

The Application of Activity-Based Costing Method in Hairdressing Service Industry

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Supported by the phased results of the 2017 school-level project of China Women's University (110003240204) and phased results of the 2017 special training for young teachers' scientific research ability of China Women's University (2017QN-0106).

Received 4 May 2019; accepted 20 August 2019

Published online 26 September 2019

Abstract

Compared with the traditional costing method, the activity-based costing method makes the product cost close to the period cost and improves the authenticity and usefulness of cost information by reforming the distribution of manufacturing costs. This paper applies activity-based costing method to hairdressing service industry, which divides the five operations of washing, cutting, blowing, perming and dyeing, and carries out cost calculation and cost management for various hairdressing products, highlighting the basic principles of activity-based costing method. The study found that the application of activity-based costing method in hairdressing service industry could adjust the pricing according to the actual situation, and had the advantage of increasing the value of the product and reducing unnecessary costs.

Key words: Activity-based costing method; Hairdressing service industry; Overhead; Resource driver; Activity driver

Dong, L., Miao, Q. L., Kuang, L. Y., & Yan, R. S. (2019). The Application of Activity-Based Costing Method in Hairdressing Service Industry. *Canadian Social Science*, 15(9), 34-39. Available from: <http://www.cscanada.net/index.php/css/article/view/11276> DOI: <http://dx.doi.org/10.3968/11276>

In modern manufacturing, demand for personalized

products increases the proportion of overheads and even changes the structure of overheads. The overheads at this time are not directly related to the production process, or even completely outside the manufacturing process. Thus, if traditional costing method is used to assess and analyze the composition and level of product costs, it will be impossible to obtain real cost information useful for decision making. However, as an important cost accounting and management method, activity-based costing method provides real and useful cost information for business decision by reforming the distribution method of manufacturing costs. In the academic world, through in-depth study and promotion of accounting scholars, activity-based costing method has developed at both theoretical and practical levels. In this paper, activity-based costing method is applied to an actual case of hairdressing service industry. The incremental contribution to the related research is mainly reflected in the aspects below. First, set the 'other' items, including the overheads not related to operation activities, and also distribute overheads for activity-based costing method. Second, the application of activity-based costing method to the actual case of hairdressing service industry highlight the basic principles of activity-based costing method and explore the advantages and limitations of application of activity-based costing method in service industry through specific accounting process.

1. OVERVIEW OF ACTIVITY-BASED COSTING METHOD

Activity-based costing method is a cost accounting and management method that distributes the resources consumed by enterprise to operations according to resource driver, and distributes the costs collected by operations to cost objects according to activity driver. The essence is to separate, summarize, and combine between resource consumption and product consumption

by operation, thereby forming various product costs and different management costs. The distribution method of manufacturing costs reformed by activity-based costing method converge product costs with period costs, which improves the authenticity and usefulness of cost information for decision-making. Figure 1 below shows the basic calculation procedure for activity-based costing method, which decomposes and distributes resource cost value to operations and then distributes the value of each operation collection to the final service or product.

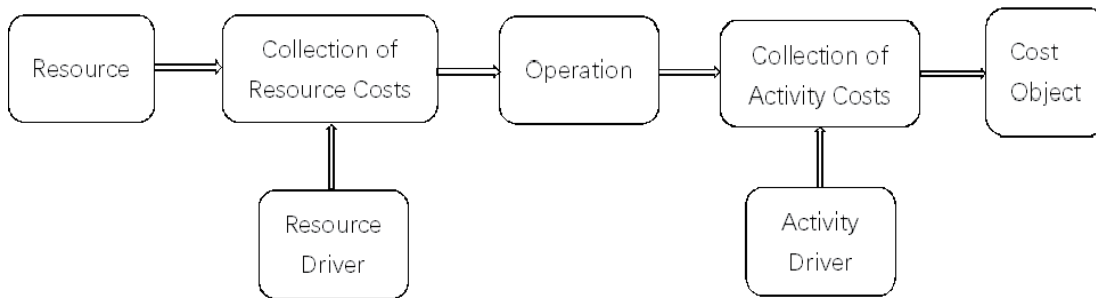


Figure 1

Traditional costing method divides the product costs into direct labor, direct materials and manufacturing costs, and assumes that manufacturing costs is related to direct production process, distributing manufacturing costs to different product costs according to the proportion of direct labor hours or machine hours consumed by each product in a single distribution standard. However, in modern manufacturing, the demand for personalized products increases the proportion of overheads and even changes the structure of overheads. The overheads at this time are not directly related to production process, or even completely outside the manufacturing process. If traditional costing method is used to distribute such overheads to the final product or service, the correctness of relevant cost decision is reduced. Compared with traditional costing method, activity-based costing method effectively solves this drawback and makes the decision-making result more accurate and scientific by reforming the distribution method of manufacturing costs. In a changed manufacturing environment, more and more companies will choose activity-based costing method. Especially in service industry, direct costs involved in the product is small, most of which are complicated overheads with large proportion. Therefore, unlike traditional costing method used by industrial enterprises, service industry adopts activity-based costing method as a cost accounting and management method, which can clarify costs and correct pricing. This article takes the actual situation of the hairdressing salon as an example, and applies activity-based costing method to the product cost calculation so that the enterprise can understand the cost of its various products better.

