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Strategic Management and Environmental Disclosure of Listed Consumer Goods Companies in Nigeria

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ABSTRACT

This study sought to ascertain the nexus between Strategic Management and Environmental Disclosure of consumer goods companies listed on Nigeria Stock Exchange between 2011 and 2022. Benchmarking, Total Quality Management, Activity-Based Costing and Outsourcing served as proxies for Strategic Management, while Waste Management Cost Disclosure was used to measure Environmental Cost Disclosure. Both primary and secondary data were used in this study. Correlational survey design and *ex-post facto* research design were adopted. Purposively and simple random sampling techniques were used to select a sample eleven (11) consumer goods firms and 36 staff of the sampled firms. Pearson Correlation Coefficient and Ordinary Least Square Regression (OLS) analysis via STATA 13 statistical software were used to test the hypotheses of the study. The result of this study showed that Benchmarking, Total Quality Management, Activity-Based Costing and Outsourcing have a significant positive effect on Waste Management Cost Disclosure at 5% level of significance respectively. This study therefore recommends inter alia that manufacturing firms should fully adopt strategic management techniques since it decreases environmental costs significantly and improve environmental performance.

Keywords: Back Flush Accounting, Just-In-Time Procurement, Activity Based Costing, Environmental Disclosure

Background to the Study

In today's world, there is a rapid change in the business environment such that the product-market competition is ever increasing among industries, information technology improving in various industries as the day goes by in a way that firms use internet facilities and social network to advertise and market their products and services. To compete successfully in this present competitive business environment, firms continually need to make some strategies and take some actions by improving product quality and productivity, reducing product cost, promoting product and process innovations, and improving product speed to the market and customers' goodwill. Firms therefore need to strive to be at par with the global change, achieving competitive advantage position and enhancing performance relative to their competitors. (Mbonu & Amahalu, 2021a). Strategic management is the process of making decision, planning, coordinating and taking some actions by the top managers of a company in order to achieve set goals and objectives. Decisions are of little use unless they are acted upon. Firms must take the necessary actions to implement their strategies. This requires top managers to allocate the necessary resources and to design the organization to bring the intended strategies to reality. Because it involves long-term, future-oriented, complex decision making and requires considerable resources, top-management participation is crucial (Amahalu, Nweze, & Obi, 2017). Therefore, most organizations began heading towards the adoption and use of strategic concepts of different kinds and has become the concept of strategic management of the most important features of contemporary managements, which enables organizations to cope with environmental variables and subsequent developments in the economic systems resulting from globalization and the opening of global markets. This was reflected on the accounting systems in general, where the traditional accounting systems no longer able to give and to provide a comprehensive picture of organizational performance for contemporary organizations because of their inability to provide indicators to help the managements of these organizations to measure their performance correctly and appropriately.

The reflections of strategic approach in management began in the emergence of many methods and techniques in cost accounting and management accounting which directed mainly to serve the goals of the contemporary strategic management of business organizations, where it developed many accounting methods and techniques in the field of strategic cost management and strategic management accounting, such as Activity Based Costing (ABC), Value chain, Benchmarking, Balanced Score Card (BSC), outsourcing, total quality management, customer relationship management, SWOT analysis, PEST analysis, Portfolio analysis etc, which aims to assist modern strategic managements in achieving it functions and objectives in the strategic-term (Okudo, Amahalu, Obi & Okafor, 2022).

Environmental reporting is a new business reporting concept which provides strategic framework for the holistic re-appraisal of corporate performance and acts as a medium by whichfirms address information need of stakeholder and sharpens external perception of the firm. Measuring environmental performance and setting targets is a critical component for organizations to become more productive, more profitable, and more sustainable (Nzekwe, Okoye & Amahalu, 2021). Monitoring key metrics such as energy, waste, and water usage leads to reductions in greenhouse gas emissions as well as operational efficiency improvements and cost savings. Environmental accounting is an inclusive field of accounting. Environmental accounting includes identification of environmental cost, capitalization of environmental cost, identification of environmental liability and measurement of environmental liability (Amahalu & Moedu, 2023). It provides reports for both internal use, generating environmental information to help make management decisions on pricing, controlling overhead and capital budgeting, and external use, disclosing environmental information of interest to the public and to the financial community. The study of strategic management has drawn so much attention among business practitioners and academic researchers as globalization came fully into limelight. As more industries become global, strategic management now becomes an increasingly important tool to keep track of international developments and position the firm for long term competitive advantage.

