
GREEN MANAGEMENT AND CORPORATE PERFORMANCE OF BEVERAGE FIRMS IN SOUTH EAST NIGERIA

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ABSTRACT

The study investigated the effect of green management on corporate performance of beverage firms in South-East, Nigeria. This study became necessary following the increased clamour for maintaining environmentally healthy practices by corporate entities in Nigeria. The specific objectives of the study were to investigate the effect of waste recycling on output level of beverage firms in South-East; and to ascertain the effect of renewable energy on operational efficiency of beverage firms in South-East. The study adopted survey research design. The population of the study constituted 1399 management and employees of 15 selected beverage firms in South East Nigeria. A sample of three hundred and eighty four (384) respondents was obtained. Descriptive statistics and Chi-square statistical techniques were employed in analyzing the data with the aid of Statistical Package for Social Sciences (SPSS) version 23. The study found that waste recycling had significant positive effect on the output level of beverage firms in South-East. The study also found that renewable energy has significant positive effect on operational efficiency of beverage firm in South-East, Nigeria. The study concluded that green management had significant positive effect on corporate performance of beverage companies in South East Nigeria. The study recommended amongst others that beverage firms must increase efforts to educate all workers on how to use organizational resources in a green manner in order to achieve long-term sustainability and improved performance.

Key Words: Green Management, Waste Recycling, Renewable Energy, Corporate Performance

INTRODUCTION

Organizations are gradually observing increased consciousness on the importance of going green and adopting environment management techniques. It is essential to move towards sustainable business practices and the importance of green management in this respect cannot be overemphasized. Global warming and increased pollution from all aspect of business activities highlight the importance of green management for firms operating worldwide. The need to 'go green' in order to preserve and sustain the ecological environment has become a major concern to many stakeholders, thus, using renewable energy sources capable of reducing emissions, reducing levels of waste through improve industry re-cycling programmes etc is a policy every business organization that has the interest of the society at heart must incorporate in its strategy (Onwudiwe, Agwamba & Ugwuegbu, 2019).

Green Management is an organization-wide process of applying innovation to achieve sustainability, waste reduction, social responsibility, and a competitive advantage via continuous learning and development and by embracing environmental goals and strategies that are fully integrated with the goals and strategies of the organization (Loknath & Abdul, 2017). Demands for green management spring from a variety of sources, including societal mandates incorporated into laws, treaties, and regulations and fear of shunning, loss of sales, and decline in reputation if management does not have a tangible commitment to green management. Many claims have been made for green management, including a happier, healthier, and more productive workforce and the recruitment of more talented and creative employees (Onwudiwe, Agwamba & Ugwuegbu, 2019). Indeed, nearly every major business in the world today has recognized the claims of green management not just as a defensive mechanism to retain legitimacy and the right to operate, but as a centerpiece of an organization's ongoing mission and reason for being.

Green management matters for many reasons, but fundamentally it matters because at this time in history and in this culture people expect managers to use resources wisely and responsibly; to protect the environment; minimize the amounts of air, water, energy, minerals, and other materials used in the final goods people consume; to recycle and reuse these goods to the extent possible, rather than drawing on nature to replenish them; to respect nature's calm, tranquility, and beauty; to eliminate toxins that harm people in the workplace and communities; and to reduce greenhouse gas emissions and avoid activities that do irrevocable damage to the climate.

According to institutional theory and stakeholder theory, businesses often engage in green practices and innovation to avoid economical costs and political pressure, and to satisfy various stakeholders' expectations by complying with social and moral norms, as well as to overcome competitors' mimetic pressure (Elshaer, Azazz & Fayyad, 2023). As a result, firms accepted the notion that effective green management has the power to meet the three sustainability principles, namely economic success, environmental integrity, and social equality. Generally, green management practices attempt to improve a firm's sustainable performance by converting inputs (natural materials and auxiliaries) into products or outputs (goods and services) by emphasizing the balance and synergy of economic, social, and environmental advantages (Wu & Liu, 2022). The need for firms to adopt green management principles, policies, and practices that improve the quality of life for their customers, their employees, the communities in which they operate, and the environment has come. Firms that their activities have a greater negative impact must begin with a desire to resolve the impacts of climate change and other environmental problems that their operation poses.

