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Abstract
In this paper, we examine the environmental scanning strategy of manufacturing companies in Southwestern Nigeria against the background that manufacturing companies in Nigeria exist in a challenging environment characterised by high import dependency, inappropriate policies, lack of transparent governance and weak industrial capabilities. Empirical data was collected with a questionnaire from a sample of 84 manufacturing firms in Southwestern Nigeria. We found that generally, companies in the industry actively engage in systematic gathering, analyses and assimilation of information about the business environment as strategic input into planning. The main objective of search was to obtain information required to initiate or support strategies for competing in the domestic market. Central among the factors determining the companies' level of intrusiveness into the environment are companies' capacity to interpret changes in the environment, available channels of information and quality of information.

Keywords: business environment; environmental scanning; environmental analysability; environmental uncertainty; manufacturing, strategy; technology; capabilities.

Introduction

Manufacturing component of total world trade is growing faster than the primary sector. In the decade between 1990 and 2000, total manufactured exports grew at an annual rate of 6.6%, outpacing primary goods exports. In 2000 alone, manufactured exports accounted for nearly 86% of total world exports, increasing by 2% since 1990 (UNIDO, 2002). As manufacturing

continues to outpace primary goods export in total world trade, the manufacturing industry in Nigeria is faced with a myriad of problems ranging from a harsh environment characterised by high import dependency, inappropriate policies, lack of transparent governance to low learning and innovation capabilities. In a report prepared by Tyler for the World Bank in 2002, 94% of manufacturing companies reported that infrastructure is their biggest problem (2.5 times more worrisome than finance), and 97% own generators. As a result of these, the nation is losing its competitive manufacturing edge and is becoming increasingly marginalised in the international industrial scene.

The challenge of interfacing with the environment, conditioned by the foregoing problems, in ways that provide new opportunities for sustainable profitability and growth has thus become significant for manufacturing firms in Nigeria. An important step in this continuous drive for survival is environmental scanning. Environmental scanning describes the process of gathering, analysing, and assimilating information about a company's external environment in order to support the company's strategic initiatives.

In this paper, we examine the level of interaction of manufacturing companies in Southwestern Nigeria with their business environment. This is done with a view to determining the important factors influencing the extent companies intrude into the business environment to search for new knowledge that shape or drive their competitive strategies. This is considered significant in the sense that nearly everything that we now know about organisational interactions with the environment, and the forces that shape these, has emanated from the developed country context. This paper fills a major gap in the strategy literature by shedding light on how and under what conditions do organisations interact with their environments in certain ways.

In the next section, we thoroughly examine the theories behind organisational behaviour relative to the environment. Section 3 relates the method we adopted to obtain the research results discussed in Section 4. The paper concludes in Section 5.

Review of the Literature

Organisational and management theorists have attempted severally to analyse the behaviour of organisations in terms of their interface with the environments in which they exist. The classical management theory had its root in Weber's (1947) ideal organisational form- bureaucracy advanced as the organisation's optimal response to the ordered and mechanistic view of the outside world. The Sociological systems theory championed by Durkheim (1938) has also been very influential in the principles of order and predictability as regards organisations and their environments. At the roots of the sociological systems thinking is the notion that social systems are made up of many mutually dependent elements (individuals) functioning in ways that contribute to the maintenance of the whole (society). Two features of this systemic view have been very dominant: (1) the idea that all social systems tend towards stability and equilibrium, and (2) the notion that organisations are open systems (Magalhaes, 2004).

The idea that all social systems tend toward stability and equilibrium was reflected in the application of the theory of cybernetics to organisation championed by Ashby (1945, 1952, and 1956) and Beer (1955/59, 1966). In cybernetics tradition, organisations are driven by attraction to a predetermined desired state, which is equilibrium adaptation to the environment. The state, therefore, which a given organisation comes to occupy, is determined by the nature of its environment (Stacey, 1996). The fundamental problem in this relation is how to keep an organisation at, or near to, some desired state of equilibrium. Cybernetics' answer to this problem is captured in Ashby's law of Requisite Variety. According to this law, the variety of

disturbances presented by the environment must be neutralised by a huge number of responses such that the outcome can match the one desirable state selected in advance that will fit the environment. This is achieved by employing a control system or regulator. An organisation will successfully adapt when the complexity and speed of the responses enabled by its regulator match the complexity and speed of the changes occurring in its environment. Thus, a system will remain stable if its regulator displays the same level of variety as the environment in which the control is to be exerted.

