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ENVIRONMENTAL UNCERTAINTY AND ENVIRONMENTAL SCANNING ACTIVITIES OF NIGERIAN MANUFACTURING EXECUTIVES: A COMPARATIVE ANALYSIS

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This study investigated the relationship between perception of environmental uncertainty (PEU) and environmental scanning behavior of Chief Executive Officers of 47 manufacturing firms in Nigeria. The results indicated that perceived uncertainty in the environment was significantly higher for the task environment sectors than for the remote environment sectors; and as perceived uncertainty increased in a sector of the environment, scanning frequency and scanning interests also increased. The results were compared with those of prior research in the area of environmental scanning. The results show both the economic and political legal sectors of the environment to be more salient for Nigerian manufacturing executives than for their American counterparts.

The importance of scanning the environment for information to be used in the strategic planning process has been stressed and thoroughly discussed in the theoretical literature (Andrews, 1980; Ansoff, 1965; Hofer and Schendel, 1978; Schendel and Hofer, 1979; Steiner, 1969). However, it was Aguilar's seminal work in 1967 that began the empirical examination of the environmental scanning process (Hofer, 1977; Preble, Rau, and Reichel, 1988). Since Aguilar's work, many refinements and developments have taken place in scanning research (Collins, 1968; Culnan, 1983; Fahey and King, 1977; Hambrick, 1982; Javidan, 1984; Keegan, 1974; Rhyne, 1985). A common characteristic of all these studies is that they are based on data obtained from samples of firms in the United States. Only one study, to my knowledge, has specifically examined the scanning function in a developing country (Ghoshal, 1987).

Research on planning in developing countries has identified several factors that differentiate the planning environment in developing countries from that of developed countries. Such factors include the absence of the technology required to systematically monitor the environment and collect needed data, highly unstable economic and political environments, lower levels of general and management education, absence of systematic data depository or information sources, and the absence of the political and social infrastructures necessary for the carrying out of environmental scanning activities (Adegbite, 1986; Flores, 1972; Fubara, 1986; Mrema, 1987; O'Shaughnessy, 1985; Yavas, Kaynak, and Dibe, 1985).

Kiggundu, Jorgensen, and Hafsi (1983), in their review of comparative management research in administrative theory, found that when the focus of the research was on the technical core of the organization, there was typically no significant problem in the transferability of conventional Western theories to other countries; but when the research focus was on the organization's relationship with its environment, there was a general tendency to find serious difficulties in the use of Western ideas. This conclusion is shared by other comparative management

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researchers (Adler, 1986; Barrett and Phatak, 1978; Boyacigiller and Adler, 1991; Schneider, 1989). Since environmental uncertainty and environmental scanning activities deal with the organization–environment interface, performance of the scanning function would be expected to differ for executives in developing countries.

Kim and Lim (1988) have also suggested further development of the field of strategic management through investigations of the external validity of the theories by testing them under different economic conditions. Thus, there is a need to extend the external validity of the results of environmental uncertainty and environmental scanning research by examining the scanning behavior of executives of business organizations operating in developing countries.

The purpose of this study was twofold. First, it examined the perception of environmental uncertainty and environmental scanning behavior of executives of manufacturing firms in Nigeria. Second, the results were compared with those of prior research in this area in order to identify any differences or similarities in the scanning behavior of these two groups of executives.

THE NIGERIAN ENVIRONMENT

The Federal Republic of Nigeria obtained independence on October 1, 1960 after nearly a century of British imperial rule. The country, the most populous in Africa, has a population of over 122.5 million people and occupies an area in Western Africa of approximately 923,770 square kilometers (about the size of California, Nevada, and Arizona) (Bureau of Public Affairs, 1991).

Political environment

Nigeria is currently under military rule, and she is in planned transition to a duly elected civilian government. As indicated in Table 1, the political environment is characterized by instability. Since independence, the country has had nine heads of state—two civilian and seven army generals. The average tenure of government is three years (Adegbite, 1986). In 1989, two political parties were established by the government. The current military regime is scheduled to hand over power after the presidential elections in late 1992 (Bureau of Public Affairs, 1991).

