



Effect of Industrial Accidents Cost on Profitability: A Case Study of Nigerian Bottling Company (NBC) Owerri and Nigerian Breweries (NB), Aba

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Abstract

We have evaluated the effect of industrial accidents on profitability using Nigerian Bottling Company, Owerri and Nigerian Breweries, Aba as case study. The rating of mean safety measures, and extent to which these variables cause accident, annual accident record, and the percentage impact of these accidents cost on the net profit were ascertained respectively, for the period of three fiscal years – from March, 2010 to February, 2013. We assessed the safety compliance of the companies and the resultant accident occurrence level each year respectively. The profitability analysis of both companies shows alternating results. For Nigerian Breweries, it can be deduced that the safety measures rating increased progressively from 2011 to 2013 - February to March each year. The percentage impact of accident cost on profitability for Nigerian Breweries Plc reduced tremendously from 1.92, through 0.99 to 0.40 between 2011 and 2013, this was as a result of improvement in their safety culture. Conversely, the safety measures compliance in Nigerian Bottling Company declined progressively over the three fiscal years under investigation. This correspondingly caused a clear percentage impact of 0.75, 2.08 and 4.52 respectively on the net profit of the company. For optimal profit level therefore, it is advisable to check and control the contributing accident factors like unsafe speed, wrong placement of tools and materials, use of defective tools and equipment, broken bottles and parts, etc. to a minimum level to reduce accident cost and hence boost profitability. Also, to increase the company's profit, the company should resort to safety measures compliance to zero tolerance as minimizing accident cost increases profit.

Keywords: Safety practices, safety culture, accident cost, profitability, organizational health and safety.

1.0 Introduction

An industrial accident or occupational accident is an accident that occurs when an employee is at work. It includes any type of accident or injury caused in a person's workplace. Accidents cost money (in terms of downtime and medication) as most of the times, disability to the worker is involved. The disability can be temporary or permanent depending on its severity. The cost incurred from payments made to accident victims by the respective companies involved result in higher cost of production and low level of profit (Dalela and Mansour, 2010).

A production job is done easier and better, and profitability is increased when accidents are prevented by proper implementation of safety in day-to-day activities of the industry as it takes less time and costs less money to prevent accidents than

it takes when you have them. In view of this, safety is not just something for extra time of the industry; safety is important (Heinrich, 1980).

Accident is an unwanted event that is never scheduled or planned. Many factors contribute to accidents' occurrence; significant losses and even bodily injury can result following each incident. These basic facts are well understood, yet accidents continue to occur, property damage accumulates, work schedules remain interrupted, and injuries reduce personal income and companies' profits (Manuele, 2016).

All accidents are caused. They are results of human errors, and they involve unsafe behaviors or unsafe conditions, or a combination of both. Process improvement opportunities are always identified following an accident, and prompt corrective measures are scheduled (Adebisi *et al.*, 2005).

Unfortunately, the inherent ability of the environment or behavior that initially caused the accident is seldom addressed in its entirety. Thus, we wait for the next accident in order to identify the next required corrective action. Hindsight has future value, but only after the accident occurs. The opposite of hindsight is foresight. With foresight, you identify accident potentials; with hindsight, you investigate accidents (Popor and Leyan, 2016). Accident investigation is not a “fault finding” or “finger pointing” exercise and requires meaningful involvement. Employees can provide valuable suggestions when they are regarded as “full partners” in the investigation process (Adebiyi *et al.*, 2005).

1.1 Causes

Industrial accidents can have a number of causes. Sometimes it is simply a random accident caused by a slip or fall. Other times these accidents are caused by improper work practices or negligence of the company. They can happen from employers cutting corners when it comes to employee safety or proper job training.

The absence of hazard or minimization of exposure to hazard is what is generally known as Safety. Hazards are the conditions with the potential of causing accidents. Industrial safety focuses on the operational phase; the system approach also includes the conceptual design and disposal phase. This approach is based on the assumption that the system consists of an interacting set of discrete elements (human, mechanical, situational, environmental) and that controls can be developed so that the system can perform its function safely. Information based on the interaction between the management and workers is greatly considered to make this research viable. An employer’s commitment to safe and healthy environment is important in reducing a workplace injury and illness to reduce Company’s cost and hence boost profit.

Most industries and manufacturing firms are concerned with making profit; as a matter of fact making profit with the least amount of resource input. The input can be in the form of money, time, material and personnel (Jain and Sunil, 2011). Accidents cost money (in terms of downtime and medication) as most of the times disability to the workers is involved. The disability can be temporary or permanent

depending on its severity. The cost incurred from payment by the respective company involved results in higher cost of production and low level of profit (Maynard, 1992).

1.2 Statement of Problems of the Study

The priority vision of many manufacturing companies is profit maximization. There are lots of setbacks which hamper and thwart this sole responsibility of which accident cost is one of the leading factors. Accident cost money in terms of treatment cost, compensation to industrial accident victims, downtime as a result of victim’s absenteeism and sometimes equipment repair or replacement. Therefore, making manufacturing companies safety compliant is a way forward to reducing accident cost menace, so as to help manufacturing companies maximize profit.

1.3 Objective of the Study

The specific objectives of this study are:

- i. To determine the impact of accidents in the profitability of the selected companies.
- ii. To investigate the effectiveness of safety measures in the companies of study.
- iii. To find out areas of the companies that need improvement in safety practices.

2.0 Methodology

The study uses both quantitative and descriptive study designs. Samples were chosen from the operational and strategic employees of the different sections of NBC and NB respectively. A sample of 75 employees in both companies respectively received the questionnaire and 72 valid questionnaires were returned for analysis with a response rate of 96%.