The open systems theory was adapted to organisations by Katz and Kahn (1966) from Von Bertalanfy's (1954, 1968) work in the biological sciences. The open systems approach builds on the principle that organisations, like living organisms, should be conceived as open to their environment and must achieve an appropriate relation with that environment if they are to survive. According to Morgan (1997), the open systems approach, at a pragmatic level, usually focuses on three key issues. First is the emphasis on the environment in which organisations exist with the implication that organisations must develop capabilities to scan and sense changes in the environment, bridge and manage vital boundaries and areas of interdependence, and develop appropriate operational and strategic responses. The second focus defines an organisation in terms of interrelated subsystems. The third focus attempts to establish congruencies between different systems identify potential dysfunctions and eliminate them. The development and long-term survival of any organisation, therefore, often depend on the ability of the organisation to realign aspects of its subsystems and modify its transformation processes (Cohen et al., 1995).

Another perspective using the open systems approach viewed the organisation as a communication and decision-making system. This approach to understanding the organisation originally put forward by Simon (1945; 1997) was based on the assumption that organisations

can never be perfectly rational because human cognitive capabilities are inherently very limited. Given this inadequacy, humans and organisations operate within conditions of "bounded rationality" settling for "good enough" decisions based on rules of thumb and limited search and information. In a similar vein, Galbraith (1973) argued that organisations can be conceived as information-processing networks and that the organisations' structure should be set in accordance with two basic variables: existing environmental uncertainty and information needed for decision making. Daft and Weick (1984) advanced the perspective that organisations are cognitive systems. They are "meaning systems". This perspective represents a departure from mechanical and organic views of organisations. Organisations are more than transformation processes or control systems. To survive, organisations must have mechanisms to interpret ambiguous events and to provide meaning and direction for participants. Thus, all outcomes in terms of organisation structure and design whether caused by the environment, technology or size depend on the interpretation of problems or opportunities by key decision-makers. Once interpretation occurs, the organisation can formulate a response. According to Kreitner et al. (2002) this interpretation process carried out at the strategic level leads to organisational learning and adaptation.

Theorists subscribing to a "natural selection" view of organisations have questioned the "adaptation" view (Betton and Dess, 1985; Ulrich and Barney, 1984; Blaschke, 2001). In their opinion, the idea that organisations can adapt to their environments ascribes too much flexibility and power to organisations and too little to the environment as a force in organisational survival. While the "natural selection" view presume that organisations and environments are separate phenomena and that organisations are existing in a state of struggle with their environments; the organisational ecology perspective sees organisations as existing as elements in a complex

ecosystem (Kreitner et al., (2002). To the organisational ecologist, organisations do not evolve by adapting to environmental changes or as a result of these changes the environment selects the organisations to survive. Rather, evolution of organisations is always evolution of a pattern of relations embracing organisations and their environments. Organisations and their environments are engaged in a pattern of co-creation, where each produces the other. In principle, therefore, organisations are able to influence the nature of their environments. They can play an active role in shaping their future especially when acting in concert with other organisations. Prahalad and Hamel (1990) gave support to the organisational ecology perspective. They established that successful managers do not merely match resources to the requirements of their environments, but they create requirements of the environment which they can then meet. They push to achieve stretching goals, and so continually renew and transform their organisations in a creative interaction with the environment.

The term business or external environment refers to forces and institutions outside the organisation that potentially can affect its performance (Robbins and Coulter, 2002). It is a broad term which encompasses any and all influences that are external to an organisation (Brooks and Weatherston, 1997). To Lawrence and Lorsch (1967), the external environment is not 'any and all forces out there'; it is rather a combination of three specific sub-environments called the market sub-environment, the technical-economic sub-environment, and the scientific sub-environment. For analytical purposes, Peace and Robinson (2000) categorised the external environment into three as:

(1) the remote environment consisting of global and domestic economic political, social and technological forces;
(2) the industry environment or competitive forces; and
(3) the operating environment comprising suppliers, customers and other actors.

