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Full Length Research Paper

Environmental scanning as a strategy for enhancing productivity in a goal oriented organizations: a survey of Dangote cement, Gboko plant (2005 – 2010)

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The main objective of the empirical survey is to establish the role of environmental scanning as a tool for enhancing productivity and growth in goal oriented organizations with a focus on Dangote Cement Plc Gboko plant in Nigeria, West Africa. A survey research design was adopted for the study. Primary and secondary sources of data were employed and utilised to test the hypotheses. Regression test (r-Cal) was used to test the hypotheses on profitability, Chi-square for the hypotheses on sustainable competitive advantage, enhancement in market share and growth, and improvement of service delivery and innovations. The findings revealed that environmental scanning application can enhance improvement in service delivery and innovation, sustainable competitive advantage, good profit status and quality of production. It was recommended that Dangote Cement Plc Gboko plant in Nigeria should endeavour to monitor the relevant environments in order to identify opportunities and threats affecting business transactions/operations periodically. With these, necessary financial resources be made available and skilful knowledgeable experts be employed to discharge this noble task in order for the cement organization to remain competitive and relevant.

Keywords: Environmental Scanning, Enhancing productivity, Goal oriented organizations, Dangote Cement Company.

INTRODUCTION

Analysis of business environment is pertinent factor that can lead to attainment of organizational goals. Successful organizations continually innovate and change based upon customers needs and feedback. Values, mission, and vision form the foundation for the execution of the functions of management, Echu (2007). They are an organization's guidelines that affect how it will operate.

They work only if visible and used in everyday activities and decisions. According to Thompson and Strickland (1978), organizations values are its beliefs or those qualities that have intrinsic worth and will not be compromised. Its mission is its purpose for existing. The vision is the image of itself in the future (Kazmi 2006), Oni 2005, Adah, 2007, Chamdler 1962).

Wilson et al (1992) also observed that it is pertinent that the strategist need to evaluate critically the strength and weaknesses of the organization. This can be done rating each of the following factors, whether it is a

fundamental strength, a marginal strength, a marginal weakness, or a fundamental weakness.

The factors include the following:

(i) Marketing factors consisting of many variables such as: relative market share, reputation, customer base, customer loyalty, structure of competition.

(ii) Financial factors consisting variables such as cost of capital, availability of capital, profitability, financial stability.

(iii) Manufacturing factors such as: production facilities, economics of scale, delivery capabilities and supply sourcing flexibility.

(iv) Organizational factors like culture, leadership, managerial capabilities, workforce, flexibility and adaptability.

Wilson et al (1992) maintain that the continue of the rating gives the general picture of the organizations principal strengths and weaknesses which needs to be addressed.

According to Kazmi (2006), the process by which organizations monitors their relevant environment to identify opportunities and threats affecting their business are known as environmental scanning. This analysis of the strategic environment is referred to as a SWOT Analysis (Oni, 2006). The SWOT analysis provides information that is helpful in matching the firm's resources and capabilities to the competitive environment in which it operates as such, it is instrumental in strategy formation and selection. The environmental factors to the firm usually can be classified as strengths (S) or weaknesses (W) and those external to the firm can be classified as opportunities (O) or threats (T).

As noted by Adah (2007) every organization be it private or public, profit oriented or not is established to achieve some set objectives. Its success or failure is predicated on its ability or inability to achieve the stated corporate objectives.

When it becomes clear that either the entire organization or a unit or units of it are in the decline or a takeover bid is in an offing, then the owners of the enterprise may embark on a rescue mission.

Review of Related Literature

A scan of the internal and external environment is an important part of the strategic planning process. As noted by Kazmi (2006) environmental scanning is the process by which organization monitor their relevant environment to identify opportunities and threats affecting their business. He further stressed that external environment includes all the factors outside the organization which provide opportunities or pose threats to the organization. The internal environment refers to all the factors within an organization which imparts strengths or cause weaknesses of a strategic nature.