Specifically, the resource is used as the starting point of the model, and the requirements of cost object for the operation are taken as the basic assumptions. The influence of resource driver and activity driver on the collection process is introduced and the overheads of all business activities are collected into the operation. Calculate the cost of each operation, then distribute the activity costs to the cost object, and finally calculate the total cost of the product.

2. CASE STUDY OF APPLYING ACTIVITY-BASED COSTING METHOD IN HAIRDRESSING INDUSTRY

2.1 Company Profile and Basic Business Data

This article selects FS Hair Salon as the analysis object. FS Hair Salon is located in Yuhui, Xiaoying Road, Chaoyang District. By March 2019, it has been in business for three years. The size is 60m² and there are 4 employees. The basic data is as shown in Table 1:

Table 1
Basic Data

Rent	150000 yuan/year
Renovation costs	160000 yuan
Water costs	600 yuan/month (2.32 yuan/ton)
Electricity Costs	900 yuan/month (1 yuan/degree)
Sanitation Costs	50 yuan/month
Selling Costs	12000 yuan/year
Cold perm machine	350 yuan/piece (Can be used for 1 year)
Hot perm machine	10000 yuan/piece (Can be used for 4 years)
Hair Dryer	150 yuan/piece (Can be used for 3 years)
Washing Machine	1000 yuan/piece (Can be used for 10 years)
Water Heater	1000 yuan/piece (Can be used for 5 years)

The original value and age of the equipment required during business process are provided by the merchant. The main calculations are the large-scale home appliances required for daily use in the store. The rest of the materials such as tables and chairs, shampoo chairs and other materials are included in the renovation fee. Both are depreciated using the straight-line method and

have no residual value. According to calculation, the monthly depreciation fee of the store is 283.33 yuan. The depreciation calculation process is shown in Table 2.

Table 2
Monthly Depreciation

	Count	Price	Age	Monthly depreciation	Total monthly depreciation
Hair dryer	5	150	3	4.17	20.83
Cold perm	1	350	1	29.17	29.17
Hot perm	1	10000	4	208.33	208.33
Washing machine	1	1000	10	8.33	8.33
Water heater	1	1000	5	16.67	16.67
Total	—	—	—	—	283.33

It can be seen from the above basic data that the basic materials needed by the hairdressing salon cannot be clearly distributed to each product. For example, hair dryer, water heater and washing machine required for washing towels should calculate the corresponding depreciation according to the actual number of uses in the cost calculation of each product. Therefore, there are many kinds of products in hairdressing industry, which involve many types of cost. If traditional costing method is used to calculate the operating costs of the hairdressing enterprises, the cost of each service product will not match the actual situation, and the profitability of each service product cannot be truly reflected. Management becomes difficult due to inaccurate cost information. In the fierce competition environment of service industry, managers may waste resources on the customer groups with low profitability based on the wrong information, unable to find superior products or improve market competitiveness.

2.2 Specific Application in Combination With Business Conditions

Assign Resource Consumption to the Operation

According to the specific circumstances of the case, overheads include materials, labor, utilities, depreciation, sales, sanitation and rent. According to the three products of creative washing and blowing, hairdressing package (perm), hairdressing package (dyeing), related operations

Table 4
Production Planning for This Month

Name	The number of times (person)	Unit material (yuan)	Required working hours quota				
			Washing	Cutting	Blowing	Dyeing	Perming
Creative washing and blowing	680.00	0.26	0.1	0.5	0.2	—	—
Hairdressing package (Perming)	340	56.08	0.1	—	0.2	0.25	—
Hairdressing package (Dyeing)	340	55.82	0.2	—	0.4	—	0.25

2.3 Distribute Operations to Products

According to the analysis, creative washing and blowing is related to three operations of washing, cutting and blowing. Dyeing is related to three operations of washing,

can be divided into five kinds: washing, cutting, blowing, perming and dyeing.

According to the relevant data provided by the merchant, the number of customers arriving at the store per month is about 1360 people, and the hot dyeing rate is 50%. Combined with in-store statistics, the ratio of perming to dyeing is 1:1, and the number of creative washing and blowing is about 680 people per month. For hairdressing packages, the number of perming and dyeing is about 340 people each.