In another view, Tavana (2002) summed up the external environment into two categories as transactional and contextual. The transactional environment includes factors that directly affect and are affected by an organisation's major operations. Some of these factors include risks associated with competitors, customers, creditors, suppliers, labour unions, trade associations, and special interest groups. The contextual environment includes mainly uncontrollable factors such as socio-cultural, technological, political, and legal benefits and risks. It is to be seen that Peace's and Robinson's (2000) and Tavana's (2002) typologies are overlapping. The transactional environment essentially encapsulates the industry and operating environments while the contextual environment is largely the same as the remote environment. However, the real world business environment according to Brooks and Wealtherston (1997) is not a compartment of distinct packet of forces; rather it is a complex array of interrelated forces combining to influence organisations often with far-reaching implications. The external environment affects not all organisations equally. What may prove to be a real threat for one organisation could be a wonderful opportunity for growth and profitability for another.

Effective scanning of the environment is seen as necessary to the successful alignment of competitive strategies with environmental requirements and the achievement of outstanding performance (Beal, 2000). Environmental scanning is the managerial activity of acquisition and use of information about events, trends and relationships in an organisation's external environment in order to lessen the randomness of information flowing into the organisation and provide early warnings of changing external conditions for managers (Aguilar, 1967; Hambrick 1981). The goal of environmental scanning is to alert decision makers to potentially significant external changes before they crystallise so that decision makers have sufficient lead-time to react to the changes. Coates (1985) identified four objectives of an environmental scanning system as:

(1) detecting scientific, technical, economic, social, and political trends and events important to the institution;

(2) defining the potential threats, opportunities, or changes for the institution implied by those trends and events;

(3) promoting a future orientation in the thinking of management and staff; and

(4) alerting management and staff to trends that are converging, diverging, speeding up, slowing down, or interacting.

These help managers lengthen their planning horizon, translate vague inklings of future opportunities or threats into clearer strategic issues, and think strategically about future developments in the surrounding environment (Ironside, 1995).

Environmental scanning can be conceptualised in a number of ways. Aguilar (1967) identified four types of scanning. Undirected viewing consists, for instance, of reading a variety of publications for no specific purpose other than to be informed. Conditional viewing consists of responding to this information by assessing its relevance to the organisation. Informal searching consists of actively seeking information but doing it in a relatively unstructured way. These activities are in contrast to formal searching which is a proactive mode of scanning entailing formal methodologies for obtaining information for specific purposes. Morrison et al. (1984) condensed Aguilar's four scanning types as either passive or active scanning. Passive scanning entails, for instance, reading journals and newspapers without systematically using the information as strategic information for planning thus missing many ideas that signal changes in the environment. Active scanning focuses attention on information resources that span the task environments as well as the macro environment as strategic information for planning. Another way of looking at scanning was described by Fahey et al. (1981). The authors classified environmental scanning as irregular, periodic, or continuous. Irregular systems are used on an ad hoc basis and tend to be crisis initiated. These systems are used when an organisation needs information for planning assumptions and conducts a scan for that purpose only. Periodic systems are used when the planners periodically updates a scan, perhaps in preparation for a new

planning cycle. Continuous systems use the active scanning mode of data collection to systematically inform the strategic planning function of the organisation. Ghoshal (1988) distinguished formal scanning; a system consisting of a special unit dedicated to scanning and interpreting the organisation's environment from informal scanning which is a system based on the daily scanning activities of individual managers. To Kiesler and Sproull (1982) scanning may be direct or automatic. Direct scanning has specific intentions and objectives, whereas automatic scanning is a less conscious perception of phenomena such as frequency and timing of events.

