
COST ACCOUNTING INFORMATION AND PRODUCT COSTING OF SELECTED PAINT MANUFACTURING COMPANIES IN DELTA STATE, NIGERIA

By

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Abstract

This research was carried out to examine the relationship between cost accounting information and product costing of some selected paint companies in Delta State. To achieve this objective, a null hypothesis that states that there is no significant relationship between the timeliness of cost accounting information and product cost reduction of paint manufacturing companies in Delta State was adopted. A sample of 55 respondents was randomly selected and analyzed using Chi-Square (X^2) inferential statistic. The result from the analysis indicated a critical value of 16.919 at a degree of freedom of 9 and at significant level of 0.05. The decision rule is to accept the null hypothesis (H_0) if the computed X^2 value is less than the critical value. Thus, Since X^2 calculated value of 41.72 is greater than the critical value of 16.919, the null hypothesis was rejected and the alternative hypothesis (H_A) that states that: there is a significant relationship between the timeliness of cost accounting information and product cost reduction of paint manufacturing companies in Delta State was accepted. Hence, the paper found out and concluded that paint manufacturers would be able to reduce their production cost considerably if relevant cost accounting information is reported to the management promptly. In light of this, the paper recommends that entities must ensure that they have a good cost accounting system that report financial activities promptly for managerial decisions.

Keywords: Cost Accounting Information, Product Costing, Timeliness

INTRODUCTION

1.1 Background to the Study

The dynamism and the dramatic rise in business competitive world have constantly and rapidly established the relevance of making quick and timely decisions in a company. The timeliness and relevance of cost accounting information may not easily be disassociated with the appropriateness of product costing techniques that could lower cost and improve profitability. In many cases, the management seeks to determine the cost of the products and often depend on cost accounting information for guiding their decisions. Decision making can be seen as making timely and relevant choice from among a set of alternative courses of action in consonance with object clauses of an entity. Cost accounting information has a main purpose of accumulating cost of an organizational products and services. Managers of manufacturing companies can use cost accounting information as a guide in setting selling prices and for inventory valuation and profit determination (Adeniji, 2015). The choice of product costing technique that would generate appropriate cost accounting information that will guarantee reduced product cost has increasingly become a huge matter of concern in the business world.

This research is however aimed at ascertaining the relationship between cost accounting information and product costing in some selected paint manufacturing companies in Delta State, Nigeria. The research particularly seeks to establish the relationship between the timeliness and product cost reduction.

1.2 Statement of the Problem

Adequate cost accounting information has increasingly become inevitable in both manufacturing and non-manufacturing companies in Nigeria. This need is heightened by the quest for profit maximization. Companies are challenged to maximize profit in the increasing turbulent business environment. The global recession occasioned by corona virus pandemic has recently and constantly proven a challenge to entities' profit.

External factors such as the business political environment, legal environment, economic environment, social environment and technological environment have in no small measure threatened the survival of companies, particularly the manufacturing companies.

Businesses in Nigeria have continually been plagued with inconsistency in fiscal policies, unpredictable and controversial government policies and high cost of input. For instance, deregulation has left Nigerian Manufacturing Companies with low capacity utilization occasioned by high cost of fixed overhead per unit production, high cost (fluctuations) of foreign exchange which causes high cost of raw materials and plants and machinery which affect product costing.

The consequence of high cost of input is high product cost and high sales price. To resolve this ugly trend in the world of business, the researcher perceives that the timeliness of cost accounting information may not be unconnected with the adequacy of product costing which translates into higher profits. Hence, the researcher is out to examine the relationship between cost accounting information and product costing of some selected paint manufacturing companies in Delta State, Nigeria.

1.3 Objective of the Study

The objective of this study is to determine the relationship between the timeliness of cost accounting information and product cost reduction of paint manufacturing companies in Delta State.

1.4 Research Question

What is the relationship between the timeliness of cost accounting information and product cost reduction of paint manufacturing companies in Delta State?

1.5 Research Hypothesis

HO: There is no significant relationship between the timeliness of cost accounting information and product cost reduction of paint manufacturing companies in Delta State.