Statement of the Problem

Most of all the modern organizations engage in strategic management to ensure that they achieve the desired level of performance. But in the modern business context, strategic management faces many challenges such as: Orientation for globalization. Further challenges include a situation where representatives of the management team are unable to uniformly explain the competitive elements of their business operations, service or product concept with emphasis; representatives of the management team are unable to explain the competitive elements of their competitors with emphasis; tasks are not prioritized effectively which leads to inefficiency, decreased well-being of personnel, and lowered quality; different sectors of the company or institution operate from their own starting points (silo mentality); resource utilization is maximal, but productivity is weak. Another challenge which is likely to emerge is opposition to implementation of management strategies such as Activity Based Costing (ABC), Value chain, Benchmarking, Balanced Score Card (BSC), outsourcing, total quality management, customer relationship management, SWOT analysis, PEST analysis, Portfolio analysis and so on. In many cases, employees oppose organizational change since they are unsure of the effects it will have on their careers. Unless they are involved in change through dialog and communication, they are likely to oppose change; inability of strategic planners to cut through the culture of diversified corporation and to plan in relation to the various competitive environments by identifying the strategies for them.

Many studies have documented the relationship between strategic management and financial performance in developed economies.. Some of these studies include, Nedelko, Potocan and Dabic (2015); Qehaja, Kutllovci and Pula, (2017); Jarzabkowski and Whittington (2018); Mbonu and Amahalu, (2021b). However, no study has documented the relationship between strategic management and environmental cost disclosure in Nigeria (to the best knowledge of the researcher) as the predominant focus of prior studies is on strategic management and firm performance, thereby establishing a gap in knowledge, which necessitated this study.

Objectives of the Study

The main objective of this study is to determine the relationship between strategic management and environmental cost disclosure of consumer goods companies listed on Nigeria Stock Exchange.

The specific objectives of this study are to:

i. Ascertain the relationship between Benchmarking and Waste Management Cost Disclosure of listed consumer goods companies in Nigeria.

ii. Evaluate the relationship between Total Quality Management and Waste Management Cost Disclosure of listed consumer goods companies in Nigeria.

iii. Assess the relationship between Activity-Based Costing and Waste Management Cost Disclosure of listed consumer goods companies in Nigeria.

iv. Determine the relationship between Outsourcing and Waste Management Cost Disclosure of listed consumer goods companies in Nigeria.

Research Hypotheses

The following null hypotheses were formulated:

Ho_1: There is no significant relationship between Benchmarking and Waste Management Disclosure of consumer goods companies listed on Nigeria Stock Exchange.

Ho_2: There is no significant relationship between Total Quality Management and Waste Management Disclosure of consumer goods companies listed on Nigeria Stock Exchange.

Ho_3: There is no significant relationship between Activity-Based Costing and Waste Management Disclosure of consumer goods companies listed on Nigeria Stock Exchange.

Ho_4: There is no significant relationship between Outsourcing and Waste Management Disclosure of consumer goods companies listed on Nigeria Stock Exchange.

