Competitive intelligence and competitive advantage in pharmaceutical firms in developing economies: A review of Lagos State, Nigeria

Ngboawaji Daniel Nte[*], Kenneth Nduka Omede[*], Bribena Kelvin Enokie[**], Onyeka Bienose[***]

[*]*Novena University, Nigeria*
[**]*Niger Delta University, Nigeria*
[***]*Global Intelligence, Peace and Security Institute, Nigeria*

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Corresponding author:
ngbodante@gmail.com

Abstract

Competitive intelligence has remained a significant intervening variable on competitive advantage in the business world as part of survival and expansion. This reality exists in both the advanced and developing economies of the world. This study therefore examines the influence of competitive intelligence on competitive advantage of pharmaceutical firms in Lagos State, Nigeria. To achieve this objective, four hypotheses were formulated to establish whether a relationship existed between the two variables i.e. competitive intelligence and competitive advantage. The study adopted survey research design; data were obtained from structured questionnaire and analyzed using the one sample T- Test statistic. The result of the analysis revealed that a significant relationship existed between competitive intelligence and competitive advantage in pharmaceutical firms. Based on the findings, it was concluded that the role of competitive Intelligence on competitive advantage is to provide strategic information that will guide pharmaceutical firms in the task of improved marketing innovations to meet the need of the customers. Among other things the study recommended that for pharmaceutical firms to gain competitive advantage and increase their performance, they should leverage on useful information gathered in their environment to engage not only in product development but also in constantly making relevant innovations/modifications to their existing marketing strategies.

Keywords: Competitive Intelligence, Competitive Advantage, Product Development, Pharmaceutical Firms, Lagos, Nigeria.

1. Introduction

Organizations are struggling to survive in today's competitive business world. The need for these firms to become and remain creative, innovative and competitive in such dynamic circumstances cannot therefore be overemphasised and remains a global economic reality. Within the context of the aforesaid, it is, however axiomatic that competitiveness is not a natural property of an organization. This predicated on the fact that becoming and remaining competitive requires a conscious design for competitive advantage (Dean 1995).

There is no gainsaying the fact that modern business environment has become increasingly dynamic and constantly remain a flux in nature and in characters. This is largely due to uncertainty and unprecedented happenings occasioned by fierce competition with shorter product life cycles, and dynamic requirement of customers in terms of price, specifications, quality, changing marketing intermediaries and delivery (Ganguly, 2009). The trend has been strengthened through fundamental developments in communication and information technologies. The consequences of these activities and host of others are an increasing need and pressure for efficiency, productivity and competitiveness in organisations. For an organization to survive and remain competitive in such an aggressive environment, a better understanding and knowledge of the competitive forces that reshape the behaviour of the environment is imperative. Karim (2011) agrees that knowledge is the main source of competitive advantage. Organisations are using information to expand and maintain competitive advantage in the current information age in which knowledge is power (Haag, et al, 2007). Ishikawa and Nakagawa (2013) emphasize that those organisations that can understand their environment, their competitors and establish competitive management strategies will win in this rapidly globalized information society. Thus, having access to information and knowledge of the environment, and application of the intelligent information are essential elements for organisational survival. Competitive intelligence is the acquisition and use of knowledge and information about competitors, customers and suppliers to support decision making process that will enhance competitiveness of the organization (Anica and Cucui, 2009).

Information and reliable data form the bedrock of any management decision. They also form the basis for all the diagnostic and prognostic efforts of managers. From a marketing stand point, problems can only be anticipated identified, analyzed and resolved or prevented if accurate, reliable and relevant information can be obtained promptly from both internal and external sources. This overriding importance of marketing information is so obvious that every trained marketing manager or executive makes deliberate and sustained efforts to generate, analyzed and use reliable marketing related information (lgbaekernen 2014).

Competitive intelligence involves legal and ethical methods of collecting and analyzing environmental data and information relating to competitors, customers, suppliers, industry and market trends and future behavioural patterns for improved strategic decisions and actions (Fleisher, 2008). Du Toit (2009) argued that Competitive intelligence is conceptualized as a process of monitoring the competitive environment, identifying opportunities and threats in the industry with the aim of providing actionable intelligence

that will result to competitive advantage. Efficient Competitive intelligence activities can help an organisation to assess its strengths and weaknesses in relation to its competitors, and consequently plan ahead of competitors' moves (Peltoniemi & Vuori 2008). By analysing the capabilities, vulnerabilities, intentions and moves of competitors. Competitive intelligence allows an enterprise to anticipate market developments proactively rather than merely react to them. This in turn enables the enterprise to remain competitive by improving its strategic decisions and performing better than its competitors (Johns & Van Doren 2010). The marketing environment is changing at an accelerating rate, so the need for real time market intelligence and information had never been more pressing. The shifts are dramatic, from local to national and to global marketing, from buyers needs to buyers wants, from price to non-price competition. As companies expand their geographical market coverage, the managers need more information quickly: as incomes improves buyer become more selective in their choices of goods and services. To predict buyer's responses to different features, styles and other attributes, seller must turn to marketing intelligence. As sellers increase their use of branding, product differentiation, advertising and sales promotion, they equally require information on the effectiveness of this marketing tools (Neisbitt, 2001).