These four environmental influences can be described by Nmadu (2007), Austaner (1999), Thompson and Strukland (1978) as follows:

(a) An opportunity is a favourable condition in the organization's environment which enables it to consolidate and strengthen its position. An example of an opportunity is a (i) growing demands for the products or services that a company provides, (ii) changes in technology and markets on both a broad and narrow scale; (iii) changes in government policy related to firms area of operating, (iv) changes in social patterns, (v) population profiles, (vi) life style changes etc. (vii) developing market such as the internet, (viii) merger, joint venture or strategic alliances, (ix) moving into new market segments that offers improved profits, (x) a new international market and a market vacated by an infective competitors.

(b) A threat is an unfavourable condition in the organization's environment which creates a risk for, or causes damage to the organization.

Examples of such threats include:

(i) Emergence of strong new competitors who are likely to offer stiff competition to the existing companies in an industry.

(ii) Shifts in consumers tastes away from the firms products.

(iii) Emergence of substitute products.

(iv) New regulations.

(v) Increased trade barriers.

(vi) A new competitor in your home market.

(vii) Price wars with competitors.

(viii) A competitor has a new, innovative product or service.

(ix) Competitors have superior access to channels of distribution.

(x) Taxation is introduced etc.

(c) Strength is an inherent capacity which an organization can use to gain strategic advantage.

(i) Superior research and development skills which can be used for new product development so that the company can gain a strategic advantage.

(ii) A powerful strategy by good skills and expertise in key areas.

(iii) A strong financial condition, ample financial resources to grow the business.

(iv) Strong brand – name image/company reputation.

(v) A widely recognized market leader and an attractive customer base.

(vi) Superior technological skills/important patents.

(vii) Cost advantage

(viii) Strong advertising and promotions.

(ix) Product innovation skills.

(x) Proven skills in improving production processes.

(xi) A reputation for good customer service.

(xii) Better product quality relative to rivals.

(xiii) Wide geographic coverage and distribution

capability.

(d) A weakness is an inherent limitation or constraint which creates strategic disadvantage.

Examples of such weaknesses include:

(a) Over dependence on a single product line, this is potentially risky for a company in times of crisis.

(b) No clear strategic direction.

(c) Obsolete facilities.

(d) Falling behind in Research and Development (R & D).

(e) Too narrow a product line relative to rivals.

(f) Weaker brand image or reputation.

(g) Lots of underutilized plant facilities.

(h) Behind a product quality.

According to Aluko, Odugbesan, Gbadamosi and Osuagwu (2004), an understanding of the external environment, in terms of opportunities and threats and the internal environment, in terms of strengths and weaknesses, is crucial for the existence, growth, and profitability of an organization. They further stressed that SWOT analysis constitute a systematic approach to understanding the organizations environment.

By monitoring the environment through environmental scanning, an organization can consider the impact of the different events, trends, issues, and expectations on its strategic management process. Since the environment facing organization is complex and its scanning is absolutely essential, strategists have to deal cautiously with the process of environmental scanning. As noted by Kazmi (2006), the external environment in which an organization exists consists of a bewildering variety of factors. These factors (may be termed as influences) are events, trends, issues and expectations of different interested groups.

- Events are important and specific occurrences taking place in different environmental sectors.

- Trends are the general tendencies or the courses of action along which events take place.

- Issues are the current concerns that arise in response to events and trends.

- Expectations are the demands made by interested groups in the light of this concern for issues.

Since environmental scanning is absolutely necessary for strategy formulation, organizations use different practical combinations or approaches to monitor their relevant environments. These approaches may range from an informal assessment of environmental factors to a highly systematic and formal procedure. The informal assessment may be adopted as a reactive measure to a crisis and ad-hoc studies may be undertaken occasionally. A highly systematic and formal procedure may be used as a proactive measure for the anticipation of changes in environmental factors and structured data collection and processing systems may be used continuously. Between the two extremes of the formal and informal approaches may lie different stances

adopted by organizations, depending on varying degrees of concerns. Such stances are situational. E.g., when an issue-related decision has to be taken periodic monitoring of the environment may be done. Systematic and adhoc approaches can be used for the relevant environment of the organization while the processed – form approach could be used to appraise both the relevant as well as the general environment. According to Oni (2006) whatever approach is adopted for environmental scanning, data collection is necessary for deriving information about environmental factors.