Conceptual Review

Strategic Management

Strategic management is the continuous planning, monitoring, analysis and assessment of all that is necessary for an organization to meet its goals and objectives. The strategic management process is a management technique used to plan for the future: Organizations create a vision by developing long-term strategies. This helps identify necessary processes and resource allocation to achieve those goals. It also helps companies strengthen and support their core competencies (Rouse, 2019).By determining a strategy, organizations can make logical decisions and develop new goals quickly to keep pace with the changing business environment. Strategic management can also help an organization gain competitive advantage and improve market share. Fast-paced innovation, emerging technologies and customer expectations force organizations to think and make decisions strategically to remain successful. The strategic management process helps company leaders assess their company's present situation, chalk out strategies, deploy them and analyze the effectiveness of the implemented strategies (Okudo, Amahalu & Oshiole, 2023). Strategic management necessitates a commitment to strategic planning, which represents an organization's ability to set both short- and long-term goals, then determining the decisions and actions that need to be taken to reach those goals.

Benchmarking

Benchmarking is a process of measuring the performance of a company's products, services, or processes against those of another business considered to be the best in the industry, also known as "best in class" (Stroud, 2019). The point of benchmarking is to identify internal opportunities for improvement. By studying companies with superior performance, breaking down what makes such superior performance possible, and then comparing those processes to how your business operates, one can implement changes that will yield significant improvements. That might mean tweaking a product's features to more closely match a competitor's offering, or changing the scope of services you offer, or installing a new customer relationship management (CRM) system to enable more personalized communications with customers. The objectives of benchmarking are to determine what and where improvements are called for; to analyze how other organizations achieve their high performance levels; and to use this information to improve performance (Agbionu, Amahalu, & Egolum, 2017).

Total Quality Management

Total Quality Management is an extensive and structured organization management approach that focuses on continuous quality improvement of products and services by using continuous feedback**.** Total quality management (TQM) is the continual process of detecting and reducing or eliminating errors in manufacturing, streamlining supply chain management, improving the customer experience, and ensuring that employees are up to speed with training. Total quality management aims to hold all parties involved in the production process accountable for the overall quality of the final product or service (Amahalu & Okudo, 2023). The objective of total quality management is doing things right the first time over and over again. This saves the organization the time that is needed to correct poor work and failed product and service implementations (such as warranty repairs) .

Activity-Based Costing

Activity-based costing (ABC) is an accounting method that identifies and assigns costs to overhead activities and then assigns those costs to products. An activity-based costing (ABC) system recognizes the relationship between costs, overhead activities, and manufactured products, and, through this relationship, it assigns indirect costs to products less arbitrarily than traditional methods. Activity-based costing (ABC) is a costing method that identifies activities in an organization and assigns the cost of each activity to all products and services according to the actual consumption by each. Activity-based costing (ABC) is a methodology for more precisely allocating overhead costs by assigning them to activities (Amahalu & Ezechukwu, 2017). Once costs are assigned to activities, the costs can be assigned to the cost objects that use those activities. The system can be employed for the targeted reduction of overhead costs. The activity-based costing (ABC) system is a method of accounting you can use to find the total cost of activities necessary to make a product. The ABC system assigns costs to each activity that goes into production (Schmidt, 2019).

Outsourcing

Outsourcing is an agreement in which one company hires another company to be responsible for a planned or existing activity that is or could be done internally, and sometimes involves transferring employees and assets from one firm to another. Outsourcing is the business practice of hiring a party outside a company to perform services and create goods that traditionally were performed in-house by the company's own employees and staff. Outsourcing is a practice usually undertaken by companies as a cost-cutting measure (Amahalu, Ezechukwu & Okudo, 2022). Outsourcing is a business practice in which a company hires another company or an individual to perform tasks, handle operations or provide services that are either usually executed or had previously been done by the company's own employees. The outside company, which is known as the service provider or a third-party provider, arranges for its own workers or computer systems to perform the tasks or services either on site at the hiring company's own facilities or at external locations (Ezechukwu, & Amahalu, 2017).