Competitive intelligence supports competitive advantage and better organization performance by permitting product and service innovation, market segmentation and new market development (Porter, 1980). Product and service innovation process cannot be successful without information regarding the needs and requirements of customers whom the innovated product or service will serve. Such information is crucial in determining the nature of the new product and service that will provide a greater value than the one provided in the past and the one provided by competitors. Organisation that fails to modify its products or services to suit current and prospective consumers' taste may be surpassed in terms of market demand and sales by competitors who identify such need to constantly apply changes that improve their products and make them current and relevant in the market. Organisations can use Competitive intelligence for such reasons as assessing a competitor's strategies, defining the customers' requirement, discovering and evaluating trends in the industry or identifying emerging new opportunities in the marketplace and accordingly offered innovative products and services to that effect (Gabber, 2007).

A central problem for managers today is the management of change and complexity arising from the organization's interaction with the turbulent external marketing environment. However, it is imperative for managers today, to be profoundly sensitive to on-going changes in their environment. It is essential that marketing managers, marketing executives, marketing research officers and other employees of an organization gain good understanding of how the marketing environment is changing. An alertness and sensitivity to the environment is very essential ingredient of business survival and longevity, because of the firm's dependence on it for resources inputs and services output (Saayrnan, 2008).

The practice of Competitive intelligence has become more critical in pharmaceutical industry as competitive intensity in the industry has increased owing to complex technology, product availability and variety, strict regulations, and consumer sophistication. This industry is characterized by long development cycle and high expenditure in product development. Hence, any firm that produces new drug needs time to recover their investments before generic drugs enter into the market. More specifically, the pharmaceutical industry is highly

complex since it depends on Research & Development (R&D) for survival. The cost of the R&D in this sector is huge and the risk of "no success" is high. However, the successful development of a new drug can generate abnormal profit for a period. Thus, pharmaceutical firms must devote greater attention in obtaining information about customers, products, competitors and the environment for effective strategic decisions (Ettorre, 1995). Without the Competitive intelligence information, a pharmaceutical firm may miss market opportunities, ignore competitive threats, or produce products that fail to add value to consumers.

Industries today are experiencing an increasing competitive environment created by globalization, advanced technology, social-economic, and marketing dynamics. Instead of competitive intelligence to increase yield, robust and virile economic productivity, the reverse is the case as it lower level of activities in organization, hence a negative relationship exists between two or more same productive firms that lead managers to adapt strategies, practice that they feel will facilitates the optimal positioning and performances of the firms competitiveness, hence indulge in clandestine industrial espionage.

Competitive intelligence ought to be a problem-solving process that involves information gathering and sharing, analysis and interpretation and speculative consideration of future developments patterns, risk and opportunities through the existence of human judgment.

It can as well be viewed both as a process and as a product. As a process, it is the set of legal and ethical methods for collection, development, analyzing and disseminating actionable intelligence pertaining the competitors, suppliers, customers, the organization itself and business environment that can affect a firm's plans decision and operation for optimal improvement and effective customers collaboration, in order to keep a zero- some-game i.e. me-win-game, than using sinister in its end, hence the competitive environment in which industries operate makes it difficult for them to raise their level of performance and maintain a sustained competitive advantage, more so, for firm to compete effectively in today's environment that is in a state of flux and acrimony, there is need for advanced competitive opportunities, threats and industrial espionage and spy stuff especially in Nigeria pharmaceutical industries.

The Nigeria pharmaceutical industries have been enmeshed in a lot of unhealthy medical conundrum as a result of industrial espionage, spy stuff, monitoring direct competitors behaviour and analysis of competitors information either in the form of counterfeiting, swapping, re-coding of products e.g. Panadol, Paracetamol, Bonadol etc also Aspirin, Vasoprine, Lisinoprine etc. in the name of competitive intelligence. And these incidents of competitive intelligence have occurred with high rate of attacks, infiltration and fatalities that have been rampant and pervasive that if not checked might lead to unprecedented situation that public may loss pharmaceutical public legitimacy and crisis in the health sector.

Interestingly, a great number of measures have been advanced to ameliorate this high level of industrial espionage and spy stuff with no or mixed results, consequent upon this, threat to health sector and human corporate existence. It is on these backgrounds that this research is conceived that is geared towards providing effective solution to the helplessness nature of competitive intelligence in pharmaceutical sector.

2. Objectives of the study

The broad objective of this study was to access and examine the nature of the relationship between competitive intelligence and competitive advantage in pharmaceutical firms while the specific objectives of the study are stated inter-alia:

1. To determine if competitive intelligence practice influences competitive advantage in Pharmaceutical firms.
2. To evaluate if competitive intelligence affect productivity in Pharmaceutical firms.
3. To ascertain if there are benefits derivable from competitive intelligence.
4. To establish the challenges faced by Pharmaceutical firms in applying competitive intelligence.

3. Research questions

The under-listed research questions were raised in an attempt to achieve the objectives stated above.

1. How does competitive intelligence influence competitive advantage in Pharmaceutical firms?
2. To what extent does competitive intelligence affect the productivity of Pharmaceutical firms?
3. What are the benefits derivable from competitive intelligence?
4. In applying competitive intelligence, what are the challenges faced by pharmaceutical firms.

4. Research hypotheses

The following research hypotheses were formulated for the study.

H_0: Competitive intelligence does not significantly influence competitive advantage in Pharmaceutical firms.

H_1: Competitive intelligence does significantly influence competitive advantage Pharmaceutical firms.

H_0: Competitive intelligence does not significantly affect the productivity of Pharmaceutical firms.

H_1: Competitive intelligence does significantly affect the productivity of Pharmaceutical firms.