It is pertinent to stress that an understanding of the external environment, in terms of opportunities and threats, and the internal environment, in terms of strengths and weaknesses, is crucial for the existence, growth and profitability of any organization.

Appraising the Environment

As noted by Thompson and Strickland (2006), in order to draw a clear picture of the opportunities and threats faced by an organization at a given time, it is necessary to appraise the environment. This is done by becoming aware of the factors that affect environmental appraisal, identifying environmental factors and structuring the results of the environmental appraisal.

Factor Affecting Environmental Appraisal

According to Kazmi (2006), given the same environmental conditions, no two strategists or two organizations would appraise the environment in a similar fashion. This is due to the many factors that affect the process of environmental appraisal. These factors are classified into 3 broad categories: strategist-related, organizational-related and environmental-related factors.

Strategist-related factors

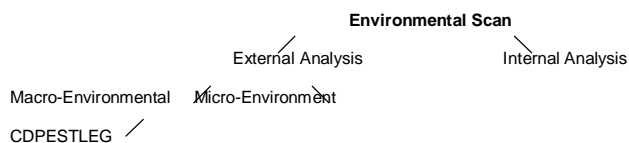
These are factors related to the strategist which affects the process of

environmental appraisal. According to Kazmi (2006), since strategists play a central role in the formulation of strategies, their characteristics such as age, education, experience, motivation level, cognitive styles, ability to withstand time pressures and strain, and so on have an impact on the extent to which they are able to appraise their organization's environment and how well they are able to do it. Apart from these factors related to strategists as individuals, group characteristics, like, the interpersonal relations between the different strategists involved in the appraisal, team spirit, and the power equations operating between them could also be

Exhibit 1:1. Environmental threat and opportunity profile (ETOP) for a bicycle company:

Environmental sector	Nature of impact	Impact of each sector
Market		Industry growth rate is 7 to 8 percent per year; for sports cycles growth rate is 30 percent; largely unsaturated demand.
Technological		Technological up gradation of industry in progress, import of machinery simple
Supplier		Mostly ancillaries and associated companies supply parts and components, imported raw materials easily available
Economic		Growing affluence among urban consumers, exports potential promising
Regulatory		Bicycle industry a thrust area for exports
Political		No significant factor
Socio-cultural		Customer preference for sports cycles, which are easy to ride and durable
International		Emerging threat from cheap imports from China

Source: Adopted from Kazmi (2006), Business Policy and Strategic Management, 2nd Edition, New Delhi: Tata McGraw Hill Publishing Company Ltd.



significant.

Organization related factors

Like these of the strategists, many characteristics of an organization also have an impact on the environmental appraisal process. These characteristics are the nature of business the organization is in, its age, size and complexity, the nature of the markets, and the products or services it provides.

Environmental related factors

The nature of the environment facing an organization determines the way its appraisal could be done. The nature of the environment depends on its complexity, volatility or turbulence, hostility and diversity.

Identifying the Environmental Factors

A feasible approach in identifying the important environmental factors is to test each factor with regard to its impact on the business of the organization and the probability of such an impact.

According to Boulton (1984) environmental scanning leads to the identification of many issues that affects the organization. These issues could be judged on the basis

of the intensity of their impact on the business of an organization and the relative probability of such an impact.

Structuring Environmental Appraisal

There are many techniques available to structure the environmental appraisal. Gluck (1976) suggested a technique of preparing an environmental threats and opportunity profile (ETOP) for organizations.

