

# Managers' Perception of Environmental Sustainability in Small and Medium Scale Enterprises (SMEs): Implication for Competitive Marketing Advantages for Sachet Water Manufacturers in Anambra State, Nigeria.

Nkoli Augustina Chendo (M.Sc.)  
Anambra State University, Igbariam Campus, Nigeria  
Email Correspondence: [bluebenresearch@gmail.com](mailto:bluebenresearch@gmail.com)

## Abstract

This study examines managers' perception of environmental sustainability practices among Nigeria's SMEs with a case of the sachet water manufacturers in Anambra State, Nigeria. The study adopted survey design and used primary data. The population for the study is all the 321 sachet water firms registered with NAFDAC in Anambra State, Nigeria. The 321 managers of the sachet water firms formed the sample. The instrument for data collection is Likert-type questionnaire, tested for Cronbach Alpha reliability at 0.87. Descriptive statistics such as frequencies, and percentages were used in answering the research questions while the Z-test was used to analyse the hypotheses. The results shows that the perception of managers of sachet water firms towards their environment is negative; there is significant difference in the perception of managers of sachet water firms on maintenance of healthy environment in the factory and the society; managers' perception have significant effect on ensuring that water supplies are uncontaminated; managers' perception have significant effect on properly disposal of waste from sachet water firms; the managers' perception have significant effect on maintaining hygienic environment. The study concludes that managers of sachet water firms in Anambra State, Nigeria have poor perception about maintenance of hygienic environment within the area they operate. The environmental agencies in Nigeria should set up a recycling mechanism for waste management in Nigeria. This will help for the reuse of the polyethylene sachets and reduce the amount of their non-biodegradable materials in the environment.

**Keywords:** SMEs, Water, environmental sustainability, Nigeria.

## 1 Introduction

### 1.1 Background of the Study

Since the 1990s, environmental and social factors have become increasingly important strategic considerations for enterprises of any size. The growing concerns about the environmental sustainability of past economic growth patterns and increased awareness of a potential future climate crisis have made it clear that the environment and the economy can no longer be considered in isolation (OECD, 2010a). Therefore, sustainability is fast gaining momentum across economies, as a way to pursue economic growth and development, while preventing environmental degradation, biodiversity loss and unsustainable natural resource use. Sustainability implies decoupling economic and environmental performances, as well as making investment in the environment a driver of economic growth. This will involve greening traditional sectors and favouring the transition of all economic actors, both producers and consumers, towards sustainable practices. However, it will also and foremost entail seizing the opportunities for development of new green (or sustainable) activities, building up new competencies, upgrading skills, transforming and creating jobs. It will require adopting new technologies and business models, developing new products and supporting new patterns of demand. It will also demand managing the structural changes associated with the transition, in particular the reallocation of capital and labour resources within and across sectors, as well as across regions.

For any business to continue in existence, the organization must not only be profit-minded, but also must be conscious of the environment and be accountable to the society for its actions and inactions (Mojekeh & Eze, 2011). Managers must accept responsibility for consequences of their actions and make every effort to ensure that their

decisions, recommendations and actions, function to identify, serve and satisfy all relevant public, customers, organizations and the overall environment. The process of doing these would entail sustainability practices.

The prospects and strategies for a sustainable economy cannot be entirely understood without taking fully into account the production, technology and management practices of small and medium sized enterprises (SMEs). Ensuring that SMEs fully participate in the efforts towards sustainable growth and benefit from policy changes to promote is a key challenge for this transformation. As SMEs account for over 95% of all enterprises and two thirds of employment across some developing countries (Nigeria inclusive), their transition to sustainable practices, in both manufacturing and services, is key to the large scale uptake of a sustainability model.

In this light, it is important that sustainability strategies followed by SMEs are studied in detail. SMEs face problems including finance, technology, lack of knowledge, organizational culture, and internal motive in implementing sustainable practices (Biondi & Iraldo, 2002 and Hemel & Cramer, 2002). As a result, moving to a greener economy may be more difficult for SMEs than large firms, although SMEs can be more flexible than large businesses in adapting to the fast changing market environment (OECD, 2010a).

Sachet water companies form a major part of Small and Medium Scale Enterprises (SMEs) in Nigeria (Akunyili, 2003 cited in Adewoye & Akanbi, 2012) and they played very important role in creating employment opportunity (Adewoye & Akanbi, 2012). To stress the level of challenge the world faces with water, OECD (2010a) have posited that a further 1 billion people are expected to live in severe water-stressed areas by 2030, raising a challenge in terms of the policies and financing needed to ensure access to clean water. A reliable supply of clean wholesome water is highly essential in a bid to promoting healthy living amongst the inhabitants of any defined geological region (Mustapha & Adam, 1991). In Nigeria, where the government has not done much to provide reliable potable water for its citizenry (Egwari & Aboaba, 2002 and Dada, 2009) drinking water is sold in polythene sachets.