H_0: There are no significant benefits derivable from competitive intelligence practice to guarantee competitive advantage in Pharmaceutical firms

H_1: There are significant benefits accruable from competitive intelligence practice to guarantee competitive advantage in Pharmaceutical firms.

H_o: There are no significant challenges faced by Pharmaceutical firms when applying competitive intelligence practice.

H_1: There are significant challenge faced by Pharmaceutical firms when applying competitive intelligence practice.

5. Competitive forces theory of organization

One of the competitive forces theories of the organization is the five forces analysis developed by Porter (2008) as a framework to analyse level of competition within an industry

and business strategy development. The theory which was drawn upon industrial organization and economics derived the five forces that determine the competitive intensity and therefore attractiveness of a market. The theory described attractiveness to mean the overall profitability and argued that unattractive industry is one in which the combination of these five forces act to drive down overall profit. The theory emphasized that a very unattractive industry approaches pure competition in which available profits for all organizations are driven to normal profit.

Porter in his submission referred to these forces as the micro environment in contrast to a more general term of macro-environment. They consist of those forces close to an organization that affect its ability to serve its customers and make a profit. A change in any of the forces normally requires a business unit to re-assess the market place given the overall change in industry competitive intelligence situation. The overall industry attractiveness does not imply that every organization in the industry will return the same profitability.

Organizations are able to apply their core competencies, business intelligence network to achieve a profit above the industry average. A clear example of this is the airline industry. As an industry, profitability is low and yet individual companies applying unique business models have been able to make a return in excess of the industry average.

Porter's five forces include- three forces from 'horizontal' competition: the threat of substitute products or services, the threat of established rivals, and the threat of new entrants and two forces from 'vertical' competition: the bargaining power of suppliers and the bargaining power of customers.

Porter developed his Five Forces analysis in reaction to the then-popular SWOT analysis, which he found not rigorous and ad hoc. Porter's five forces theory is based on the Structure and conduct of performance paradigm in industrial organisational economics. It has been applied to a diverse range of problems, helping businesses to increase performance and becoming more profitable to helping governments stabilize industries. Other Porter strategic frameworks include the value chain and the generic strategies

6. Theory of performance

Theory of performance by Elger (2007) was initiated to develop and relate six foundational concepts, to form a framework that can be used to explain performance improvements. The theory states that for organisation to perform, is to produce valued results. According to the theory, a performer can be individual or group of people engaging in a collaborative effort. The development of performance is a journey and the level of performance described location in the journey. Organisation that craves for improved performance must first seek information and generate competitive intelligence on those organisation variables that are rationally related to performance. The theorist submits that current level of performance depends on six components which include level of knowledge, level of skills, level of identity, personal factors and fixed factors. For an organisation to achieve effective performance there must be a performer's mind set, immersion is an enriching environment and engagement in reflective practice for sustainable and effective organisation performance. The theory of performance has a high value for organisations that engage in the act of competitive intelligence that brings about an increased organisational performance.

According to the Elger, worthy accomplishments are produced from high level performance. The theory of performance is very useful in exploring a manager who advances in his level of achievements. As a manager advances level of performances, he is able to organise people and resources more effectively and to get higher quality results in a shorter time. Performance theory preaches that organisation that attains a higher level of performance produces results such as, increase in quality of products and services, cost decrease, increase in capability, increase in knowledge, increase in skill, increase in identity, and motivation. The theory reaffirms that the level of performance of an organization is largely dependent on the components as identified.

According to the theory, many factors affect performance, some are immutable, and performer, while three other factors that can be varied are;

Performer's set, Immersion, Reflective practice: Performer's mind set: Performer's mind set includes actions that engage positive emotions. Examples include setting challenging goals, allowing failure as a natural part of attaining high performance, and providing conditions in which the performer feels a right amount of safety.

Immersion: Immersion in a physical, social, and intellectual environment can elevate performance and stimulate personal as well as professional development. Elements include social interactions, disciplinary knowledge, active learning, emotions (both positive and negative), and spiritual alignment. The section on creating quality learning environments outlines strategies for fostering immersion.

Reflective practice: Reflective practice involves actions that help people pay attention to and learn from experiences. Examples include observing the present level of performance, noting accomplishments, analysing strengths and areas for improvements, analysing and developing identity, and improving levels of knowledge. The section on Assessment offers a variety of strategies for cultivating reflective practice. As advocated by Harvard's Project Zero, performance is closely Zero; performance is closely related to learning-for understanding Wiske (1998). Therefore, building performance capabilities is rightfully a sensitive process. When people learn and grow, they are empowered to create results that make a difference.

7. Empirical review

Ahmad et al (2014) examined how competitive intelligence serves as a tool through which organisation can gain competitive advantage and compete against their competitors in Pakistan. In the research, competitive intelligence was diffused into sub- variables to include, market opportunities, competitor risks, competitor's threats, technological intelligence, technical intelligence and strategic intelligence. The study was to find out if competitive intelligence is being used by the organisations in Pakistan and to know the extent to which it has been used. A statistical model of T-test was used to analyze the data collected for the study. The result of the study revealed that all sub- variables examined in the study are significantly used by the organisations in Pakistan to make their market effective. The study upheld that competitive intelligence is important to organisations to make their marketing effective for a business.

