

**ASSESSMENT OF COMPLIANCE TO ETHICAL STANDARDS IN BOTTLED WATER
PRODUCING FIRMS IN NIGERIA: A STUDY OF SELECTED BOTTLED WATER
COMPANIES**

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ABSTRACT

This paper assesses the extent of compliance to ethical standards in the production of Bottled water in Nigeria with particular reference to selected bottled water companies. The paper determined whether producers of bottled water are aware of the existence of ethics, the level of compliance to ethical standards required by the regulatory agency, and whether consumption of bottled water reduces health hazards or not. Survey design was adopted for the study. Data for the study were obtained from Primary Source and analyzed using frequency tables and Pearson Chi-Square to test the three hypotheses of the study. The results showed that producers of bottled water are significantly aware of the existence of business ethics and are also significantly complying with required ethical standards set by the regulatory agencies. The study further showed that consumption of bottled water significantly reduces health hazards as deadly water borne diseases such as typhoid fever, diarrhea and measles have been drastically reduced to the barest minimum. It is recommended that awareness of business ethics and consistent compliance with the required standards as required by the regulatory agencies should be upheld and sustained overtime without compromising by water producing firms.

Key Words: Ethics, Standards, Assessment, Compliance, Hazards.

Introduction

The advent of bottled water in Nigeria is a recent phenomenon as compared to when it started in the western world such as the United States of America. The production of bottled water in Nigeria has the main objective of satisfying the increasing demand by Nigerians for genuine, pure and natural spring water for healthy drinking by athletes, in conferences, seminars and workshops. One interesting thing about the production of bottled water in Nigeria is that the major raw material required is 95% locally sourced with only 5% imported (Udalor, 2011). It is expected that with the operations of petrochemical industries in Nigeria, the imported materials will become available locally.

In the past 10 – 15 years, there has been an explosion in the market for bottled water. It is estimated that by 2015, the global market for unflavoured bottled water will be approximately 46 billion gallons per year (King, 2013:162). The global market for bottled water is rapidly growing and highly lucrative especially in developed countries. All major transnational food companies such as Nestle, Pepsi and Coca-cola have developed substantial market shares in the bottled water market with over 120 brands being introduced into the USA in 2010 alone (New York Times, April, 4th Edition, P.7). Today, there is a record of about 3000 brands of bottled water produced in over 115 countries (www.mineralwater.org,

2011) retrieved. Most brands have developed an association with specific location from where the water is sourced, such as Evian and Volvic from the AIPs in France, to add to the 'natural' and 'authenticity' credentials of their products.

According to Adeleke (2011) bottled water continues to thrive due to inadequate potable tap water in the country, with the majority of houses having no running water at all. While some households can afford to have their own boreholes, the water supplies are sometimes unfit for human consumption since there is no distillation system. Bottled water barely existed as a consumer product a couple of decades ago. It was mostly found in exotic holiday destinations to later for the needs of tourists.

According to Fagbongbe (2012:112), "we find bottled water in lunch boxes, meetings, lecture halls, tennis courts, and even the cup holder of the treadmills at the gymnasium". Every convenience store or supermarket offers bottled water for sale. At supermarkets, bottle water is the most popular item by units sold today. When we buy a bottle of water, we are not just paying for the water itself but the convenience and most probably the artful story which the water companies tell us about the water. Our choice is affected by where it comes from, how healthy we think it is, and what it says about us – in other words, its symbolic meanings rather than the actual benefits. Among the choices that we make for our daily consumer products, bottled water is not just good but positively virtuous.

The ethical dilemma in bottled water production is a situation where there is no agreement over what exactly the accepted principles of right and wrong production processes are, or where none of the alternatives seem ethically acceptable. Every organization like bottled water firms has its own goals and objectives, and individual managers have their independent goals. Ethics now come into play on what and how an organization's goals can be realized without necessary compromising on the rights of the stakeholders. It is not expected that an organization must play a fast one on any or collection of stakeholders to realize its set goals. When such is done, it is an unethical practice and it violates those basic rights.