Green management is an important driver for manufacturing industries to meet their performance objectives like improved sales and output, cost reduction; good corporate image, less environment health hazards and competitiveness. Reduced pollution helps to reliably achieve some of the operational objectives like cost reduction which improves competitiveness. Pollution can significantly be reduced through continuous improvement strategies that are focused on green manufacturing (Roh, Noh, Oh & Park, 2022). Pollution prevention is a sign of reliability in a manufacturing setting. It helps manufacturers to save on equipment installation, manages waste and pollution and it also optimises on the production resources. Reduced amount of waste means a better consumption of production resources by using fewer raw materials to produce more with less cost of managing scrap. Eliminating emissions helps to eliminate liability claims from the stakeholders because it greatly supports compliance. Implementing green operations practices is a strategy toward achieving environmental health and safety (Maziriri, 2020). This eliminates environmental disputes costs, environmental accident, ban and loss from customer boycott. Based on the foregoing, the study investigated the influence of green management on corporate performance of beverage firms in South-East, Nigeria.

Statement of the Problem

Global warming is considered a major global environmental challenge, and manufacturing emission is considered a major cause. Manufacturers have recognized that climate change is rampant, and is accompanied with risk and opportunities. This makes green management strategies crucial for them to master. In pursuit of profit, business organizations carry out activities that have detrimental environmental impacts leading to undervaluing of natural resources, over-exploitation and depletion which constrains sustainable development and the performance of business organizations.

The production processes of beverages firms in Nigeria particularly in South East Nigeria are associated activities that create so much pollution, endanger customers' health, and damage the environment. Also, beverages firms use a lot of energy that produces emissions like nitrogen oxides, sulphur oxides, carbon dioxide and particulate matters which can be a local nuisance and health hazard. It is assumed that beverages manufacturing industries are the main sources of pollution in areas they are located. This informs the need for effective green management strategies to enhance the performance corporate entities.

Therefore, beverages firms need to develop alternatives which go along with environmental concerns. In response, companies have begun to incorporate environmental issues in their management strategies. There are arguments that addressing environmental concerns imposes additional costs and decreases firm profitability. A firm does not only save costs in terms of energy and water management, but also enjoys higher levels of sales and financial performance. This indicates inconsistent literature on the benefit and otherwise of green management strategy. Furthermore, there is a dearth of studies on similar topics in the context of beverage firms, particularly in South East Nigeria. Hence, the current study investigated the influence of green management on corporate performance of beverage firms in South-East, Nigeria.

Objectives of the Study

The main objective of the study is to investigate the effect of green management on corporate performance of beverage firms in South-East, Nigeria. The specific objectives were to:

1. Investigate the effect of waste recycling on output level of beverage firm in South-East, Nigeria.

2. Ascertain the effect of renewable energy on operational efficiency of beverage firm in South-East, Nigeria.

Research Questions

The following research questions guided the study.

1. What is the effect of waste recycling on output level of beverage firm in South-East, Nigeria?
2. To what extent does renewable energy affect operational efficiency of beverage firm in South-East, Nigeria?

Statement of the Hypotheses

The following hypotheses stated in null form guided this study:

1. Waste recycling has no significant effect on output level of beverage firm in South-East, Nigeria.
2. Renewable energy has no significant effect on operational efficiency of beverage firm in South-East, Nigeria.

Scope of the Study

The content scope covered green management and performance of beverage firms in South East Nigeria. The independent variable is green management proxied by waste recycling and renewable energy. The dependent variable is corporate performance proxied by output level and operational efficiency. The geographical location of the study is South-East Nigeria. South-East Nigeria is made up of five states comprising Abia, Anambra, Ebonyi, Enugu and Imo states. This study would include all beverage manufacturing companies in South East Nigeria. Beverage companies from each of the states that made up South East Nigeria were sampled for the study. The unit of the study comprised the executives in these organizations, such as CEOs, senior managers, and other top-level management.