Oyedijo (2012) carried out a study on the relationship between strategic agility and competitive performance in the Nigeria's telecommunication industry. The study was determined to find out whether strategic agility has a significant impact on competitive intelligence and also to ascertain if a significant difference exists between the performance of organizations that are strategically agile and those that are not. The empirical results showed that strategic agility is related to competitive performance, strategic agility has a significant impact on competitive performance and there is a difference between organizations that are strategically agile and those that are less strategically agile. The study concluded that there is a relationship between strategic agility and competitive performance in the Nigerian telecommunication industry.

Kama et al (2011), conducted a study to empirically explore in a single model, the relationships between organizational learning and competitive advantage and the interacting influence of knowledge management and innovation in Uganda in Sub-Sahara Africa. The study found that there is a positive relationship between organizational learning and competitive advantage and interactive influence of knowledge management and innovation increases the predictive power of the relationship. The study recommended that mangers should developed their organizational resources, remain committed and develop organizational learning culture, and to encourage and practice innovativeness at all levels of work.

Ngugi et al (2011), examined intelligence practices and their effects on profitability of commercial banks in the Kenyan banking industry. The study discovered that all the variables examined in the study have positive significant effects on the profitability of commercial banks in Kenya. It was emphasized in the study that technologies intelligence is the most significant factor in contributing to the profitability of the commercial banks in Kenya. The study concluded that technology, product, market and strategic alliance competitive intelligence practices affect the profitability of commercial banks in Kenyan.

Shimakalantarian et al (2012) carried out a study to survey the relationship between organizational learning and competitive intelligence on small and medium scale industries in food industry, cluster of Kermanshah in Iran. In the study, organizational learning was examined in form of shared vision, organizational culture, work and group learning to share knowledge, systematic thinking, collaborative leadership and competence of staff. While competitive intelligence was examined in the form of knowledge of market conditions, awareness of state rivals, information technology and technological and social awareness. The study discovered that organisational learning has a significant relationship with competitive intelligence. The study revealed that organisational learning has a meaningful and positive relationship with all four of the competitive intelligence; which include awareness of market situation, awareness of rival's situations, technological awareness and social awareness. The study recommended that senior and middle level managers and small and medium industry experts in Kermanshah should know that organisational learning has a significant influence on creation and enhancement of competitive intelligence.

Egberie and Okpako-Uyeh (2011) conducted a study with empirical analysis on competitive intelligence and marketing effectiveness of corporate organisations in Nigeria. The study discovered that organisational profitability and operational efficiency are significantly related to competitive intelligence. The study concluded that business organisations should

be encouraged to set-up a competitive intelligence unit or department with the mandate of regularly monitoring the activities of their competitors.

Nemutanzhela and lyamu (2011) carried out a study on the impact of competitive intelligence on products and services innovation in organisations, the study was conducted on information and communication technology (ICT) organisations in Pretoria, South Africa. The study revealed that competitive intelligence is over emphasized as revolutionary customer focused information systems products while services remain challenging, it was also discovered that not all organisations that deploy competitive intelligence produce more innovative methods. The study concluded that the role of competitive intelligence on product and service Innovation is to inform strategic management, reflect customer needs and inform rivals about the competitors and help organization to locate themselves on the competitive scale.

Uwadia and Ayo (2008) in their empirical analysis of mobile phone users for competitive business intelligence, the study focus at evaluating the interestingness of rules gotten from applying association rule mining algorithm. The study revealed that a brief statistics of phone brands and the number of users as received from the questionnaire, Nokia phone products are the most widely used in Nigeria followed by Motorola, showed a snapshot of the rules that were generated as a result of the application of association rule on the data. The study concluded that identifying user requirements and understanding the user is a major part of contributing to the profit of the organisation and this can be achieved through competitive intelligence.

Nwokah and Ondukwu (2009) carried out a study on competitive intelligence and marketing effectiveness in corporate organisations in Nigeria. The study reported that there is a strong association between competitive intelligence and marketing effectiveness of corporate organisations in Nigeria. It was also observed in the study that competitive intelligence leads to marketing effectiveness in corporate organisations in Nigeria. The research concluded that the study significantly refines the body of knowledge concerning the impact of competitive intelligence and marketing effectiveness of corporate organisation in Nigeria. The study recommended that management should consistently motivate its intelligence team so that it could analyse customer's needs and seek to satisfy them.

Charity and Joseph (2013) in their empirical study titled "managing competitive intelligence for strategic advantage". The study revealed that competitive intelligence is necessary because managers need it to increase the quality of product and services, strategic planning and market knowledge; competitive intelligence is used by gathering information, converting it into intelligence and utilizing it in business decision making. The cost for competitive intelligence consists of time, money and intellectual skills, the study also revealed that there is a significant relationship between competitive intelligence and strategic advantage.

UI-Am et al (2013) examined the role of competitive intelligence in multinational companies and the performance of the organisation as a competitive advantage. The study discovered that competitive intelligence is positively associated with the growth of the organisation, higher quality and performance of the organisation in the three multinational organisation studied in Islamabad. The study concluded that competitive intelligence plays an important role in the growth, higher quality am I performance of the organisation to attain a strong position in the market and to meet with competencies against its competitors.

7. 1 Research design

Research design is a blue print, which helps and guides the researchers on how to collect relevant data for analysis; such data enables the researcher to draw relevant inferences concerning causal relationship among the variables being studied.

The design of this study was based on survey research; this research design seems the best for this study since the intent was to establish whether or not a relationship existed between two variables i.e. competitive intelligence and competitive advantage.