In Nigeria, the sachet water (popularly called *pure-water*) is readily available which encourages mobile consumption. As a result, consumers litter the environment with used sachet bags, which are largely non-degradable. This poses many challenges to physical environment such as blockage of drainages etc. The fact that this littering is persisting suggests that managers are not doing anything about it, hence an urgent and immediate investigation to determine managers' perception about how their products are used, and impacts of consumers' disposal method on the environment becomes necessary.

### *1.2 Statement of the Problem*

Pressure on industry to become environmentally conscious is increasing the world over. SMEs have an important role to play in this context as they make up a significant proportion of industry in developing economies. Sachet water manufacturers in Nigeria use polyethylene for the packaging. World Bank (1996) and Yankson (1998) have decried the steady increase in the use of plastic/nylon products resulting in a proportionate rise in plastic waste in the municipal solid waste streams in large cities in sub-Sahara Africa, and Nigeria is not an exception.

Intense heat in the tropical and equatorial latitudes requires constant intake of water by the trekking population during work hours and in market places motor parks and stadia. So it is a common observation in Nigeria to find young people also trekking and selling iced water in trays or basins on their heads in public places and in the streets of cities and towns. The packaging materials are most often dumped anywhere at the convenience of the trekking population since there is usually no mechanism that allows proper disposal of these materials after consumption. This gave rise to indiscriminate dumping of various materials including the emptied bags of sachet water. These packaging materials are non-biodegradable, and are capable of holding little water on which disease-causing organisms such as mosquitoes can breed and infest the large populace.

It is worthy of note that one fundamental premise for sustainable development is the recognition that environment and development are not exclusive of one another but are complementary and inter-dependent and in the long run may be mutually reinforcing (Ahmad and Sanny, 1987). So, what we do to control the effect of our actions and inactions on our environment is of grave concern. To control the menace of unclean water-in-sachets, NAFDAC declared a possible 'gradual' nationwide ban on sachet water to allow the manufacturers of sachet water to start winding-down or change to bottle packaging (C.A.M.O.N, 2004). The extent to which this has gone has been a mirage. One may be tempted to believe that everybody (the government, producers and consumer public) has hand in this menace.

However, managers are the key players in this regard since they control management decision variables including whether to produce or not. Arguably, investigating their perception on the subject is both legitimate and urgent. Yet, no study can be traced on this.

On the basis of the above problem, the study assesses the marketing implications of managers' perception of environmental sustainability in Nigeria's SMEs with special emphasis on how sachet water packages are being disposed of after consumption.

## 2 Review of Literature

### 2.1 Sustainability Concept and Meaning of Small and Medium Scale Enterprise

Sustainability or sustainable development presupposes that companies are fully aware of the impact of their behaviour on the material and immaterial situation of their direct and indirect environment (Bos, 2002). It involves not only the scanning of opportunities and threats in the market, but also of the environment. The fact that sustainable entrepreneurship is up till now largely a large companies' playground is partially due to the more limited resources of SMEs. However, as we will show later on, it is impossible for them to ignore this new economic reality. Small and medium-sized enterprises make a substantial contribution to economic growth and employment in most countries around the world (Organization for Economic Co-operation and Development, 1997). The individual impact of SMEs is relatively small, but their collective impact is substantial. SMEs typically represent about 95 % of all private sector firms in most modern nations, and so form a major portion of all economic activity (Schaper, 2002). Furthermore, they account e.g. for 35 % of exports from Asia and approximately 26 % of exports from developed countries including the United States (Organization for Economic Cooperation and Development, 1997). In selected countries such as Italy, South Korea and China, SMEs contribute as much as 60 % of total national exports (Knight, 2000, p. 12-13). In Belgium, they represent 95% of all businesses and employ 40% of the labour force in private companies.

