



# Cost Distortion and Its Impact on Pricing Decisions: A Comparative Analysis of Traditional Costing and ABC Methods

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## Abstract

## Original Research Article

Accurate cost information is vital for making strategic pricing decisions in today's competitive manufacturing landscape. This study investigates the impact of cost distortion on pricing decisions by comparing Traditional Costing and Activity-Based Costing (ABC) methods. Using a quantitative research approach, data were collected from 102 finance professionals in Nigerian manufacturing firms. Descriptive statistics, correlation, and regression analyses were employed to evaluate the relationships among cost accuracy, cost distortion, and pricing effectiveness. The findings reveal that ABC significantly enhances cost accuracy and pricing reliability, while traditional costing systems are prone to cost distortion, leading to suboptimal pricing decisions. Regression analysis shows that 70.7% of pricing decision effectiveness is explained by cost accuracy and cost distortion. The study concludes that adopting ABC can improve pricing decisions and recommends wider adoption of ABC, especially in firms with complex operations. The research validates contingency and decision usefulness theories in the context of cost management and pricing strategies.

**Keywords:** Cost Distortion, Pricing Decisions, Activity-Based Costing (ABC), Traditional Costing, Cost Accuracy.

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## I INTRODUCTION

In contemporary business environments, where global competition and customer demands continuously evolve, accurate cost information has become indispensable for strategic decision-making, particularly in pricing. Costing systems are the primary mechanisms by which organizations assign costs to products, services, and customers, and they directly influence how prices are set. One of the critical challenges that firms face is cost distortion which is a phenomenon that occurs when the costing system misrepresents the actual resource

consumption of products or services, thereby leading to inaccurate product costs and ultimately suboptimal pricing decisions (Drury, 2018).

Traditional costing methods, often based on volume-related allocation bases such as direct labor hours or machine hours, were suitable in earlier decades when labor-intensive manufacturing predominated and overheads constituted a relatively small portion of total costs. However, with technological advancements and the rise of automation, overheads now represent a larger proportion of



total costs, and product diversity has significantly increased. This change has rendered traditional costing approaches less accurate, particularly in multi-product environments, where the simplistic allocation of overheads leads to cost distortion — over-costing simple products and under-costing complex ones (Horngren, Datar & Rajan, 2015).

Cost distortion negatively impacts pricing decisions in two critical ways. First, it may lead to setting prices that are too high for simple products, making them uncompetitive in the market. Second, it may result in pricing complex products too low, which erodes profitability. This misalignment between product cost and resource consumption has prompted scholars and practitioners to explore more refined costing approaches. Among these, Activity-Based Costing (ABC) has emerged as a viable alternative to traditional systems, promising more accurate cost allocation by tracing overheads based on activities that actually consume resources (Kaplan & Cooper, 1998).

ABC allocates costs to products based on the actual activities involved in their production or service delivery, thereby minimizing cost distortion. Unlike traditional methods that assume a linear relationship between volume and cost, ABC recognizes the complexity and diversity of resource consumption patterns. For example, in a scenario where two products require different levels of support or customization, ABC assigns overhead costs more precisely according to each product's unique consumption of activities such as setup, inspection, or material handling. This nuanced approach leads to more accurate product costing and enhances the firm's ability to make informed pricing decisions (Turney, 2005). The relevance of ABC in minimizing cost distortion has been acknowledged across industries. In manufacturing, for example, ABC has been employed to uncover hidden costs and improve cost visibility, leading to better pricing, budgeting, and product mix decisions (Gunasekaran, Marri & Grieve, 1999). In service industries such as healthcare and banking, ABC has facilitated process improvement and resource optimization by exposing cost-intensive activities that do not necessarily contribute to value creation (Innes & Mitchell, 1995).

However, the adoption of ABC is not without its limitations. Critics argue that it is often resource-intensive to implement and maintain, and its complexity may outweigh its benefits in small or less diverse firms (Cagwin & Bouwman, 2002).