7.2 Population of the study

There are fifty six (56) Pharmaceutical Companies in Lagos State (Pharma approach.com 2017). So the population of the study consists of all the pharmaceutical companies in the state. (See appendix iii for the list of the companies)

Table 1: Location of Pharmaceutical companies in Lagos State

S/N	Area	Number of Pharmaceutical Companies
1.	Ikeja	25
2.	Isolo	8
3.	Yaba	2
4.	Ikorodu	I
5.	Mushin	2
6.	Agege	3
7.	Okota	1
8.	Oshodi	3
9.	Ijesha	I
10.	Igando	I
11.	Vitoria Island	3
12.	Badagary	3
13.	Ojota/Ketu	3
	Total	**56**

Sources: *Pharmaapproach.com, 2017 and Researchers Compilation 2019.*

7.3 Sampling and sampling techniques

The researcher adopted combination of disproportionate stratified and random sampling techniques. The disproportionate stratified technique was chosen because of the different areas and uneven distribution of the firms. So in order to make every part of Lagos State be part of the study, the stratified technique was adopted and because the companies are not evenly distributed, the researcher was disproportionate in choosing the companies. Also, the random technique was adopted in selecting the companies and the respondents for the study.

7.4 Sampling size determination

According to Ezejelue and Ogwo (1990) there is no satisfactory generalization on what the appropriate sample size should be. But for the purpose of this study, the sample size is one hundred and fifty six (156) respondents.

Table 2: List of Pharmaceutical companies in Lagos State

S/N	Area	Number of Pharmaceutical Companies	Number of Firms Selected (Randomly)	Company Selected	Staff/respondents Selected (Randomly)
1	Ikeja	*25*	1	BCN plc	12
2	Isolo	8	1	Afrab—Chem Limited	12
3	Yaba	2	1	Mopson Pharmaceuticals limited	12
4	Ikorodu	1	1	Biopharma Nigeria Ltd	12
5	Mushin	2	1	Bond Chemical industries ltd	12
6	Agege	3		Orfema Pharmaceutical Industries Limited	12
7	Okota	1	1	Clatess Limited	12
8	Oshodi	3	1	Daily-Need Industries	12
9	Ijesha	1	1	Dana Drugs Limited	12
10	Igando		1	Divine Essential Formulations	12
11	VI/Amuwo Odofin	3	1 :	Geneith Pharmaceuticals limited	12
12	Badagary	3	1	New Heathway Pharmaceuticals limited	12
13	Ojota/Ketu	3	1	Oak-Faith Pharmaceutical Resource limited	12
	Total	**56**	**13**		**156**

Sources: *Researchers Compilation 2019*

First, because of the uneven distribution of the companies in the thirteen areas where the companies are located, and locations of the firms, Lagos State is stratified into thirteen strata (table 3.2) and the researcher disproportionately select one (1) company each from each of the thirteen strata (area) where the companies are located. This makes it a total of thirteen (13) pharmaceutical companies selected for the study. Where the companies are more than one the researcher used the random sampling technique to choose one. Secondly, from each company selected for the study, twelve (12) staff (respondents) were randomly selected (four management staff, four senior staff and four junior staff). Multiplying the thirteen areas where the companies are located by twelve staff randomly selected from each company makes it a total of one hundred and fifty-six (156) respondents for the study. (See table 2).

7.5 Research instrument

The instruments used for collection of data are structural questionnaire designed by the researcher with the assistance of the researcher's supervisor. The questionnaire has two parts, Part A and Part B, all the questions in Part A provide general information about the respondents while the questions in Part B address the research questions, four point Likert scale format was used. The questionnaire contains a total of 20 questions.

7.6 Validity of the instrument

According to Onwumere (2005) validity is the extent to which a measuring instrument on application performs the function for which it is designed. In this study when the questionnaire was drafted, it was submitted to the supervisor for his scrutiny, comment and criticism. The same instrument was given to other lecturers and experts in the field for their experienced comments and advice. This was imperative so as to ensure that no important variables were left out. The comments, recommendations and useful suggestions was considered in making the final draft.

7.7 Reliability of the instrument

An instrument is reliable if measurement of the same phenomenon with the same instrument at different times and places yields the same result. That is, the instrument can give consistent results at different point in time. The alpha level of 0.6 or above is considered acceptable as suggested by (Sekaran, 2003)'. In testing for the reliability of the study, two pharmaceutical firms in Lagos State were chosen and thirty staff were selected from the two firms. The Cronbach's alpha was used to test for the reliability of the study. The result of the Cronbach's alpha coefficient of the variables was 83% reliable. This implies that the instrument is reliable.

7.8 Method of data collection

The method used in the collection of data in this study is questionnaire. The primary data used for this study were gathered through questionnaire. A structured questionnaire was used in gathering relevant data with options provided for respondents on a four point Likert scale. Response to the items ranges from (4-Strongly Agree (SA), (3-Agree (A), (2-Disagree (D), (1- Strongly Disagree (SD).

7.9 Method of data analysis

The stated research hypotheses was analysed using the One-Sample T Test statistic in order to test whether the independent variable (competitive intelligence) affect the dependent variable competitive advantage and productivity. Decision was established based on the results. Decision was established based on rejection or acceptance of null hypotheses, if the calculated value exceeds the critical value (1.96), reject the null hypothesis, otherwise the• alternative hypothesis will be upheld. Or, if the p-value is less than the alpha level (0.05) reject the null hypothesis, otherwise accept. The hypotheses were tested at 95% level of confidence.