In addition to the capacity for scanning the macro-economic environment firms require another internal set of skills and experience to monitor and to react to the signals emanating from its remote and immediate environments. Broadly three types of technological capabilities (i.e., production, investment and linkage) of the firm have been identified in the literature. Production capabilities include the skills, knowledge and experience to operate a plant efficiently and to effect improvements to it and these comprise three broad types of technical/engineering functions namely: process, product and organizational. Investment-capabilities are the skills, knowledge and experience to identify, prepare, design, set up and commission a new industrial project (or an expansion of it). Last, linkage capabilities are defined as "…the capacity of forging co-operation between managers and workers within the firm, for securing co-operation between firms in the supply chain, and for crafting co-operative interfaces between firms and the wider institutional milieu, be it local, regional, or international" (Cooke and Morgan 2000). This last set of capabilities is as critical for micro as well as for the macro economic monitoring.

The concept of technological capabilities (TC) received wide treatment in the literature from the mid-1980s through and early 1990s. Westphal, Kim and Dahlman (1985) characterized TC as 'the ability to make effective use of technological knowledge in production, investment and innovation [p. 171]'. Dahlman, Ross-Larson et al, (1987) conceived TC as the ways to use existing technology to produce more efficiently and to use the experience gained in production and investment to adapt and improve the technology in use. Lall (1992) built on Dahlman and Westphal (1982), Katz (1984) and Dahlman, Ross-Larson et al. (1987) by re-conceptualizing TC

to include the important aspect of technological and organizational learning. Defined as such, TC refers to the capabilities required to execute all technical functions underlying the setting up, operating, improving, expanding and modernizing the firm's production base.

Bell and Pavitt (1993, 1995) made further additions to the concept by differentiating between production capacity and technological capabilities. The former is taken as the 'resources used to produce industrial goods at given levels of efficiency and given input combinations', and the latter as 'resources needed to generate and manage technical change, including skills, knowledge and experience, and institutional structures and linkages'.

TCs tend to grow in an increasing order of complexity with learning creating feedback loops. What is evident is that building these capabilities entail making explicit investments in all sorts of resources which some firms may not achieve.

However, success by firm requires more than technical mastery and includes organizational capabilities that underpin the process of technological capabilities acquisition. Organization capabilities are firm-specific, and they allow knowledge to be accumulated through learning hence integration of the different functions within the firm is a vital feature for the building of capabilities. Furthermore, the fit between the organization and the institutional environment determines the firm's perception of technological opportunities (Lundvall 1988).

Increasingly there has emerged detailed and systematic study and analysis of technological capabilities studies in developing countries and with this, comes a shift from the overly neo-classical economics of the 1970s (Oyelaran-Oyeyinka, 2006). A shift from a focus on technology transfer from developed to developing countries (Cooper 1973) to resource-based and capability-based studies (Bell and Pavitt, 1995 and Oyelaran-Oyeyinka et al, 1996). The key lessons arising from the various case studies are that the technological path of a given industrial plant is 'evolutionary' and has strong elements of time as well as being path-dependent. Of direct relevance to the issue of environmental uncertainty and complexity is the need for building

differential capacities and capabilities in firms that is well articulated in a recent multi-country study, Oyelaran-Oyeyinka and Rasiah (2009).

Methodology

The Study Area

Southwestern Nigeria hosts about eighty percent of active industrial firms in Nigeria. More than fifty percent of the rest located in other regions of the country have their corporate headquarters in the Southwest. Thus, the greater percentage of industrial production in Nigeria and decisions affecting industrial production and competition happen in the Southwest. Manufacturing companies in the Southwest represent all the sectors of the industry operating in Nigeria. Presently all of textile manufacturing activities take place in the Southwest and about ninety percent of food, beverage and tobacco (FBT) manufacturing activities are in the Southwest. The FTB is the single largest industrial sector in the country. A study therefore of the industrial and manufacturing technology development, innovation, competitive behaviour and strategy in Nigeria can be safely concluded by a study of the manufacturing industry in the Southwest. Studying the environmental scanning strategy of manufacturing companies in Southwestern Nigeria provide a window into the level of competition in the manufacturing industry in Nigeria as well as give an indication as to the sophistication of the industry in terms of competitive strategy.