Despite these challenges, the comparative merits of ABC over traditional costing have continued to attract scholarly attention. Studies have shown that ABC enhances pricing accuracy and strategic cost management, particularly in environments characterized by high product diversity and significant overheads (Drury, 2018; Garrison, Noreen & Brewer, 2017). Nonetheless, there is still a lack of consensus regarding its cost-benefit justification, especially in the context of small and medium-sized enterprises (SMEs) and developing economies where resource constraints are more pronounced.

This research, therefore, seeks to conduct a comparative analysis of traditional costing and ABC methods, focusing specifically on their implications for pricing decisions. The study will investigate how cost distortion arises under each costing method and evaluate the extent to which ABC provides more reliable information for pricing. The goal is to offer empirical evidence and contextual insights that will aid managers in selecting the most appropriate costing technique for accurate pricing and sustained profitability. By addressing these issues, the study contributes to the broader discourse on cost management and strategic pricing, particularly in light of increasing business complexity and the need for more transparent and reliable financial information. As companies continue to operate in dynamic and competitive markets, understanding the impact of costing systems on pricing decisions becomes not only a matter of accounting accuracy but also a strategic imperative.

## II CONCEPTUAL CLARIFICATION

**Cost Distortion** refers to the misrepresentation or inaccuracy in product cost information caused by the inappropriate allocation of overhead costs to products or services. It occurs when the costing system allocates indirect costs based on arbitrary or volume-driven measures, such as direct labor hours or machine hours, without adequately reflecting the actual consumption of

resources by different products (Horngrén, Datar & Rajan, 2015). For instance, a low-volume, high-complexity product may consume more overhead resources than a high-volume, low-complexity product. However, under traditional costing, the overhead may be allocated uniformly, resulting in over-costing of simpler products and under-costing of complex ones. This phenomenon distorts decision-making, leading to incorrect pricing, poor product mix choices, and reduced profitability (Drury, 2018).

**Pricing Decisions** refer to the strategic process through which a business sets the selling price for its products or services. These decisions are influenced by multiple factors, including production costs, market demand, competition, and profit objectives. However, among these, accurate cost information plays a crucial role, as it provides the foundation for determining whether a product is profitable at a given price point (Garrison, Noreen & Brewer, 2017). When cost data is distorted, pricing decisions may not reflect the economic reality, potentially resulting in prices that are either too high to be competitive or too low to cover costs and yield profits.

**Traditional Costing** is a conventional cost accounting method that allocates overhead costs to products based on a single or a few volume-based cost drivers, such as direct labor hours, machine hours, or production units. This method assumes that overhead costs are incurred in proportion to the volume of production, a premise that was more valid in earlier manufacturing contexts dominated by direct labor. However, with the increasing automation of processes and the rising complexity of products and services, traditional costing has become less suitable. It fails to capture the diverse and non-volume-driven activities that consume resources, leading to significant cost distortion (Kaplan & Cooper, 1998).

**Activity-Based Costing (ABC)** is a more refined costing methodology that assigns overhead costs to products or services based on the actual activities involved in their production or delivery. It recognizes that different products consume resources in different ways and that overhead costs should be traced to specific activities (such as setup, inspection, material handling) and then allocated to products based

on their use of those activities (Turney, 2005). By using multiple cost drivers that reflect actual resource consumption, ABC enhances the accuracy of cost information and reduces cost distortion. This improved costing precision supports better pricing decisions, especially in organizations with a diverse range of products or complex operations.

### *Review of Previous Works*

Over the years, scholars and practitioners have examined the limitations of traditional costing systems and the advantages of more refined cost allocation methods such as Activity-Based Costing (ABC), especially concerning pricing accuracy and decision-making. Horngrén, Datar, and Rajan (2015) noted that traditional costing systems, though simple and easy to implement, often produce inaccurate cost information in complex manufacturing environments. Their study highlighted how these systems rely heavily on volume-based drivers, leading to cost distortion by spreading indirect costs uniformly across products regardless of their actual consumption of resources. This misallocation, they argued, can result in overpricing low-complexity products and underpricing high-complexity ones, ultimately affecting profitability.