There is no unequivocal definition of a SME. A whole set of definitions exists that are used in various institutions. The European Commission (Commission of the European Communities, 1996) recommends the following definition that guides all its measures aimed at micro-, small and medium-sized enterprises. SMEs are defined as enterprises which:

- have fewer than 250 employees: the number of persons employed corresponds to the number of Annual Working Units (AWU), that is to say, the number of full-time workers employed during one year with part-time and seasonal workers being fractions of AWU;
- have either an annual turnover not exceeding 40 million Euro, or an annual balance-sheet total not exceeding 27 million Euro; and;
- conform to the criterion of independence: Independent enterprises are those which are not owned as to 25 % or more of the capital or the voting rights by one enterprise or jointly by several enterprises that fall outside the definition of an SME. This threshold may be exceeded in the following two cases-
  - if the enterprise is held by public investment corporations, venture capital companies or institutional investors, provided no control is exercised either individually or jointly;
  - if the capital is spread in such a way that it is not possible to determine by whom it is held and if the enterprise declares that it can legitimately presume that it is not owned as to 25 % or more by one enterprise or jointly by several enterprises that fall outside the definition of an SME.

### 2.2. Hindrances to Sustainability Practices for SMEs

Sustainability practices may be more difficult for SMEs than large firms, although SMEs can be more flexible than large businesses in adapting to the fast changing market environment. The willingness and capability of SMEs to adopt sustainable strategies or seize sustainable business opportunities generally meet with size-related resource constraints, skills deficits and knowledge limitations, not to mention the crucial business of survival.

*A recent public radio story on electricity in India illustrates the complexity of the relationship between sustainable development and the private sector. An electric power plant is to be built in a town outside of Bombay primarily in order to serve Bombay's burgeoning industrial sector. Environmentalists and local farmers object to the plant because it will degrade the environment. Plant developers argue that local elites in fact exploit the labour of "tribals" and other landless labourers for their farms, and that these poor people would benefit from higher paying jobs at the plant. Both sides argue that they are promoting sustainable development and helping the poor. Which segment of the private sector (farmers and plantation owners or electrical power plant owners) should receive assistance? Are the two types of benefits (electrification and environmental protection) cancelling each other out?*

Some of the constrains are discussed hereunder.

#### **Lack of awareness**

The degree of SME awareness about the environmental impact of their production activities has been increasing over the last years, following information campaigns, standards and regulations, engagement with social and environmental issues, though mostly at an informal level and in the local community. However, in spite of generic awareness about the costs-benefits of eco-efficient practices, SMEs and entrepreneurs are little aware of the scale of the change to come and the full business benefits of eco-efficiency and sustainability.

#### **Limited access to information, knowledge and technology**

The capacity of SMEs to reduce their carbon footprint largely depends on access to information about environmental impact of their activities as well as on the availability of clean alternatives. Furthermore, improving environmental performance would need a substantial change in focus, from end-of-pipe technical solutions, to rather thinking in terms of lifecycles and integrated environmental strategies and management systems. The adoption of more integrated and systematic methods to improve sustainability performance has laid the foundation for new business models or modes of provision which can potentially lead to significant environmental benefits. This however meets, for the large majority of SMEs, with little knowledge about how to reduce the “whole-life” environmental impact of their products, from raw material acquisition, through production and finally to recycling and disposal. The deficit does not amount only to lack of knowledge about technical solutions, but also to understanding of “eco-design” and consistent organizational changes (OECD, 2009a).

#### **Meeting regulatory requirements**

Regulation, together with taxation and expenditure, is one of the key levers governments can use to promote sustainability practices (OECD, 2010a). Regulatory changes, however, can generate a significant information burden and adaptation cost for resource-constrained SMEs, which need to invest time and resources for acquiring relevant information, understanding the implications of new regulation and consistently adapt their products and processes. The capacity to respond to stricter regulation can be a problem above all during the transition. Mainly, SMEs are generally short of the competences required for monitoring a fast changing regulatory environment and for filtering and understanding the relevant information. Widespread information about green regulation and the capacity to process it are of key relevance also for SME growth and entrepreneurial dynamics. In fact, smart regulation can open up new business opportunities.

The National Agency for Food and Drug Administration Control (NAFDAC) is mandated to enforce compliance with internationally defined drinking water guidelines, but regulation of the packaged water industry aimed at good quality assurance has remained a challenge to the agency (C.A.M.O.N, 2007). To control the menace of polluted water in sachets, NAFDAC declared a possible ‘gradual’ nationwide ban on sachet waters to allow the manufacturers of sachet water to start winding-down or change to bottle packaging (C.A.M.O.N, 2004). Successful implementation of this ban has remained far from reality as the sachet water market is witnessing tremendous growth, especially among the poor and middle social class.