According to market research, the average price of hair salon special shampoo and conditioner is 25 yuan per 5000 ml. According to the specific use of the store, the shampoo required for each hairdressing is four pumps, and the conditioner is two pumps, the specific amount of which is about 20 ml per shampoo per person and the amount of conditioner is 10 ml. Shampoo and conditioner costs 450 yuan per month. Since there are twice hairdressing in the perming process, the hairdressing proportion of washing and blowing is 2/5 combined with the number of times. Therefore, the unit material of creative washing and blowing= $(450*2/5)/680=0.26$ yuan. According to product ratio of customer's choice of three different price is 10:7:1, the unit cost is 50, 60, 80, and the unit cost of perm and dye is 55.56 yuan. Combined with the number of hairdressing in each process, the unit material of perming and dyeing are shown in Table 3.

Table 3
Monthly Material Fee

	Price	Count	Monthly expenditure	Total
Shampoo and conditioner	50.00	9	450.00	38227.78
Perm and dye	55.56	680	37777.78	
Auxiliary	—	—	—	1000

Note: Auxiliary include towels, scissors, combs, etc. that are consumed but cannot be accurately measured.

According to the actual situation, the average working time are 6 minutes, 30 minutes, 12 minutes, 15 minutes and 15 minutes for washing, cutting, blowing, perming and dyeing. The unit conversion time are 0.1 hours, 0.5 hours, 0.2 hours, 0.25 hours, 0.25 hours for washing, cutting, blowing, perming and dyeing. The production planning for this month is shown in Table 4.

blowing and dyeing. Perming is related to three operations of washing, blowing and perming.

Consumption resources are summarized and the specific calculation result is shown in Table 5.

Table 5
Resource Consumption Calculation Table for This Month

Resource item	Material		Salary	Water	Electricity	Depreciation	Selling	Sanitation	Rent	Total
	Main	Auxiliary								
Amount (yuan)	38227.78	1000	48000	600	900	283.33	1000	50	12500	101916.11

There are four level staff in the store and salary are 12,000 yuan each per month. Monthly water, electricity and sanitation fee provided by the merchant are 600 ,900 and 50 yuan. Rent is 150,000 yuan per year and monthly

rent is 12,500 yuan. Depreciation fee is shown in Table 2. Taking the network platform-Mei Tuan for example, selling cost per half year must be 6,000 yuan, so monthly selling cost is 1,000 yuan.

Table 6
Main Parameters and Exclusive Fee Schedule

	Washing	Cutting	Blowing	Perming	Dyeing	Total
Labor time (hour)	136	680	272	85	85	1258
Water volume (ton)	258	—	—	—	—	258
Power consumption (degree)	249.9	—	499.8	149.94	—	899.64
Depreciation	25	—	4.166667	237.5	—	266.6667
Material	This month, the actual consumption of the main material is 38,227.78 yuan, and the actual consumption of auxiliary materials is 1,000 yuan.					

According to Table 6, it takes 6 minutes for one shampoo, so the labor time 1360 customers use together in one month is $6 \times 1360 / 60 = 136$ hours. It takes 30,12,15 and 15 minutes for cutting, blowing, perming and dyeing respectively, so monthly labor time for each operation are 680, 272 and 85 hours.

machine and water heater, totaling 25 yuan. Depreciation fee for hair dryer in the blowing operation is 4.17 yuan per month. Depreciation fee for cold and hot machines in the perming operation is 237.5 yuan per month.

In terms of water volume, according to the data provided by the merchant, monthly water consumption is 600 yuan and water price is 2.32 yuan / ton. Because only the washing operation consumes water, the monthly consumption of washing operation is $600 / 2.32 \approx 258$ tons.

Table 7
Material Cost Allocation Calculation Table

Resource item operator	Material Fee	
	Main	Auxiliary
Production Cost—Creative Washing And Blowing	176.80	200
—Hairdressing Package (Perming)	19067.20	500
—Hairdressing Package (Dyeing)	18983.78	300
Total	38227.78	1000

According to the power consumption data provided by responsible person of the enterprise, monthly power consumption is 900 degrees. Among them, washing operation uses electric water heater to consume 8.33 degrees electricity per day and 249.9 degrees electricity for 30 days. The hair blowing operation uses a hair dryer to consume 16.66 degrees electricity per day and 499.8 degrees electricity for 30 days. The perming operation uses hot and cold perming machines to consume 4.998 degrees electricity per day and 149.94 degrees electricity for 30 days.

From the number of people and the unit material data in Table 4, the two are multiplied to obtain the amount of the main material in Table 7. During the operation, the auxiliary materials mainly include cling film, towel, disposable gloves, wax, elastin, essential oil, scissors, combs, etc.. From the data provided by the merchant, the monthly consumption of auxiliary is about 1,000 yuan. According to the consumption of the three products, the cost of auxiliary for washing and blowing, perming, dyeing are estimated to be about 200 yuan, 500 yuan, 300 yuan.