Economic environment

Nigeria is a member-country of the Organization of Petroleum Exporting Countries (OPEC) and is Africa's leading oil-producing nation. Oil exports account for 95 percent of export earnings and 70 percent of government revenues, but only 16 percent of gross domestic product (GDP). The agricultural sector accounts for 28 percent of GDP, while the manufacturing sector accounts for 12 percent. The gross national product has gone down from $78 billion in 1987 to $27.2 billion in 1991. Per capita income has declined to $230 from the 1987 figure of $720 (Central Intelligence Agency, 1989, 1991).

In response to the economic crisis that resulted from the oil bust of the 1980s, Nigeria instituted a structural adjustment program (SAP). The goal of SAP is to reduce dependence on oil and to help create a basis for sustainable noninflationary growth. A major part of SAP was a devaluation of the Nigerian currency, naira, for the purposes of changing the incentive structure of the economy, encouraging domestic production, and reducing reliance on exports (Bureau of Public Affairs, 1991). In December 1991, the official exchange rate was 9.80 naira to 1 dollar (*The Wall Street Journal*, December 2, 1991), compared with an exchange rate of 0.8924 naira to 1 dollar in 1985 (Central Intelligence Agency, 1991). In the black market, the exchange rate is currently 22 naira to 1 dollar.

The Nigerian manufacturing sector relies heavily on imported raw materials. A devalued naira means higher costs of raw material inputs which cannot easily be passed to the consumer due to rapidly declining per capita income. The importation of several important raw material inputs have been banned by the government, and the manufacturing sector has had to depend on local raw material sources that are often not available, or when available are not of comparable quality. SAP has not been very successful due to a lack of new investment funds, but the government remains fairly committed to the program (Bureau of Public Affairs, 1991; Central Intelligence Agency, 1991).

Socio-cultural environment

Nigeria is made up of three major tribes—Hausas and Fulanis of the north, Yorubas of the

Table 1. Political history of Nigeria since independence

October 1960	Attainment of independence and installment of civilian government
October 1963	Adoption of republican constitution
January 1966	Coup d'etat, overthrow of civilian government by military and ban on political activity
July 1966	Coup d'etat
July 1967–1970	Civil war, return to military regime
July 1975	Coup d'etat
February 1976	Coup d'etat
September 1978	Ban on political activity lifted and the constitution for the Second Republic was written
October 1979	Installation of civilian government and adoption of U.S. presidential style of government
December 1983	Coup d'etat, overthrow of civilian government by military, ban on political activity
August 1985	Coup d'etat
Spring 1989	Ban on political activity lifted, constitution for Third Republic written
April 1990	Attempted coup d'etat
October 1992	Planned transition to civilian government.

Sources: O. Adegbite, 1986, Planning in Nigerian Businesses; *Long Range Planning*, **19** (4): 98–103; Bureau of Public Affairs, 1991; and private sources.

Southwest, and the Ibos of the Southeast. These three tribes make up 65 percent of the population. The rest of the population consists of other minor ethnic groups and nonAfricans. English is the official language. In addition to the major tribal languages of Hausa, Yoruba, and Ibo, there are 250 other tribal languages spoken in various parts of the country.

About 51 percent of those who are 15 years and above can read and write. Sixty-two percent of males and 40 percent of the females are literate (Central Intelligence Agency, 1991).

ENVIRONMENTAL UNCERTAINTY

Several attempts have been made by various researchers to describe the environment (Dill, 1958; Duncan, 1972; Emery and Trist, 1965; Lawrence and Lorsch, 1967; Terrebery, 1968; Thompson, 1967). The degree of uncertainty in the environment has been measured using both objective and perceptual measures (Bourgeois, 1980; Koberg, 1987; Lindsay and Rue, 1980; Milliken, 1990). Early work in the area of environment uncertainty utilized perception of decision makers (Duncan, 1972; Lawrence and Lorsch, 1967). Some researchers, however, have argued against the use of perceptual measures (Child, 1975; Yasai-Ardekani, 1986; Bourgeois, 1985). Research results indicate a weak link between managers' perception and objective measures of the environment (Boulton, *et al.*, 1982; Downey, Hellriegel, and Slocum, 1975; Tosi, Aldag, and Storey, 1973; Osborn and Hunt, 1974).