2. LITERATURE REVIEW

2.1 Empirical Review

Cohen, and Kaimenaki (2009) carried out an empirical study on Cost accounting systems structure and information quality properties. The paper explored the usefulness of Cost information quality to the users in terms of relevance, accuracy, timeliness, usability, compatibility for decision-making. In a bid to establish this relationship, data were gathered from 119 leading Greek manufacturing companies with the administration of questionnaires. The investigation was achieved with the use of variance analysis and frequency distributions. The findings from the research indicated that the majority of cost accounting systems structure characteristics exert a statistically significant positive influence on cost information quality dimensions. This study is in consonance with the theoretical argument put forward in the management accounting literature that more functional cost accounting systems provide information of higher quality (Pizzini, 2006).

Grondskis, & Sapkauskiene (2011), investigated cost accounting information use for product mix design. The paper explored, comparatively, the relationship between the traditional cost accounting system and Activity Based Costing with the aid of Modelling, linear programming methodology and case study using Lindo production optimization software and MS Excel software. The findings from the study revealed that activity based cost accounting system provides more reliable information for creating optimal production programme and making management decisions. On the strength of this, the paper expounds that integrating activity based costs accounting system and theory of constraints into production and managerial decisions would yield an immeasurable benefit to an entity.

In a similar vein, Jovanović, Dražić-Lutitsky & Vašiček (2019), reviewed the implementation of cost accounting as the economic pillar of management accounting systems in public hospitals in Slovenia and Croatia. The paper analyzed the capabilities of cost tracking according to different criteria and identification of the main constraints in the implementation of a full costing method in Slovenian and Croatian hospitals. These scholars investigated 26 Slovenian and 52 Croatian hospital accountants and financial officers. Thus, it was revealed that Slovenian and Croatian management accounting systems are at a very early development stage. More so, the work established several similarities, as well as differences, between the two systems, hence, concluded that Slovenia has succeeded in making greater progress, especially when observing systematical cost monitoring and implementation of national cost analysis.

Prior to this, there had been divergent views on the application of cost accounting systems in the hospital management. Hassan (2005) studied Egyptian hospitals. The result of the analysis revealed that the hospitals offer most health services at a high cost and that some clinics had little profit while others had big losses. In a study of 112 Spanish public hospitals, Naranjo-Gil (2004), disclosed that there was an indirect effect of sophisticated accounting information systems on the performance of public hospitals through a prospector strategy. Similar research on a sample of 54 Greek public hospitals (out of 132) reveals a number of

benefits from the use of accrual cost allocation within sophisticated management accounting system (Stamatiadis, 2009). The revision of the transferring accounting system technologies designed for the private sector to the UK public hospitals, revealed several problems pointing to necessary development of a public sector specific management accounting system, based on qualitative cost accounting (Ellwood, 2009). Additionally, Azoulay et al. (2007) argued that the management accounting report should not only be used for decision-making but can be used also by stakeholders in formulating policies and strategic plans and for health service research.

2.2 Conceptual Review

With the upsurge in competition and globalization in today's business environment, most modern theories such as activity based costing and theory of constraints cannot cope with the demands of modern management (Grondskis & Grondskienė, 2002, Šapkauskienė and Leitonienė, 2009). Depending on circumstances activity based costing and theory of constraints produce different results. These theories are developing separately and ignore each other; regardless that some disadvantages of one theory are advantages of another and vice versa (Grondskis & Domeika, 2001).

Thus, over the last two decades, the scientific literature has widely covered management accounting and has been focused on prevailing disadvantages of both traditional and modern cost accounting systems (Grondskis & Domeika, 2001; Corbett, 2005; Cohen et al., 2005; Ning, 2005; Horgren et al., 2006; Krishahnam, 2006; Pierce, 2006; Euske & Alan, 2007; Sapkauskiene & Leitoniene, 2007; Sartorius et al., 2007; Abusalama, 2008, Valanciene & Gimzauskiene, 2009).

On a hindsight into the development of cost and management accounting techniques, the traditional costing systems (full or absorption costing and direct or variable costing) were developed at the beginning of twentieth century, when management of Western companies was oriented to manufacturing, small product range, dominated by mass production, and the biggest part of the companies costs were the direct materials and labour costs (Wickramasinghe & Alawattage, 2007). The main objectives of such companies were to expand manufacturing and minimize costs. Cost accounting was affected by such view to the company management: companies were using traditional cost accounting systems. Absorption costing was used to evaluate inventories and for pricing decisions; variable costing to make "buy or produce" decisions; to control costs, standard costing and cost centres were introduced.