#### **Lack of skills and qualified personnel**

Greening the economy and seizing opportunities along the path to a low-carbon system requires transforming jobs, occupational profiles and business operations in ways yet quite uncertain. New skills are required not just for innovation and competitiveness but also for adjusting to climate change related policies and regulations. Evidence from a number of countries shows that skill shortages have already developed in certain sectors or occupations, which are not well served by traditional training institutions (OECD, 2010b). SMEs generally rely on on-the-job forms of training and learning-by-doing, which exhibit important limitations at a time of substantial shifts in the skills required for responding to new competitive and institutional settings. In addition, most SMEs have little awareness about the future needs for new green skills and their investments in green training and knowledge-intensive activities are very limited.

#### **Limited access to finance**

Access to financing continues to be one of the most significant challenges for the creation, survival and growth of SMEs, especially innovative ones (OECD, 2009b). Easing SME access to finance is crucial for their adoption of greener technology and investment in sustainable business practices. It is also crucial for supporting SMEs’ and entrepreneurs’ contribution to eco-innovation. Financial constraints are especially high for new entrants into the innovation process, since they have no history of success and often only limited access to internal finance. Furthermore, in the case of green innovation, technological and market uncertainty are particularly high, raising risk premiums.

### **Barriers to markets**

The expansion of markets for goods and services, through the adjustment of price signals, regulation, public procurement, innovation support and investment in infrastructure, is a key policy objective of sustainability policies across countries. Furthermore, the global dimension of the sustainability shift opens up new opportunities for firms to expand in international markets. However, SMEs meet with several barriers to enter international markets, especially at a time of fast changing and increasingly complex competitive environments. These barriers are largely related with SME constraints in terms of time, competency and financial resources, and lack of knowledge on the best way to enter or make greater use of commercial engagement in foreign markets (OECD 2008b). In addition, SMEs face relevant limitations for accessing public procurement, which is playing an important role in building up green markets.

#### *2.3 Marketing Advantages of Sustainability Practices*

Bos (2002) states there are two main reasons for corporate organizations to take into account the socio- and eco-ethical aspects of their behaviour. The first consequence for not doing so is bad publicity. When a corporate enterprise is perceived by the general public as unethical, this will damage its corporate reputation, which, in turn, may result in a loss of income, profits and share value from a conscious consumers' boycott or unconscious bypass of its products. It is important to remember, however, that many benefits from sustainable development are being defined as costs or losses avoided. Secondly, Bos (2002) emphasizes that idealism drives more and more organizations that consider themselves to be more than solely profit-making ventures. If not led by idealism, however, corporate enterprises can still enhance their public reputation by showing respect for people and planet instead of only for profit.

Sustainability gives companies an opportunity to distinguish themselves from others. So far, the results have been encouraging as shown by the returns on funds of companies that are engaged in sustainable development. Examples are the RG Sustainable Shares Fund, ABN-AMRO Sustainable World Funds and the SNS Eco Shares funds. Also the Dow Jones Sustainability Group Index, launched in 1999, shows that sustainable companies financially outperform others (Crals and Vereeck, 2012). The Dow Jones Sustainability Group Index includes the best performing companies with regard to financial results, social and environmental accountability.

The other benefits of sustainable development can be summarized as follows:

- A positive image and reputation;
- Lesser dependency on depleted resources;
- Higher motivation of employees and attractiveness for new employees;
- Efficient production due to superior technologies and better skilled staff;
- Superior insight in market preferences and opportunities;
- Risk control (environmental accidents, scandals, bad publicity, etc.);
- Lower burden from changes in (environmental and social) legislation;
- Corporate social responsibility; and as mentioned before
- Internal business dynamics,
- Business partnerships with other sustainable entrepreneurs,
- Business partnerships with global players.

#### *2.4 A Review of Related Works on Evidences of Environmental Sustainability in SMEs*

A few empirical works exist on the sustainability practices of SMEs, both in developed and developing economies. Some investigative literary explorations have posited that sustainability strategies create many synergistic effects for SMEs working collaboratively, as well as systemic benefits for the commons (Moore & Manring, 2009). Seidel, Seidel, Tedford, Cross, and Wait (2008) presents a systems thinking approach to modelling and understanding the factors which have an influence on the successful uptake of environmental practices in small and medium sized manufacturing companies. It presents a number of causal loop diagrams which have been developed based on primary action research, and a thorough understanding of the literature in this area. The study concluded that manufacturing SMEs as a group have a significant impact on the environment. Sustainable economic development therefore needs to strongly consider the role of manufacturing SMEs, who generally find it challenging to move towards more environmentally friendly business practices. The systems thinking model therefore provides the basis for further development of a strategic framework for the successful uptake of environmental innovation in manufacturing SMEs.