Environmental Disclosure

Environmental costs are costs connected with the actual or potential deterioration of natural assets due to economic activities. Information disclosure about environmental costs is an effective tool to achieve competitive advantage and improve companies' credibility and social location. Environmental costs are costs connected with the actual or potential deterioration of natural assets due to economic activities (Okudo, & Amahalu, 2021). Environmental costs consist of environmental measures and environmental losses. They include cleanup costs, costs of recycling materials or conserving energy, closure costs, capital expenditure and development expenditure. These costs are incurred in preventing, reducing or repairing damage to the environment and conserving resources. However, environmental losses are costs, which bring no benefits to the business. Such as, fines, penalties, compensation, and disposal losses relating to assets which have to be scrapped or abandoned because they damage the environment (Oshiole, Elamah, & Amahalu, 2020).

Waste Management Disclosure

Waste management (or waste disposal) is the activities and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process. Waste can be solid, liquid, or gaseous and each type has different methods of disposal and management. Waste management deals with all types of waste, including industrial, biological and household. In some cases waste can pose a threat to human health (Amahalu & Okudo, 2023). Waste is produced by human activity, for example the extraction and processing of raw materials. Waste management is intended to reduce adverse effects of waste on human health, the environment or aesthetics. A large portion of waste management practices deal with the bulk of the waste that is created by household, industrial, and commercial activity (Ezeokafor & Amahalu, 2019). Waste Management Cost Disclosure is a systematic approach for identifying, summing, and reporting the actual costs of waste management. It takes into account past and future outlays, overhead (oversight and support service) costs, and operating costs (Okudo & Ndubuisi, 2021).

Benchmarking and Environmental Disclosure

Benchmarking is a management technique or a tool which aims at learning from the best companies. In the process of best practice benchmarking, management identifies the best firms in their industry, or in another industry where similar processes exist, and compares the results and processes of those studied (the "targets") to one's own results and processes. Corporate environmental reporting comprises all information communicated to stakeholders about environmental issues at regular intervals as well as in case of need. Thereby, companies give account about 'environmental aspects', that is, material consumption, emissions, waste and the corresponding impact on the environment, for example on air, water, biodiversity and human health. On the association between benchmarking and environmental cost disclosure, Eze, Okoye, Amahalu & Obi, (2022); Okafor, Egbunike and Amahalu (2022) found a positive relationship between benchmarking and environmental cost disclosure. Faulkender and Yang (2012) support the development of benchmarking and standardisation of corporate disclosures.

Total Quality Management (TQM) and Environmental Disclosure

Total quality management is a new philosophy of running the business, the only way of surviving in the competitors' fight, an assembly of techniques and methods used in order to increase the competitiveness of a company, by continuously improving the quality of the products and the services. Corporate environmental reporting comprises information about interdependencies between environmental and economic issues. For example, environmental aspects may cause financial risks in the form of lost profit margins or higher costs. Furthermore, companies may be able to realise benefits as well, by decreasing waste and, therefore, costs. On the link between total quality management and environmental cost disclosure, Mbonu and Amahalu, (2021) showed the evidence of a positive relationship between total guality Management and Environmental Cost Disclosure, while Cherng-Yee, Sim and Lew (2019) revealed that TQM practices were partially correlated with performance

Activity-Based Costing and Environmental Disclosure

Modern manufacturing companies are facing a globally competitive market. Estimating product costs more accurately have become a strategic objective. The recent development of the activity-based costing (ABC) system methodology has helped company managers to estimate product costs more accurately (Okudo, Mbonu & Amahalu, 2022). Moreover, green competitiveness will be a critical factor to support companies' sustainable development. With today's situation in mind, where a number of stakeholders have begun to focus on companies' environmental activities, a well performed environmental accounting could be a very valuable management communication tool. More firms put increasing emphasis on environmental cost accounting (ECA) system because the costs of complying with environmental regulation have increased. The impact of regulation on the cost of production is expected to become an important determinant for the international competitiveness of firms. In response to cost pressures, many companies have launched a number of initiatives aimed at improving efficiency and reducing environmental impact; as a result, ABC system must be developed to achieve goals of sustainable competitive advantage (Otti, Udeh, Amahalu and Obi, 2022). The study by Yakhou and Dorweiler (2014) documented a negative relationship between activity based costing and environmental cost disclosure. While, Amahalu and Obi (2020) found a positive relationship between activity based costing and environmental cost disclosure.