RELATED LITERATURE REVIEW

Green Management

In common parlance green management means indulging in eco friendly practice in process and decision of management. It is effort to improve the foundation of environment management, devising the organization for the sustainable future for long lasting prospect, by building personal responsibility for eco-friendly activities; modifying the policies, practices and principles of management system; innovating green product & services; upgrading eco-friendly infrastructure and to perform waste management practices (Onwudiwe, Agwamba & Ugwuegbu, 2019). Green implies the surrounding environment or nature, addressing green with management here connotes the concern over the natural degradation and effort to improve the environment condition by management while on operation of their business (Ngniatedema & Suhong, 2014). Simply it envisages all the activities undertaking to protection of environment and maintaining ecological balance. These branches of knowledge shape the ability to remain a system running continuously without depleting resources, maintaining economic viability, and also maintaining the needs of the present and future (Bıçakcıoğlu, Theoharakis & Tanyeri, 2019).

Green management is not new style of business management but a simply rethinking, or more accurately, being more thoughtful of how organizations are operating with respect to the environment (Elshaer, Azazz & Fayyad, 2023). From the corporate perspective, green management matters, but it matters only due to the so called triple bottom line i.e., environmental benefits, positive economics effect, and healthy societal images. Going green

indicate impressive business sense, so worldwide corporate are extensively switching to adopt green philosophy in management function (Chukwuka & Eboh, 2018).

Waste Recycling

Issues relating to waste management are among the pressing concerns of the 21st century. Waste is generated domestically and industrially daily without a correspondent increase in waste management systems and ranges from decomposable substances like food, fruits and vegetables, grasses, and other plant sources. It also includes such non-decomposable substances as plastics, papers, polythene, metals, batteries, and Air conditioners. A new variation of waste comprehensively called e-waste includes such items as mobile phones, computers, and other kinds of electronic gadgets (Ozbay & Edurmusoglu, 2017). Recycling is very important as waste has a huge negative impact on the natural environment (Onwudiwe, Agwamba & Ugwuegbu, 2019). Harmful chemicals and greenhouse gasses are released from rubbish in landfill sites. Recycling helps to reduce the pollution caused by waste. Recycling reduces the need for raw materials so that the rainforests can be preserved (Sahoo & Vijayvargy, 2020). Recycling is the recovery of useful materials, such as paper, glass, plastic, and metals, from the trash to use to make new products, reducing the amount of virgin raw materials needed. Recycling is a simple way for citizens to reduce waste, contribute to energy conservation, and preserve natural resources.

Renewable Energy

Renewable energy is energy that is collected from renewable resources, which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat. Wind, solar, and hydroelectricity are three emerging renewable sources of energy. Renewable energy often provides energy in four important areas: electricity generation, air, and water heating/cooling, transportation, and rural (off-grid) energy services (Seth, Rehman & Shrivastava, 2018). Rapid deployment of renewable energy and energy efficiency, and technological diversification of energy sources would result in significant energy security and economic benefits. It would also reduce environmental pollution such as air pollution caused by burning of fossil fuels and improve public health, reduce premature mortalities due to pollution and save associated health costs. The use of renewable energy ensures energy efficiency (Roh, Noh, Oh & Park, 2022). Energy efficiency is measured by comparing the energy used versus the goods produced. It is better to get more output from the energy provided through improved operation of energy and process systems. This translates to cost saving through less energy loss. Energy efficiency can be achieved by new heating technology innovation. Improved energy efficiency can provide economic, social and environmental benefits to an economy (Scarlat & Banja, 2013).

Corporate Performance

Corporate performance is defined as the organization's ability to meet the desired result as determined by the company's major shareholders. On the other hand, it is to determine whether the actual output of an organization is as what has been targeted (Al Qudah, Osman & Safizal, 2014). Thus, to achieve high business performance, organizations need to attain and sustain competitive advantages. For this reason, many researchers had argued that strategic planning enables organizations to have competitive advantages and the ability to stay in business against competitors (Ho, Wang & Shieh, 2016). They need to know that the correct performance level is important because it enables the organization to determine its current position and find ways to improve business if necessary. Consequently, the measurement of business performance has captured the attention of many scholars due to its complexity (Shah & Siddiqui, 2019).

Different researchers have different ways to measure performance. Mandy (2014) summarized in his review that “the best way to evaluate performance is by effectiveness, growth and productivity, efficiency, individual employee sales, the value of exports, organization total assets and operation profit ratio as a measurement”. Researchers such as Mukonza and Swarts (2020) measured performance using financial indicator. Financial measure is done by measuring the sales, market share, number of employees, return on capital employed, inventory turnover, return on investment, growth and profits. However, these indicators focus on the short term rather than long term strategy (Lonbani, Sofian & Barato, 2014).