7.10 Decision rule

In testing hypotheses, calculated value of the test statistic was compared with critical or table value of the statistic. The critical or table value serves as a benchmark for rejecting or not

rejecting the null hypotheses. Therefore, the decision rule applied in this study is to reject the null hypotheses if the calculated value is greater than the critical table at 95% (1.96) confidence level, otherwise reject the null hypotheses. Or reject the null hypotheses if the probability' value (p-value) is less than the critical value of 0.05, otherwise accept the null hypotheses.

7.11 Data presentation, analysis and interpretation of results

In the study of competitive intelligence and competitive advantage in pharmaceutical companies. In carrying out the study, the researcher used primary source of data collection through questionnaire. The questionnaire was designed with the assistance of the supervisor. A total of one hundred and fifty six (156) questionnaires were distributed and after careful monitoring and supervision, one hundred and thirty nine was retrieved back. This shows 89% response rate or 89% interest in the study by the respondents. In analysing the personal data simple percentage was use while in the research questions and hypotheses, the t-test statistic is used.

7.12 Analysis of personal data

Table 3 Position of Respondents

Position	Frequency	Percent
Junior	1	36.7
Senior	42	30.2
Management	46	33.1
Total	**139**	**100.0**

Source: Researchers' field survey 2019

The result of table 3 indicates that there are more junior staff in the study with a statistics of 36.7%. A breakdown of the result shows that junior staff has 36.7%, senior staff has 30.2% and management staff has 33.1%.

Table 4: Sex of respondents

Sex	Frequency	Percent
Female	54	38.8
Male	85	61.2
Total	**139**	**100.0**

Source: Researchers' field survey 2019

The result of table 4 indicates that there are more male staff in the study with a statistics of 61.2%. A breakdown of the result shows that male staff has 61.2%, while female staff has 38.8%.

Table 5: Educational qualification of respondents

Educational Qualification	Frequency	Percent
SSCE	40	28.8
OND/NCE	57	41.0
HND/B.SC	23	16.5
MSC/MBA/PHD	19	13.7
Total	**139**	**100.0**

Source: Researchers' field survey 2019

The result of table 5 indicates that most of the respondents in the study have OND/NCE with 41%. A breakdown of the result shows that respondents with SSCE has 28,8%, OND/NCE has 41%, first degree is 16.5% and above first degree is 13.7%.

Table 6: Work experience of respondents

Work experience	Frequency	Percent
less than 5	24	17.3
5-9yrs	51	36.7
10-l4yrs	45	32.4
above l4yrs	19	13.7
Total	**139**	**100.0**

Source: Researchers' field survey 2019

The result of table 6 indicates that most of the respondents in the study have between 5-9 years work experience with 36.7%. A breakdown of the result shows that respondents with less than five years experience has 17.3%, 5-9 years has 36.7%, 10-14 years has 32.4% and above l4years working experience has 19%.

7.13 Research questions

Research question 1: How does competitive intelligence influence competitive advantage in Pharmaceutical firms?

Table 7

	Question	*N*	*Mean*	*t-value*	*p-value*
Q5	Competitive intelligence influence competitive advantage positively	139	1.892	24.610	.000
Q6	Competitive intelligence helps pharmaceutical firms to make strategic decision that boost organizational productivity	139	1.827	31.187	.000
Q7	Competitive environment can be managed through competitive intelligence	139	2.604	31.728	.000

Q8	Competitive intelligence promotes competitive fitness and organizational performance	139	1.770	28.761	.000

Source: Researchers' field survey 2019

From the result of table 7, it shows that competitive intelligence influence competitive advantage positively, helps pharmaceutical firms to make strategic decision that boost organizational productivity, helps in managing Competitive environment and promotes competitive fitness and organizational performance. This is because the p-values are less than the alpha value of 0.05.

Research question 2: To what extent does competitive intelligence affect the productivity of Pharmaceutical firms?

Table 8

	Question	*N*	*Mean*	*t-value*	*p-value*
Q9	The level of competitive intelligence in pharmaceutical companies is significant	139	1.820	*23.558*	.000
Q10	Process and structure are the levels of competitive intelligence in pharmaceutical companies.	139	2.662	33.780	.000
Q11	Competitive intelligence level can be ascertained through planning, focus and collection of data,	139	*2.856*	38.953	.000
Q12	Skill development is a level of competitive intelligence in pharmaceutical companies.	139	2.417	*25.845*	.000

Source: Researchers' field survey 2019

From the result of table 8 it shows that the level of competitive intelligence in pharmaceutical firm is significant, process and structure are the levels of competitive intelligence in pharmaceutical firms, Competitive intelligence level can be ascertained through planning, focus and collection bf data and Skill development is a level of competitive intelligence in pharmaceutical firms. This is because the p-values are less than the alpha value of 0.05.

Research question 3: What are the benefits derivable from competitive intelligence?

Table 9

	Question	***N***	***Mean***	***t-value***	***p-value***
Q13	Competitive intelligence gives the ability to predict movement in the competitive environment and does not reduce uncertainty of managerial decision	139	1.669	21.768	.000
Q14	Detecting early warning of opportunities and threats are benefits of competitive intelligence	139	1.942	25.942	.000
Q15	Competitive intelligence promotes strategic decision making in Pharmaceutical companies	139	2.647	*29.574*	.000

Q16	Competitive intelligence supports strategic decision making	139	2.906	39.514	.000

Source: Researchers' field survey 2019

From the result of table 9, it is clear that competitive intelligence gives the ability to predict movement in the competitive environment and does not reduce uncertainty of managerial decision. This is because the p-value is less than the alpha value of 0.05.Also, the result shows that early warning of opportunities and threats are benefits of competitive intelligence. In addition, Competitive intelligence promotes strategic decision making and supports strategic decision making in pharmaceutical companies. This is because the p-values are less than the alpha value of 0.05.