Outsourcing and Environmental Disclosure

Outsourcing practices is the best way to reduce costs and create opportunity for growth. Outsourcing not only looks at overall business improvement and competitive advantages but also it will cut costs. More so, outsourcing can add value through the higher quality available from external sources. Considering the fact that, outsourcing is an option for manufacturing companies so as to sustain a competitive benefit in the competitive environment as outsourcing could diminish the burden suffered by manufacturing companies (Tsalis, Avramidou & Nikolaou, 2017). Some organizations lack the necessary skills and resources to carry out certain functions in-house, gaining access to the expertise and specialized knowledge of the professionals was the major reason to outsource (Amahalu & Obi 2020; Askham & Van der Poll, 2017). D'Andrea (2017) claim that outsourcing tasks is significantly related with environmental performance.

Theoretical Framework

Resource-Based View (RBV)

The resource-based view (RBV) is a managerial framework used to determine the strategic resources with the potential to deliver competitive advantage to a firm. These resources can be exploited by the firm in order to achieve sustainable competitive advantage. Resource-based view was propounded by Barney in 1991. RBV proposes that firms are heterogeneous because they possess heterogeneous resources, meaning firms can have different strategies because they have different resource mixes. The RBV focuses managerial attention on the firm's internal resources in an effort to identify those assets, capabilities and competencies with the potential to deliver superior competitive advantages. RBV focuses attention on an organisation's internal resources as a means of organising processes and obtaining a competitive advantage. Barney stated that for resources to hold potential as sources of sustainable competitive advantage, they should be valuable, rare, imperfectly imitable and not substitutable (now generally known as *VRIN* criteria). The resource-based view suggests that organisations must develop unique, firm-specific core competencies that will allow them to outperform competitors by doing things differently (Egolum, Amahalu & Obi, 2019). In the resource-based view, strategists select the strategy or competitive position that best exploits the internal resources and capabilities relative to external opportunities.

Empirical Review

Hai, Foo, Tan & Yap (2018) investigated the relationship between environmental disclosures and financial performance using a sample of potentially polluting publicly-listed companies in Singapore. The issue was examined from several perspectives: (a) if there is any difference in financial performance between disclosing and non-disclosing companies of environmental information, (b) whether extent of environmental disclosure can be linked to financial performance, and (c) if there is any impact of prior financial performance on subsequent environmental disclosures, and vice-versa. Results showed that a positive link existed although the evidence was less strong for the impact of environmental disclosures on subsequent financial performance.

Okafor (2018) ascertained the effect of environmental costs on firm performance. To achieve the objective, the study made use of financial reports of Oil and Gas Companies quoted in the Nigerian Stock Exchange Market from years 2006-2015. Regression analysis was employed with the aid of Statistical Package for Social Sciences (SPSS). The results of the statistical analysis indicated that better environmental performance positively impact business value of an organization. Moreover, environmental accounting provides the organization an opportunity to reduce environmental and social costs and improve their performance.

Dirk (2018) examined benchmarking and best-practice analysis in financial accounting on a case of related party disclosures in Finland. The study was based on qualitative methodology that benchmarking and best-practice analysis are a widely-spread methodology, which supports the development of convergence and standardisation of corporate disclosures.

Cherng-Yee, Sim and Lew (2019) examined the relationship between TQM and project performance in Malaysian construction organizations. Data were collected from member list of companies from the construction industry development board (CIDB) Malaysia. A total of 161 valid responses were returned for data analysis. The findings revealed that TQM practices were partially correlated with project performance of Malaysian construction organizations. Specifically, operation focus and workforce focus were perceived as dominant TQM practices on project performance.

