

Sustainable Distribution Strategies Amongst Manufacturers of Sachet Water in Akwa Ibom State: Drivers and Inhibitors.

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Abstract

This study investigated the Drivers and Inhibitors of sustainable sachet water distribution in Akwa Ibom State. Data for the study were obtained from both primary and secondary sources. A total of 180 manufacturers of sachet water purposively selected, were administered questionnaire out of which 151 were correctly filled and returned and served as the sample size for the study. Chi-square statistical tool analysed the data collected. Findings revealed, among others, that drivers and inhibitors affect sustainable distribution of sachet water in Akwa Ibom State. Based on the findings, it was recommended, amongst others, that provision of access roads, electricity, and good sources of water will enhance sustainable distribution of sachet water in the State.

Keywords: *Sustainable distribution strategy, Inhibitors, Drivers, Sachet water.*

Introduction

Water is a basic necessity of life. Its availability and accessibility sustains life in both plants and animals. As important as this resource is, it is not always available in large quantities and where users can access it. Supporting this view, Edema, Atayese & Bankola (2011) in Yusuf Jimoh, Onaolapo and Dabo (2015), observed that water is one of the indispensable resources for the continued existence of all living things including man, adding that adequate supply of clean and fresh drinking water is a basic need for all human beings.

MacArthur and Darkwa (2013) in Kusi, Agbeblewu and Nyarku (2015) added that access to portable water improves the health status of the population, and saves time for other productive activities, but worried that not all people have access to portable drinking water in the world. Water scarcity or lack of safe drinking water, they further argued, is one of the world's leading challenges affecting more than 1.1 billion people globally. In Ghana, demand for portable drinking water is on the increase, necessitating the springing up of private entrepreneurs in the production and distribution of purified drinking water to complement the efforts of the government at ensuring that there is adequate water security (Ghana Water Company Limited, 2008, in Kusi et al, 2015).

It is equally argued that apart from distance, the cost level of sharing and queuing are decisive factors that determine actual water availability, accessibility and use (MacGranahan & Darkwa 2013, UNWWAPA 2003, cited in Dada, 2011).

In Nigeria, less than one-third of urban and rural dwellers have access to pipe-borne water supply connections in their homes and those with pipe-borne water may still

experience unreliable, poor quality service (WHO/UNICEF, 2014, Kumpel, Albert, Peletz, Waal, Hirn Damilenko, Uhi, Daw and Khush 2016, cited in Nwinyi, Uyi, Awosanya, Oyeyemi, Ugbenyen, Muhammad, Alabi, Ekunife, Adetunji, and Omoruyi, 2020).

Contributing further, the former Director General National Agency for Food, Drug, Administration and Control (NAFDAC), Akungili, cited in Mineer, Tagierum, Hassan, Afolaranmi, Belo, Dakhin and Zoakah (2014), attributed the inability of the Government to persistently provide adequate potable water for the growing population to have tremendously contributed to the proliferation of the activities of the so called 'pure water producers in Nigeria'. Muhammad and Dansabo (2006) added that many years of neglect by government and inadequate investment in public infrastructure has left the public drinking water supply in Nigeria in an unreliable state, making the society to take to several adaptive measures of alleviating this stress, one of which is depending on sachet water. This study is an attempt to examine sachet water distribution with particular reference to inhibitors and facilitators.

1.2 Objectives of the study

The major objective of this study was to investigate the drivers and inhibitors and their effects on sustainable distribution of sachet water in Akwa Ibom State.

The Specific objectives were:

- i. To identify the drivers and inhibitors of sachet water distribution in Akwa Ibom State.
- ii. To examine the effects of these inhibitors on sustainable distribution of sachet water in Akwa Ibom State.
- iii. To ascertain the effects of these drivers on sustainable distribution of sachet water in Akwa Ibom State.

1.3 Research Questions

- i. What are the drivers and inhibitors on sustainable distribution of sachet water in Akwa Ibom State.?
- ii. What are the effects of drivers on sustainable distribution of sachet water in Akwa Ibom State?
- iii. What are the effects of inhibitors on sustainable distribution of sachet water in Akwa Ibom State?

1.4 Research Hypotheses

- i. The effects of drivers and inhibitors are not significant on the sustainable distribution of sachet water in Akwa Ibom State.
- ii. The effects of inhibitors are not significant on the sustainable distribution of sachet water in Akwa Ibom State.
- iii. The combined effects of both drivers and inhibitors on sustainable distribution of sachet water in Akwa Ibom State is not significant

2.1 Conceptual Studies

The Concept of Sustainability

Becker (2012) cited in Urmetzter and Pyka (2019) saw "sustainability" as the ability to

establish continuance as a means for orienting human actions and life toward the three-fold relatedness of human existence to contemporary future generations and nature. Kotler and Keller (2009) added that in sustainability, the firm must be sufficiently committed and willing to devote enough resources to create an enduring positioning. What is more, businesses need a balance of activities to remain profitable, noting that what seems to be good business practices such as focusing investment and technology on the most profitable products current in high demand, can ultimately weaken the firm (Dearing, 2000).

