



A STUDY ON ACTIVITY BASED COSTING IN POWER SECTOR WITH SPECIAL REFERENCE TO GUVNL

Dalavaniya Hiralben Pravinbhai¹, Dr. Alkaben B. Kshatriya²

¹Research Scholars, HNGU, Patan, Gujarat, India.

²Associate Professor (Accountancy and Commerce), Shri V. R. Patel College of Commerce, Mahesana, Gujarat, India.

ABSTRACT

ABC is a cost management strategy that can help electric utility companies better understand and control their shifting expenses. It is a way for determining the costs associated with various activities, products, and services by analysing the underlying factors. Through the application of more precise process and product cost information, utility managers may make better decisions by better knowing which activities contribute and do not. Such information helps utility administrators make better strategic and operational decisions on an almost daily basis. Utility managers will learn about and be given an understanding of ABC's concept and approach in this paper, which provides insights into how ABC is being utilised to control costs and improve operational decisions in electric utilities and other industries. In the context of setting selling prices for the power industry, activity-based costing has been suggested as a means for obtaining more accurate costs. This article focus on the perception of the employees of the GUVNL towards activity based costing.

KEYWORDS: Activity Based Costing, GUVNL, Power Industry, Costing, Pricing.

INTRODUCTION:

As a result of globalisation, internationalisation of markets, increasing product and service offerings, and technological innovation, traditional information and management control systems have come under scrutiny in recent years for failing to meet organisations' current needs. In this regard, increased organisational competitiveness has resulted in increased need for accurate and timely data. As a result, building an acceptable costing mechanism in organisations is crucial in the current climate. They believe that in order to operate effectively and successfully, they must properly manage the resources at their disposal and keep spending in check. The activity-based costing (ABC) system first appeared in the 1980s as a costing method capable of overcoming traditional costing systems' limitations in the face of economic and technological developments, such as charging the arbitrary and imprecise cost of indirect costs due to imputation criteria distortions. Rather of products that just consume activities, the ABC method considers actions that consume resources and result in costs. As a result, the products are a result of the acts that are strictly required to produce them, and/or they are a means of achieving customers' wishes and expectations.

Advantages of ABC System:

The ABC approach for developing businesses has emerged as a result of increasing industrial complexity and product diversity. The key advantages of ABC systems as a powerful instrument for decision-making are highlighted below:

- ABC improved operational efficiency by assigning overhead charges based on actual resource use by each activity.
- The interdependencies of cost drivers and activities are recognised by ABC.
- It allows managers to know where the most significant costs are incurred as well as who pays for them.
- Implementing an ABC system can help you make better decisions about pricing, marketing, product design, and product mix.
- For correct and accurate information, the ABC system is the best option.
- Changing a resource's non-value-added activity to a value-added one.
- ABC assists in increasing organisational efficiency and profitability by detecting weak product lines and accurate costs.
- ABC can save money by completely removing a non-value-adding activity.
- Identifying and correcting an error that was not budgeted for rectification but would have resulted in an expense if not addressed.
- Remove a bottleneck that was producing a capacity constraint to provide growth.
- It aids industrial marketers in three ways: it generates cost estimates for pricing, guides industrial marketers in negotiating to achieve significant

cost reductions, and identifies areas for change in operations to allow for cost reductions that will allow the company to better satisfy customer wishes.

Disadvantages of ABC:

ABC system is more costly to maintain than a traditional costing system.

- The ABC system's implementation process is difficult for managers to comprehend, as it generates a large amount of data, activity measures, and involves data collection, verification, and other procedures.
- The decision-making process grows lengthy due to the intricacy of the process.
- Management resistance, as managers are accustomed to running their operations using traditional costing procedures.
- Because there is so much unnecessary data in ABC data, it is easy to misread it.
- In practise, because managers insist on attributing all costs to cost objects, price errors come from inflated costs and understated margins.
- The project team will be dissatisfied if no one in the organisation looks at the new ABC cost and profitability data.
- Consultants are unfamiliar with the operations and difficulties of businesses. As a result, in certain circumstances, they were unable to assist management.
- People are frightened by the thought that their work could be bettered, so they resist.