Natarajan and Wyrick (2011) noted that past two decades have seen an increase in response to environmental factors as being part of a company's strategy. The move towards environmentally friendly operations has been due to various factors including legislation, community, management, social awareness, and nongovernmental organizations. SMEs are often slow to adapt to the changes and are still moving towards better environmental practices. This paper reviews available literature on the problems and the corresponding strategies as regards to SMEs. An important observation made is that there is substantial literature on sustainable practices followed in Europe. The paper introduces a preliminary framework for implementing sustainable practices among SMEs in the United States.

Fobil and Hogarh (2012) was of the view that plastic bottles and sachets used to package iced water that is sold to people in transit points and in moving vehicles have become widespread in the sub-region. However, the packaging revolution has not been correspondingly backed by appropriate plastic waste management policy, which has left many cities in sub-Saharan Africa littered with plastic wastes; thus, creating disgusting visual nuisances and other public health problems. The paper discusses the experiences, challenges and prospects of plastic waste management schemes in Ghana and proposes a new model of fractional levy and polluter tax system to address this environmental eye sore. It is concluded that the current rate of environmental deterioration is likely to persist unless a long term remedial such as the polluter taxation system is carefully worked into plastic wastes management schemes in the region.

Mojekeh and Eze (2011) focused on the numerous factors associated to the environmental impact of production and sales of sachet water in Nigeria. Questionnaire and oral interviews were used for data collection and analysed using Chi-square. The research findings revealed that the empty sacs of sachet water waste is not really a problem; rather, it is the poor attitude of the consumers and inhabitants of commercial cities and also lack of education on proper management, disposal and recycling techniques. Besides, some of the samples examined by laboratory analysts showed the presence of fungal contamination and indication of bacterial infection. The implication is that many of the sachet water sold to the public in Nigeria may be possible source of water borne diseases.

### **3 Methodology**

The population of the study is all the registered Sachet Water Companies in Anambra State of Nigeria. Records from the National Agency for Food and Drug Administration and Control (NAFDAC) showed that there are 321 registered producers of sachet water in Anambra as at the time of this study. Thus, 321 managers of registered sachet water firms were used in the study.

A 4-point Likert-type questionnaire scale of Strongly Agree (SA) to Strongly Disagree (SD) was designed for the study. Cronbach's coefficient alpha was used to determine the internal consistency and reliability of the multiple item scales. The alpha value for the construct indicated that the items that formed them had reasonable internal consistency reliability of 0.87. Hence the instrument was considered appropriate for the study. This implies that the instrument is reliable and "good" for use in the study (Gliem & Gliem, 2003).

Descriptive statistics (such as frequencies and percentages) were used to analyse the questionnaire responses and tested for significance with the Z-test. The hypotheses were tested at 0.05 level of significance. At 5% level of significance, reject null hypotheses for tests with probability estimates lower than 5% (0.05) and conclude that they are statistically significant. Otherwise, we accept (when probability estimates are above 0.05) and conclude that there is no overall statistically significance.

### **4 Data Presentation and Interpretation**

Out of the 321 questionnaires that were distributed to the respondents, 185 were properly completed and returned. This formed about 58% of the total sample. Thus, the analyses were based on the 185 responses from the managers of registered sachet water firms in Anambra State.

#### *4.1 Perception of Managers of Sachet Water Firms on Business Sustainability*

The results of the respondents showed that managers of sachet water firms in Anambra State believed that they are not responsible for any environmental hazard caused to the society in the course of their business operation. Also they feel that not helping to maintain clean environment may not affect the confidence of its customers. Thus, helping to maintain healthy environment does not make a firm to be preferred by customers to other firms.

On the other hand, managers of sachet water firms acknowledge that it is not proper for the society and environment to suffer at the detriment of their profit making motives. As such, they believed that sustainable businesses must help to maintain healthy environment where they operate.

The results of the tested null hypothesis: “There is no significant difference in the perception of managers of sachet water firms on maintenance of healthy environment in the factory and the society” is shown in Table 1. The Z-score from the test is -13.473 with asymptotic significance value of 0.000. The significance value of the test is below 5% significance of level ( $p < 0.05$ ) and this implies the hypothesis is significance at 5% level. Thus, the study rejected the null hypothesis and then concluded that there is significant difference in the perception of managers of sachet water firms on maintenance of healthy environment in the factory and the society.