Other researchers have objected to the use of objective measures of environment uncertainty (Daft and Weick, 1984; Miles, Snow, and Pfeffer, 1974; Snow, 1976). They argue that firms respond to the environment perceived and interpreted by the decision makers and that the environmental conditions that are not noticed do not affect management's decisions nor actions (Anderson and Paine, 1975; Miles *et al.*, 1974; Pfeffer and Salancik, 1978; Snow, 1976; Weick, 1969). Different firms perceive the same environment attributes differently and thus respond with different strategies (Starbuck, 1976). The use of objective and perceptual measures both have inherent weaknesses. Using predefined objective measures assumes that all organizations perceive the objective environment the same, while the use of perceptual measures fails to recognize the fact that other variables besides the environment also influence perception (Yasai-Ardekani, 1986). Some researchers have suggested using objective measures, while accounting for both individual and organizational characteristics that influence perception of the objective environment (Bourgeois, 1985; Yasai-Ardekani, 1986).

One of the major objectives of this study was to compare the results for the Nigerian sample with those of research studies that utilized comparable American samples. This study was fashioned after those of Daft, Sormunem, and Parks (1988), Hambrick (1981, 1982), and Aguilar (1967). To accomplish the objective of a comparison in results, the variables examined are measured in the same manner. Daft *et al.* utilized perceived environmental uncertainty of chief executive officers; the same measure is used to examine environmental uncertainty in this study. The weaknesses of such a measure are duly recognized by the author. The expected relationship between the variables for the Nigerian sample is depicted in Figure 1.

HYPOTHESES

The first hypothesis examined the difference in the PEU scores for the task and the remote environments (Daft *et al.*, 1988; Thompson, 1967). The task environment is made up of factors external to the firm which exert great influence on its operations but on which the firm has little or no control. It consists of the competitor/industry, customer/market, and sources of resources (raw material suppliers, creditors and labor unions) sectors. The remote environment is made up of factors external to the firm that exert great influence on its operations but on which the firm has little or no control. It consists of the following sectors: political/legal, economic, technological, and socio-cultural sectors (Asheghian and Ebrahimi, 1990). Since the task environment is more relevant to goal setting and goal attainment (Dill, 1958; Thompson, 1967), it should exhibit a higher level of perceived environmental uncertainty than the remote environment (Daft *et al.*, 1988). For this reason it is predicted that:

Hypothesis 1: The degree of perceived environmental uncertainty created by the task environment sectors will be significantly greater than the degree of perceived environmental uncertainty created by remote environment sectors.

Results of prior scanning research indicate that the customer/market sector was rated highest in uncertainty by American managers (Daft *et al.*, 1988). Research on planning in developing countries shows that developing countries are characterized by highly unstable political and economic environments (Flores, 1972; Anastros, Bedos, and Seaman, 1980). Based on this, the following is predicted for the Nigerian sample:

Hypothesis 2: The degree of perceived environmental uncertainty will be significantly higher for the political/legal and economic sectors of the environment than for each of the other five sectors of the environment.

The third hypothesis examined the relationship between PEU scores and the frequency of scanning. Prior research found that the higher the level of uncertainty, the higher the frequency of scanning (Daft *et al.*, 1988; Kefalas and Schoderbek, 1973). Thus, the following relationships are predicted:

Hypothesis 3a: The higher the degree of perceived environmental uncertainty, the higher will be the frequency of scanning in both the remote and task environment sectors.