Methodology

Research Design

This study adopted the correlational survey research design which involves the use of questionnaire structured on a five point likert scale ranging from strongly agree to strongly disagree. This research design showed how the data collected from the variables interact and relate with one another. While *ex-post facto* research design was also employed to determine the cause-effect relationship among the variables of the study. *Ex-post Facto* seeks to find out the factors that are associated with certain occurrence, conditions, events or behaviours by analyzing past events or already existing data for possible casual factors.

Population of the Study

The population of this study consists of all the twenty-three (23) quoted consumer goods companies in Nigeria as at 31st December, 2022. They include: 7-Up Bottling Co. Plc, Cadbury Nigeria plc, Champion Brewery Plc, Dangote Flour Mills Plc, Dangote Sugar Refinery Plc, DN Tyre & Rubber Plc, Flour Mills Nigeria Plc, Golden Guinea Brewery Plc, Guinness Nigeria Plc, Honeywell Flour Mill Plc, International Breweries Plc, McNicholas Plc, Multi-Trex Integrated foods Plc, Northern Nigeria Flour Mills plc, Nascon Allied Industries Plc, Nestle Nigeria Plc, Nigerian Breweries Plc, Nigerian Enamelware Plc, PZ Cussons Nigeria Plc, UTC Nig. Plc, Unilever Nigeria Plc, Union Dicon Salt Plc, Vitafoam Nig. Plc. The population element is sixty-nine (69) which consist of 23 operational managers, 37 Chartered Accountants and 9 Certified Accountants.

Sample Size and Sampling Method

Purposive sampling method was employed in selecting eleven (11) consumer goods companies, which served as the sample size of this study. They include; Dangote Flour Mills Plc, DN Tyre & Rubber Plc, Flour Mills Nigeria Plc, Guinness Nigeria Plc, Nestle Nigeria Plc, Nigerian Breweries Plc, PZ Cussons Nigeria Plc, UTC Nig. Plc, Unilever Nigeria Plc, Union Dicon Salt Plc, Vitafoam Nig. Plc. The criteria for selection was based on firms that were quoted as at 2011 and still subsist till 31st December, 2022; firms whose annual reports and account are available and complete for the studied period; firms that consistently file their annual reports and statement of accounts with NSE for the studied period. Considering the fact that primary data were equally utilised, simple random sampling was also employed because each and every item in the population has the same probability of being selected. From the retrieved questionnaire, 12 copies were from operational managers; 18 from Chartered Accountants and 6 copies were from Certified Accountants, thereby making the sample size to be 36. Copies of the questionnaire were rated on a 5-point Likert skill scale ranging from 5 (strongly agree) to 1 (strongly disagree)

Source of Data

Both primary data and secondary data were employed in this study. The secondary data were generated from Nigeria Stock Exchange fact books and annual reports and statement of accounts of quoted consumer goods firms in Nigeria from 2011-2022. The primary data were obtained from the respondents through the administration of questionnaire. The questionnaire was divided into two parts. Part A focuses on the respondents. The part B was designed into 5 (five) point Likert scale related to the objective of the study.

Research Variables

Dependent Variable

Environmental Cost Disclosure which served as the dependent variable of this study was measured by:

i. Waste Management Cost Disclosure: This was obtained from the annual reports and accounts of the sampled companies, with emphasis on notes to the accounts.

Independent Variable

The explanatory variable of this study is Strategic Management. Four measures of Strategic Management were adopted in this study:

i. Benchmarking: The information was extracted from 5 (five) point Likert scale questionnaire

ii. Total Quality Management: The information was extracted from 5 (five) point Likert scale questionnaire

iii. Activity-Based Costing: The information was extracted from 5 (five) point Likert scale questionnaire

iv. Outsourcing: The information was extracted from 5 (five) point Likert scale questionnaire

Model Specification

In line with the hypotheses of this study, the following models were specified:

$WMCD_{it} = \beta_0 + \beta_1 BMK_{it} + \beta_2 TQM_{it} + \beta_3 ABC_{it} + \beta_4 OUTS_{it} + \varepsilon_{it}$ - - $_{equ}$ **(i)**

