# Cost Management in Educational Services: The Importance of Strategic Cost Control in Educational Institutions

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# **Abstract**

The educational market in Brazil has become very competitive and, according to the Higher Education Sense, 88.20% of Higher Education Institutions are private. To make a difference in the market, HEIs must offer quality services. This offer requires a lot of intellectual as well as financial investment. Given this reality, managers need to control their revenues, but especially control their costs, which, for this business, are very high. Managers need to adopt strategic cost management methods so that they can know how their company is facing its own reality, make comparisons with other companies in the same sector, and have sufficient subsidies for decision-making. This article, through a data analysis research, seeks, through an appropriate methodology, to demonstrate the importance of applying appropriate cost management methods in private Higher Education Institutions that offer Lato Sensu Specialization courses.

**Keywords:** Costs management; Education costs; Financial performance.

# 1. Introduction

Currently there is a great competition in the Educational Market and according to data from Census INEP 2019 (data 2018), private institutions occupy 88.20% of the total of Higher Education Institutions - HEI registered with the Ministry of Education - MEC. According to a publication in Panorama magazine of Private Higher Education in Brazil (2018), the growing demand for continuing education has fostered a considerable growth in the offer of specialization courses, mainly due to the market demands of qualified professionals. With this scenario, the offer of specialization courses has become attractive and for the higher education institutions that already offer the undergraduate courses, this market share is gaining more and more space. This facility is due to the Ministry of Education legislation because, for registration, few requirements are required. According to Resolution No. 1, of April 6, 2018, of the Ministry of Education - MEC, private HEIs that want to offer Lato Sensu specialization courses only need to be in good standing before this same ministry and do not need recognition and renewal recognition for these courses.

Given this fact, in order to remain in the market, HEIs need to offer excellent services and, as a result, they will have to undertake major investments and, as a result, need to adopt adequate cost controls. In an attempt to remain in the market, it is important for higher education institutions to maintain the improvement and effectiveness of systems that involve people, materials, information, equipment, energy and greater understanding and skills within a management line with the provision of educational services. As a result, they need information to help them manage their costs and make decisions. In this sense, the use of accounting information is of great importance.

In this sense, Souza *et al.* (2003) and Reckziegel *et al.* (2007) understand that in many entities the role of accounting has failed due to the lack of adaptation to the new competitive universe. Kobs (2008) understands that a Higher Education Institution to remain in the market must continuously improve its services and procedures, adapting its organizational structure to reality, especially in a scenario of great competition, making strategic management an essential tool for survival.

It is important to highlight those factors such as corporate failure can be avoided with the help of management accounting, especially with regard to cost management, as understood by Gonçalves and Leal (2015). In addition, Junior and Lopes (2015) highlight the lack of ready-made models and administrative theories that meet the specificities of these educational organizations, making them vulnerable.

Given the above statements, this article is justified by raising the following question: What is the importance of adopting adequate costing methods for Higher Education Institutions within the scope of offering Lato Sensu Specialization courses? This approach aims to seek answers to the problems currently faced by institutions, pointing out possible ways forward.

# 2. Theoretical Referential

Nowadays, with globalization and the high demands in the labor market, there has been a great increase in the demand for professional development and qualification. With this, there was an accelerated growth of institutions, mostly private, that offered postgraduate courses in the Lato Sensu modality. For a period, it was a highly lucrative branch of activity. However, in recent years, the scenario has changed and in order for the Institutions to remain in the market, it was necessary to know the business deeply and learns how to manage resources and their costs in a property way. The following is the theoretical basis for this study, regarding the understanding of services, costs and cost management.

# 2.1 Service Understanding

Kotler (1998) defines service as any act or performance that one party may offer to the other that is essentially intangible and does not result in ownership of anything, and its production may or may not be linked to a physical product. Corroborating with him, Lovelock and Wright (2005) add that services are cost-effective activities that create value and deliver benefits to customers at specific times and places because of making a desired change to the recipient of the service. Correia and Gianesi (2019) add that technological evolution has made possible the emergence of new services and, therefore, companies had to adapt to new models to stay in the market.

Junior et al. (2008) state that educational institutions have different characteristics. One of these is the large volume of labor, are the teachers, for the most part, which strengthens the inequality in their cost structure relative to industries. Another factor pointed out by Junior and Lopes (2014) is that the administrators of higher education institutions are unaware or unimportant of their particularities, thus contributing to the lack of control in cost management. Tauil and Mainardes (2013) understand that the expansion of services provided by private institutions favored greater access to undergraduate courses, creating a scenario where certification was not enough to establish professional qualification, creating a growing demand for specialization courses.