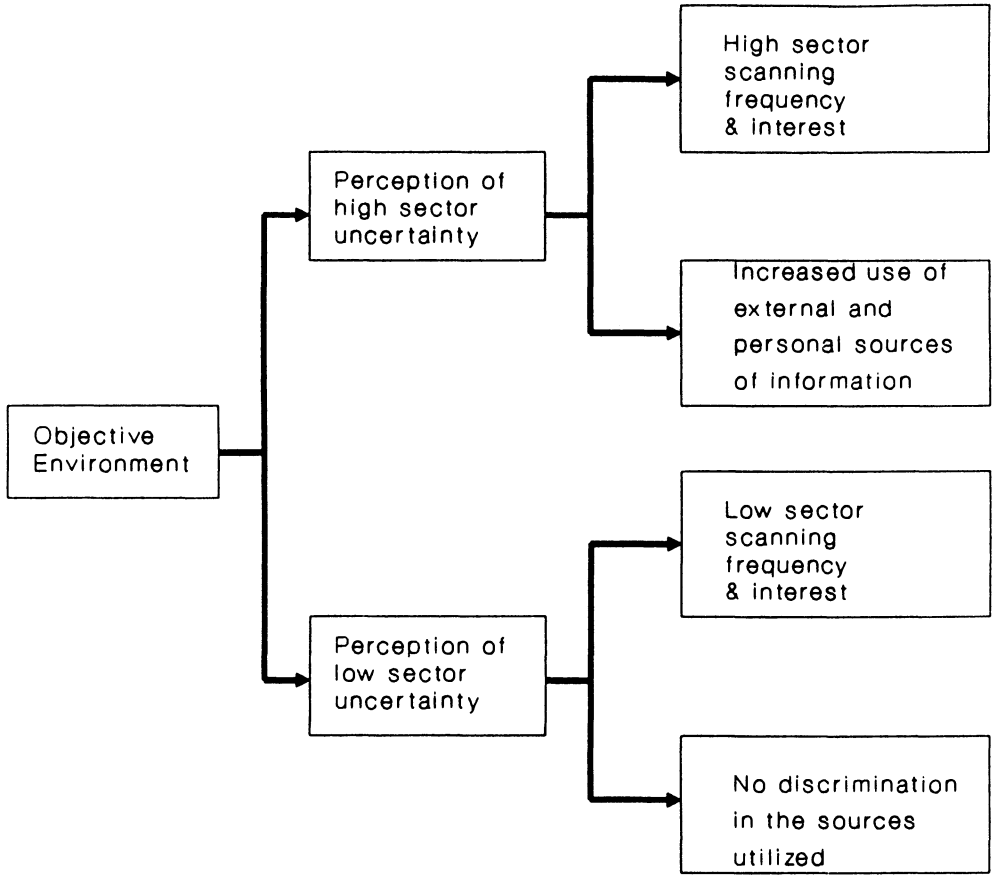

Figure 1. Research model

Hypothesis 3b: The higher the degree of perceived environmental uncertainty, the higher will be the level of interest in both the remote and task environment sectors.

The relationship between PEU scores and information source utilization was examined in the fourth hypothesis. Daft *et al.* (1988) found that the higher the degree of environment sector uncertainty, the greater the frequency of use of personal over impersonal sources, and external over internal sources. Thus it is predicted that:

Hypothesis 4a: The higher the perceived environmental uncertainty scores, the higher will be the use of external sources of information over internal sources of information.

Hypothesis 4b: The higher the PEU scores, the higher will be the use of personal over impersonal sources of information.

METHODS

Sample

The target population for this study was 228 small to medium-sized manufacturing firms with 60 to 100 percent Nigerian equity interest and with operations in Lagos, Ogun, and Rivers states. These three states combined contain over 51 percent of all the manufacturing facilities in Nigeria. A small to medium-sized manufacturing operation, by Nigerian standards, is defined as one with 51–1000 employees (Sawyerr, 1985). The Nigerian Enterprises and Promotion (NEP) Act of 1972, designed to promote indigenous participation in all areas of the economy, created three ownership classifications. The first classification includes businesses with 100 percent Nigerian equity interest; the second classification consists of firms with a minimum of 60 percent Nigerian equity interest; and the third category includes

firms with at least 40 percent Nigerian equity interest (Manufacturers Association of Nigeria, 1984). Firms with at least 60 percent Nigerian equity interest were selected because it is expected that the involvement of Nigerian managers in strategic decision making will be greater for these firms than for firms with a minority Nigerian equity participation (Teriba, Edozien, and Kayode, 1981).

Chief Executive Officers (CEOs) of 100 small to medium-sized manufacturing firms were contacted for participation in this study. Forty-seven CEOs, or high level executives designated by the CEOs, agreed to participate in the study. Each participant was provided with a copy of the questionnaire, directions for completion, and detailed definitions of the terms used on the questionnaire. The questionnaires were collected from each participant on a mutually agreeable date.