Study Sample

This paper is based on a sample of 84 manufacturing companies drawn from Southwestern Nigeria on the four dimensions of size (small, medium and large scale); ownership structure (wholly foreign, wholly local, combined local and foreign); market orientation

(domestic or export market focused); and sector of industry. Companies were drawn randomly from 5 sectors: automobile and tyre (ATT); food, beverage and tobacco (FBT); pharmaceutical, chemical and paints (PCP); building materials, industrial and domestic goods (BIP) and breweries (BRW).

Variables and Data

Determination of the scanning strategy of the companies was based on Choo's (2001) elaboration of Daft and Weick's (1983 & 1984) model of organisational scanning. This involves two dimensions of environmental scanning: information seeking and organisational learning. On these two dimensions, Choo classified scanning strategies as undirected viewing, conditioned viewing, enacting, and searching. The object of the paper is to determine the factors influencing the level of an organisation's intrusiveness into the environment to gather, analyse and interpret information about the environment, as well as to determine if these factors are in turn influenced by an organisation's scale of operation, ownership structure, sector of industry and competition faced. We proceed from the premise that the level of involvement of an organisation with the environment will, among others factors, be influenced by how broad or narrow is the organisation's search goal, capacity of the organisation to interpret or make sense out of environmental information, size of resources allocated to scanning, the organisation's perception of its environment's analysability and uncertainty, and past experience with the environment. Other considerations include the channels that provide the company with information about the environment, and quality of information measured in terms of availability, affordability, detail, timeliness and accuracy. Relevant data on these variables were collected through structured questionnaire designed for the purpose. Data was collected during the last seven months of 2006.

Results and Discussion

Of the eighty-two companies that made valid returns to this investigation, as shown in Figure 1, about 93% employed the active mode by systematically collecting and analysing data about the environment as a strategic input for planning. The rest 7% employed the passive mode. That is, they gather information about their environment without systematically using such information as strategic input for planning. The level of intrusiveness into the environment to gather and analyse information was generally high without regard to scale of operation or ownership structure. While all large scale companies in the survey employed the active mode, only about 85% of medium scale companies adopted a systematic and structured approach to environmental scanning. In terms of ownership structure, no less than 92% of companies with foreign ownership participation as well as those wholly locally owned employed the active mode. Manufacturing companies, as shown by these results, are in tune with their environments and incorporates the requirements of the environment into planning. Companies with foreign ownership participation were not found to scan the environment more than wholly locally owned companies suggesting that capability to gather, analyse and interpret information about the environment is equally high in both companies with foreign ownership participation and wholly locally owned manufacturing companies.

-Insert Figure 1 approximately here-

Companies, according to Daft and Weick (1984) might seek to find the correct interpretation of the environment through systematic information gathering and analysis if they believe the environment is analysable. In this regard Figure 2 presents a cross-analysis of perceived environmental analysability and level of organisational intrusiveness, as well as categorised companies into different scanning modes using Choo (2001) classification. Seventy-

nine companies were analysed in this way. About 93% of the companies that perceived the environment as analysable were actively involved in environmental scanning while 7% were passive. All the five companies that perceived the environment as unanalysable were active in environmental scanning. Thus, the decision to intrude actively or passively into the environment appeared not to be associated with perception of companies about their environment's analysability. In support of this, the correlation between perceived environmental analysability and organisational intrusiveness was insignificant at the 5% level of confidence.

-Insert Figure 2 approximately here-

The outcomes obtained above raised the question as to what factors influence the level of companies' intrusiveness into the environment. Correlations analyses conducted at the 5% level (Table 1) found organisational intrusiveness (OGI) to be positively and significantly associated with capacity of companies to interpret changes in the environment (CPT), size of resources allocated to scanning (RAS), scope of company search goals (SCG), information quality (IFQ), and information channels (IFC). The correlations are summarised in expressions (i) to (v) below. (cw) is used to denote "correlated with"

OGI = (cw) {CPT, RAS, SCG, IFQ, IFC} ………. (i)