According to Ribeiro (2011), cost is the expense with goods and services employed or spent in the manufacture of other goods or services. This understanding is the basic concept for starting a management process within Cost Accounting. Data provided by SEBRAE (2019) shows that currently. The service sector is the fastest-growing in the market. Martins (2015) noted that cost information was of great relevance to public or private institutions. However, it is in the third sector that there is a large increase in this practice. It also states that cost accounting is becoming stronger and gaining more space.

Cost accounting enables data measurement, generating information such as profitability, breakeven point, cost reduction, performance evaluation, among others, through techniques that inform management of the result of the sale of products or the rendering of services, analyzing the fulfillment of the goals foreseen in the budget planning (Viceconti and Neves, 2013; Crepaldi and Crepaldi, 2018). Gonçalves and Leal (2015) already visualized that the cost management in the entities offers subsidies to the decision-making, guiding the best way to face the challenges and reinforce that the accounting information is of great relevance in the management processes. Kaplan and Norton (1997) state that through controls, it is possible to know the

real state of an organization. To calculate costs, there are costing methods, which are a way to calculate the costs of products or services in institutions, according to Castro and Santos (2012).

# 2.2 Importance in Cost Management in Educational Services

It is understood that in order for information on HEI results to be transformed into concrete data where senior management can make assertive decisions, it is necessary to focus on strategic cost management. Maintaining these institutions in a highly competitive market requires them to adopt the practice of using management methods in order to measure their results. For educational institutions, as well as for other segments, cost control and its correct classification and application requires a certain degree of knowledge on the subject, because in practice it is much more complex than what is seen in the literature. The correct application of cost controls should be done in such a way as to help management make the most efficient decision-making possible.

Several authors understand that cost management, in addition to being strategic for organizations, shows that market knowledge, prices, customers and suppliers, business-related legislation directly or indirectly influence the management and preparation of strategic and tactical planning organization, and are fundamental to the institutions' survival (Cintra et al., 2019; Coelho and Callado, 2019; Bruni and Famá, 2012; Carastan, 1999).

In addition, Fonseca and Fonseca (2016) emphasize the importance of combining the academic side with the managerial control of its resources and costs, and adapting to the new management scenario of HEIs evolves the ideological, administrative and financial aspects. Because it is a differentiated feature in relation to cost management, in the case of educational institutions, planning for cost control can result in savings, but their measurement is not easy. Green (2207) argues that managers, academic and administrative personnel must be prepared for controls to work. On the other hand, Santos *et al.* (2016) identified the low rate of institutions using some appropriate costing system.

#### 3. Materials and Methods

This paper deals with a case study conducted in a private higher education institution, which is located in Porto Velho-RO, in order to evaluate the cost management processes most appropriate to the different activities of the organization. The main objective of this article was to make a case study on the Cost Management methods currently used in the market and to observe which are the most suitable for companies providing services in the field of higher education in the Specialization courses in Lato Sensu modality.

The approach was quantitative, due to the exploration of the data through the balance sheets of previous exercises, course budget spreadsheets and the first results analysis practiced by the institution, with the objective of reviewing what happened in the past. The qualitative approach is related to data analysis, taking into consideration the entity's particularities to respond to the problem in question and applying the most

appropriate model as identified during the present study.

# 4. Case Study

The Institution studied has been in the market for over 20 years, and for much of that period has achieved significant revenue that slackly covers all its costs and still has reserves. With the crisis that has hit Brazil since 2016, coupled with the high unemployment rate, the reduction in the number of students enrolled in the Institutions, among other factors, IES had to change the way it managed its costs and resources. With regard to the offer of Lato Sensu Graduate courses, the situation has worsened, as there are a large number of institutions working with the same follow-up, both in person and in Distance Education.

In addition to the commercial strategy, such as the recruitment of new students and the location of the center's facilities, the studied HEI had to reevaluate all management processes, based on the data collected, the situation was evaluated, and initial measures were taken for effective control of costs. At first, all the control resources that the institution maintained through the educational and administrative system used were raised, and it was found that it treated each course by cost center. With this finding, there were some adjustments to the structure already implemented.

This structure facilitated the process of implementing improvements, so the next step was to evaluate how cost and expense allocations were handled. Many inconsistencies in postings were raised by reviewing the balance sheets for the years already ended, where costs and expenses were not allocated correctly in their respective cost centers, thus distorting information.

The next step was to map the process of generating, releasing and posting costs and expenses, in order to identify possible bottlenecks. The process has been redesigned and bottlenecks have been fixed. From this point on, employees were trained. Information such as the concepts of Costs, Expenses and Management, as well as why working with cost centers and what may or may not be allocated to each other, were also covered. Following this system evaluation work, mapping and improving the processes and providing training to the involved teams, the institution tried to study how to evaluate the results.