The preparation of ETOP involves dividing the environment into different sectors and then analysing the impact of each sector on the organization. The sectors can be market, technological, supplying, economic, regulatory, political, socio-cultural and international factors. A comprehensive ETOP requires subdividing each environmental sector into sub-factors and then the impact of each subsector on the organization is analyzed and described in the form of statement. For example:

Note that the up arrows indicate favourable impact; down arrow indicate unfavourable impact while horizontal arrow indicates neutral impact.

The preparation of an ETOP provides the strategists with a clear picture of which sector (and the different factors in each sector) have a favourable impact on the organization. By means of an ETOP, the organization can see where it stands with respect to its environment. Obviously such an understanding can be of great help to an organization in formulating appropriate strategies to

take advantage of the opportunities and counter the threats in its environment.

Kazmi (2006) noted that, before the formulation of strategies can be undertaken, strategists have to assess whether the organization has the required strengths to succeed or whether it has weaknesses which can affect its capability to take advantage of opportunities. This assessment is done through an analysis of the strengths, and weakness of an organization and form part of the SWOT Analysis.

According to Pearce and Robinson (2003), a scan of the external macro-environment in which the firm operates can be expressed in terms of the following factors:

- Competition
- Demographic
- Political
- Economic
- Social
- Technological
- Legal
- Environment
- global

The acronym **CDPESTLEG** is used to describe a framework for the analysis of these macro-environmental factors. A CDPESTLEG analysis fits into an overall environmental scan as shown in the following diagram:

Competition Factors

Competitive factors include new companies and price changes that make other products more desirable by customers. Some examples include:

- changes in lifestyles
- changes in fashion
- changes in taste and values
- substitute products
- changes in prices

Demographic Factors

Demographic factors include spread and distribution of population and societal types based on grading of people of different society status. Examples of demographic factors include:

- age distribution
- gender spread
- societal grouping A-E
- migration
- geographical grouping
- population density

Political Factors

Political factors include government regulations and legal

issues and define both formal and informal rules under which the firm must operate. Some examples include:

- tax policy
- employment laws
- environmental regulations
- trade restrictions and tariffs
- political stability

Economic Factors

Economic factors affect the purchasing power of potential customers and the firm's cost of capital. The following are examples of factors in the macro-economy:

- economic growth
- interest rates
- exchange rates
- inflation rates

Social Factors

Social factors include the demographic and cultural aspects of the **external macro-environment**. These factors affect customer needs and the size of potential markets. Some social factors include:

- health consciousness
- population growth rate
- age distribution
- career attitude
- emphasis on variety

Technological Factors

Technological factors can lower barriers to entry, reduce minimum efficient production levels, and influence outsourcing decisions. Some technological factors include:

- R&D activity
- Automation
- Technology incentives
- Rate of technological change

The CDPESTLEG factors combined with external micro-environmental factors can be classified as opportunities and threats in a **SWOT analysis**.

Legal Factors

Legal factors include governments' legislator policies that affect your business or your company's business. Some examples include:

- Legal tradition
- Effectiveness of legal system
- Treaties with foreign nations
- Patent trademark laws

Table 2.2. Response Rate from the Organization (Dangote Cement Gboko Plant)

Category of Managers	Copies of Questionnaire Actually Administered	Copies of Questionnaire Returned and used	Response Rate (%)
Top management	95	80	84.2
Middle management	130	110	84.6
Lower managers	42	32	76,2
Total	267	222	100%

Source: Field Survey (2012)

Table 2.3. Environmental Scanning as a Strategy for Appraising/Evaluating Areas of Strength, Weaknesses, Opportunities, and Threats in Organizations Environment

Category of Managers	SA	%	A	%	U	%	D	%	SD	%	Total
Top Management	40	50	30	37.5	-	-	10	12.5	-	-	80
Middle management	60	54.5	35	31.8	-	-	15	13.6	-	-	110
Lower management	15	46.8	12	37.5	-	-	5	15.6	-	-	32

Source: Field Survey (2012)

Table 2.4. Environmental Scanning Employed as a Strategy for Enhancement of Profit Position of Dangote Cement, Gboko Plant