Due to the inherent difficulty in the postal, transportation, and communication systems in Nigeria, a nonprobability sample was used. An attempt was made to obtain a directory or any similar document that would have a listing of the manufacturing firms that fit in the defined population for random selection purposes. The only available directory was 7 years old, and the addresses and telephone numbers were not current. Also, it was extremely difficult to contact the firms by telephone. In situations where it is difficult to obtain a list of the total population for purposes of random selection, a nonprobability sample is the only alternative. In situations like this, one relies on the internal consistency of the data and their congruency with known facts about the variables being studied (Kidder and Judd, 1986). This limits the ability to generalize the results beyond the present sample.

Prior to data collection, scale reliability of the questionnaire items was examined using pilot data collected from seven doctoral students from Nigeria. The Cronbach Alphas ranged from 0.67 to 0.79. The reliability levels were sufficient for exploratory research (Nunnally, 1967). The Cronbach Alphas for the actual sample ranged from 0.67 to 0.88. In addition, the questionnaire was evaluated by three Nigerian executives and two researchers in the areas of international management and strategic management. Modifications were made based on their comments and suggestions.

Measures

Perceived environmental uncertainty (PEU)

The independent variable examined was perceived environmental uncertainty. PEU was measured in the same manner as Daft *et al.* (1988). They used three variables to measure PEU—the rate of change in the environment, degree of environmental complexity, and the degree to which the firm is dependent on the sector for important resources (importance). Each variable was measured using a five-point scale with a range from low (1) to high (5). PEU scores for each sector of the environment were computed using the following formula (Daft *et al.*, 1988):

$$\text{PEU} = \text{Importance}\ (\text{Rate of change} \times \text{Complexity})$$

I agree with Daft, Sormunem and Parks' argument that uncertainty, measured using rate of change and complexity alone, will not lead to scanning unless the environment sector is perceived as being important to the survival of the organization. PEU scores for the three task environment sectors and for the four remote environment sectors were averaged to obtain composite PEU scores for the task and remote environments.

Environmental scanning

This dependent variable was measured in a manner similar to Hambrick (1982). The frequency of sector scanning and the degree to which the executives made it a point to stay abreast of information in each sector (degree of interest) were used to measure scanning.

Scanning frequency was measured using a six-point scale adapted from Hambrick (1982). The scale range is never (0), yearly (1), quarterly (4), monthly (12), weekly (52), and daily (365). Frequency scores for the task and remote environments were obtained by averaging the frequency scores for the three task environment sectors and the four remote environment sectors. Scanning interest was measured using a five-point scale from low (1) to high (5). Interest scores for the task and remote environments were obtained by averaging the scores for the sectors in each of task and remote environment categories.

Information source utilization

This dependent variable was measured using external, internal, personal, and impersonal sources of information (Aguilar, 1967). The frequency of use of each source was measured using a six-point scale adapted from Hambrick (1982). The scale range is never (0), yearly (1), quarterly (2), monthly (12), weekly (52), and daily (365).

Analyses

The statistical techniques were selected in accordance with those used by Daft *et al.* (1988). One of the objectives of this study was to compare the results obtained with those of similar studies that have examined scanning activities of American manufacturing executives. The comparative analysis is based mainly on the results obtained in the Daft *et al.* study. They examined perceived environmental uncertainty and executive scanning characteristics of 50 CEOs of manufacturing firms.

The first hypothesis was examined using a paired samples t test. Since Daft *et al.* examined each sector of the environment individually in their analysis, I also examined the differences in the PEU scores for each of the seven sectors of the environment in the second hypothesis so as to facilitate comparison. The differences in the PEU scores of the seven sectors were examined using a one-way analysis of variance with repeated measures. This procedure allows the researcher to examine whether the mean for each variable is significantly different from the means of all the other variables in the set. Scheffe's multiple range test at a 0.05 significance level was used in order to adjust the level of significance for the multiple comparisons performed (Huck, Cormier, and Bounds, 1974). The third and fourth hypotheses were examined using Pearson's product moment correlation. A 0.05 level of significance was used in testing the hypotheses.

RESULTS

The PEU score for the task environment was significantly higher than the PEU score for the remote environment ($t = -4.23, p < 0.001$). This result supports the first hypothesis.