WCED (1987) cited in Urmetzer and Pyka (2019) views sustainable development as that which meets the needs of the present without compromising the ability of other generations to meet their own needs. Tor – Anyiin (2008), on his part, sees sustenance in terms of how every member of the society has the freedom and capacity to perform.

A sustained distribution strategy should devise a means of re-distributing its resources in such a way that no citizen feels cheated, underrated, undermined, or marginalized. Members of the channel should be people who can successfully manage the resources of the society, they must have the ability to make the resources available in spite of major disturbances and must be able to maintain an acceptable and increasing level of the resource. When applied in the context of this study, sustainable distribution strategy can then be said to be that distribution strategy that attempts to meet the water needs of the present generation without compromising the ability of future generation to meet their own water needs.

Distribution Strategy

Kottler and Keller (2009) view a strategy as a company's game plan for achieving its goals. Distribution strategy, according to Samuel (2015) encompasses putting the right product in the right location at the right time, adding that it is an intimidating challenge that involves a delicate balance of demand forecasting, online, mobile and traditional brick-and-mortar channel selection, availability management, partner or retailer collaboration and much more. Jobber (2009), cited in <https://www.grossarchive.com/index.php>, argues that planning for, and making reasonable decisions regarding reaching the target market with an organization's product is a critical task on the part of management, involving a careful evaluation and selection of its channel structure and intensity. He insists that getting the right product produced, with the right market price and backed up with an effective promotional strategy, are quite necessary for sustainable competitive advantage, adding that these will not guarantee maximum customer satisfaction if the products are not delivered optimally and timely to the customer at the right location. This brings to the fore, the central role of distribution in the marketing system as inability to deliver the product to the desired destination will result in loss of customer retention.

Sachet Water

Sachet water is any commercially treated water manufactured, packaged and distributed for sale in sealed food grade containers and is intended for human consumption. The production of sachet water in Nigeria dates back to the late 90s and today, the advancement in scientific technology has made sachet water production one of the fastest growing industries in the country. Its patronage in the country is on the increase irrespective of whether they have NAFDAC certification or not. Another name for sachet water in Nigeria is "Pure Water" defined as colourless, odourless and tasteless with high boiling and melting points, as well as high heat of vaporization (Yusuf, Jimoh, Onaolapo & Dabo, 2015).

Stoler, Tutu, Ahmed, Frinpong and Bello, (2014) have argued that due to its affordability, convenience and transportability, sachet water is crucial for many households in low medium – income regions, but however worried about the overall desirability of sachet water from a public health and urban planning perspective.

Relationship between sustainability and distribution of sachet water

Miner, Tagurum, Hassan, Afolaranmi, Bello, Dakhim & Zoakah (2014) undertook a study of sachet water; Its prevalence of use, perception and quality in a community of Jos South Local Government Area of Plateau State, using cross sectional study, sample size of 360 consumers determined by using the formulae for single proportions (z^2pq/d^2) and multistage sampling technique, while Epi info software version 3.5.4 at a confidence level of 95%, was used to analyse data collected from respondents. Findings revealed, amongst others, that there is 93.1% use of sachet water among respondents and other sources such as tap water, bottled water, well and stream water. It was also revealed that sixty-seven percent of respondents affirmed that sachet water is safe. It was also found from analysis that the analysis of the five different sachet water brands showed normal physical and chemical values. Microbiological analysis showed presence of coliforms in three out of the five brands of sachet water sampled. Based on the findings, the study concluded that there is presence of contaminated sachet water available to the community, increasing the risk of water borne diseases and contributing to the already prevailing cases present in our society at large. Based on the findings and conclusions, the study recommended that regulatory bodies should do more to improve the safety of drinking water in communities which will ultimately improve their health status.

Dada (2008) studied sachet water phenomenon in Nigeria with particular reference to assessment of the potential health impacts, using representative sampling, a preliminary survey to select the water to be analysed, geographical zoning of the twenty markets spread within the study location, enquiries made at randomly chosen locations, houses, retail, wholesale outlets, to identify popular brand names usually patronized in the market zones of the study area during which ten brands of table water were identified. A total of ten samples for each brand identified amounting to 100 water samples were analysed. Samples were purchased just after production directly from the factory distributors' stores and from outdoor vendors (hawkers), labelled appropriately and transferred within 4 hours to the Microbiology Laboratory, University of Lagos and analysed using the multiple tube fermentation method. Findings revealed amongst others, a 22% non-compliance level based on the zero tolerance standards stipulated by the regulator. Among the recommendations offered is that there should be a policy that would allow for an integrated and holistic approach in managing the sachet water industry.

In another development, Dada (2009), undertook a study captioned “Towards a successful packaged water Regulation in Nigeria”. The study utilized oral interview method where principal officers of NAFDAC (the sole regulatory agency for packaged drinking water) were approached for information relating to their institutional capabilities, management functions and coping capabilities given the multitude of products they regulate, adequacy of staff, transparency and integrity concerns, their approach to regulation and surveillance, the estimates of registered waters, trend of registration in the last few years, issues with technologies allowed etc. Copies of simple structured questionnaire were administered to elicit the opinions of residents of the community on their perceptions with respect to access to public water suppliers, other alternatives etc.