Category of Managers	SA	%	A	%	U	%	D	%	SD	%	Total
Top Management	48	60	28	35	4	5	-	-	-	-	80
Middle management	57	51.8	47	42.7	6	5.5	-	-	-	-	110
Lower management	14	43.8	15	46.8	3	9.3	-	-	-	-	32

Source: Field Survey (2012)

Table 2.5. Environmental Scanning is Adopted by Dangote Cement to Enhance Sustainable Competitive Advantage

Category of Managers	SA	%	A	%	U	%	D	%	SD	%	Total
Top Management	35	43.7	35	43.7	-	-	10	12.5	-	-	80
Middle management	50	45.4	45	40.9	-	-	15	13.6	-	-	110
Lower management	16	50	10	31.2	-	-	6	18.7	-	-	32

Source: Field Survey (2012)

- Laws affecting business operations

Environmental Factors

Environmental factors include some of the already mentioned factors. However, its important to summarise these other this heading as follows:

- Economy
- Society and demographic
- Ecology
- Politics
- Technology

Global Factors

Global factors include some of the things a company needs to think about its business as it relates to global

business setting. The examples of these include the following:

- Lowered costs
- Expanded markets
- Exploitation of firm advantages
- Economies of scale
- Synergy
- Power and prestige

Research Methodology

In this study, the researcher employed a survey research design technique. The population of the study consisted of all the employees of Dangote Cement, Gboko Plant which totalled to eight hundred (800) staff of all the departments. Both secondary and primary sources of data collection are employed. The researcher used questionnaire basically as the instruments of sourcing

Table 2.6. Understanding External Environment in Terms of Opportunities and Threats and Internal Environment in Terms of Strength and Weaknesses in Crucial to Growth, Existence and Increased Market Share of Dangote Cement Plant, Gboko

Category of Managers	SA	%	A	%	U	%	D	%	SD	%	Total
Top Management	56	70	23	28.7	-	-	1	1.2	-	-	80
Middle management	60	54.5	50	45.4	-	-	-	-	-	-	110
Lower management	15	46.8	15	46.8	-	-	2	6.2	-	-	32

Source: Field Survey (2012)

Table 2.7. Dangote Cement, Gboko Plant Adopt Environment Scanning Process to monitor their Relevant Environment which affects Business Service Delivery and Innovation in Processes, Products, and Production Methods/Techniques

Category of Managers	SA	%	A	%	U	%	D	%	SD	%	Total
Top Management	50	62.5	25	31.2	-	-	-	-	5	6.2	80
Middle management	42	38.1	62	56.3	-	-	6	5.4	-	-	110
Lower management	16	50	16	50	-	-	-	-	-	-	32

Source: Field Survey (2012)

primary data. Top, middle and lower managers are served with questionnaire for the purpose of data acquisition.

Sample size is determined using Yamane's (1964) formula. The formula is:

$$n = 1 + \frac{N}{Ne^2}$$

Where:

n = the sample size

e = level of significance

l = constant value

N = the finite population size

$$\therefore n = 1 + \frac{800}{800(0.05)^2}$$

$$n = \frac{800}{1 + 800(0.0025)}$$

$$n = \frac{800}{3}$$

$$n = 266.6$$

$$n = 267$$

A judgemental sampling technique was employed for the research. For top management staff 95 questionnaires were distributed in order to obtain their views on the subject matter of environmental scanning. For middle management, 130 questionnaires were distributed to them judgmentally since they constitute the major workforce. The remaining 42 questionnaires were distributed to the lower managers.

Data generated for this study is presented and analyzed through the use of computer and manual operations. The percentages are used to analyze the data. The chi-square and regression test (t-test) statistic are used to test the hypotheses formulated. The answers from the analyzed data and the results obtained from the test of hypotheses are therefore presented. Five scale likert scale questionnaire ranging from Strongly Agree (SA) = 5, Agree (A) = 4, Undecided (U) = 3, disagree (D) = 2, and Strongly Disagree (SD) = 1 was used as well to

obtain respondents view on the subject matter of environmental scanning. .