#### 4.1 Results and Discussion

After evaluating the processes involving the provision of services related to the Postgraduate courses, some of the ABC costing, Full Absorption and Variable Costing methods were studied, in order to identify which one was the most appropriate for the organization and even the ones your internal processes.

As a premise that served as the basis for the evaluation of the methods, the Institution intends to know the total profitability of each course, taking into consideration its direct and indirect costs, as well as the fixed costs that are apportioned according to the course load of each course in the periods when the modules are taught.

Then each method was evaluated and compared with the needs of the institution and what fit most was applied to a certain period and some courses for analysis. Table 1 shows the results associated with each costing methodology adopted by the educational institution.

Table 1 - Cost Methodology Evaluation.

Cost Methodology	Results				
	The Activity Based Costing (ABC) does not fit the objectives of				
	the studied institution because it is a method that evaluates each				
Activity-Based Costing (ABC	process that involves the course offer;				
method)	The reason for the non-compliance is that the course offer				
	requires few processes that would justify the result analysis with				
	this methodology.				
	Variable Costing also does not meet the objectives of the				
	Institution studied by treating only variable costs, not				
	considering fixed costs;				
	Thus, the analysis does not include all the costs and expens				
	that the course consumes from the resources that are spent for i				
Variable Costing	operation;				
	The justification for not using such a model is that the higher				
	volume of costs, in the case of this HEI object of this study, is				
	precisely the fixed costs;				
	However, the evaluation of this methodology will be used for				
	comparative analysis.				
	This costing method has as its concept the kind of costing that				
	attributes all production costs;				
	This means that all costs and expenses associated with the				
Full Absorption Costing	courses offered and the allocation through fixed cost				
	apportionment proportionally portrays how much each one				
	spends within his or her capacity;				
	Thus, it is possible to obtain the opportunity cost of resource use.				

# 4.2 Quantitative Analysis of Costing Methodologies

According to the controls raised, it is clear that the Institution maintains the course budget spreadsheets individually, which allowed for more detailed information search. The variable and direct costs are the costs of paying teachers, materials used, tickets and lodging of teachers from outside the city of Porto Velho, which are directly linked to the courses.

Fixed costs, which are concentrated in a particular center costs, were prorated according to the total hours the course stays in the facilities during the period it is offered. A second objective of this form of apportionment is strategic, that is, it is also to know the number of idle hours, which is the object of future studies. The dynamics of this apportionment are shown in Table 2 and occur as follows:

- Column 1: List of courses, which in this table are only covering 4 courses, but the institution in this period offered on average 7 courses, some with more than 3 classes;
- Line 1-Column 5: Total hours that the facilities are in operation, regardless of having a course;
- Line 2-Columns 8 and 9: In this example only 2 months were shown, but includes all months of the studied periods. Each month will be pro-rated with the amount each course consumes from the Facility's fixed expenses. The purpose of this way of apportioning costs was due to knowing the monthly amount of costs consumed per course during the different accounting years.
- Line 3-Column 2: Total academic workload of courses.
- Line 3-Columns 6 and 7 These are the amounts of the fixed expenses for 2017 and 2018 that will be prorated, such expenses are concentrated in a single cost center;
- Line 4-Columns 6 and 7: Amounts prorated according to the fixed expenses of each exercise according to the workload in which the courses are being taught.

Table 2 - Rate of Costs and Fixed Expenses.

	Monthly Workload: Course		280	2017	2018	may/17	apr/17	may/18	nov/18	dec/18		
Cost Center		Hourly Value per Month					R\$ 142,29	R\$ 112,50	141,38	196,55	197,08	TOTAL
Copt Conter	Worload	Start	End	Hourly Worload per Month	453.990,88	618.555,96	39.840,30	31.500,78	39.587,55	55.034,42	55.182,48	-
Course 1	360	jul/17	out/18	22	19.683,71	39.940,93						59.624,64
Course 2	360	may/17	ago/18	22	25.379,92	31.350,47			3.110,45			56.730,38
Course 3	360	nov/17	nov/18	22	7.416,61	44.265,06				4.324,13		51.681,67
Course 4	360	dec/17	dez/18	22	4.308,17	48.600,83				4.324,13	4.335,77	52.909,00

Table 3 lists some courses, which took place from 2017 to 2018, and are exemplified as a way to demonstrate the application of this method.

Table 3 - Application of the Full Absorption Costing Method.