In the second half of the twentieth century under the conditions of changing the nature of the production and increasing overhead costs the needs for reliable information about costs had arisen. The companies' managers were forced to seek new ways for costing (Barber et al., 2006, Sapkauskiene & Leitoniene, 2010). Goldratt and Cox (1984), on the propagators of theory of constraints, described the traditional management accounting as 'an enemy for productivity.' Manalo (2004) claimed that traditional costing system with overhead cost allocated with reference to the number of hours of direct work would highly distort the real costs of the product. Marketing oriented and value based management required different cost accounting. As a result, companies started to implement new costing systems such as Activity based Costing (ABC) or Throughput Accounting (TA).

In 1980 Kaplan, Jonson and Cooper were the first to describe the Activity based Costing system which was meant to eliminate the weaknesses of the traditional costing system. This

costing system has been called one of the main discoveries in management for the last century.

Based on the extensive review of the literature, it is obvious that existing research focused on cost and management accounting information needs of some foreign entities. Emphasis was fussed on the application of cost and management accounting techniques to guide entities in choosing requisite techniques. However, this paper is particularly anchored on the impact of requisite cost and management accounting qualities (timeliness) on cost reduction and profitability.

3. METHODOLOGY

3.1 Data Analysis and Presentation

This study adopted the survey research design, the survey research enables a researcher to sample or seek the opinion of the respondents on certain issues or phenomenon, Enyekit (2005). The target population of this study consisted of the senior staff of the four randomly selected paint manufacturing companies: Promise Global Ventures Paint Production Services (PGVPPS), Asaba; Chri Star Paint, Warri; Akoland Paints Company, Warri; and Isonem West Africa, Asaba, Delta State. The target population is made up of One Hundred Staff from the four companies as shown below:

Table 3.1 Population of the study

S/N	COMPANIES	POPULATION
1.	PGVPPS	25
2.	Chri Star Paints	25
3.	Akoland Paints Company	25
4.	Isonem West Africa	25
	Total	100

Field Survey, 2021

The sample size is a small group or unit of elements drawn from the population for easy analysis and generalization of result of findings. In this research, the population of the study as stated above was one Hundred respondents. From this, Eighty (80) respondents were conveniently selected. This Eighty (80) were arrived at by using the Taro Yamen Formula to arrive at a sample size of 80 respondents. To ensure the credibility of this study and to achieve its purpose, the researcher administered eighty (80) copies of the questionnaire to the staff of the selected paint manufacturing company but fifty-five (55) of which were returned.

The Eighty (80) copies of questionnaires were distributed to the four companies as shown below:

Table 3.2: Distribution and collection of Questionnaires

Department of Respondents	Number Distributed	Number Returned	% Returned
PGVPPS	20	15	27
Akoland Paints Company	20	13	24
Chri Star Paints	20	11	20
Isonem West Africa	20	16	29
Total	80	55	100

Field Survey, 2021.

Table 3.2 indicates that a total of eighty (80) copies of questionnaires were administered to the employees in the four companies. Fifty-five (55) questionnaires representing 68.75% of the total respondents were appropriately filled and returned while 25 questionnaires representing 31.25% were not returned.

Chi-square(χ^2) statistical tool was used to analyse the data to establish the degree of association between the two variables. The nominal scale was used to present the degree of responses and scoring of questions. Tables and simple percentages were used to present data.

Hence, Chi-square formula is stated as:
$$X^2 = \frac{\sum [fo - fe]^2}{Fe}$$

Question: To what Extent does timely reporting of cost accounting information affect product cost reduction of paint manufacturing companies?

Table 3.3

Options	Companies				Total	%
	PGVPP S	Akoland Paints Company	Chri Star Paints	Isonem West Africa		
Very High Extent	7	5	3	7	22	40
High Extent	3	3	3	3	12	22
Low Extent	2	1	3	2	8	15
Very low Extent	3	4	2	4	13	23
Total	15	13	11	16	55	100

Field Survey, 2021.

From the above table 3.3, 22 respondents representing 40% of the total respondents agree that timely reporting of cost accounting information affect product cost reduction of paint manufacturing companies to a very high extent. 12 respondents representing 22% agree to a high extent while 13 respondents representing 23% agree to a very low extent.