Theoretical Framework

This study is anchored on Natural Resource-Based View Theory. This study is anchored on Natural Resource-Based View (NRBV) developed by Stuart Hart (1995). In classic strategic management, the Resource-Based View (RBV) considers capabilities and resources that companies have which, when bundled in a unique manner bestows a company with a core competence. These core competences can generate a competitive advantage for the firm if they are valuable, rare, inimitable *and* non-substitutable (VRIN). Traditionally, strategic models have not considered how the constraints of the natural environment affect a firm’s ability to generate a competitive advantage through its operations. The Natural Resource-Based View (NRBV) emerged to deal with this aspect. The natural resource based-view (NRBV) works on the principle that a company’s competitive advantage fundamentally depends upon its relationship with the natural environment. This theory focused on the connection with firms’ resources, capabilities and competitive advantages, and proposes that organizations should look inwards to find the sources of competitive advantage rather by searching for competitive environment for it.

The NRBV framework identifies how companies can generate competitive advantage based on capabilities that support sustainable development. Stuart Hart (1995) developed a framework of three interconnected capabilities that firms can build including pollution prevention, product stewardship, and sustainable development. The framework is shown in the table below:

A Natural-Resource-Based View: Conceptual Framework

s/ n	Strategic Capability	Environmental Driving Force	Key Resource	Competitive Advantage
1	Pollution Prevention	Minimize emissions, efficient and waste	Continuous improvement	Lower costs
2	Product Stewardship	Minimize life-cycle cost of products	Stakeholder integration	Preempt competitors
3	Sustainable Development	Minimize environmental burden of firm growth and development	Shared vision	Future Position

This theory is relevant to the study in that it helps in providing a theoretical mechanism through which it is possible to establish the connection between green management and performance of business organization. Kumar (2015) identified this theory as the theoretical basis of green business strategies. This theory articulates the connection with firm resources, capabilities and competitive advantages and proposes that organisations should look inside the company to find the sources of competitive advantage rather than searching competitive environments for it. One of such resources is adopting green management strategies. Therefore, the idea of a natural resource-based vision strategy should be incorporated into the ecological corporate system of the business to empower it to achieve competitive advantage in order to produce improved business performance. Hence, organisations should grow and

make viable utilisation of their competitive advantage in the environment like green management in order to enhance performance.

Empirical Literature

Elshaer, Azazz and Fayyad (2023) carried out a study on green management and sustainable performance of small and medium-sized hospitality businesses and the moderating the role of an employee's pro-environmental behaviour. The study adopted survey research design and 304 small- and medium-sized hotels and travel agency middle managers were sampled for the study. The collected data was analysed using the Smart PLS-structural equation modeling technique. The results demonstrated that green management practices can improve environmental, economic, and social performance and these relationships can be strengthened through the moderating effects of employees' pro-environmental behaviour.

Chukwuka and Eboh (2018) investigated the effect of green business practices on organizational performance of selected manufacturing firms in Nigeria. The study adopted the survey design. Simple random sampling technique was used in selecting the 10 manufacturing firms in Nigeria. A sample size of 543 respondents was determined from the population of 5705 drawn from management, middle and lower cadre of the selected manufacturing firms using Cochran (1977) statistical formula. Simple percentage was employed in analyzing the data. The study found that green business initiatives had significant and positive effect on the selected manufacturing firm's productivity.

Masoumik, Abdul-Rashid and Olugu (2015) evaluated the effects of green strategy adoption on competitive benefits within the manufacturing industry in Malaysia. The survey was conducted on SO 14000 certified manufacturers from among the Malaysian industries. Pollution prevention strategy, product stewardship strategy and clean technology strategy were employed as the independent variable while strategic environmental performance and competitive benefits were employed as the dependent variables. Four hundred and thirty respondents were sampled for the study. Partial Least Squares were employed in analyzing the data. The results show that there is a significant relationship between the green strategies, environmental performance and competitive benefits.