Table 1: Analysis of the Perception of Managers of Sachet Water Firms on Business Sustainability

SN	Variable	SA	A	D	SD	Remarks
5	Managers are responsible for any environmental hazard caused to the society in the course of their businesses operation.	20 (10.8%)	31 (16.8%)	101 (54.6%)	33 (17.8%)	Disagreement
6	It is not proper for the society and environment to suffer at the detriment of our profit making motives	49 (26.5%)	93 (50.3%)	30 (16.2%)	13 (7.0%)	Agreement
7	Sustainable business must help to maintain healthy environment where they operate	50 (27.0%)	85 (45.9%)	30 (16.2%)	20 (10.8%)	Agreement
8	Any business that does not help to maintain clean environmental may lose confidence of its customers	15 (8.1%)	20 (10.8%)	120 (64.9%)	30 (16.2%)	Disagreement
9	Helping to maintain healthy environment makes a firm to be preferred by customers to other firms	35 (18.9%)	25 (13.5%)	100 (54.1%)	25 (13.5%)	Disagreement

Z-Score = -13.473

Asymp. Sig. (2-tailed) = .000

Source: Computation from SPSS 17 Analysis

#### 4.2 Effect of Managers' Perception on Ensuring that Water Supplies are Uncontaminated

Table 2: Analysis of the Effect of Managers' Perception on ensuring that Water Supplies are Uncontaminated

SN	Variable	SA	A	D	SD	Remarks
10	Managers are concerned about cleanliness of water supplied to consumers	35 (18.9%)	25 (13.5%)	60 (32.4%)	75 (35.1%)	Disagreement
11	Our consumers are conscious of the cleanliness of water we supply to them.	115 (62.2%)	50 (27.0%)	15 (8.1%)	5 (2.7%)	Agreement
12	Clean water promotes good health	135 (73.0%)	30 (16.2%)	15 (8.1%)	5 (2.7%)	Agreement

Z-Score = -13.484

Asymp. Sig. (2-tailed) = .000

Source: Computation from SPSS 17 Analysis

The results indicated that the managers of sachet water firms perceived that their consumers are conscious of the cleanliness of water they supply to them; and that clean water promotes good health. Further analyses showed that the managers do not believe that “managers are concerned about cleanliness of water supplied to consumers”.

From the table, the Z-score of the test is -13.484 with asymptotic significance value of 0.000. The significance value of the test is below 5% significance of level ( $p < 0.05$ ). Thus, the hypothesis is rejected at 5% level of significance. The study then conclude that managers' perception has significant effect on ensuring that water supplies are uncontaminated.

4.3 Effect of Managers' Perception on Proper Disposal of Waste from Sachet Water Firms

Table 3: Analysis of the Effect of Managers' Perception on Checking that Waste is Properly Disposed of

SN	Variable	SA	A	D	SD	Remarks
13	Managers are conscious of disposal culture of their customers	9 (4.9%)	25 (13.5%)	78 (42.2%)	73 (39.5%)	Disagreement
14	Managers normally advise consumers to dispose empty sachets properly	12 (6.5%)	26 (14.1%)	75 (40.5%)	72 (38.9%)	Disagreement
15	Managers provide avenues for proper disposal of wastes from sachet water consumptions.	2 (1.1%)	34 (18.4%)	89 (48.1%)	60 (32.4%)	Disagreement

Z-Score = -13.442

Asymp. Sig. (2-tailed) = .000

Source: Computation from SPSS 17 Analysis

The results have shown that managers of sachet water firms are not conscious of disposal culture of their customers. Managers do not normally advise consumers to dispose empty sachets properly and have not always provided avenues for proper disposal of wastes from sachet water consumptions. This implies that the managers of sachet water firms operating within Anambra have poor perception on waste disposal.

From the table, the Z-score of the test is -13.442 with asymptotic significance value of 0.000. The significance value of the test is below 5% significant level. This implies that the hypothesis "managers' perception does not have significant effect on checking that waste is properly disposed of." is significance at 5% level. Thus, the study rejected the null hypothesis and then concludes that managers' perception have significant effect on proper disposal of waste from sachet water firms.

**5 Discussion of Findings**

5.1 Perception of Managers of Sachet Water Firms on Business Sustainability

The perception of managers of sachet water firms towards their environment is negative. The results from Table 1 showed that managers of sachet water firms in Anambra State believed that they are not responsible for any environmental hazard caused to the society in the course of their business operation. The managers also feel that not helping to maintain clean environmental may not affect the confidence of its customers. Thus, helping to maintain healthy environment does not make a sachet water firm to be preferred by customers to other firms. These findings corroborate the work of Crals and Vereeck (2012) who posited that SMEs in Nigeria have almost unanimously ignored and repudiated the idea of sustainable entrepreneurship.