Profile of GUVNL:

Gujarat Urja Vikas Nigam Limited (GUVNL) is a state energy regulation body in Gujarat that is completely owned by the Gujarat Government, the state's governing authority in India. It was founded in May of 1999 and is governed by the Companies Act of 1956. The Gujarat Electricity Board (GEB) established the company as a wholly owned subsidiary in the context of liberalisation and efforts to restructure the electricity sector with the goal of improving efficiency in management and service delivery to consumers. The Electricity Act, 2003, was passed by the Central Government, and the Gujarat Electricity Industry (Re-organization & Regulation) Act, 2003, was passed by the Government of Gujarat to restructure the electricity industry with the goal of improving efficiency in management and delivery of services to consumers as part of the power reform process. The Gujarat Electricity Industry Re-organization & Comprehensive Transfer Scheme, 2003 (the Transfer Scheme) was enacted by the Gujarat government via a government notification dated October 24, 2003, for the transfer of assets, liabilities, and other assets of the former Gujarat Electricity Board to successor entities. As a result, the Gujarat Electricity Board (GEB) was reformed on April 1, 2005, into seven firms with trading, generation, transmission, and distribution functions.

LITERATURE REVIEW:

According to Almeida A. and Cunha J. (2017), the ABC technique enabled the acquisition, analysis, and reflection on a set of extremely significant information for the organisation by studying the multiple actions involved in a Portuguese company's coffee manufacturing process. The work completed indicated the company's developments over the last few years, particularly in terms of product diversification and complexity, as well as the activities involved in the manufacturing process. Overall, by offering additional information on how the company's industrial activity progresses, this study helped to a deeper understanding of the organisation. The ABC costing system provides relevant and useful information for decision-making in a variety of domains, including product cost and sales prices definition, identifying processes that require more effort to improve or adapt to new realities and needs, and restructuring some areas of the industrial unit.

According to Tsai W., Jun S., and Hwang C. (2019), ABC implementation can address the cost information needs of business management. ABC, on the other hand, may be an appropriate costing tool in a modern smart factory that uses high-tech unmanned vehicles, advanced robotics, and other sensors to increase the company's operational capabilities of quality, cost, delivery, service, resources, and productivity.

Reich F. and Abraham A. (2016) wrote in their study Activity Based Costing and Activity Data Collection that adopting ABC as a management tool in the higher education sector, with an emphasis on the process of staff activity data collection, is helpful. The impetus for this research came from a gap in the management accounting literature about the process, technique, and challenges of data gathering methodologies for staff activity. ABC's use as a university management tool is a relatively recent trend. Nonetheless, where it has been used in the industry, the outcomes have been positive, particularly in the area of resource allocation decision-making support.

RESEARCH OBJECTIVE:

1. To study the concept of ABC system
2. To analyse the perception of employees of GUVNL towards ABC system

Sample Size:

In this study researcher has targeted 75 staff of GUVNL of Gujarat state.

Data Analysis Technique:

Collected primary data has been analysed using chi-square and one sample techniques

DATA ANALYSIS:

1. **H₀₁:** There is no significant influence of age of respondents and perception about better cost control information after implementing Activity based costing.

“Chi-Square Tests”

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.368 ^a	9	.251
Likelihood Ratio	11.418	9	.248
Linear-by-Linear Association	.006	1	.938
N of Valid Cases	75		

Interpretation:

As can be observed from the Pearson Chi-Square statistic table above, $X^2 = 11.368$. The p value is greater than 0.05, indicating that the null hypothesis is accepted. As a result, no significant relationship exists between respondents' age and their perception about better cost control information after implementing Activity based costing.

2. **H₀₂:** There is no significant influence of experience of respondents and perception about better cost control information after implementing Activity based costing.