Onwudiwe, Agwamba and Ugwuegbu (2019) carried out a study on the effect of green management on organizational effectiveness in printing press (paper) industry in Imo State. waste recycling was employed as the independent variable while cost minimization and minimization of environmental pollution was employed as the dependent variable. The study adopted descriptive research design and the population of the study comprised of 146 printing publishers operating in Owerri, Imo State. Questionnaire was employed as the instrument of data collection. Frequency and percentage count tables, Mean item score and T-test statistics were used for data analyses. The results showed waste recycling has a positive and significant effect on cost reduction and pollution reduction.

Ngniadedema and Suhong (2014) investigated the influence of green operations on organizational performance for the top 500 publicly traded companies in the US. Mean, standard deviation and regression analysis were employed in analyzing the data. The study found that manufacturing companies scored lower on the environmental impact metric and higher on the green reputation metric than companies in services industries. Additionally, the overall impact of green operations was found to be different between the manufacturing and service firms studied. The study also found that environmental impact score and green policies and performance score were found to have an impact on organizational performance in manufacturing firms while green reputation plays a more important role in impacting the organizational performance of service firms.

Bıçakcıoğlu, Theoharakis and Tanyeri (2019) investigated green business strategy and export performance in emerging economy. The study was conducted in Turkey. Specifically, the study investigated the boundary conditions of green business strategy on the export financial performance of firms from an emerging economy. A total of 224 copies of the questionnaires were collected from exporting manufacturing companies and were analyzed using full information maximum likelihood test. The results of the study demonstrate that green business strategy has a strong and positive relationship with export financial performance.

Recent empirical studies covered the effect of green management on corporate performance but most of the studies does take into consideration green management (waste recycling, and use of renewable energy) covered in this study. Furthermore, there is a dearth of studies on similar topics in the context of beverage manufacturing sector, particularly in South East Nigeria.

METHODOLOGY

The research design that was adopted for the study was survey research design. The survey suitability for the study can be viewed from the fact that a representative sampled of the larger population of beverage firms in South East Nigeria was the ones approached to offer their views on the influence or otherwise of the green management on corporate performance. The researcher made use of primary sources of data. The population of the study comprised 1399 management and employees of fifteen selected beverage firms in South East Nigeria. The sample size of 384 was determined using Cochran formular. Simple random sampling technique was employed in selecting the respondents from each of the states sampled for the study. This method was slated to enable the researchers elicit vital and quality information required for the study by giving all members of the population equal chance of being selected. Therefore, a sample of three hundred and sixty nine CEOs, senior managers, and other top-level management of beverage firms in South East Nigeria was used for the study. Structured questionnaire was employed as the instrument of data collection. Data was evaluated using both descriptive statistics (frequency and percentage) and inferential (Chi-square) methods, which helped to condense the raw data into a summary format. The analysis was carried out to reflect the study's aims and hypotheses.

RESULTS

The questionnaire items related to the research questions were presented and analyzed in this section. The figures in bracket represent the percentage of each of the response frequency.

Analysis Items Related to Waste Recycling and Output Level

Table 1 Waste Recycling and Output Level

S/N	Questionnaire Items	SA	A	D	SD
1	We regularly review and redesign our waste management strategies to ensure their compliance with environmental criteria.	42 (12.0)	245 (70.2)	25 (7.2)	37 (10.7)
2	Our company designs products that allow for component reuse, recycling, and recovery.	80 (22.9)	194 (55.6)	31 (8.9)	44 (12.6)
3	Our organization optimizes its manufacturing operations to reduce water waste, plastic waste and pollution to enhance output level	79 (22.6)	156 (44.7)	69 (19.8)	45 (12.9)
4	The business process of my company recycles waste and allows them to be treated and re-used in order to enhance output level	107 (30.7)	178 (51.0)	38 (10.9)	24 (7.4)
5	Our wastes are delivered to an authorized manager or disposal points	76 (21.8)	195 (55.9)	42 (12.0)	36 (9.3)
6	Effective waste management minimizes cost and enhance our performance	94 (26.9)	189 (54.2)	43 (12.3)	23 (6.6)

Source: Field Survey, 2024

In Table 1, the questionnaire items related to waste recycling and productivity were presented and analyzed. Table 1 above revealed that 42(12%) respondents strongly agreed that they regularly review and redesign their waste management strategies to ensure their compliance with environmental criteria, 70.2% of the respondents agreed, 7.2% of the respondents disagreed while the remaining 10.9% strongly disagreed. This implies that the sampled firms regularly review and redesign their waste management strategies to ensure their compliance with environmental criteria.