CPT = (cw) {OGI, RAS, SCG, IFQ, RSI} ………. (ii)

RAS = (cw) {OGI, CPT, SCG, IFQ, PEU} ……… (iii)

SCG = (cw) {OGI, CPT, RAS, IFQ, PEU} ……… (iv)

IFQ = (cw) {OGI, CPT, RAS, SCG, PEU} ………. (v)

-Insert Table 1 approximately here-

Though perceived environmental uncertainty (PEU) was not found to be correlated with OGI, it is however significantly associated with RAS, SCG, and IFQ which are strongly associated with OGI. Organisational intrusiveness (OGI) may then be said to be influenced by capacity to interpret the environment, size of resources allocated to scanning, scope of search goals, quality of information, information channels, and perceived environmental uncertainty as expressed in (vi) below. (inf) is used to denote "influenced by"

OGI = inf {CPT, RAS, SCG, IFQ, IFC, PEU} ……….. (vi)

When viewed in terms of resources allocated to scanning, the major influence is the capacity of an organisation to interpret the environment. Thus, resources allocated to scanning vary proportionately with size of capacity to interpret changes in the environment. Generally, size of resources allocated to scanning across all the scale of operation, ownership structure and industry sector was rated as average, with only the PCP sector having above average rating in resources allocated to scanning. This however does not discount the finding that companies were actively engaged in environmental scanning. The claim that companies were actively engaged in environmental scanning with only a resource size best described as average could be supported by other evidence from the survey. First, there was no significant relationship between perceived environmental analysability and resources allocated to scanning. Secondly, the resources to adequately explore the environment may not be substantial as factors such as technology and export market requirements that may require costly external resources to monitor were rarely monitored. Thirdly, large capacity on the part of companies to interpret changes in their environment makes the use of costly external resources unnecessary. The fourth reason is the very high preference for use of company own resources for scanning the environment. All of the companies surveyed were shown have very high preference for use of internal resources in scanning the environment. About 85 % of the companies indicated that they use external

resources to a limited extent in addition to company's internal resources. Generally, companies were found to use internal resources twice as much as external resources in environmental scanning. Lastly, where appropriate, affordable, and timely information is available in the required detail as was the case in the manufacturing environment of Southwestern Nigeria, large amount of resources may not be required to intrude far into the environment. Whereas, size of resources allocated to environmental scanning may not be a good indicator of the level of intrusiveness of companies into the environment, the capacity to interpret the environment appeared to provide a better indication. Resources allocated to environmental scanning increases with capacity to interpret the environment, and as capacity to interpret the environment increases companies venture more into the environment to collect and analyse data as strategic input for planning.

When disaggregated into the four dimensions of scale, ownership structure, market orientation and industry sector, companies differ markedly in their capacity to interpret the environment, size of resources allocated to scanning, search goals and level of intrusiveness. Hypotheses tested to the effect that there are no differences among companies in relation these dimensions were all rejected at 5% level of significance. In terms of the size of companies organisational intrusiveness was found to be higher in medium scale companies than large scale companies. Companies in PCP recorded the highest level of organisational intrusiveness and were followed closely by companies in the FBT and BIP sectors. With respect to ownership structure, level of organisational intrusiveness was found to be at comparable level in both wholly Nigerian owned companies and companies with combined foreign and local ownership. Outward orientation of companies appeared not to influence the level of organisational intrusiveness, as companies that export part or all of their output did not record higher level of

environmental scanning than other companies. This may be aptly explained by the insignificant proportion of exports to total output in the industry. However, the nature of competition faced by companies in the domestic market appeared to bear on level of organisational intrusiveness as companies facing competition from imported products recorded higher level of organisational intrusiveness than companies competing only with locally produced goods.

Rankings obtained as percentage frequency of most often used channels of information produced the result in depicted in Figure 3. The result indicated that companies do not limit themselves to one particular channel but extensively use all of the six channels except for irregular contact and casual information that attracted a relatively limited use. Information seeking is for formal, often quantitative data through surveys, polls and market research (95%); channels created by the company such as feedback from customers (94%); in-house brain storming (91%), and external databases (87%). Gathering, analysing and interpreting of information from these channels were done predominantly with internal resources with external resources being used to a lesser degree. For an industry with very low export propensity as the Nigerian manufacturing industry, the information needed to pursue a chosen competitive strategy may be within the capability of the companies to gather process and interpret.

