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DN : CN = Webmaster’s name
O= University of Nigeria, Nsukka
OU = Innovation Centre
COMPETITIVE INTELLIGENCE AND IMPLICATION FOR
COMPETITIVE ADVANTAGE POSITION OF FIRMS IN NIGERIAN
MANUFACTURING SECTOR

BY

MADUHEMEZIA, CHINYERE EDITH
REG NO.PG/MBA/12/62031
DEPARTMENT OF MANAGEMENT
FACULTY OF BUSINESS ADMINISTRATION
UNIVERSITY OF NIGERIA
ENUGU CAMPUS

FEBRUARY, 2016.
DECLARATION

I, Maduemezia Chinyere Edith of the Department of Management, University of Nigeria, Enugu campus hereby declare that this dissertation was carried out by me, it is original work and has not been submitted in part or full to this university or any higher institution of learning.

...........................................

MADUEMEZIA, Chinyere Edith
APPROVAL

This dissertation has been approved for Department of Management, Faculty of Business Administration, University of Nigeria, Enugu Campus.

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Dr. C.A. Ezenwakwelu  Date
Supervisor

........................................  ........................................

Dr. O.C. Ugbam  Date
Head of Department
DEDICATION

This dissertation is dedicated to God Almighty for his mercies, guidance and protection and for making my dream come true.
ACKNOWLEDGMENTS

To God Almighty, be all the glory and adoration for His infinite and enduring mercies who gave me the grace and ability to successfully carry out this work in spite of all odds.

A research of this magnitude could not have been made possible without the unreserved support of other people. I am truly indebted to them. I express my immense gratitude to my able supervisor Dr. C.A. Ezenwakwelulu, whose constructive criticisms and directions which made this work to be a valuable document.

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**ABSTRACT**

The study sought to assess the nature of the relationship between competitive intelligence and competitive advantage, ascertain the level of competitive intelligence in the Nigerian manufacturing sector, ascertain the benefits achieved from competitive Intelligence and ascertain the challenges encountered for competitive intelligence in the Nigerian manufacturing sector. The study had a population size of 803, out of which a sample size of 267 was realised using Taro Yamane’s formula at 5% error tolerance and 95% level of confidence. Instruments used for data collection were primarily questionnaire and interview. Out of 267 copies of the questionnaire that were distributed, 245 (92%) were returned while 22 (8%) were not returned. The descriptive survey research design was adopted for the study. The hypotheses were tested using Pearson product-moment correlation coefficient, Chi-square, and Z-test statistical tools. The findings indicated that there is a positive relationship between competitive intelligence and competitive advantage ($r = .583$, $P < .05$). The level of competitive intelligence in the Nigerian manufacturing sector is significant ($X^2 = 18.270 > X^2_t = 9.49$; $p < 0.05$). Competitive intelligence gives the ability to predict movements in the competitive environment and reduces uncertainty of managerial decision ($X^2 = 75.036 > X^2_t = 9.49$; $p < .05$). Lack expertise, organizational politics and inadequate resources are challenges encountered for competitive intelligence in the Nigerian manufacturing sector ($Z = 10.723 > Z_t = 1.96$; $p < 0.05$). The study concluded that competitive Intelligence is a vital tool for strategic planning and competitive advantage. The study recommended that adequate resources should be made available for personnel to carry out effective competitive intelligence generation, sharing, distribution and deployment to areas of needs.
CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Competitive intelligence is the action of defining, gathering, analyzing and distributing intelligence about products, customer, competitors and any aspect of the environment needed to support executives and managers in making strategic decision for an organization. Organizations use competitive intelligence to compare themselves to other organizations (competitive benchmarking), to identify risk and opportunities in their markets and to pressure-test their plans against market response which enable them to make informed decisions.

Most firms today realize the importance of knowing what their competitors are doing and how the industry is changing and information gathered allows organizations to understand their strength and weaknesses. With the right amount of information organizations can avoid unpleasant surprise by anticipating competitor’s moves and decreasing response time. Organizations must be careful not to spend too much time and effort on old competitors without realizing the existence of any new competitors. Knowing more about your competitors will allow a business to grow and make profit and succeed. The practice of competitive intelligence is growing every year, and most competitors and business students now realize the importance of it (Walle, 1999).

Competitive intelligence is a formal program of gathering information on a company’s competitors. It is one of the fastest growing fields within strategic management (Wheelen and Hunger, 2010).

Competitive intelligence is the practice of examining the external competitive environment, direct rivals, economic/regulatory matters, and more, to support the development of more resilient, robust strategy and tactics. The intelligence outcome is meaningful, actionable, and provides an insight about change and future developments and their implications to the organization. Competitive intelligence improves tactical and strategic decision-making through understanding the competitive environment. No business is an island. To succeed,
the business will need to deal with customers, suppliers, employees, and other organizations offering similar products (Viviers, 2005).