According to monthly depreciation fee of Table 2, monthly depreciation fee in the washing operation is mainly reflected in the depreciation amount of washing

Table 8
Other Resource Consumption Distribution Calculation Table

Resource item	Total consumption	Distribution rate	Washing	Cutting	Blowing	Perming	Dyeing
Salary	48000	38.16 yuan/hour	5189.19	25945.95	10378.38	3243.24	3243.24
Water	600	2.32yuan/ton	598.56	—	—	—	—
Electricity	900	1.00yuan/degree	249.90	—	499.80	149.94	—
Depreciation	283.33	Exclusiveness	25.00	—	4.17	237.50	—
Total	49783.33	—	6062.65	25945.95	10882.35	3630.68	3243.24

In terms of salary, the distribution rate of wages = total wages / total labor hours. The labor hours consumed for “washing” operation is 136 hours listed in the previous

table, that is, the wages for the operation are $136 \times 38.16 = 5189.19$ yuan. Thus, in a similar way, the calculation of the wages for “cutting”, “blowing”, “perming” and

“dyeing” operation according to the distribution of labor hours are 25945.95, 10378.38, 3243.24, and 3243.24 yuan.

Combined with the actual situation of water consumption charge in China, the water distribution rate is 2.32 yuan per hour. Considering that there is only water consumption in the “washing” operation and the consumption of water is not involved in “cutting”, “blowing”, “perming” or “dyeing”, the water fee consumed by “washing” is 600 yuan.

According to the data provided by the merchant, the electricity fee is 1 yuan per degree. The power

consumption of washing is 249.9 degrees, that is, the electricity cost for this operation is $249.9 \times 1 = 249.9$ yuan. Thus, the electricity consumption for the two operations of blowing and perming are 499.8 yuan and 149.94 yuan respectively.

2.4 Case Summary

Other expenses include rent, sanitation and selling expenses. The rent is calculated based on the total time spent by each person in the store. It takes about 1 hour for creative washing and blowing per person, 2 hours for hair dyeing, and 3 hours for perming.

Table 9
Costing List

Item	Material		Washing	Cutting	Blowing	Perming	Dyeing	Others	Total	Average per person
	Main	Auxiliary								
Creative washing and blowing	176.80	200.00	3.57	38.16	6.40	—	—	3871.43	4296.35	6.32
Hairdressing package (Dyeing)	19067.20	500.00	3.57	—	6.40	—	9.54	3871.43	23448.60	68.97
Hairdressing package (Perming)	18983.78	300.00	7.13	—	12.80	10.68	0.00	5807.14	25110.86	73.86
Total	38227.78	1000.00	14.27	38.16	25.61	10.68	9.54	13550.00	52855.81	—

In Table 9, you can see the average cost per person for these three products. The average price of creative washing and blowing is 6.32 yuan per person, the average price of dyeing is 68.97 yuan per person, and the average price of perming is 73.86 yuan per person. The price of the barber shop in the same industry is about 30 yuan for washing and blowing, and 150 yuan for both dyeing and perming. If the enterprise adopts activity-based costing method as the cost management and accounting method, pricing can be adjusted according to the actual situation, unnecessary cost can be reduced, and product value can be improved. In the absence of taxation, corresponding profit margin is considerable. If the enterprise pays tax in a reasonable manner according to law, profit margins can still be used to stimulate consumption growth by means of promotion and membership.

3. ADVANTAGES AND LIMITATIONS OF ACTIVITY-BASED COSTING METHOD APPLIED IN SERVICE INDUSTRY

Through the cost accounting analysis of the above actual case, it is possible to summarize the advantages of activity-based costing method applied in service industry. First, it is conducive to the re-pricing of related products and services by hairdressing industry. Second, it is conducive to the combination of products or services by hairdressing industry managers to reduce the cost of value-added operations. Third, it is beneficial to the hairdressing enterprises to manage resources and improve resource utilization. Fourth, it can improve the accounting information environment of hairdressing industry and

provide accurate and scientific product cost information for stakeholders.

Similarly, the application of activity-based costing method in service industry has the following limitations. First of all, the accounting process is cumbersome, increasing the cost and reducing the efficiency of enterprise accounting. Then, it is impossible to accurately count the resource consumption of various resources, and utilization of various resources cannot be determined. Therefore, compared with traditional costing method, activity-based costing method has absolute advantages and also has certain disadvantages.

CONCLUSION

Through an actual case, this paper illustrates the specific application of activity-based costing method in hairdressing service industry, analyzing the application basis of activity-based costing method and providing the implementation path of activity-based costing method in hairdressing industry. It concludes by finding the advantages and limitations of activity-based costing method in cost accounting and cost management in the industry.

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