Research question 4: in applying competitive intelligence what are the challenges faced by Pharmaceutical firms?

Table 10

	Question	**N**	**Mean**	**t-value**	**p-value**
Q17	Lack of expertise, politics and collection target are challenges encountered for competitive intelligence in pharmaceutical companies.	139	2.712	*32.635*	.000
Q18	Lack of relevant analysis is a challenge encountered for competitive intelligence in pharmaceutical companies.	139	*2.532*	27.849	.000
Q19	Inadequate resource is a challenge encountered for competitive intelligence	139	2.446	27.447	.000
Q20	Organizational politics hinders implementation of competitive intelligence in pharmaceutical companies.	139	2.245	21.890	.000

Source: Researchers' field survey 2019

From the result of table 10, it is clear that some of the challenges of implementing competitive intelligence in pharmaceutical companies in Lagos State are; Organizational politics, Inadequate resource, lack of relevant analysis and of lack expertise, politics and collection target. This is because the p-values are less than the alpha value of 0.05.

7.14 Test of hypotheses

In testing the hypotheses, the one sample t-test statistic was used. The four hypothesis were tested.

Hypothesis One: Table 11

Competitive intelligence does not significantly influence competitive advantage in pharmaceutical firms.

Variable	**N**	**mean**	**Std Dev**	**t**	**df**	**p-value(sig)**

competitive intelligence influence on competitive advantage	139	2.023	0.420	56.777	138	.000

Alpha =0.05

Table 11 shows that the number of male respondent (N) is 139, mean = 2.023, standard deviant= 0.420, t-test calculated = 56.777 and degree of freedom is 138 and p-value (sig) = 0.000. From the result, since the p- value (sig) of the statistic is 0.000 and this value is less than 0.05 (significant level). This means that the null hypothesis was rejected, that Competitive intelligence does not significantly influence competitive advantage in Pharmaceutical firms and accept the alternative hypothesis that Competitive intelligence does significantly influence competitive advantage in Pharmaceutical firms.

Hypothesis two: Table 12

Competitive intelligence does not significantly affect productivity in pharmaceutical firms.

Variable	**N**	**mean**	**Std Dcv**	**t**	**df**	**p-value(sig)**
Competitive intelligence affects the productivity	139	2.4388	0.46997	61.182	138	.000

Alpha =0.05

Table 12 shows that the number of male respondent (N) is 139, mean 2.4388, standard deviant 0.46997, t-test calculated 61.182 and degree of freedom is 138 and p- value (sig) = 0.000. From the result, since the p- value (sig) of the statistic is 0.000 and this value is less than 0.05 (significant level). This means that the null hypothesis was rejected, that Competitive intelligence does not significantly affect the productivity of Pharmaceutical firms and accept the alternative hypothesis that Competitive intelligence does significantly affect the productivity of Pharmaceutical firms.

Hypothesis three: Table 13

There are no significant benefits derivable from competitive intelligence influence practice to guarantee competitive advantage in Pharmaceutical firms.

	question	***N***	***t-value***	***p-value***
Q13	Competitive intelligence gives the ability to predict movement in the competitive environment and does not reduce uncertainty of managerial decision	139	21.768	.000

Q14	Detecting early warning of opportunities and threats are benefits of competitive intelligence	139	25.942	.000
Q15	Competitive intelligence promotes strategic decision making in Pharmaceutical companies.	139	29.574	.000
Q16	Competitive intelligence supports strategic decision making	139	39.514	.000
	Total			**0.000**

Alpha =0.05

From the result of table13, since the total p- value (sig) of the statistic is 0.000 and this value is less than 0.05 (significant level). This means that the null hypothesis was rejected that there are no significant benefits accruable from competitive intelligence practice to guarantee competitive advantage in Pharmaceutical firms, and accept the alternative hypothesis that there are significant benefits accruable from competitive intelligence practice to guarantee competitive advantage in Pharmaceutical firms. Such benefits from competitive intelligence gives the ability to predict movement in the competitive environment, detecting early warning of opportunities and threats, promote and supports strategic decision making in an organization.

Hypothesis four: Table 14

There are no significant challenges faced by Pharmaceutical firms when applying competitive intelligence.

	question	**N**	**t-value**	**p-value**
Q17	Lack of expertise, politics and collection target are challenges encountered for competitive intelligence in pharmaceutical companies.	139	*32.635*	.000
Q18	Lack of relevant analysis is a challenge encountered for competitive intelligence in pharmaceutical companies.	139	27.849	.000
Q19	Inadequate resource is a challenge encountered for competitive intelligence	139	27.447	.000
Q20	Organizational politics hinders implementation of competitive intelligence in pharmaceutical companies	139	2 1.890	.000
	Total			**0.000**

Alpha =0.05

From the result of table 14, since the total p- value (sig) of the statistic is 0.000 and this value is less than 0.05 (significant level). This means that the null hypothesis was rejected that there are no significant challenge faced by Pharmaceutical firms when applying competitive intelligence practice and accepts the alternative hypothesis that there are significant challenge faced by Pharmaceutical firms when applying competitive intelligence practice. Such challenges are: lack expertise, politics and collection target are challenges encountered for competitive intelligence in pharmaceutical companies, lack of relevant analysis,

inadequate resource and organizational politics hinders implementation of competitive intelligence in pharmaceutical companies.