Table 2.2 shows the analysis of questionnaire distributed and returned 222 questionnaires were distributed to top, middle and lower management levels of Dangote Cement, Gboko Plant. For top management category, 95 questionnaires were administered but only 80 questionnaires were returned, represented 84.2% response rate. For middle management category 130 questionnaire were administered but only 110 questionnaires were filled and returned, representing 84.6%. For lower managers, 42 questionnaires were administered but only 32 were filled and returned constituting 76.2%. The response rate is believed to be very high in all the categories of managers.

In deciding whether environmental scanning is a strategy for appraising/evaluating areas of strengths, weaknesses, opportunities and threats in organizations environment, it can be seen from table 2.3 above that from the top management category, 40 managers strongly agreed constituting 50% while 30 managers representing 37.5% agreed, 10 respondents disagreed constituting 12.5%. For middle management category, 60 managers agreed constituting 54.5% while 35 managers representing 31.8% only agree, 15 managers in this category disagree representing 13.6%. for lower management category, 15 managers disagreed on the subject matter constituting 48.8% while 12 managers representing 37.5% agreed, 5 respondents constituting 15.6% disagreed.

Table 2.4 shows the response on whether environmental scanning employed as a strategy by Dangote Cement, Gboko Plant enhance profit position of the company. The table above reveals as follows: for top management staff 48 of them strongly agreed representing 60% while 28 constituting 35% agreed, 4 managers at top level were undecided representing 5%. For middle level management, 57 of them strongly

Regression(r) Test Frequencies

Yearsof operation	Operating profit	Percentage (%)
2005	1,565,073	1.2
2006	1,916,669	1.5
2007	1,870,302	1.4
2008	4,733,990	3.7
2009	16,127,375	12.5
2010	102,889,534	79.7
Total	129,102,943	100

Source: Profit and loss account of Dangote Cement, Gboko Plant (2005 – 2010)

Table 1. Test of the relationship between Environmental scanning and profit attainment by Dangote Cement, Gboko Plant

Items	N	r-cal	r-tab	Alpha	Sig
Environmental Scanning Profit Attainment	06	0.978	0.197	0.05	0.000

$P < 0.05$

agreed constituting 51.8% while 47 agreed representing 42.7%. Only 6 middle managers representing 5.5% were undecided. For lower level management, 15 strongly agreed constituting 43.8%, 15 of them agreed constituting 46.8%, only 3 of these managers representing 9.3% were undecided.

The result of the analysis showed the respondents opinion in considering the attainment of sustainable competitive advantage by Dangote Cement, Gboko Plant with the application of environmental scanning. From the top level managers category 35 respondents represent 43.7% strongly agreed, while 35 respondents constituting 43.7% agreed, 10 respondents disagreed (12.5%), for the middle level managers category 50 respondents agreed representing 45.4% strongly agreed while 40.9% representing 45 respondents agreed, only 15 respondents in this category disagreed representing 13.6%. For the lower level managers' category, however, the majority of the respondents that is 50% (16 respondents) agreed strongly while 31.2% representing 10 respondents agreed. Only 6 respondents constituting 18.7% disagreed.

The result of the analysis showed the respondents opinion in understanding external environment in terms of opportunities and threats and internal environment in terms of strengths and weaknesses as been crucial to the growth, existence and increased market share of Dangote Cement, Gboko Plant. From top level managers, majority of the respondents, that is 70% (56 respondents) strong agreed, while 28.7% (23 respondents) agreed, only 1 respondent representing 1.2% disagreed. For middle level managers 60 respondents representing 54.5% strongly agreed while 50 respondents constituting 45.4% agreed. For lower level managers 46.8%

representing 15 respondents strongly agreed, while 46.8% constituting 15 respondents too agreed. Only 2 respondents representing 6.2% disagreed. There was no respondent for undecided, strongly disagreed option.