Course	Period	Number of Students	Variable Costs	Fixed Costs (RATE)	Total Costs	Unit Cost per Student	Cost Representation per student in relation to total costs
Course 1	07/2017 a 10/2018	25	12.962,08	59.624,64	72.586,72	2.903,47	4,00%
Course 2	05/2017 a 08/2018	23	12.900,00	56.730,38	69.630,38	3.027,41	4,35%
Course 3	11/2017 a 11/2018	18	12.035,26	51.681,67	63.716,93	3.539,83	5,56%
Course 4	12/2017 a 12/2018	28	16.319,32	52.909,00	69.228,32	2.472,44	3,57%
	TOTAL		54.216,66	220.945,68			

According to the application of this method, it was possible to know the unit cost per student of each course. In this study, each student represents between 4% and 6% of the total costs. With this knowledge, management will be able to make decisions based on their total cost, including all costs and expenses, being able to know their gross margin. A comparative study between the Variable Costing and Full Absorption Costing Methods was performed. For a better understanding, a comparative application of the methods was elaborated as shown in Figure 1.

Figure 1 - Comparison of Full Absorption Costing and Variable Costing.

Sales								
Product	Quantity of Students	Sale price		` Sale		Re	evenues	
Course 1	25	R\$	5.250	R\$	131.250			
Course 2	23	R\$	6.000	R\$	138.000			
Course 3	18	R\$	4.875	R\$	87.750			
Course 4	28	R\$	4.200	R\$	117.600			
Total	94			R\$	474.600			

Variable Cost									
Product	Quantity	Cos	st per Sudent	Unit	Variable Cost	Va	riable Cost	Tota	al Variable Cost
Course 1	1	R\$	518,48	R\$	518,48	R\$	2.330,811	R\$	58.270,28
Course 2	1	R\$	560,87	R\$	560,87	R\$	1.812,328	R\$	41.683,54
Course 3	1	R\$	668,63	R\$	668,63	R\$	1.251,458	R\$	22.526,25
Course 4	1	R\$	582,83	R\$	582,83	R\$	582,833	R\$	16.319,32
Total		R\$	2.330,81					R\$	58.270,28

Fixed Costs (Prorated Expenses)						
Cursos		Valor				
Course 1	R\$	59.624,64				
Course 2	R\$	56.730,38				
Course 3	R\$	51.681,67				
Course 4	R\$	52.909,00				
Total	R\$	220.945,68				

	Absorption Cost									
Product	Classes by course	Modules		Value per Student	Tota	al Absorbed Value	Percentage			
Course 1	1	15	R\$	2.454,95	R\$	61.373,80				
Course 2	1	15	R\$	2.668,43	R\$	61.373,80	27,8%			
Course 3	1	12	R\$	2.727,72	R\$	49.099,04	27,670			
Course 4	1	12	R\$	1.753,54	R\$	49.099,04				
Total		54			R\$	220.945,68				

Contribution Margin							
(+) Revenues	R\$	474.600,00					
( - )Variable costs	R\$	58.270,28					
Profit Margin - Gross Contribution	R\$	416.329,72					
( - ) Absorption Cost	R\$	220.945,68					
Profit Margin - Net Contribution	R\$	195.384,04					

According to the data, the profit margin of each method offers very different values. Working with the Full Absorption Costing you can have the worst possible cost view, thus demonstrating the real margin in the offering of courses. Using the variable costing method, management may run the risk of understanding that an unreal gain is occurring and making decisions that may affect the financial health of the educational institution.

# 5. Conclusion

The analysis of the costing models allowed us to identify which method is the most appropriate to meet the Institution's needs, making it possible to know which type of cost deserves more focus. As in the market, there are several methods that must be evaluated individually, the application and analysis in a deeper study, considering the particularities of the sector, the reality of your region and the Institution provides an understanding of which cost model is the most appropriate for the institution's cost management.

Faced with the phenomenon of expansion in the number of higher-education institutions, and due to the current crisis, the economic crisis and the decline in enrollment, thus reducing the demand, most of the institutions went into crisis. Given this scenario, the institutions that make use of the available methods, knowing and controlling their costs and resources and, with that being able to make the best decisions given the result shown, will be more likely to remain in the market. Cost management gives you a thorough

understanding of the real situation of your company.

The involvement of all sectors of the institution in this process is of relevant importance, because unlike what reality in Higher-Education Institutions shows, they must work in a structured way, where all sectors, from Educational to Administrative, participate demanding information that will generate data that will serve as a basis for applying the most appropriate costing methods.

Thus, the Institutions, knowing their reality, will be able to make relevant and lean investments, obtaining in return the training of more qualified professionals who will act in the various market segments, being important for the institution itself as for society in general as highly skilled professionals will return to the market.

The correct classification of costs, the form of apportionment and the choice of the most appropriate method, will allow the educational institution to know its indicators, make market comparisons, control its actions, as well as improve the performance of managers, by knowing the reality of supply of the services it manages. When a company applies cost management methods appropriately, they have the opportunity to foresee possible bottlenecks, as well as project their growth or retraction according to market movement. Based on the information obtained from properly classified reports, HEIs can make investments and improve service to both external and internal customers.

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