Consumers' protection which is the act of safeguarding interests of the consumers in matters relating to the production and supply of foods and drinks as well as environmental degradation involves the establishment of the National Agency for Food and Drug Administration and Control (NAFDAC). This provides as part of its function in Section 5 of NAFDAC's Act, 2011, the power to "regulate and control the importation, exportation, manufacture, advertisement, distribution, sales and use of food, drugs, cosmetics, medical devices, bottled water and chemicals" (NIM. Vol. 47, No.1, 2011).

Unlike the Food and Drugs Act, NAFDAC Act is more extensive as its scope extends to bottled water, chemicals and detergent powders. Sanction on violation of the provision of Act is payment of fines, a term of imprisonment or both. It therefore becomes imperative to examine the ethical roles of NAFDAC as a regulatory agency in the production processes of bottled water firms. This is with a view to ascertaining the extent of compliance with NAFDAC's standard and ethical principles. Ethics demand that producers of bottled water conform to the acceptable standards of production practices and right business conduct. This will add value to the products and enhance healthy living standard. The proliferation of bottled water in Nigeria today calls for investigation into the activities of the producers in order to determine the extent of compliance with the standards required by the regulatory body and business ethics.

Statement of the Problem

Over the past one decade that the Federal Government of Nigeria has been spending so much on primary health care, many health personnel have expressed their concerns over the high rate of increase of deadly diseases such as typhoid fever, diarrhea and measles (Moremi, 2012). More common among these diseases today is the water borne typhoid fever which is caused by drinking infected water. This, according to Adeleke (2011), has claimed so many lives in the past. For this reason, a few have adopted preventive measures by properly boiling and filtering their drinking water in their homes. But in some other homes that are fairly buoyant, a safer way of avoiding contact of this disease is by drinking already bottled water like the SWAN and EVA.

Ideally, bottled water was introduced into the Nigerian market in order to provide safe drinking water void of water borne diseases such as typhoid fever, diarrhea and measles. However, with the proliferation of companies producing bottled water, there is a deviation from the intended goal of providing safe drinking water. Consequently, it is observed that even among consumers of this bottled water, such water-borne diseases still thrive. Therefore, this study is to empirically establish whether or not, bottled water producing firms are complying with ethical standards.

Literature Review

The focus of the study is to find out the levels of awareness of, and compliance with ethical standards by the producers of bottled water firms in their production practices as required by the regulatory agency. The study also focused on the following topical issues which are discussed under several subheadings: Bottled Water Production in Nigeria, Ethics and ethical dimensions, Bottled water regulation and safety standard, and of course, the theoretical framework.

Bottled Water Production in Nigeria

Bottled water is drinkable water packaged in plastic or glass water bottles. Bottled water may or may not be carbonated, and the sizes range from single serving bottles to large carboys for water coolers. The production of bottled water has been very good and profitable business in which individuals would be interested to invest with good management. According to Tamiyu (2012), since the introduction of bottled and sachet water in Nigeria, health hazards like cholera and typhoid diseases have reduced by 70% in the country. Moreover, the demand for both bottled and sachet water nationwide is much considering the affordable price.

However, Lawrence (2012) stated that there are several companies indulging in ethical questionable practices. If these companies behave unethically, it will soon come to the notice of the public and the companies' image will be tainted. These companies are often worse off for having behaved unethically in the interest of short term gains, as the bad publicity generated by unethical practices leads to far greater losses in the long run.

Considering the increasing need for good quality drinking water bottled under very stringent hygienic diseases, as well as the costly effect of water borne diseases, Sagay, Paul and Andrew (2012:11-15) maintained that "there is a paramount need for the citizenry of Nigeria to go for clean (bottled) water packaging business to deliver Nigerians from health hazards". This means that investment into innovative purification and packaging of portable drinking water has turned out to be a very lucrative business.

Ethics and Ethical Dimensions

According to Stoner (2010), ethics is the study of people's rights and duties, the moral rules that people apply in making decision and the nature of the relationship among people. Walton (2013:9-12) also claims that "ethics is concerned with truth and justice and have a variety of aspects such as expectations of the society, fair competition, advertising, public relations, social responsibilities, consumer autonomy and corporate behavior in the home, country and abroad."