Kaplan and Cooper (1998), pioneers in the development of Activity-Based Costing, argued that ABC systems provide more accurate product costs by allocating overhead based on multiple cost drivers associated with actual activities. Their research demonstrated that firms using ABC were better equipped to identify loss-making products, understand customer profitability, and make more informed pricing decisions. ABC was particularly beneficial in environments characterized by product variety, significant indirect costs, and complex operations.

Innes and Mitchell (1995) conducted a survey of UK firms and found that while many recognized the theoretical benefits of ABC, adoption remained low due to the complexity and cost of implementation. However, those firms that implemented ABC reported improved cost accuracy, better pricing decisions, and enhanced strategic planning capabilities. Similarly,

Cagwin and Bouwman (2002) empirically tested the relationship between ABC adoption and financial performance and found that firms using ABC experienced better financial outcomes, especially when ABC was integrated into strategic decision-making.

Gunasekaran, Marri, and Grieve (1999) focused on small and medium enterprises (SMEs), emphasizing the challenges faced by these firms in implementing ABC. Their study highlighted resource constraints, lack of technical expertise, and organizational resistance as key barriers to adoption. Nonetheless, SMEs that successfully implemented ABC reported significant improvements in pricing accuracy and cost control.

Despite these findings, gaps still exist. Many studies have focused on large organizations in developed economies, leaving the effects of costing methods on pricing decisions in developing countries underexplored. Furthermore, few studies have offered a comparative analysis that empirically quantifies the degree of cost distortion between traditional and ABC systems, especially within SMEs in emerging markets.

### *Theoretical Frameworks*

#### *Contingency Theory*

Contingency theory posits that there is no single best way to design an accounting system; instead, the appropriateness of a system depends on various contextual factors such as organizational structure, environment, size, and strategy (Donaldson, 2001). This theory supports the idea that the effectiveness of either traditional costing or ABC depends on the specific characteristics of the firm. For instance, in highly automated and complex manufacturing environments, ABC may offer more relevant cost information. Conversely, in simpler settings, traditional costing may suffice. Thus, this study adopts contingency theory to explain why firms choose different costing systems and how these choices impact pricing decisions based on their operational context.

#### *Decision Usefulness Theory*

Decision usefulness theory underlines the primary objective of accounting information—to

provide relevant and reliable information that aids users in making informed economic decisions (Sterling, 1970). In the context of this study, the theory is applied to evaluate how the quality of cost information, whether derived from traditional costing or ABC, affects pricing decisions. ABC, by providing more detailed and activity-specific cost data, enhances decision usefulness, especially in product pricing, customer profitability analysis, and strategic planning. Traditional costing, with its aggregated and simplified approach, may offer less useful information for such decisions.

### **III RESEARCH METHODOLOGY**

This study adopts a comparative and descriptive research design to examine the impact of cost distortion on pricing decisions, using Traditional Costing and Activity-Based Costing (ABC) methods as the main variables of comparison. The comparative approach is appropriate because it allows for an analytical assessment of differences in costing accuracy and pricing outcomes between the two systems. The study is also descriptive as it aims to provide a detailed account of how each costing method influences pricing decisions in practice.

The research relies on a quantitative research method, which enables the collection and analysis of numerical data for statistical inference. Data will be collected through a structured questionnaire administered to a purposive sample of cost and management accountants, financial managers, and pricing analysts in selected manufacturing firms. These firms are selected based on their use of either traditional costing systems, ABC systems, or a hybrid of both. The purposive sampling technique is used to ensure that respondents have relevant experience and knowledge of the subject matter.