3.2 Test of Hypothesis

HO: There is no significant relationship between the timeliness of cost accounting information and product cost reduction of paint manufacturing companies in Delta State.

Computation of Test Statistics

The researcher used the questionnaire administered on the four selected paint companies as indicated in table 3.3 to test the hypothesis.

Option	1	2	3	4	Total
Very High Extent	5	4	4	8	21
High Extent	6	5	3	4	18
Low Extent	3	2	3	2	10
Very low Extent	1	2	1	2	6
Total	15	13	11	16	55

Field Survey, 2021.

The expected frequency was computed as follows:

$$\frac{\text{Column Total} \times \text{Row Total}}{\text{Grand Total}}$$

1. $\frac{15 \times 21}{55}$ = 6.7	$\frac{15 \times 18}{55}$ 4.9	$\frac{15 \times 10}{55}$ 2.7	$\frac{15 \times 6}{55}$ 1.6
2. $\frac{13 \times 21}{55}$ =5.0	$\frac{13 \times 18}{55}$ 4.3	$\frac{13 \times 10}{55}$ 2.4	$\frac{13 \times 6}{55}$ 1.4
3. $\frac{11 \times 21}{55}$ =4.2	$\frac{11 \times 18}{55}$ 3.6	$\frac{11 \times 10}{55}$ 2	$\frac{11 \times 6}{55}$ 1.2
4. $\frac{16 \times 21}{55}$ =6.1	$\frac{16 \times 18}{55}$ 5.2	$\frac{16 \times 10}{55}$ 2.9	$\frac{16 \times 6}{55}$ 1.7

Chi-square (X^2) Calculation

Fo	Fe	Fo-fe	(fo-fe) ²	$\frac{(fo-fe)^2}{fe}$
5	6.7	-1.7	2.89	0.43
4	4.9	-1.9	0.81	0.17
4	2.7	-1.3	1.69	0.63
8	1.6	6.4	40.96	25.6
6	5	1	1	0.2
5	4.3	0.7	0.49	0.11
3	2.4	0.6	0.36	0.15
4	1.4	2.6	6.76	4.83
3	4.2	-1.2	1.44	0.34
2	3.6	-1.6	2.56	0.71
3	2	1	1	0.5
2	1.2	0.8	0.64	0.53
1	6.1	-1.5	26.01	4.26
2	5.2	-3.2	10.24	1.97
1	2.9	-1.9	3.61	1.24
2	1.7	0.3	0.09	0.05
				41.72

Field Survey, 2021.

Step 3: Identification of test Statistics

Chi- square formula

$$X^2 = \frac{(fo-fe)^2}{fe}$$

Where: fo = Observed frequency

Fe = Expected frequency

X^2 = Chi-square

Degree of Freedom is applied

Degree of Freedom (df) = (r-1) (c-1)

Where: r = number of rows

C = number of columns

Hence, Df = (4-1) (4-1)

Df = 3 x 3

Df = 9

The critical value of X^2 at a degree of freedom of 9 and at significant level of 0.05, from the table is 16.919. The decision rule is to accept the null hypothesis (H_0) if the computed X^2 value is less than the critical value. Thus, Since X^2 calculated value of 41.72 is greater than the critical value of 16.919, we reject the null hypothesis and accept the alternative hypothesis (H_A) that states that: there is a significant relationship between the timeliness of cost accounting information and product cost reduction of paint manufacturing companies in Delta State.

4. CONCLUSION

This research was carried out to investigate the relationship between cost accounting information and product costing in paints manufacturing companies in Delta State, Nigeria. The finding from the empirical review indicates that paint manufacturers would be able to reduce their production cost considerably if relevant cost accounting information is reported to the management promptly. Hence, timeliness, as an attribute of cost accounting information was found to exert so much influence on the production cost of paint manufacturers.

5. RECOMMENDATIONS

Based on the research findings, the following recommendations were highlighted:

- i. Entities must ensure that they have a good cost accounting system that report financial activities promptly for managerial decisions.
- ii. Qualified professional accountants should be engaged to ensure relevant and timely reporting.
- iii. A good information feedback system should be integrated into the entities' financial reporting to promptly identify weakness in cost accounting information system.

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