According to table 2.7 above 50 or 62.5% of the respondents agreed strongly while 25 or 31.2% of the respondents agreed. Only 5 respondents constituting 6.2% strongly disagreed on the subject matter from top management category. For middle level management, up to 62 respondents representing 56.3% agreed, 42 respondents constituting 38.1% strongly agreed. Only 6 respondents constituting 5.4% disagreed. For lower level management, up to 16 respondent constituting 50% strongly agreed, 50% representing 16 respondents too agree on the subject matter.

TESTING OF HYPOTHESES

Hypothesis 1

There is no significant relationship between environmental scanning and profit attainment by Dangote Cement, Gboko Plant.

The operating profit for Dangote Cement from 2005 – 2012 is used for this test.

On table 1 it is observed that environmental scanning as strategy has a significant positive relationship with the level of profit attainment. ($r\text{-cal} = 0.978$; $P < 0.05$). Since 0.978 is greater than the table value of 0.197, $P < 0.05$, the relationship is positive at 0.05. The finding suggests that environmental scanning is associated with the level of profit attainment in Dangote cement plant for the past six years.

Table 2. Environmental Scanning as Strategy for Attainment of Sustainable Competitive Advantage

	Observed N	Expected N	df	Alpha level	X^2_{cal}	X^2_{tab}	Sig	Decision
SA	101	222	8	0.05	239.50	7.815	0.000	Significant
A	90	222						
U	-	222						
D	31	222						
SD	-	222						
Total	222							

Value in parentheses are percentages ($X^2 = 239.50$, $df = 8$, $p = 0.05 > 0.000$)

Table 3. Environmental Scanning as Strategy for Enhancement of Market share and growth

	Observed N	Expected N	df	Alpha level	X^2_{cal}	X^2_{tab}	Sig	Decision
SA	131	222	8	0.05	243.99	7.815	0.000	Significant
A	88	222						
U	-	222						
D	3	222						
SD	-	222						
Total	222							

Value in parentheses are percentages ($X^2 = 243.99$, $df = 8$, $p = 0.05 > 0.000$)

Hypothesis 2

Environmental scanning is not a strategy for attainment of sustainable competitive advantage by Dangote Cement, Gboko Plant

To test this hypothesis, data from table 2.5 is used.

On table 2, the inferential statistics of chi-square was tested and the result shows that 86% of the respondents agreed that environmental scanning is adopted by Dangote cement to enhance sustainable competitive advantage as against the 14% respondents who disagreed. Table 2 above shows that the chi-square calculated value of 239.50 is greater than the chi-square tabulated value of 7.815 at 0.05 levels of significance and 8 degree of freedom. The null hypothesis which states that Environmental scanning is not a strategy for attainment of sustainable competitive advantage by Dangote Cement, Gboko Plant is rejected. This implies that the alternative hypothesis is accepted indicating that Environmental scanning is used as a strategy for attainment of sustainable competitive advantage by Dangote Cement, Gboko Plant.

Hypothesis 3

Environmental scanning is not a strategy for enhancement of market share and growth by Dangote Cement, Gboko Plant

To test this hypothesis, data from table 2.6 is used.

On table 3, the inferential statistics of chi-square was tested and the result shows that 98.6% of the

respondents agreed that environmental scanning is adopted by Dangote cement to enhance market share and growth as against the 1.4% respondents who disagreed. Table 3 also shows that the chi-square calculated value of 243.99 is greater than the chi-square tabulated value of 7.815 at 0.05 levels of significance and 8 degree of freedom. The null hypothesis which states that environmental scanning is not a strategy for enhancement of market share and growth by Dangote Cement, Gboko Plant is rejected. This implies that the alternative hypothesis is accepted indicating that environmental scanning is a strategy for enhancement of market share and growth by Dangote Cement, Gboko Plant.

Hypothesis 4

Environmental scanning is not a strategy for improvement of service delivery and innovations by Dangote Cement, Gboko Plant

To test this hypothesis data from table 2.7 is used.