Differences in the PEU scores were also examined for each of the seven sectors of the environment. The F tests from the one way analysis of variance with repeated measures were examined for significance using Scheffe's multiple comparison procedure at the 0.05 level. The results displayed in Table 2 do not support Hypothesis 2. The customer/market sector has the highest perceived environment uncertainty score. This was followed by the economic and political/legal sectors. The differences in the means of the political/legal, economic, competitor/industry, customer/market, and sources of resources sectors were not significant. The PEU score for the socio-cultural sector of the environment was significantly lower than the PEU scores for all the other environment sectors, except for the technology sector. PEU scores for the technology sector were significantly lower than the PEU scores for the political/legal, economic, and competitor/industry sectors.

Hypothesis 3a is partially supported by the results displayed in Table 3. The correlation between PEU and scanning frequency scores for the economic, technology, socio-cultural, and competitor/industry sectors were positive and significant. However, the correlation coefficient for the political/legal, customer/market, and sources of resources sectors were not significant. Table 4 shows that the correlation between PEU and interest scores for all seven environment sectors were positive and significant. This supports Hypothesis 3b.

The fourth hypothesis examined the relationship between PEU scores and the sources of information utilized. The results displayed in Table 5 partially support part a of this hypothesis. The PEU score for the remote environment has a significant positive relationship with the frequency of use scores for external information sources, but the correlation coefficients for the PEU scores for the task environment sectors and external and internal sources of information were not significant.

Hypothesis 4b was not supported by the analysis (see Table 6). There was a significant positive correlation between PEU score for remote environment sectors and impersonal sources of information; but the correlation between PEU score for the task environment sectors was not significant for either personal nor impersonal sources of information.

Table 2. Multiple comparison tests of the perceived environmental uncertainty scores for the seven environment sectors

Environment		Weighted sector means	2	3	4	5	6	7
Remote								
1.	Political/ legal	69.08	ns[a]	**	**	ns	ns	ns
2.	Economic	73.13		**	**	ns	ns	ns
3.	Technology	38.36			ns	**	**	ns
4.	Socio-cultural	23.05				**	**	**
Task								
5.	Competitor/ industry	68.16					ns	ns
6.	Customer/ market	74.63						ns
7.	Sources of resources	52.92						

[a]not significant using Scheffe's multiple comparison procedure at 0.05 level. $^{**}p < 0.05$.

Table 3. Correlation coefficients for the perceived environmental uncertainty and scanning frequency scores for the seven environment sectors

	SPL[a]	SEC	ST	SSC	SCI	SCM	SSR
PEUPL[b]	0.0247	0.0659	(0.1606)	0.0706	(0.0607)	(0.2078)	0.1635
PEUEC	0.2397	0.3309*	0.2791	0.1779	0.2282	0.0007	0.1140
PEUT	0.1040	0.0289	0.3733*	0.2952	0.3791*	0.2371	(0.0291)
PEUSC	0.0237	0.0920	0.1027	0.3847*	0.1196	0.0344	(0.1619)
PEUCI	0.0208	0.0888	0.1069	0.1677	0.4070**	0.3115*	0.1291
PEUCM	(0.0298)	0.0324	0.0551	0.0558	0.3752*	0.2418	(0.0106)
PEUSR	0.0809	(0.0205)	0.1061	(0.1263)	0.1147	(0.0185)	0.1589

[a]SPL = Scanning political/legal; SEC = Scanning economic; ST = Scanning technology; SSC = Scanning socio-cultural; SCI = Scanning competitor/industry; SCM = Scanning customer/market; SSR = Scanning sources of resources.
[b]PEUPL = PEU political/legal; PEUEC = PEU economic; PEUT = PEU technology; PEUSC = PEU socio-cultural; PEUCI = PEU competitor/industry; PEUCM = PEU customer/market; PEUSR = PEU sources of resources. $^{*}p < 0.05$, $^{**}p < 0.01$.