-Insert Figure 3 approximately here-

The objective of search for information about the business environment was addressed by the research. About 94% of the companies indicated that the basic objective of search for knowledge is to reduce uncertainty and to test the appropriateness of actions already taken as well as update existing knowledge. When combined with the search goal or scope of knowledge search two categories emerges that are consistent with an institutional theory perspective. The

first category relates to a path-dependent approach to scanning in which companies search for solutions to problems in familiar areas (local search) and try to build on what they already know (Gavetti and Levinthal, 2000; Rosenkopf and Nerkar, 2001). In this case the search goal is focused on small numbers of well defined areas of interest. This feature was exhibited by 50% of our respondents. Gavetti and Levinthal (2000) argued that the recognition by companies that innumerable options exist in the environment and their limited cognitive capacity to understand or explore them all, confines their search to those locations that are similar in terms of payoffs and processes. In the second category, the need to improve chances for survival and or to develop solution to long-run problems drive companies to expand their search range by looking into new and unfamiliar locations (global search). Global search also attempt to build on what is already known as companies search for knowledge they can easily map onto their existing knowledge base (Pei and Reneau, 1990). Search goals in this case are broad and detailed. About 48% of respondents exhibit this feature. Although the manufacturing companies studied are divided in almost equal proportion between local and global search, it is expected that knowledge search will increasingly become global as the number of components in the environment increases. Importantly, shift in corporate culture of companies toward international orientation will increase preference for global search. Entrepreneurial companies seeking a unique and distinct identity as well as mature companies in close proximity to their competitors will emphasise global search (Lucas and dt ogilvie, 2005).

Conclusions and Implications

Given the low export propensity of manufacturing companies in Southwestern Nigeria, companies focus on producing low technology products for a huge domestic market. Environmental scanning therefore is to shape and support strategies for domestic competition. As

the investment climate becomes more favourable and investors respond to incentives, the number of components in the system will increase making the environment more complex. In this situation, the depth and sophistication of environmental scanning will correspondingly increase giving rise to increased allocation of resources to environmental scanning and greater use of external resources in scanning.

Generally, it may be posited from this research that manufacturing companies in Southwestern Nigeria actively intrude into the environment for information to support or shape strategy. The degree of environmental intrusiveness is influenced by the companies' own capacity to interpret changes in the environment, the quality of information on the environment, information search goals, the channels that provide information, and size of resources for environmental scanning. Companies tend to intrude more into the environment and allocate more resources to scanning as capacity to interpret changes in the environment increases.

The evidences presented in this paper are from a small sample in the manufacturing sector in one developing country. Future studies may consider larger samples from a similar context or take similar samples from different contexts. Notwithstanding, the most important implications of our results are as follows:

(1) firm-level strategies respond to the quality of information gathered from the environment
(2) the quality of information gathered from the environment will depend on how much resources is devoted to scanning, the breadth of information sources used and the internal capability of the firm to interpret the information

Thus, companies would be well advised to use several sources of information, commit reasonable amounts of resources to scanning and invest in learning which (intuitively, though) would depend on the quality of leadership and staff.

Table 1: Correlation matrix of the factors influencing organisational intrusiveness (OGI)

	1	2	3	4	5	6	7	8	9	10
PEU	-									
PEA	-.101									
OGI	.036	-.068								
CPT	.118	.063	.328**							
RAS	.425**	-.172	.383**	.362**						
SCG	.325**	.034	.348**	.316**	.565**					
IFQ	.361**	-.011	.379**	.243*	.519**	.354**				
IFC	-.068	-.106	.366**	.192	-.007	.136	.158			
PEE	-.032	-.085	.021	.050	.047	.007	.091	.164		
RSI	-.167	.183	.055	.372*	.049	.018	.165	.283	.000	
RSE	-.286	-.230	.152	.193	.087	.109	-.121	.221	.298	.107