On table 4, the inferential statistics of chi-square was tested and the result shows that 95% of the respondents agreed that environmental scanning is adopted by Dangote cement to improve service delivery and innovations as against the 5% respondents who disagreed. Table 2 above shows that the chi-square calculated value of 247.20 is greater than the chi-square tabulated value of 7.815 at 0.05 levels of significance and 8 degree of freedom. The null hypothesis which states that environmental scanning is not a strategy for

Table 4. Environmental Scanning as Strategy for Improvement of Service delivery and innovations.

	Observed N	Expected N	df	Alpha level	χ^2_{cal}	χ^2_{tab}	Sig	Decision
SA	108	222	8	0.05	247.20	7.815	0.000	Significant
A	103	222						
U	-	222						
D	6	222						
SD	5	222						
Total	222							

Value in parentheses are percentages ($\chi^2 = 247.20$, $df = 8$, $p = 0.05 > 0.000$)

improvement of service delivery and innovations by Dangote Cement, Gboko Plant is rejected. This implies that the alternative hypothesis is accepted indicating that environmental scanning is a strategy for improvement of service delivery and innovations by Dangote Cement, Gboko Plant

DISCUSSION OF FINDINGS

The findings from the hypothesis tested reveals as follows:

1. From hypothesis one it is derived that carrying out environmental scanning using SWOT analysis (strength, weaknesses, opportunities and threats), COPESTLEG Analysis (i.e. by evaluating competition, demographic, political, economic, social, technological, level, environmental and global which are macro environmental factors) will enable the corporate organization to know her areas of strengths, weakness opportunities and threat which will guarantee improvement in profit attainment. For Dangote Cement, Gboko Plant, between 2005-2010, the findings suggested that environment scanning is strongly associated with the level of profit attainment for six years using SPSS package – regression (r) test at $P < 0.05$. The implication in this regard is that the executive management of Dangote Cement, Gboko Plant needs to allocate financial resources, skilful experts who can diagnose organizational problems on a consistent basis using SWOT Analysis, CDPESTLEG in order to maintain a good profit status continuously year after year.

2. The findings of hypothesis 2 tested using the inferential statistics of chi-square confirm environmental scanning as a viable strategy for attainment of sustainable competitive advantage by Dangote Cement, Gboko Plant. The test of chi-square value calculated is 239.50 is greater than the chi-square tabulated value of 7.815 at 0.05 level of significance at 8 degree of freedom. This null hypothesis which states that environmental scanning is not a strategy for attainment of sustainable competitive advantage by Dangote Cement, Gboko Plant is rejected.

3. Test in hypothesis 3 using the inferential statistics of chi-square revealed that environmental scanning as

adopted by Dangote Cement, Gboko Plant have enhanced market share and growth of the company. The implications of this test is that, the industry needs enough financial resources, marketing experts who are skilful to carryout promotional exercise such as advertising, sales promotion, public relations for the market share and growth status to be maintained on a consistent basis. This will enable the company obtain superiority over their competitors.

4. The finding of test 4 shows that with the application of environmental scanning, there is improvement of service delivery and innovations by Dangote Cement, Gboko Plant. There is innovation in terms of production quality, quantity, service delivery in the area of distribution networks. Up to date technology for production are acquired and company have adequate number of trucks to convey manufactured products to all the states of the federation and even beyond.

RECOMMENDATIONS

1. Environmental scanning is an important tool organizations used to monitor their relevant environment in order to identify opportunities and threats affecting the business, therefore, adequate financial resources and skilful knowledgeable experts be made available to carryout this environmental appraisal process at least periodically in order to be competitive.

2. A variety of methods and techniques are available for environmental scanning i.e. formal and systematic techniques as well as methods. Strategies may choose from among these methods and techniques those which suit their organizational needs.

3. The important factors to be considered for environmental scanning should be events, trends, issues and the expectations of different interested groups such that market share and growth profitability is obtained by organizations.

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