The Table 1 indicates that 80(22.9%) of the respondents strongly agreed that their company designs products that allow for component reuse, recycling, and recovery, 194(55.6) respondents agreed, 31(8.9) were disagreed while 44(12.6%) strongly disagreed. This implies that the sampled companies company designs products that allow for component reuse, recycling, and recovery.

Table 1 indicates that 79 respondents accounting for 22.6% strongly agreed that their organization optimizes its manufacturing operations to reduce water waste, plastic waste and pollution to enhance output level, 44.7% agreed, 69 respondents representing 19.8% disagreed while the remaining 45 respondents accounting for 12.9% strongly disagreed. This implies that majority of the respondents agreed that the sample firms optimizes its manufacturing operations to reduce water waste, plastic waste and pollution to enhance output level.

The Table 1 indicates that 107(30.7%) of the respondents strongly agreed that the business process of their company recycles waste and allows them to be treated and re-used in order to enhance output level, 178(51.0) respondents agreed, 38(10.9) were disagreed while 26(7.4%) strongly disagreed. This implies that the business process of these companies recycles waste and allows them to be treated and re-used in order to enhance output level.

It is also clear from the Table 1 above that 76 respondents representing 21.8% strongly agreed that wastes are delivered to an authorized manager or disposal points, 55.9% of the respondents agreed, 12% of the respondents disagreed while the remaining 9.3% strongly disagreed. This implies that majority of the respondents agreed that wastes emanating from the activities of the sampled firms are delivered to an authorized manager or disposal points.

Table 1 also indicates that 26.9% of the respondents strongly agreed that effective waste management minimizes cost and enhance their performance, 54.2% of the respondents agreed, 12.3% of the respondents disagreed while the remaining 6.6% of the respondents strongly disagreed. This implies that majority of the respondents agreed that effective waste management minimizes cost and enhance the performance of the sampled firms.

Analysis Items Related to Use of Renewable Energy and Operational Efficiency

Table 2: Renewable Energy and Operational Efficiency

S/N	Questionnaire Items	SA	A	D	SD
1	Environmental protection is the driving force behind our firm's energy efficiency and substitution strategies	94 (26.9)	189 (54.2)	43 (12.3)	23 (6.6)
2	We employs renewable source of energy like solar energy in order to achieve operational efficiency	28 (8.0)	204 (58.5)	49 (14.0)	68 (19.5)
3	The business process of my company reduces the consumption of water, electricity and oil.	136 (39)	113 (32.4)	59 (16.9)	41 (11.7)
4	Our alternative source of energy minimize environmental impact and enhances operational efficiency	79 (22.6)	156 (44.7)	69 (19.8)	45 (12.9)
5	My company employs materials resources that consume the least amount of energy and resources	107 (30.7)	178 (51.0)	38 (10.9)	26 (7.4)
6	My company employs materials resources that consume the least amount of energy and resources in order to enhance performance	87 (24.9)	155 (44.4)	67 (19.2)	40 (11.4)

Source: Field Survey, 2024

In Table 2, the questionnaire items related to use of renewable energy and efficiency were presented and analyzed. The table indicates that 26.9% of the respondents strongly agreed that environmental protection is the driving force behind the firm's energy efficiency and substitution strategies, 54.2% of the respondents agreed, 12.3% of the respondents disagreed while the remaining 6.6% of the respondents strongly disagreed. This shows that environmental protection is the driving force behind the firm's energy efficiency and substitution strategies.

Table 2 indicates that 28 respondents accounting for 8% strongly agreed that they employs renewable source of energy like solar energy in order to achieve operational efficiency , 204 respondents representing 58.5% agreed, 49 respondents representing 14% disagreed while the remaining 60 respondents accounting for 19.6% strongly disagreed. This implies that majority of the respondents agreed that they employs renewable source of energy like solar energy in order to achieve operational efficiency.

Table 2 indicates that 136 (39%) of the respondents strongly agreed that the business process of their company reduces the consumption of water, electricity and oil, 113 (32.4) respondents agreed, 59 (16.9) were disagreed while 41 (11.7%) strongly disagreed. This indicates that the business process of the sampled firms reduces the consumption of water, electricity and oil.