DISCUSSION

The perceived environmental uncertainty (PEU) score for the task environment was significantly higher than the score for the remote environment. This finding is consistent with theory in the area of environment research. The task environment is more relevant to goal setting and goal attainment (Boulton *et al.*, 1982; Dill, 1958; Duncan, 1972; Lawrence and Lorsch, 1967; Thompson, 1967), and as such should display a higher level of perceived strategic uncertainty. The Nigerian executives perceived a higher level of the uncertainty in those sectors that have a direct impact on their firms' operations.

Daft *et al.* (1988) examined each sector of the environment separately and their conclusion, that the task environment sectors did not yield significantly higher PEU scores than the remote environment sectors, was confirmed in this study

Table 4. Correlation coefficients for the perceived environmental uncertainty and scanning interest scores for the seven environment sectors

	IPL[a]	IEC	IT	ISC	ICI	ICM	ISR
PEUPL[b]	0.6256**	0.1647	(0.0114)	0.2248	(0.0275)	(0.0781)	0.0333
PEUEC	0.3052*	0.3190*	0.4333**	0.3782*	0.1465	0.2004	0.1339
PEUT	(0.0923)	(0.0622)	0.5584**	0.1630	0.2156	0.1980	0.1493
PEUSC	0.2077	0.1445	0.3942*	0.4763**	0.0617	0.1642	(0.0423)
PEUCI	(0.0483)	0.1808	0.3913**	0.2127	0.4823**	0.4412**	0.1453
PEUCM	(0.0274)	0.1300	0.5121**	0.1954	0.4823**	0.3125*	0.1735
PEUSR	0.2345	0.2049	0.2364	(0.0135)	0.0855	(0.0864)	0.3637*

[a]IPL = Interest political/legal; IEC = Interest economic; IT = Interest technology; ISC = Interest socio-cultural; ICI = Interest competitor/industry; ICM = Interest customer/market; ISR = Interest sources of resources.
[b]see note on b in Table 3. *$p < 0.05$, **$p < 0.01$.

Table 5. Correlation between perceived environmental uncertainty scores for the remote and task environment sectors and the frequency of use scores for external and internal sources of information

	Correlation coefficient	
Environment sectors	External	Internal
PEU Remote	0.4416**	0.1295
PEU Task	0.2423	0.0080

*$p < 0.01$.

Table 6. Correlation between perceived environmental uncertainty scores for the remote and task environment sectors and the frequency of use scores for personal and impersonal sources of information

	Correlation coefficient	
Environment sectors	Personal	Impersonal
PEU Remote	0.2557	0.3760*
PEU Task	0.0669	0.1994

*$p < 0.05$.

when the sectors were examined individually. However, I feel that the use of a composite PEU score for the task and remote environments is more meaningful in examining the differences between these two subsets of the environment.

The order of the PEU scores for the seven sectors of the environment in this study differed from the order obtained in the Daft *et al.* study. In their study, the customer sector had the highest PEU score, followed by the economic and competitor sectors (see Table 7). For this sample of executives, the customer/market sector also had the highest PEU score, followed by the economic, political/legal, and competitor/industry sectors.

This finding is partially confirmed by the results of Flores (1972). He found that the economic sector had the greatest influence on planning in the Philippine firms he studied. The political sector, for the Daft *et al.* study, was ranked number five out of six sectors. The higher PEU score for the political sector for the Nigerian executives supports the assertion that the political environment of developing countries is highly unstable, thus creating a higher level of uncertainty for decision makers in these countries (Adegbite, 1986; Fubara, 1986; Mrema, 1987). To illustrate, Nigeria has undergone six successful coup d'etats, two failed coup d'etats, one civil war, two civilian governments, and six military regimes since her independence in 1960. She is currently under a military regime which is scheduled to transfer power to an elected civilian government in 1992.

Presently, Nigeria is undergoing a structural adjustment program (SAP). The purpose of SAP is to reduce the country's dependence on petroleum and to create a basis for sustainable noninflationary growth. Some of the executives in the sample indicated that the implementation of SAP has created a highly uncertain economic environment with fluctuating exchange rates and a highly devalued currency.