Data were collected from physical interviews with strategic and operational staff of both Companies as well as, responses from questionnaires, journals, scholarly articles and used to draw deductions as per the study.

The averages of ratings by different respondents for each variable of safety and the resultant accident level were taken each year from both companies respectively. These averages were gotten for a period

of three fiscal years; – March, 2010 through February, 2011 till February, 2013. Data on the type of accident, their frequency of occurrence, man hour loss, average cost per occurrence, and total average cost per year was ascertained respectively for each fiscal year in each company.

Statistical Package for Social Sciences (SPSS) spread sheet was used to analyze data for proper perusal. The findings were interpreted in light of the research objectives and reviewed in order to attach meaning to the data collected.

3.0 Results and Discussion

Nigerian Bottling Company

Table 1 shows the gross profit in NBC before accident cost deduction per year, the total average cost of accident per year, the net profit after accident deduction per year and the percentage impact of accident cost on profitability.

From Figure 1, it can be seen that there is a positive, significant correlation between Accident Cost and Percentage Impact on Profitability in NBC. The equation of the line is;

$$Y = 0.689X - 1.833 \text{ and } R^2 = 0.996$$

where Y is the Percentage Impact on profitability; X is the Accident cost in Millions of Naira; R is the Correlation Co-efficient.

Therefore, $X \leq \text{₦}2.66$ Million is a condition for no accident impact on the profitability of NBC.

Nigerian Breweries

Table 2 shows the gross profit in NBC before accident cost deduction per year, the total average cost of accident per year, the net profit after accident deduction per year and the percentage impact of accident cost on profitability.

From Figure 2, it can be seen that there is a positive, significant correlation between Accident Cost and Percentage Impact on Profitability in NBC. The equation of the line is:

$$Y = 0.623X - 0.928 \text{ and } R^2 = 0.996$$

where Y is the Percentage Impact on profitability; X is the Accident cost in Millions of Naira; R is the Correlation Co-efficient.

Therefore, $X \leq \text{₦}1.489$ Million is a condition for no accident impact on the profitability of NB.

Table 1: Accident Cost and Percentage Impact on Profitability Nigerian Bottling Company.

Year	Gross profit before accident deductions (₦)	Total average cost of accident (₦)	Net profit at the end of fiscal year (₦)	% impact
2011	496,719,800	3,719,800	493,000,000	0.75
2012	285,954,750	5,954,750	280,000,000	2.08
2013	201,085,900	9,085,900	192,000,000	4.52

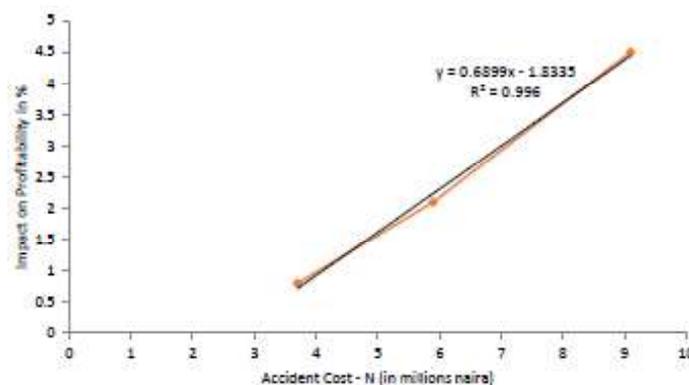


Figure 1: Graph of Impact on Profitability in % against Accident cost in Million naira in NBC for three business years.

Table 2: Accident Cost and Percentage Impact on Profitability in NB

Year	Gross profit before accident cost deductions	Total average cost of accident (₦)	Net profit after accident cost deductions for the year (₦)	% impact
2011	224,302,750	4,302,750	220,000,000	1.92
2012	353,492,050	3,492,050	350,000,000	0.99
2013	501,986,600	1,986,600	500,000,000	0.40

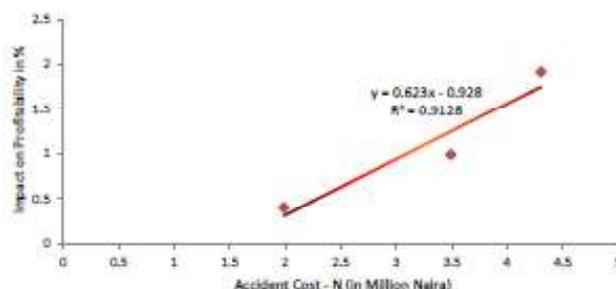


Figure 2: Graph of Impact on profitability in % against Accident cost in million

4.0 Conclusion

Accidents cost money (in terms of downtime and medication) since disability of worker is sometimes involved. After analyzing safety practice rife at Nigerian Bottling Company, Owerri and Nigerian Breweries Plc Aba. We find that the safety practices in Nigerian Bottling Company is poorer than that of Nigerian Breweries. These also lead to more accident cases in Nigerian Bottling Company than Nigerian Breweries Plc.

It can also be seen that there is a yearly increase in the profit level of Nigerian Breweries, this may be because they strive to improve their safety culture yearly which will reduce accident cost. The reverse is the case in Nigerian Bottling Company as their safety culture diminishes, causing a rise in accident cost thereby causing a drastic reduction in their profit level. Generally speaking, industrial accident has direct discernible impact on profitability.

5.0 Recommendation

Nigerian Breweries should put more effort so as to attain a system totally free from accidents. This will give them an optimal profit level. Nigerian Bottling Company should 'sit up', by improving their safety

practices and programmes in order to reduce the level of industrial accident. By so doing, they will improve their profit, increase their shareholders dividends and compete favourably in the market.

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