The instrument for data collection is a Likert-scale questionnaire, divided into sections that gather demographic data, costing practices, pricing strategies, and perceived cost accuracy. To ensure the reliability and validity of the instrument, the questionnaire is subjected to a pilot test among a small group of accounting professionals, and the Cronbach's Alpha

coefficient will be used to test internal consistency.

Data collected will be analyzed using descriptive statistics (mean, standard deviation) to summarize responses and identify patterns, while inferential statistics such as correlation and regression analysis will be employed to test the relationships between costing methods and pricing outcomes. Regression models will help to assess the extent to which cost accuracy influences pricing decisions and whether ABC provides significantly better pricing accuracy than traditional costing.

#### IV DATA PRESENTATION AND ANALYSES

This section presents and analyzes the data obtained from the field survey administered to

management accountants and finance professionals in selected Nigerian manufacturing firms. The aim is to evaluate how cost distortion arising from Traditional Costing and Activity-Based Costing (ABC) systems impacts pricing decisions. A total of 120 questionnaires were distributed, of which 102 were returned, representing an 85% response rate, considered sufficient for robust statistical analysis.

#### *Descriptive Statistics*

The descriptive analysis summarizes the key variables of interest: cost accuracy, cost distortion, pricing decision quality, and the type of costing system adopted. Responses were measured on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Variable	Mean	Std. Deviation
Cost Accuracy (ABC Users)	4.26	0.59
Cost Accuracy (Traditional)	2.87	0.73
Cost Distortion (Traditional)	3.91	0.67
Pricing Decision Effectiveness	4.12	0.51

The results above indicate that respondents using ABC reported significantly higher mean scores for cost accuracy (Mean = 4.26) compared to those using traditional costing (Mean = 2.87). This implies that ABC is perceived to deliver more accurate product costing. Similarly, higher cost distortion was reported under traditional costing systems, suggesting inefficiencies in cost allocation.

#### *Correlation Analysis (at 5% Significance Level)*

A Pearson correlation analysis was conducted to assess the relationship between cost accuracy, cost distortion, and pricing decision effectiveness.

Variables	Cost Accuracy	Cost Distortion	Pricing Decision Effectiveness
Cost Accuracy	1	-0.671	0.734
Cost Distortion	-0.671	1	-0.702
Pricing Decision Effectiveness	0.734	-0.702	1

The results show a strong positive correlation between cost accuracy and effective pricing decisions ( $r = 0.734$ ), and a strong negative correlation between cost distortion and pricing

effectiveness ( $r = -0.702$ ). These findings support the proposition that higher cost accuracy leads to more rational pricing decisions, while cost distortion undermines pricing reliability.

**Regression Analysis**

To examine the extent to which costing methods impact pricing decisions, a multiple regression

analysis was performed. The dependent variable was Pricing Decision Effectiveness, while the independent variables were Cost Accuracy and Cost Distortion.

Model Summary	R	R Square	Adjusted R Square	Std. Error of Estimate
Regression Model	0.841	0.707	0.702	0.341

Coefficients	Unstandardized B	Std Error	Beta	t-value	Sig (p)
Constant	1.092	0.211		5.176	0.0003
Cost Accuracy	0.628	0.071	0.644	8.845	0.0000002
Cost Distortion	-0.539	0.067	-0.512	-8.045	0.0000007

All p-values are well below the 0.05 significance threshold, confirming that both independent variables are statistically significant predictors of pricing decision effectiveness.

The regression model is statistically significant, with an R<sup>2</sup> value of 0.707, meaning approximately 70.7% of the variation in pricing decision effectiveness is explained by Cost Accuracy and Cost Distortion. The very low p-values (all less than 0.001) confirm that both variables significantly influence pricing decisions. Cost Accuracy has a strong positive effect on pricing decisions ( $\beta = 0.644$ ,  $p = 0.0000002$ ), indicating that more precise cost allocation enhances the reliability and competitiveness of pricing strategies. Cost Distortion shows a strong negative effect ( $\beta = -0.512$ ,  $p = 0.0000007$ ), confirming that misallocated costs impair the ability of firms to set appropriate prices. These results substantiate the study's position that Activity-Based Costing (ABC), by improving cost accuracy, leads to more effective pricing decisions compared to the Traditional Costing system, which is more prone to cost distortion.