“Chi-Square Tests”

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.906 ^a	9	.749
Likelihood Ratio	5.947	9	.745
Linear-by-Linear Association	.438	1	.508
N of Valid Cases	75		

Interpretation:

As can be observed from the Pearson Chi-Square statistic table above, $X^2 = 5.906$. The p value is greater than 0.05, indicating that the null hypothesis is accepted. As a result, no significant influence of experience of respondents and

perception about better cost control information after implementing Activity based costing.

3. **H₀₃:** Respondents do not believe that existing cost system did not provide useful information to management.

“One-Sample Test”

	Test Value = 3				
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference
					Lower Upper
“Do you believe, existing cost system did not provide useful information to management”	-10.277	74	.000	-1.120	-1.34 -.90

Interpretation:

As shown in the table above, the significance value is 0.000, which is less than the standard value of 0.05. As a result, the null hypothesis is rejected, and respondents feel that existing system did not provide useful information to Management

4. **H₀₄:** Respondents do not believe that current cost system increase costs.

“One-Sample Test”

	Test Value = 3				
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference
					Lower Upper
“Current cost system help in reducing costs”	-3.954	74	.000	-.587	-.88 -.29

Interpretation:

As indicated in the preceding table, the significance value is 0.000, which is less than the standard value of 0.05. As a result, the null hypothesis is rejected, and it is determined that respondents feel that current cost system increase costs.

CONCLUSION:

Based on the primary data analysis it is seen that current accounting system didn't provide useful information to the management at the same they prefer to have ABC system to reduce the cost.

To stay competitive in the global economy, businesses must constantly develop and innovate by inventing and launching new goods, technologies, procedures, and models. Companies are recognising that producing a wide range of products and offering a wide range of services places a wide range of demands on their resources. On the other hand, using erroneous averages to evenly distribute the cost of resources among various services and goods results in inaccurate and deceptive product costs. Although building a faultless accounting system in a single company is practically impossible, some industries have unique characteristics that can only be matched by a few accounting systems.

Activity-based costing has already developed as a new generation concept in trade and industry. It has changed people's perceptions of cost and management accounting. In terms of cost measurement, it is more accurate than other volume-based cost approaches. It can be used to assess performance since more exact overhead cost allocations result in fewer distortions. The system introduced activity-based management, balance score cards, bench marking, and TQM as a performance assessment tool. Using segment reporting and related expenses in conjunction with the ABC method, unprofitable product lines or divisions can be eliminated.

When implementing an ABC system, a change in management structure should be made to make it easier to utilise. In capital-intensive manufacturing processes, it has become crucial. However, a trade-off should be made between the economic benefits of an ABC and the costs of adopting it after looking at factors that promote ABC adoption, factors that inhibit ABC implementation, and implementation time.

REFERENCES:

- I. Almeida and J. Cunha, (2017) The Implementation of an Activity based costing System in a Manufacturing Company, Manufacturing Engineering Society International Conference, Procedia Manufacturing 13(2017), Spain, Pg. 932.
- II. Fred Reich and A. Abraham, (2016) Activity based costing and Activity Data Collection: A Case Study in the Higher Education Sector, Hawaii, Pg. 211
- III. Mladenka Blagojevic., Dejan Markovic., Momcilo Dobrodolac., (2015) The Modified

Activity based costing Method in Universal Postal Service Area: Case Study of the Montenegro Post, *Inzinerine Ekonomika – Engineering Economics*, Serbia, Vol. – 26(2), Pg. 142

- IV. Product-Mix Decision in the Future Digital Era: Green Recycling Steel-Scrap Material for Steel Industry, *Sustainability*, MDPI – 11(3), Pg. 899.
- V. Wen-Hsien Tsai, Shu-Hai Lan and Cheng-Tsu Hwang, (2019) Activity Based Standard Costing
- VI. Zanievycz, M.; Beuren, I (2013) Uma meta-análise dos artigos apresentados no Congresso Brasileiro de Custos no período 1994–2010. *Rev. Bras. Gestão Negócios*, 15, 601–616.
- VII. Zimmerman, J. (2001) Conjectures regarding empirical managerial accounting research. *J. Acc. Econ.* 32, 411–427.