Ethical principles and standards in business define acceptable conduct in business and underpin how management makes decision. An important distinction to remember is that behaving ethically is not quite the same thing as behaving lawfully. Roddick (12:141-154) opines that ethics is about "what is right and what is wrong", whereas law is about what is lawful and what is unlawful. This implies that ethical decision is one that is both legal and meets the shared ethical standards of the community. Ethics is concerned with what is considered right and wrong behavior in a given circumstance. It is a system of moral principles and rules of conduct.

Ethics are moral guidelines which govern good behavior, a normative science of human conduct. It describes the way things ought to be. It is a systematic study of the norms of human behavior. Omoregbe

(2011:110-135) contends that the study of ethics helps to elevate one's moral standard and enables us to see the defects in our own and other people's conduct and understanding exact nature so that if the desire is there, we are better able to set things right in our own conduct and make profitable suggestions to others. This study agrees with this assertion because the purpose of studying these norms is to ensure that human behaviours conform to them. So, behaving ethically is doing what is normally right, and behaving ethically in business is widely regarded as good business practice.

Bottled Water Regulation and Safety Standards

In Nigeria, bottled water production among other consumable products is regulated by National Agency for Food and Drugs Administration and Control (NAFDAC). This agency on a regular basis through her regulatory policies ensures that producers of water adhere strictly to the ethical rules and regulations that would ensure that safe bottled water is produced for human consumption. Due to the increasing rate of consumption of bottled water in Nigeria, thousands of firms have sprung up venturing into the industry. These firms according to NAFDAC Act (2004) are compulsorily required to register with NAFDAC which will assess their facilities on ground, and if satisfied, issues certificate to commence operation. Under this Act, NAFDAC regulates the production, distribution and consumption of bottled water in Nigeria by virtue of the Bottled Water Regulations (1995), and the Bottled Water Labeling Regulations (1996:LR 8). On water sanitation standards and quality, NAFDAC and Standard Organization of Nigeria (SON) are both ensuring that consumable water in Nigeria meet international quality standards (Orhi, 2010).

Theoretical Framework

The theoretical background on which this paper is predicated is the deontological theory. This theory of ethics was propounded by Immanuel Kant in 1956. It states that "people should adhere to their obligations and duties when analyzing an ethical dilemma". This means that a person will follow his or her obligations to another individual or society because upholding one's duty is what is ethically correct.

The deontological theory is considered the most appropriate for this study because it promotes effective management best practice, uplifts its standards and thus, enhance organization development.

Objectives of the Study

The objectives of the study were to:

Assess compliance to ethical standards in the production of bottled water; to determine the level of awareness of the existence of ethics by producers of bottled water and to determine whether consumption of bottled water reduces health hazards or not.

Research Questions

Based on the focus of the study, the following research questions were raised to guide the study:

To what extent are producers of bottled water aware of the existence of ethics?

To what extent do they comply with the required ethical standards set by the regulatory body?

To what extent does consumption of bottled water reduce health hazards?

Statement of Hypotheses

The study tested the following null hypotheses that:

Producers of bottled water are not significantly aware of the existence of business ethics; bottled water producers do not significantly comply with the required ethical standards by the regulatory agency; and consumption of bottled water does not significantly reduce health hazards.

Scope

This study covers two major bottled water producing firms in Nigeria. These are: (1) the SWAN Natural Spring Water bottled by Spring Waters Nigeria Limited, a subsidiary of UAC of Nigeria Plc., and (2) EVA Premium Table Water bottled by Coca-Cola Bottling Company Limited, Lagos.

Methodology

In this study, questionnaire was used to obtain the necessary data from the respondents. The population used for this study was five hundred (500) permanent staff members. This comprises of two hundred and sixty-five (265) staff of SWAN Natural Spring Water and two Hundred and Thirty-five (235) staff of EVA Premium Table Water respectively. These figures were made available by the company under study.