Table 2 indicates that 79 respondents accounting for 22.6% strongly agreed that alternative source of energy minimize environmental impact and enhances operational efficiency, 156 respondents representing 44.7% agreed, 69 respondents representing 19.8% disagreed while the remaining 45 respondents accounting for 12.9% strongly disagreed. This implies that the alternative source of energy minimize environmental impact and enhances operational efficiency.

The table indicates that 107 (30.7%) of the respondents strongly agreed that their company employs materials resources that consume the least amount of energy and resources, 178 (51.0) respondents agreed, 38(10.9) were disagreed while 26(7.4%) strongly disagreed. This shows that majority of the respondents agreed that the sampled firms employs materials resources that consume the least amount of energy and resources.

Table 2 further indicates that 87 respondents representing 24.9% strongly agreed that their company employs materials resources that consume the least amount of energy and resources

in order to enhance performance, 44.4% of the respondents agreed, 19.2% of the respondents disagreed while the remaining 11.4% strongly disagreed. This implies that the sampled firms employ materials resources that consume the least amount of energy and resources in order to enhance performance.

Test of Hypotheses

Here, the two hypotheses formulated earlier in this study were tested using Pearson's Chi-square.

Test of Hypothesis One

Ho: Waste recycling has no significant effect on output level of beverage firm in South-East, Nigeria.

Table 3: Chi-square Tests for Hypothesis One

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	109.320 ^a	24	.000
Likelihood Ratio	142.711	24	.000
Linear-by-Linear Association	6.556	1	.010
N of Valid Cases	349		

Source: Field Survey, 2024

Since the Pearson chi-square value of 109.320 at 24 degree of freedom is significant at .05 alpha level, we reject the null hypothesis and accept the alternative hypothesis. Hence, we conclude that waste recycling has significant effect on output level of beverage firm in South-East, Nigeria.

Test of Hypothesis Two

Ho: Renewable energy has no significant effect on operational efficiency of beverage firm in South-East, Nigeria.

Table 4 Chi-square Tests for Hypothesis Two

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	113.743 ^a	24	.000
Likelihood Ratio	147.575	24	.000
Linear-by-Linear Association	8.829	1	.003
N of Valid Cases	349		

Source: Field Survey, 2024

Since the Pearson chi-square value of 113.743 at 24 degree of freedom is significant at .05 alpha level, we reject the null hypothesis and accept the alternative hypothesis. Hence, we conclude that Renewable energy has significant effect on operational efficiency of beverage firm in South-East, Nigeria.

DISCUSSION OF FINDINGS

The study examined the influence of green management on corporate performance of beverage companies in South East Nigeria. The study also found that waste recycling has significant effect on output level of beverage firm in South-East, Nigeria. This implies that effective waste recycling can enhance the level of output of corporate entities. This agrees with the findings of Elshaer, Azazz and Fayyad (2023) that green management practices can

improve environmental, economic, and social performance. This also corroborates the findings of Onwudiwe, Agwamba and Ugwuegbu (2019) that waste recycling has a positive and significant effect on cost reduction and pollution reduction. This also agrees with the findings of Chukwuka and Eboh (2018) that green business initiatives had significant positive effect on productivity.

The study further found that the use of renewable energy has significant influence on operational efficiency of beverage firm in South-East, Nigeria. This shows that the use of renewable energy in the management of firms can enhance corporate operational efficiency. This agrees with the findings of Ngniatedema and Suhong (2014) that green operations have significant impact on organizational performance. This is in line with the findings of Olayeni, Ogbo, Okwo, Chukwu, Ifediora and Ezenwakwelu (2021) that the adoption of green strategy improves both environmental and financial performance.

CONCLUSION

The study found that waste recycling had significant positive effect on output level of beverage firm in South-East, Nigeria. The study further found that the use of renewable energy had significant positive on operational efficiency of beverage firm in South-East, Nigeria. Based on the foregoing, the study concludes that green management had significant positive effect on corporate performance of beverage companies in South East Nigeria. The study recommends that organizations must educate all workers on how to use organizational resources in a green manner in order to achieve long-term sustainability and improved performance. This can be achieved through effective waste recycling which will invariably help to enhance the level of output of the firms. Also, managers should invest to improve production processes by through the use of renewable energy like solar and wind energy instead of fossil fuel. This act tends to improve environmental, economic, social and operational performance.

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