Where:

β_0 = Constant (intercept)

β_1 = Coefficient of the explanatory variable (strategic management)

$WMCD_{it}$ = Waste Management Cost Disclosure of firm ί in period t

BMK_{it} = Benchmarking of firm ί in period t

TQM_{it} = Total Quality Management of firm ί in period t

ABC_{it} = Activity Based Costing of firm ί in period t

$OUTS_{it}$ = Outsourcing of firm ί in period t

Presentation and Analysis of Data

Data Analysis

The questionnaire in Appendix 1 was administered to sixty-nine (69) respondents during the field survey by the researcher. However 36 (52%) were returned and 33 (48%) were not returned.

Table 4.1: Analysis of Questionnaire

Descriptions	Number	Percentage (%)
No. of questionnaire administered	69	100
No. of questionnaires retrieved	36	52
No. of questionnaires not retrieved	33	48

Source : Field Survey, 2023

$$\text{Response Rate} = \frac{\text{Number of research tools retrieved}}{\text{Number of research tools distributed}} \times 100$$

$$= \frac{36}{69} \times \frac{100}{1} = 52\%$$

Table 1 Pearson Correlation Analysis

*(7 variables, 110 observations pasted into data editor)

. correlate wmcd bmk tqm abc outs

(obs=110)

```
             |    wmcd      bmk      tqm      abc     outs
-------------+---------------------------------------------
        wmcd |   1.0000
         bmk |   0.0463   1.0000
         tqm |   0.0173   0.1673   1.0000
         abc |   0.1154   0.0955  -0.0407   1.0000
        outs |   0.0343   0.2715   0.6975  -0.0612   1.0000
```

Source: STATA 13 correlation output, 2023

Interpretation of Correlation Matrix Result

The correlation result as presented in table 1indicates that Waste Management Cost Disclosure positively correlate with BMK (0.0463), TQM (0.0173), ABC (0.1154) and OUTS (0.0343).

Hypotheses Testing

Table 2 Regression Result of Strategic Management Waste Management Cost Disclosure

. regress wmcd bmk

```
      Source |       SS       df       MS              Number of obs =     110
-------------+------------------------------           F(  3,   108) =   13.23
       Model |  .005760745     1  .005760745           Prob > F      =  0.0000
    Residual |  2.68678106   108  .024877602           R-squared     =  0.6421
-------------+------------------------------           Adj R-squared =  0.6271
       Total |  2.69254181   109  .024702218           Root MSE      =  .15773

------------------------------------------------------------------------------
        wmcd |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         bmk |   .0623729   .0049311     5.48   0.000     .0074014    .0121472
         tqm |   .1118713   .0247008     5.08   0.000     .0508326    .0470899
         abc |   .121227    .0188024     5.21   0.000     .0599695    .0145696
        outs |   .0927281   .083359      2.63   0.024    -.1355038    .1949601
       _cons |   .1367872   .0231755     5.90   0.000     .0908493    .1827252
------------------------------------------------------------------------------
```

Source: STATA 13 Regression output, 2023

Interpretation of Regression Result

Table 2 shows the regression result of strategic management measures and waste management cost disclosure:

$$WMCD = 0.1367872 + 0.0623729\ BMK + 0.1118713\ TQM + 0.121227\ ABC + 0.0927281\ OUTS + \varepsilon_{it}$$

The model reveals that given a unit increase in BMK, TQM, ABC, and OUTS, WMCD will increase by 6.24%, 11.19%, 12.12% and 9.27% respectively. Table 2 shows that, the t-value and probability value for BMK = 5.48, p-value = 0.000; TQM = 5.08, p-value = 0.000; ABC = 5.21, p-value = 0.000;and

OUTS = 2.63, p-value = 0.024 suggesting that benchmarking, total quality management, activity based costing and outsourcing exert a positive influence on WMCD, however, statistically significant at 5%. The adjusted R-squared of 0.6271 suggests that the total variation in WMCD is explained by fluctuation in BMK, TQM, ABC and OUTS by 62.71% while the remaining 37.29% is explained by other factors outside the model. The result shows that there is a significant positive relationship between BMK, TQM, ABC, OUTS and WMCD.