The sample size for the study was eighty-four (84) staff members drawn from both water bottling companies as stated in the population above. The population was sampled using Taro Yamane (1967) formula which provided a simplified formula for calculating sample size. Out of 85 questionnaires administered, eighty (80) copies were filled and returned. The questionnaires were rated on a Likert 5 scale of Strongly Agree (SA), Agree (A), Strongly Disagree (SD), Disagree (D) and Indifferent. The study used Pearson Chi-square to test the null hypotheses in order to determine the interdependence of the variables. Also, frequency tables and percentage were used in the analysis of data generated by the study.

Results and Discussion

The data obtained from the respondents are presented in the tables below

Table 1: Producers of Bottled Water are Aware of Business Ethics

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	4	5.0	5.0	5.0
Disagree	27	33.8	33.8	38.8
Indifferent	5	6.2	6.2	45.0
Agree	22	27.5	27.5	72.5
Strongly Agree	22	27.5	27.5	100.00
	80	100.0	100.0	

Source: *Field Survey, 2015.*

From table 1 above, it shows that 33% of the respondents disagree, 27% both agree and strongly agree while 6% are indifferent and 5% strongly disagree. Since majority of the respondents are of the view that producers of bottled water are not aware of business ethics, it implies that it will lead to unethical practices.

Table 2: Bottled Water Companies Comply with Required Ethical Standards

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	8	10.0	18.8	18.8
Disagree	16	20.0	20.0	60.0
Indifferent	8	10.0	10.0	70.0
Agree	33	41.2	41.2	90.0
Strongly Agree	15	18.8	10.0	100.0
	80	100.0	100.0	

Source: *Field Survey, 2015.*

In table 2 above, 18.8% and 20.0% of the respondents towed the lines of Strongly Disagree and Disagree respectively that bottled water companies do not comply with the required ethical standards. 10% of the respondents were indifferent while 41.2% Agree and 18.8% Strongly Agree. Since Majority of the

respondents (60%) agree with the statement that bottled water producing firms comply with the required ethical standards, this shows that many bottled water producing firms significantly comply with the required ethical standards.

Table 3: Consumption of Bottled Water Reduces Health Hazards

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	10	12.5	12.5	12.5
Disagree	11	13.8	13.8	26.3
Indifferent	7	8.8	8.8	35.0
Agree	41	51.3	51.3	86.3
Strongly Agree	11	13.8	13.8	100.0
	80	100.0	100.0	

Source: *Field Survey, 2015.*

The above table is a statement asking respondents whether consumption of bottled water reduces health hazards. 51% of the respondents Agree, 13% Strongly Agree, 13% also disagree while 12% Strongly Disagree and 8% were indifferent.

Since majority of the respondents agree with the statement, it means that consumption of bottled water reduces health hazards.

Testing of Hypotheses

Three hypotheses were tested to achieve the objectives of this study.

To Test for Ho¹: That producers of bottled water are not significantly aware of the existence of business ethics.

Table 1: Awareness of the Existence of Business Ethics

Chi-Square Tests	Value	df	Assumed Level of Sig. (2-sided)
Pearson Chi-square	202.470 ^d	130	.000
Likelihood Ratio	136.281	130	.336
Linear-by-Linear Assoc.	1.488	1	.223
No. of Valid Cases	80		

Source: *Field Survey, 2015.*

The $P < 0.05$, this means that there is a statistically significant association between producers of bottled water and awareness of the existence of business ethics. This shows that producers of bottled water are aware of the existence of business ethics.

To Test for Ho²: Bottled water producers do not significantly comply with the required ethical standards set by the regulatory agency.

Table 2: Compliance with Required Ethical Standards

Chi-Square Tests	Value	df	Assumed Level of Sig. (2-sided)
Pearson Chi-square	219.533 ^d	154	.000
Likelihood Ratio	126.451	154	.949
Linear-by-Linear Assoc.	3.760	1	.053
No. of Valid Cases	80		

Source: *Field Survey, 2015.*

The $P < 0.05$. This means that there is a statistically significant association between producers of bottled water compliance with the required ethical standards set by the regulatory agency. This shows that producers of bottled water are complying with the required ethical standards set by the regulatory agency.