There was a significant positive correlation between PEU scores and scanning frequency

Table 7. A comparison of the ranking of environment sectors based on perceived environmental uncertainty scores for Nigerian and American executives

Daft, Sormunem and Parks (1988)	This study
1. Customer	1. Customer/market
2. Economic	2. Economic
3. Competitor	3. Political/legal
4. Technology	4. Competitor/ industry
5. Regulatory	5. Sources of resources
6. Socio-cultural	6. Technology
	7. Socio-cultural

for all the environment sectors, except the political/legal, customer/market, and sources of resources sectors. Daft *et al.* (1988) obtained similar results with the American sample. They found that perceived strategic uncertainty was a predictor of the frequency with which top executives scanned the sectors of the environment. The executives in their study scanned all sectors more frequently when strategic uncertainty was high.

Although the level of PEU was high for the political/legal sector, the executives may not scan as frequently because of the realization that they cannot influence occurrences in this sector of the environment. While American companies can lobby to influence government initiatives that have an impact on their operations, Nigerian executives cannot exercise the same right. Political and economic decisions are typically made unilaterally by the government, and with each new regime, the political and economic policies change.

A similar explanation can be put forth for the sources of resources sector. As indicated earlier, the ability of manufacturing operations in Nigeria to obtain important raw material inputs is highly dependent on government initiatives and legislation. These firms have been forced in recent years to seek alternate domestic sources for banned raw materials or to obtain imported raw materials with a highly devalued currency.

The absence of a significant correlation between perceived uncertainty and the scanning frequency for the customer/market sector was surprising. It may be that while the firms perceive a higher level of uncertainty in this sector of the environment, they may not scan the sector with equal rigor due to the structure of the manufacturing sector in Nigeria. The manufacturing firms with the largest market share are typically backed by substantial foreign investment and technical expertise, and they can easily dwarf indigenous manufacturers in competing for the customer.

The correlations between PEU and interest levels for all the environment sectors were positive and significant. The executives may not scan for information with a frequency commensurate with the level of PEU in the remote environment, but they may keep abreast of occurrences in these sectors in order to determine the impact of government regulations on business activities.

The results also show a significant positive correlation between perceived environment uncertainty score for the remote environment and the frequency of use scores for external and impersonal sources of information. However, neither the perceived environment uncertainty scores for the remote nor for the task environment was a predictor of the frequency of use of internal and personal sources of information. This receives only partial support from the Daft, Sormunem and Parks study. They found that the higher the level of perceived strategic uncertainty, the higher the use of personal vs. impersonal sources, and extenal vs. internal sources of information.

This result makes sense for the Nigerian sample. Information regarding the economic and political/legal sectors is usually obtained from impersonal sources external to the organization such as newspapers, radio, and television.

Government regulations that have significant impact on the operations of manufacturing firms, such as the banning of raw material importation and currency devaluation, are usually made unilaterally by the government and announced through the news media.

Implications

An area of interest in management research is the transferability of management theory and practices developed in western economies to other countries. The findings of Kiggundu *et al.* (1983) that managerial activities that involve how the organization relates to its environment were difficult to transfer from western economies to developing countries receives some support from this study.

Scanning activities involve the organization and its relationship to its environment. The results of this study indicate that the Nigerian executives in the sample differed in important ways from their American counterparts in their scanning behavior. The political sector of the environment was ranked higher in the level of perceived uncertainty by the Nigerian executives than by the American executives. The technology sector of the environment was ranked higher in perceived uncertainty by American executives than by their Nigerian counterparts.

This highlights the importance of the political and economic environment in the practice of management in developing countries. Developed nations are typically characterized by relatively stable political and economic environments. Managers in developing countries, however, are faced with highly unstable political and economic environments. Government policies are uncertain and unpredictable, and there are typically no lobbying provisions. Major decisions that affect the conduit of business are made unilaterally by the government for political reasons and oftentimes without adequate regard for the possible economic consequences. This makes the political/legal sector of the environment more salient for managers of firms operating in developing countries.

Directions for future research

Future research in this area should investigate environmental scanning activities in other developing countries. Differences between developing nations in relation to environmental scanning, and between developing and developed nations should be examined.

Research studies can be expanded to include both service and manufacturing organizations in industrialized and developing nations. Traditionally, scanning research has focused on the manufacturing sector. Hambrick's (1981) study is one of the few attempts that has been made to study scanning in the service sector of the economy. Differences and similarities in the scanning activities between the two sectors can be examined across nations.

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