had decreased from 2013 to 2015, it still remained above 4%. This shows that our country's investment in education funds is increasing year by year.

From the above data we can know that the school scale and funds of colleges and universities are increasing, which puts forward a new demand for the budget management of colleges and universities, and needs more reasonable and effective budget methods to optimize the allocation and use of funds.

At present, the budget adopted by colleges and universities in our country is the "incremental budget method". The incremental budget method is based on the previous year's budget and uses experience to make budget judgment for the next year. This kind of budgeting is easy to use, but often doesn't take into account the specific circumstances of each college. The development of the school is constantly changing every year, the situation of each college is also different, and the performance of the college is also different, which will inevitably lead to the inaccuracy of the college budget.

This empirical judgment method in colleges and universities has also left the budgeting in a passive position. The departments in colleges and universities have long formed a lazy thinking. After spending their funds, the departments just wait for the schools to redistribute their funds. Each department gets an equal share regardless of the work done in the funds allocation, which is not good to arouse the enthusiasm of increasing revenue and saving expenditure, so the incremental budget method has great limitations.

The activity-based budget can fundamentally explore the causes of the cost incurred in colleges and universities, and determine the budget data based on more facts, so that the budgeting makers can discuss the expenditure of the next year on the basis of the facts, which can not only effectively reduce the cost, eliminate invalid work, but also promote the long-term development of colleges and universities. Therefore, it is necessary to apply activity-based budget in college budget, so as to carry out cost accounting more accurately.

### **2.2. Feasibility Analysis of the Application of Activity-Based Budget in Teaching Business in Colleges and Universities**

The application of the activity-based budget is conditional and not applicable to all enterprises. First of all, ABB is suitable for the enterprises that direct materials and direct labor occupy a small proportion in the product cost while the proportion of indirect expenses is larger. Secondly, ABB requires higher management thought, needs to go deep into the micro level of activities, and can achieve the division and aggregation of activities. Thirdly, the establishment and implementation of ABB has a high requirement for computer system so that the accounting units must have highly modern office facilities.

The teaching business in colleges and universities has the following characteristics, which accord with the application conditions of activity-based budget.

(1) The "product" is divisible. The cultivation objects in colleges and universities are generally characterized by many specialties and various ways of studying. According to the major categories, they can be divided into liberal arts, science department, engineering course and so on, while according to the way of study, they can be divided into undergraduate, graduate, in-service graduate, doctoral students and so on. In order to accurately calculate the educational cost of colleges and universities, it can be calculated according to the way of studying.

(2) The activity is divisible. Colleges and universities are the bases for training talents with stable secondary faculties and departments with obvious functions, which needs different services from different departments, which is in line with the principle of activity-based budget. Each department has several activity centers, and one activity center is composed of several sub-activities, which requires the division and aggregation of activities. For example, the teaching business in colleges and universities has activity centers such as teaching management, educational administration management, student management, and so on, and these activity types have a certain degree of stability.

(3) The indirect expenses of colleges and universities are many and complicated. Universities and colleges have strong cooperation in education, high degree of resource sharing, the inputs are comprehensive, such as utilities, maintenance costs and so on, which need to be allocated among different cost accounting objects. And the driving factors of each indirect charge are different, so that it is necessary to determine different cost drivers. For universities, the activity drivers include the number of class hours, the number of students and son on, while the resource drivers are the number of people, working hours, days and so on.

(4) Other advantages. Colleges and universities have the talent and information superiority in adopting activity-based budget method. As service organizations, colleges and universities have a high quality of management personnel with good knowledge base, and good hardware facilities and advanced information processing technology, which can meet the most basic requirements of the activity-based budget.

To sum up, colleges and universities have the conditions to apply the activity-based budget, so it is feasible to apply the activity-based budget to the teaching business in colleges and universities.

### **3. The Framework and Steps of Activity-Based Budgeting for Teaching Business in Colleges and Universities**

#### **3.1. The Framework of the Activity-Based Budget Applied In Teaching Business in Colleges and Universities**

Activity-based budget mainly includes product, activity and resource. Based on the basic theory of activity-based budget, this paper analyzes the "product", activity and resource of colleges and universities.