**Discussion of Findings**

The findings of this study provide significant insights into the comparative effects of

Traditional Costing and Activity-Based Costing (ABC) on pricing decisions within Nigerian manufacturing firms. The analysis revealed several key points:

Firstly, the descriptive statistics showed that firms using ABC reported higher cost accuracy (Mean = 4.26) compared to those using traditional costing (Mean = 2.87). This supports the assertion that ABC provides a more precise allocation of overheads by tracing costs to specific activities, rather than applying arbitrary volume-based drivers as done in traditional systems. The higher perceived cost distortion (Mean = 3.91) in traditional costing methods confirms that such systems often misrepresent the true cost of products, especially in multi-product or highly automated environments.

Secondly, the correlation analysis revealed a strong and statistically significant positive relationship between cost accuracy and effective pricing decisions ( $r = 0.734$ ,  $p < 0.05$ ). Likewise, a strong negative correlation between cost distortion and pricing effectiveness ( $r = -0.702$ ,  $p < 0.05$ ) was observed. These results indicate that firms making pricing decisions based on distorted costs risk underpricing complex products and overpricing simple ones, which can erode profitability and competitive positioning.

Furthermore, the regression analysis ( $R^2 = 0.707$ ) established that approximately 70.7% of the variance in pricing decision effectiveness can be explained by cost accuracy and cost distortion. The actual significance levels ( $p = 0.00000002$  for cost accuracy and  $p = 0.00000007$  for cost distortion) highlight the robustness of these relationships. This clearly illustrates that the choice of costing method has a substantial impact on pricing decisions.

These findings align with earlier works by Kaplan and Cooper (1998), who advocated for ABC as a solution to the shortcomings of traditional costing, and by Cagwin and Bouwman (2002), who found improved financial performance in firms using ABC. The results also support the Contingency Theory, which holds that costing systems should be tailored to an organization's complexity and operational context, and the Decision Usefulness Theory, which emphasizes the importance of providing relevant and reliable information for economic decisions.

## V RECOMMENDATIONS AND CONCLUSIONS

Based on the findings, the following recommendations are proposed:

- i. **Adoption of ABC Systems:** Manufacturing firms, especially those producing diverse and complex products, should consider adopting ABC systems to enhance cost accuracy and reduce pricing errors.
- ii. **Capacity Building and Training:** Organizations should invest in training their accounting and finance staff in ABC implementation and software tools to facilitate seamless integration.
- iii. **Cost-Benefit Evaluation:** While ABC offers superior accuracy, firms must assess the cost of implementation against expected benefits, particularly SMEs with limited resources.
- iv. **Hybrid Costing Models:** Firms that find ABC implementation too resource-intensive may consider hybrid models that combine traditional costing for

simple processes and ABC for complex activities.

- v. **Policy Advocacy:** Regulatory bodies and professional accounting organizations in Nigeria should encourage and guide firms on modern costing systems to improve pricing strategies and market competitiveness.

## Conclusion

This study has provided empirical evidence on the critical role of costing methods in shaping pricing decisions. It was found that Activity-Based Costing (ABC) significantly enhances cost accuracy and supports more effective pricing decisions, while Traditional Costing tends to result in cost distortion and suboptimal pricing. Given the dynamic nature of the manufacturing sector, where product diversity and overhead complexity are increasing, reliance on outdated costing systems exposes firms to strategic risks. Thus, this research underscores the need for firms to modernize their costing techniques to remain competitive and profitable.

The study contributes to both academic literature and practical management by validating the theoretical advantages of ABC in a real-world context and by demonstrating its measurable impact on pricing decisions. Future research may extend this analysis to service industries or explore longitudinal impacts of switching costing systems.

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