8. Discussion of findings/results

This study has tried to analysis competitive intelligence and competitive advantage in pharmaceutical companies. From the study it is discovered that competitive intelligence is positively associated with the growth of the organisation, higher quality and performance of the organisation in the three multinational organisation in Islamabad. The study concluded that competitive intelligence plays an important role in the growth, higher quality and performance of the organisation to attain a strong position in the market and to meet with competences against its competitors. This goes go shows that competitive intelligence significantly affects performance of organisations.

Another finding of the study is that competitive intelligence does significantly affect the productivity of Pharmaceutical firms. This is in line with the study of UI-Am, Waheed and Jawil (2013) who examined the role of competitive intelligence in multinational companies and the performance of the organisation as a competitive advantage.

Also, it was found that some of the benefits of competitive intelligence are that Competitive intelligence gives the ability to predict movement in the competitive environment and does not reduce uncertainty of managerial decision, shows early warning of opportunities and threats , promotes and supports strategic decision making in pharmaceutical companies . This is in line with Calof & Wright (2008), who found that competitive intelligence helps in early warning of opportunities and threats, support for strategic planning and implementation and support of strategic decision making.

Another finding of the study is that some challenges of competitive intelligence are Organizational politics, inadequate resource, lack of relevant analysis and lack of expertise, politics and collection target. This is in line with Gilad and Gilad (1986) who identified four problem organizations faced when implementing competitive intelligence. They itemise the problems to be Number of collection targets: For a centralized competitive intelligence unit it is challenging to track a big number of topics.

Expertise: Collection and especially evaluation often requires specific expertise. The particular expertise of the competitive intelligence professionals in a centralized competitive intelligence unit is by necessity limited. In addition, a centralized competitive intelligence unit may lack expertise in technical areas and, in general, the distance to operating units might be too distant.

Relevance of analysis: There is a risk that a centralized competitive intelligence unit produces reports that are considered irrelevant by the managers of the individual business units.

Politics: A centralized competitive intelligence unit tends to become very dependent on certain people which might lead to political issues.

9. Summary, conclusions and recommendations

The main objectives of this study were to establish the extent to which competitive intelligence practices influence achievement of competitive advantage in pharmaceutical firms. A survey research design was adopted aiming at getting detailed information regarding

the extent to which competitive intelligence practices assist in achieving competitive advantage as adopted by pharmaceutical firms. The study found that competitive intelligence influence competitive advantage positively thereby helping pharmaceutical firms to make strategic decision that boost organizational productivity, helps in managing competitive environment, promotes competitive fitness and organizational performance.

The study also found out that competitive intelligence gives the ability to predict movement in the competitive environment and does not reduce uncertainty of managerial decisions, it helps to detects early warnings of opportunities and threats in the environment, promotes and support strategic decision making in pharmaceutical firms. In the study also, it was further found that there were some challenges experienced when applying and implementing competitive intelligence in pharmaceutical firms such as organizational politics, inadequate resources, lack of relevant analysis and experts.

In conclusion, the work shows that the influence of competitive intelligence on competitive advantage cannot be over emphasized. In the test of research hypotheses, the competitive advantage, productivity, benefits accruable and some challenges experienced when applying competitive intelligence practice were significant. This supports the notion that information gathering, sharing and analysis about the market place enables the organization to discover new market needs and rival plans, and accordingly respond quickly to sudden competitors and competition surprise activities with appropriate strategic actions leading to competitive advantage. The findings revealed that competitive intelligence is a strategic tool for predicting movement in the competitive environment, shows early signs of opportunities and threats, promotes strategic decision making in pharmaceutical firms. This is in line with Calof and Wright (2008) who found that competitive intelligence help in early warning of opportunities and threats support for planning, implementation and for strategic decision making.

Hence, the study concludes that the need for competitive intelligence to promote competitive advantage are to provide actionable intelligence for strategic decisions, identify customers need and reveals competitors strategies and consequently helps organizations to locate themselves on the competitive scale and provides products that meet customers' needs. (Moneme, et al 2017).

Consequently, the work offers the following recommendations:

1. Organization should exploit the knowledge of competitive intelligence to analyse customer's needs, adapt their offering to these needs, react to competitor actions and respond with innovative strategies.
2. Competitive intelligence activities, facilities as well as process should be adequately funded by the pharmaceutical firms so as to be innovative, in their products, services and competitive disposition.
3. In their quest for increase in sales volume, pharmaceutical firms should not only engage in new product development but also seek relevant information from the environment to enable them make relevant modifications to their existing strategy offerings for it to be continually relevant in satisfying the ever-changing market needs.
4. Management should ensure that intelligence generated from competitive intelligence activities are effectively deployed to areas of management priority so that the expected value addition of using such intelligence can be properly harnessed to the advantage of the firm.

5. Organization should have a formal position for competitive intelligence unit to regularly monitor the activities of competitors and business environment with the aim of evaluating the organizations action in line with that of competitors.
6. In implementing competitive intelligence in an organization, employees should be equipped with the knowledge, skill and technical know-how of handling intelligence information.

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