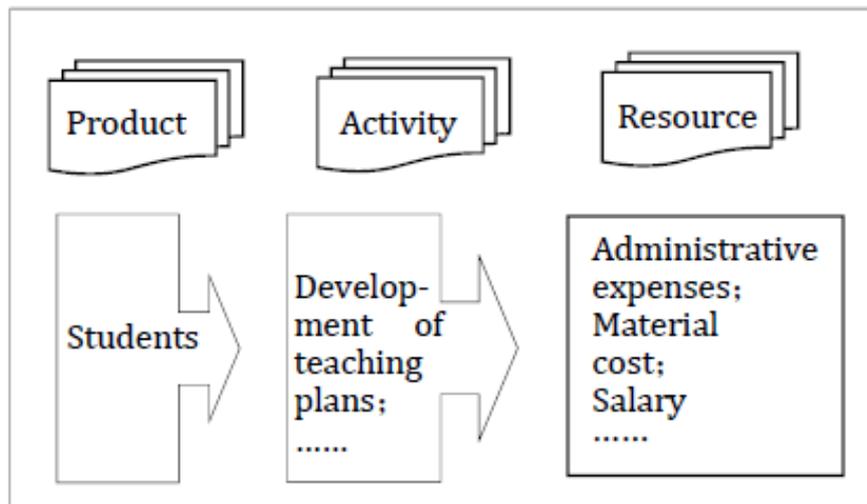
According to the division of manufacturing cost, the "product" of the colleges and universities is the student, all the students are the object of cost accounting. However, because the students in colleges and universities are divided into doctoral students, master students, undergraduate students and junior college students, the cost of educational services provided by colleges and universities to students at different levels is different. Therefore, in order to accurately calculate the cost of teaching business in colleges and universities, colleges and universities should regard different levels of students as different educational service objects.

According to the number of "products", this paper analyzes the activities that need to be consumed. The activities of college and university teaching mainly refers to the work needed to

train students. For colleges and universities, the process of cultivating students is divided into four aspects: enrollment registration, military training, teaching, experimental practice, graduation design, employment and so on.

It is necessary to determine the resource items and how much resources need to be consumed after determining the various activities in the teaching business of colleges and universities.

Based on the above analysis, the basic framework of teaching business in colleges and universities is constructed, as shown in Fig. 1.



**Fig 1.** Basic framework

### **3.2. The Steps of Applying Activity-Based Budget to Teaching Business in Colleges and Universities**

The specific steps are as follows:

- (1) Predicting the number of students in the next academic year according to the previous data of colleges and universities and the total annual enrollment target issued by the Ministry of Education and the provincial government.
- (2) Determine the budget unit according to the organizational department needed to cultivate the students.
- (3) According to the causes and ways (i.e. the activity drivers) of the activities required to be consumed for cultivating students, decompose the activities needed in cultivating students, determines each activity center, and then determines the concrete activity of each activity center.
- (4) According to the type and mode of resource consumed by activities (i.e. resource driver), statistically analyze the previous cost data to obtain the activity driver rate, determine the amount and cost of resources needed to complete an activity.
- (5) Add up the budgets for all the activities that train the students to obtain the total budget requirements.

The example budget analysis is shown in Table 1.

**Table 1.** Budget Analysis Table (sample)

Activity center	Specific activity	Resource project	Resource driver	Resource consumption	Cost driver rate	Resource demand value	Budget amount
Teaching and research activity center	The formula-tion and the revision of the teaching plan,and the curricul-um for the whole school ; .....	administrative expenses	Office population				
		Postal electricity bill	Number of times				
		Travel expenses ...	Number of staffs in business trip				
...	...	...	...	...	...	...	Total

#### 4. Conclusions

In short, the use of activity-based budget in colleges and universities is unstoppable. On the one hand, it constructs a new system for the budget management of colleges and universities, provides a new perspective, designs reasonable and effective budget ideas and methods, and promotes the perfection of the budget management system in colleges and universities. On the other hand, reasonable and effective budget can control the expense of colleges and universities, reduce the cost effectively, thus realizing the optimal allocation of resources. Through the above related narration, this paper preliminarily constructs the budget framework of teaching business in colleges and universities based on the activity-based budget, integrates the advantage of the university with the advantage of the activity-based budget, and formulates the budget management method suitable for the colleges and universities.

#### References

- [1] Ou Peiyu, Wang Pingxin. Study on Activity-Based Budget Model [J]. Contemporary Economics, 2004, (235): 122-124.
- [2] Pan Fei, Guo Xiujian. Study on Activity-Based Budget [J]. Accounting Research, 2004, (11): 48-52.
- [3] Li Zhigang, Huang Zhujun. An Analysis of the effectiveness of the Application of Activity-Based Budget in the Budget Management of Colleges and Universities [J]. Entrepreneur World, 2008, (06): 100-101.
- [4] Zhang Tiehong. Study on the Application of Activity-Based Budget in Colleges and Universities [J]. Communication of Finance and Accounting, 2012, (05): 122.
- [5] Gao Ying. Study on the Activity-Based Budgeting in Colleges and Universities [J]. Friends of Accounting, 2017, (17): 110-113.