On the other hand, managers of sachet water firms acknowledged that it is not proper for the society and environment to suffer at the detriment of their profit making motives. As such, they believed that sustainable business must help to maintain healthy environment where they operate.

The test of hypotheses shown on Table 4.6 indicated that there is significant difference in the perception of managers of sachet water firms on maintenance of healthy environment in the factory and the society.

5.2 Effect of Managers' Perception on Ensuring that Water Supplies are Uncontaminated

The analysis in chapter four has also shown that managers of sachet water firms are aware that their consumers are conscious of the cleanliness of water supplied to them; and that clean water promotes good health. Despite these, the managers are not concerned about the cleanliness of water supplied to consumers. The test of hypothesis shown in Table 4.7 indicated that managers' perception has significant effect on ensuring that water supplies are uncontaminated. The study thus posited that as long as the managers of sachet water feels unconcerned about health implications of water they supply, the poor consumers are "at mercies of nature" for good health and sustainable environment. This supports the work of Fobil and Hogarh (2012) which had affirmed that the current rate of environmental deterioration is likely to persist unless a long term remedial action such as the polluter taxation system is carefully worked into plastic wastes management schemes.

5.3 Effect of Managers' Perception on Proper Disposal of Waste from Sachet Water Firms

The findings on objective three of the study have shown that managers of sachet water firms are not conscious of disposal culture of their customers, and do not make efforts to ensure proper disposal of wastes from sachet water consumptions. This implies that the managers of sachet water firms operating within Anambra State have poor perception on waste disposal. Mojekeh and Eze (2011) revealed that the empty sachets of water are not really the



problem; rather, it is the poor attitude of the consumers and inhabitants of commercial cities and also lack of education on proper management, disposal and recycling techniques that constitute the environmental problems. The results of the hypotheses testing posit that managers' perception has significant effect on properly disposal of waste from sachet water firms. This implies that efforts the managers towards educating their consumers on waste proposal will be beneficial. This also corroborated the submission of Seidel, Tedford, Cross, and Wait (2008). They noted that sustainable economic development needs to strongly consider the role of manufacturing SMEs that find moving towards more environmentally friendly business practices very challenging.

## 6 Conclusion and Recommendations

### 6.1 Conclusion

The perception of managers of sachet water firms towards their environment is negative. As long as the managers of sachet water feel unconcerned about the health implications of water they supply, the sachet water consumers would be "at the mercies of nature" for good health such the environment. The managers of sachet water firms operating within Anambra State have poor perception on waste disposal. Efforts of managers towards educating their consumers on waste disposal will be beneficial. The managers of sachet water firms in Anambra State have poor perception about maintaining hygienic environment within the area they operate.

### 6.2 Recommendations

Since, Nigeria aimed to meet the Millennium Development Goals (MDGs) by the year 20:20:20, there is need to put up plans to achieve the MDGs goal 5 (Improved Maternal Health) and goal 7 (Ensure Environmental Sustainability). If the managers of firms are encouraged to become environmentally friendly, product packaging might now come in forms that will be disposable without threatening the ecosystem. Thus, this study recommends that inculcating MDGs and its benefits should be incorporated into the programmes of SMEDAN. The SMEDAN should also be encouraged by the government of Anambra State, to establish office in the State so as to make programme acceptable to firms in Anambra State.

The government should impose pollution tax on the manufacturers in Nigeria. This could be achieved by encouraging the tax authorities to assess the pollution intent of every firm and tax them accordingly. This strategy would also help to enhance the possibility of firms becoming environmental friendly.

Laws mandating Nigerian manufacturers to educate their consumers and ensure proper disposal of their product wastes should be put in place.