To Test for H_0^3 : Consumption of bottled water does not significantly reduce health hazards.

Table 3: Reduction of Health Hazards

Chi-Square Tests	Value	df	Assumed Level of Sig. (2-sided)
Pearson Chi-square	202.470 ^d	130	.000
Likelihood Ratio	136.281	130	.336
Linear-by-Linear Assoc.	1.488	1	.223
No. of Valid Cases	80		

Source: *Field Survey, 2015.*

The $P < 0.05$. This means that there is a significant association between consumption of bottled water and reduction of health hazards. This shows that consumption of bottled water reduces health hazards.

Discussion of Findings

From the preceding section, results from the test of hypotheses are somewhat interesting as they tend to be aligning with the present situation in the water industry. This section therefore attempts to discuss the findings of the study as follows:

- i) There exist a statistically significant association between producers of bottled water and awareness of the existence of business ethics. This means that bottled water producing firms are aware of the existence of business ethics. This finding is consistent with the views of Omoregbe, (2011) who said that with ethical standards as a vanguard of business organization, sharp practices such as defective products, arbitrary increase of prices and advance fee fraud can be minimized.
- ii) There is a statistically significant relationship between producers of bottled water and compliance with required ethical standards set by the regulatory agency. This finding is in line with NAFDAC Act (2004) which had compulsory requested producers of all kinds of table water to register with it. Under this Act, NAFDAC regulates the production, distribution and consumption of bottled water in Nigeria by virtue of the bottled water and labeling regulations.
- iii) It is observed that there is a statistically significant association between consumption of bottled water and reduction of health hazards. However, this relationship is positive and consistent with Tamiyu (2012) "that since the introduction of bottled water in Nigeria, water-borne diseases such as cholera, diarrhea and typhoid fever have reduced by 70% in the country." The rising population of bottled water therefore, is inextricably linked to the wider social trends and attitudes towards healthier living. Based on these findings however, it is important to point out that the study hereby rejects the null hypotheses and accepts the alternatives.

Conclusion

In the light of the findings, the following conclusions are drawn from the study:

From the finding of the study, it can be concluded that producers of bottled water are significantly aware of the existence of business ethics. This is discernable considering from their respective models of production practices and behavioural patterns. Bottled water serves people who are on the go without time to fill up a reusable bottle. It serves people who use it as a status symbol, or who want a taste of a distant country. It serves emergency workers who need a source for reliably clean water in the midst of a disaster.

A high percentage of households in Nigeria, both in urban and rural areas do not have access to safe drinking water, and in the case of privately owned boreholes, the purification system is generally poor.

Producers of bottle water are significantly complying with required ethical standards set by the regulatory agencies. This is imperative especially in the area of registration, labeling, composition and general production requirements.

The companies that bottle and distribute this water serve all of these people with business practices that are nothing but ethical. They create a product that is 100% recyclable and certifiably sanitary. They deliver this product to consumers through standard methods of distribution and follow all labeling guidelines, set by the Regulatory Agency to inform consumers as to where the water is sourced. Although they many have an environmental footprint that isn't as small as it could be, bottled water companies can't be considered anything but ethical businesses.

Lastly, it can be concluded that consumption of bottled water significantly reduces health hazards. This can be seen from the fact that deadly water borne diseases like typhoid fever, diarrhea, and cholera have been drastically reduced to the barest minimum.

Recommendations

- The following recommendations were made based on the findings from the study:
- i) The awareness of business ethics by the producers of bottled water as revealed from the findings should as a matter of policy be upheld and sustained by them.
 - ii) In keeping with this awareness of the existence of business ethics, consistent compliance with required ethical standards, theories and principles by the regulatory agency should be upheld, sustained and not compromised by bottled water producing firms.
 - iii) Producers of bottled water should also strive to ensure complete elimination of deadly water borne diseases through consistent efforts aimed at "doing the right thing in the right place at the right time," thereby reducing further health hazards.

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