NOTE:

**: correlation is significant at the .01 level (2-tailed)

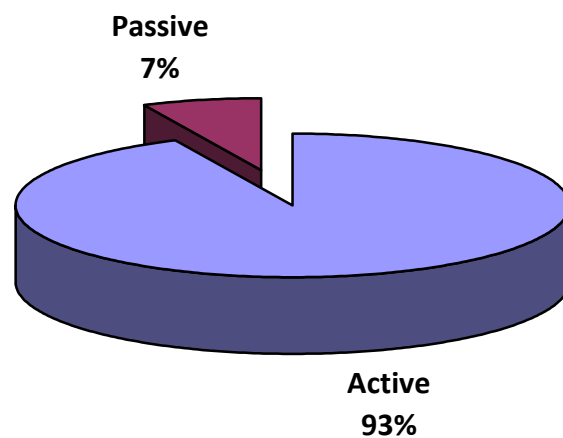*: correlation is significant at the .05 level (2-tailed)

Figure 1: Level of companies' intrusiveness into the environment

	Active	Passive
Analysable	Searching 69 (93%)	Conditional viewing 5(7%)
Unanalysable	Enacting 5(100%)	Undirected viewing 0(0%)

Assumption about Environment Analysability

Figure 2: Perceived environmental analysability and level of organisational intrusiveness

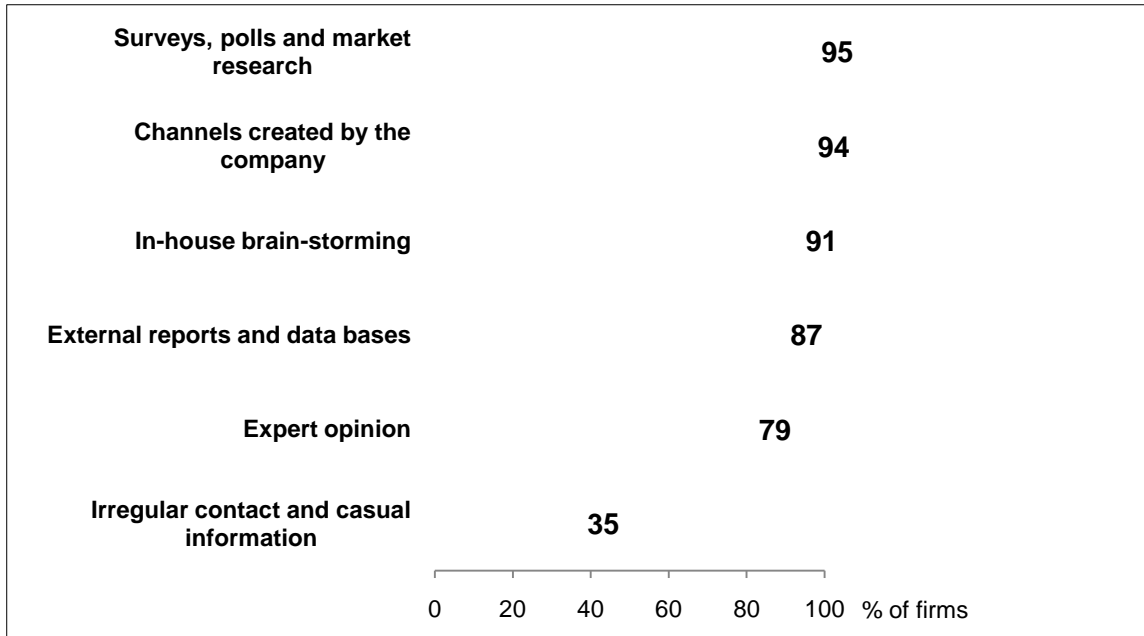|					
Surveys, polls and market research					95
Channels created by the company					94
In-house brain-storming					91
External reports and data bases				87	
Expert opinion				79	
Irregular contact and casual information		35			
	0	20	40	60	80	100	% of firms

Figure 3: Frequency of use of channels of information by companies for environmental scanning

Biographical Notes

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