## References

- Adewoye, J.O. and Akanbi, T. A. (2012). Role of Information and Communication Technology Investment on the Profitability of Small Medium Scale Industries – A Case of Sachet Water Companies in Oyo State, Nigeria. *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)* 3 (1), 64-71, Available online at <http://www.jetems.scholarlinkresearch.org>
- Ahmed, Y.J. and Sammy, G.K. (1987). *Guideline to Environmental Assessment in Development Countries* UNEP Nairobi.
- Biondi, V., and Iraldo, F. (2002). Achieving Sustainability through Environmental Innovation: The role of SMEs, *International Journal of Technology Management*, 24(5/6), 612-626.
- Bos, A. (2002). Sustainable Entrepreneurship in a Changing Europe: Pedagogy of Ethics for Corporate Organizations in Transformation, in: G.F. Simons, D. Min et al. (eds.) *EuroDiversity: A Business Guide to Managing Differences*, Oxford: UK and Woburn, USA: Butterworth-Heinemann.
- Crals, E. and Vereeck, L. (2012). Sustainable Entrepreneurship in SMEs: Theory and Practice. Available online a <http://inter-disciplinary.net/ptb/ejgc/ejgc3/cralsvereeck%20paper.pdf>
- Dada, A.C. (2009). Sachet Water Phenomenon in Nigeria: Assessment of the Potential Health Impacts, *African Journal of Microbiology Research* Vol.3(1): 015-021, Available online <http://www.academicjournals.org/ajmr>
- Egwari L. and Aboaba, O. (2002). Environmental Impact on the Bacteriological Quality of Domestic Water Supplies in Lagos, Nigeria. *Rev. Saúde Pública.* 36 (4), 513-520
- Fobil, J. N. and Hogarh, J. N. (2012). The Dilemmas of Plastic Wastes in a Developing Economy: Proposals for a Sustainable Management Approach for Ghana,. Available online a <http://www.ajol.info/index.php/wajae/article/viewFile/45716/29194>

- Gliem, J. A. and Gliem, R. R. (2003). Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales. 2003 Midwest Research to Practice Conference in Adult, Continuing, and Community Education, pp 82 – 88.
- Hemel, C. and Cramer, J. (2002). Barriers and Stimuli for Ecodesign in SMEs, *Journal of Cleaner Production*, 10, 439-453.
- Mojekeh, M. O. and Eze, P. A. O. (2011). The Environmental Impact of Production and Sales of Sachet Water in Nigeria, *African Research Review: An International Multidisciplinary Journal, Ethiopia:5 (4)*, 479 – 492.
- Moore, S. B. and Manring, S. L. (2009). Strategy Development in Small and Medium Sized Enterprises for Sustainability and Increased Value Creation , *Journal of Cleaner Production*, 17, 276–282, Available online:  
<http://arafiki.edublogs.org/files/2011/08/Strategy-development-in-SMEs-for-sustainability-refr5e.pdf>
- Natarajan, G. S. and Wyrick, D. A. (2011). Framework for Implementing Sustainable Practices in SMEs in the United States, Proceedings of the World Congress on Engineering 2011 Vol I WCE 2011, July 6 - 8, 2011, London, U.K. Available online: [http://www.iaeng.org/publication/WCE2011/WCE2011\\_pp750-754.pdf](http://www.iaeng.org/publication/WCE2011/WCE2011_pp750-754.pdf)
- Organization for Economic Co-operation and Development (1997), *Globalisation and Small and Medium Enterprises*. Paris: OECD.
- OECD (2008). *Removing Barriers to SME Access to International Markets*, OECD, Paris.
- OECD (2009a). Sustainable Manufacturing and Eco-Innovation. Framework, Practices and Measurement. Synthesis Report, OECD, Paris
- OECD (2009b). *The Impact of the Global Crisis on SME and Entrepreneurship Financing and Policy Responses*, OECD, Paris
- OECD (2010a). OECD Working Party on SMES and Entrepreneurship (WPSMEE); Issues Paper 3: SMEs and Green Growth: Promoting Sustainable Manufacturing and Eco-innovation in Small Firms, 'BOLOGNA+10' High-Level Meeting on Lessons from the Global Crisis and the Way Forward to Job Creation and Growth ,PARIS, 17-18 NOVEMBER 2010
- OECD (2010b), *Interim Report of the Green Growth Strategy: Implementing our commitment for a sustainable future*, Meeting of the OECD Council at Ministerial Level, 27-28 May 2010, OECD, Paris
- Seidel, M., Seidel, R., Tedford, D., Cross, R. and Wait, L. (2008). A Systems Modeling Approach to Support Environmentally Sustainable Business Development in Manufacturing SMEs, *World Academy of Science, Engineering and Technology* 48: 121 – 129. <http://www.waset.org/journals/waset/v48/v48-20.pdf>
- Schaper, M. (2002), 'The Challenge of Environmental Responsibility and Sustainable Development: Implications for SME and Entrepreneurship Academics', in: U. Füglistaller et al. (eds.) *Radical changes in the world – Will SMEs sour or crash?*, Rencontres de St. Gall.
- World Bank (1996). *Urban Environmental Sanitation Project, Staff Appraisal Report, Republic of Ghana, Africa Regional Office*.