Decision

Taking consideration of the regression result, given the value of the F-statistic = 13.23 with the associated probability of 0.0000 which is less than the significance level of 0.05. Therefore, this study submits that there is a significant and positive relationship between Strategic Mangement Measures and Waste Management Cost Disclosure of consumer goods companies listed on Nigeria Stock Exchange at 5% level of significance.

Findings, Conclusion and Recommendations

Summary of findings

The specific findings of this study are that:

i. There is a significant and positive relationship between Benchmarking and Waste Management Cost Disclosure of consumer goods companies listed on Nigeria Stock Exchange at 5% level of significance.

ii. There is a significant and positive relationship between Total Quality Management and Waste Management Cost Disclosure of consumer goods companies listed on Nigeria Stock Exchange at 5% level of significance.

iii. There is a significant and positive relationship between Activity Based Costing and Waste Management Cost Disclosure of consumer goods companies listed on Nigeria Stock Exchange at 5% level of significance.

iv. There is a significant and positive relationship between Outsourcing and Waste Management Cost Disclosure of consumer goods companies listed on Nigeria Stock Exchange at 5% level of significance.

Conclusion

This study examined the relationship between strategic management and environmental cost disclosure of consumer goods companies listed on Nigeria Stock Exchange Nigeria for the period 2011-2022. This study utlised both primary and secondary data. As disaggregated components, benchmarking, total quality management, activity based costing and outsourcing exerted positive and significant influence on waste management cost disclosure at 5% level of significance.

Recommendations

The following suggestions are put forward based on the findings of this study:

i. Consumer goods firms should develop a well-articulated benchmarking strategy in order to ensure efficient reporting.

ii. Considering the positive relationship between total quality management and environmental cost disclosure, then, there is need for continual process of detecting and eliminating errors in manufacturing for improved corporate performance.

iii. Manufacturing firms should fully adopt activity-based costing system since it decreases environmental costs significantly and improve environmental performance.

iv. Since outsourcing has a positive link with environmental cost disclosure, manufacturing firms are therefore advised to embrace outsourcing practice as a cost-cutting measure.

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Appendix

Questionnaire

Please tick as appropriate

The questions in this section are also to be answered on a 5-point Likert-type scale, ranging from 5 (*strongly agree*), 4 (Agree), 3 (Neutral), 2 (disagree) to 1 (*strongly disagree*).

1	Outsourcing not only looks at overall business improvement and competitive advantages but also cut costs	5	4	3	2	1
2	Benchmarking is a business tool that helps companies evaluate their environmental performance and identify operating practices that contribute to superior performance.	5	4	3	2	1
3	Total quality management enhance the success of environmental management such as reduction of waste, pollution prevention, and recycling of materials	5	4	3	2	1
4	Activity-based costing has helped company managers to estimate product costs more accurately.	5	4	3	2	1
5	Total quality management develop new ways of working with both customers and suppliers	5	4	3	2	1
6	Green competitiveness through activity-based costing will be a critical factor to support companies' sustainable development.	5	4	3	2	1
7	Outsourcing practices is the best way to reduce costs and create opportunity for growth	5	4	3	2	1
8	Benchmarking can be used as a statistic to evaluate the organization's performance and competitive standing in the industry.	5	4	3	2	1
9	Activity-based costing system can help a company to better understand its environmental costs	5	4	3	2	1
10	Outsourcing can add value through the higher quality available from external sources	5	4	3	2	1
11	Total quality management develop quality management such as increasing efficiency and productivity	5	4	3	2	1
12	Benchmarking contribute directly to the business objectives of enhancing profitability and enterprise value for business owners and shareholders.	5	4	3	2	1