Findings from the analysis of data collected revealed three major areas that need prompt intervention – the adopted regulatory approach, collaborative stakeholder partnerships and institutional capacity. A seven-point recommendation was also presented for the way forward.

Many studies have been reported in literature on the manufacture of sachet water in Nigeria but none has actually paid attention to its distribution which completes the production process and takes the product to the door step of consumer or user and gives him or her place, time and possession utilities. This therefore creates a gap in literature which this study seeks to fill.

Methodology

The study population comprised all the manufacturers of sachet water in Akwa Ibom State. The researcher then made an estimate of 250. Using survey research, questionnaire materials were administered on 180 out of which 151 were duly filled and returned and served as the sample size for the study. Chi-square statistical tool tested the hypotheses for the study. The respondents were assured of strict confidentiality and that they will be used for academic purpose only.

Test of hypothesis

Ho: The effects of the drivers are not significant on the sustainable distribution of sachet water in Akwa Ibom state.

H₁: The effects of the inhibitors are significant on the sustainable distribution of sachet water in Akwa Ibom state.

Table 2: Summary of Tests of Significance of Inhibitors

Variables	χ^2	P-value	Status
Most manufacturers lack basic education	192.728	0.001	Significant
Most of them don't have access to credit facilities	81.596	0.002	Significant
Most of them don't have access to power supply	175.881	0.003	Significant
Don't have access to feeder roads, and some other facilities	165.311	0.003	Significant
Tax policies of government on scale businesses not implemented	128.517	0.001	Significant
Some consumers of sachet water owing the manufacturers	230.007	0.002	Significant
Inability of Government to implement its policies on SME's sub-sector of the economy	126.927	0.002	Significant

Test of hypothesis

Ho: The effects of drivers are not significant on the sustainable distribution of sachet water in Akwa Ibom state

H₁: The effects of drivers are significant on the sustainable distribution of sachet water in Akwa Ibom state.

Table 3: Summary of Tests of Significance of Drivers

Variables	χ^2	P-value	Status
Enabling laws, policies and programmes	138.053	0.004	Significant
Policies, programmes and strategies with action	134.795	0.002	Significant
Water bill payment by consumers will facilitate sustainable distribution	146.000	0.002	Significant
Provision of access roads, electricity and good distribution network	246.536	0.004	Significant
Acquisition of basic education by manufactures	49.307	0.004	Significant

Data analysis

Data analysis and testing of hypotheses were carried out using Chi square statistical tool. Tables 2 and 3 tested the effects of inhibitors and drivers on sustainable distribution of sachet water in Akwa Ibom State. The results of tests of inhibitors gave p-values of 0.001, 0.002, 0.003, 0.001, 0.002 and 0.002 respectively and were all significant. Therefore, the null hypothesis was rejected in all the cases, implying that inhibitors affect sustainable distribution of sachet water in Akwa Ibom State.

Table 3 tested the effects of drivers on sustainable distribution strategies of sachet water in Akwa Ibom State. The results of the tests gave the p-values of 0.004, 0.002, 0.002, and 0.004, respectively and are all significant. The null hypothesis was rejected in all the tests implying that all the factors have significant effects on the sustainable distribution of sachet water in Akwa Ibom State at 5% level of significance.

Summary of Findings

(a) Inhibitors

- 1) Most manufacturers lack basic education
- 2) Most of them don't have access to credit facilities
- 3) Most of them don't have access to power supply
- 4) Most of them don't have access to feeder roads and some other facilities
- 5) Tax policies of government on small scale businesses are not implemented
- 6) Some consumers of sachet water in the State are owing the manufacturers
- 7) Inability of government to implement its policies on SME's sub-sector of the economy.

(b.) Drivers

- 1) Enabling laws, policies and programmes will facilitate sustainable distribution of sachet water in Akwa Ibom State.
- 2) Policies, programmes and strategies of government when matched with actions enhance sustainable distribution of sachet water in the State.
- 3) Water bills payment by consumers drives sustainable distribution of sachet water in the State.
- 4) Provision of access roads, electricity and good distribution network facilitates sustainable distribution of sachet water in the State
- 5) Acquisition of basic education by manufacturers enhances sustainable distribution of sachet water in Akwa Ibom State.

Conclusion and Recommendations

Based on the foregoing, the study concludes that drivers and inhibitors significantly and positively impact on sustainable distribution of sachet water in Akwa Ibom State. This follows from the fact that the null hypotheses in all the tests were rejected, showing that all the factors have significant effects on sustainable distribution of sachet water in Akwa Ibom State at 5% level of significance.

Therefore, the study made the following recommendations:

- a) Enabling laws, policies and programmes should be put in place to aid sustainable distribution of sachet water in the State.
- b) Policies, programmes and the strategies should be matched with actions to fast-track sustainable distribution of sachet water in the State.
- c) Consumers of sachet water in the state are enjoined to settle their water bills promptly to enable the producers serve them better.
- d) Provision of access roads, electricity and good sources of water will enhance sustainable distribution of sachet water in the State.

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