These other organizations are competitors and their objectives are the same. Effectively, the business is at war-fighting to gain the same resource and territory: the customer. It is necessary to understand the competitor: how he thinks, what his strengths and weaknesses are, where he is vulnerable, and where he can be attacked. By knowing your competitors, you may be able to predict their next moves, exploit their weaknesses, and undermine their strengths. Competitive intelligence is necessary because managers need to increase the quality of product and services, strategic planning and market knowledge about them (Ryall, 2003).

This is why competitive intelligence has become an important part of environmental scanning in most companies (Wheelen and Hunger, 2010).

Strategic intelligence is concerned mainly with competitors analysis or gaining an understanding of a competitors future goals, current strategy, assumptions held about itself and the industry, and capabilities-diagnostic components. Intelligence about the firms major customers, suppliers and partners is often also of strategic value. Counter intelligence is defending company’s secrets. Every fir has competitors that are interested in knowing her plans as she is interested in knowing theirs. Businesses that facilitate quick and accurate decision-making include Drugs Production firms, brewing industries, and bottled water production firms (Walle, 2000).

Competitive intelligence, unlike mental or cognitive and emotional intelligence, focuses on monitoring the competitive environment with the aim of providing action able intelligence that will provide a competitive edge to the organization. Competitive intelligence is a very important tool of an organization strategic planning and management process. The formal exploration process and management of the marketing strategic paradigm has been linked with the environmental scanning interactive as a basis for gathering and processing the information and the information processing theory paradigm, (Dishman and Calof, 2008).

Competitive intelligence on the other hand, pulls together data and information from a very large and strategic view, allowing a company to predict or forecast what is going to happen in its competitive environment (Bose 2008).
Competitive intelligence enables the business executives to gather and analyze information about the activities of the competitors, business environment and existing trends in order to fulfill the corporate objective of the organisation (Kahaner, 1996).

Organisation’s need competitive intelligence to overcome the challenges posed by advancement in science and technology, intensified pattern of competitor, quest for competitive advantages brought about by closer customer relationship, developed decision making, quality improvement on products and services. Competitive intelligence pulls together data and information from a very large and strategic view, allowing you to predict or forecast what is going to happen. This in turn allows you to effectively strategize in relation to your competitive environment, therefore competitive intelligence allows you to remain competitive by improving your strategic decisions and this leads to better performance against your competitors, www.exinfm.com/training.

Competitive intelligence is key and very important factor in the organization. If the organization is to remain overtime, management executives have to generally see a need to know more about the new products and services, technology and about current and potential competitors (Nemutazhela and Iyamu, 2011:3).

The constant and rapid changing business environment requires manager’s awareness about what their competitors are doing, how the industry is changing and intelligence knowledge gathered enables organizations to identify their strengths and weaknesses. Intelligence information is needed in all aspect of the organization; with the right information organisation becomes very sensitive and proactive in knowing about the intentions of their competitors, what their strategies and tactics are and anticipating what the competitors think about our organisation. In the quest for organisations to succeed, there is need to close the loop on competitive intelligence the organisation needs to recognize that other organizations are also performing competitive intelligence therefore, organizations should provide an insight through competitive knowledge into how your competitors learn about you. Competitive intelligence is the systematic and ethical process for gathering, analyzing, and managing information that can impact on organisation operations and plans. Competitive intelligence is a necessary, ethical business discipline for decision making based on understanding the competitive environment ( SCIP,2007:55).
1.2 STATEMENT OF THE PROBLEM

A typical Nigerian organization in the private sector generally lacks the culture of information gathering critical to developing competitive intelligence architecture that confers competitive advantage. This assertion is based on the rear absence of functional research and development units in most of these organizations as observed in their website.

The major problem of the Nigeria manufacturing sector is the failure to acknowledge the fact that the business environment has become very competitive, dynamic and only those organizations with the right information capabilities can succeed in the modern times. Because of this problem, many organizations did not take the issue of intelligence seriously and therefore failed to create a competitive intelligence departments. In most of the organizations where it exist, it was discovered that it is either not functional or not fully engaged in the activities of information gathering, analysis and dissemination of intelligence needed for effective competitiveness which is a serious challenge in the manufacturing industry.

Consequently, because of the lack/inadequate generation of intelligence, most of the organizations do not have an in-depth knowledge about existing products, customers, competitors, stakeholders and other environmental relationships that are required to enable managers and business executives make quality strategic decision, again, this has led to the culture of poor innovation, customer dissatisfaction, poor quality of products and high cost of production of goods and services. This experience has further weakened the ability of the manufacturing organizations to compete favourably in order to attain high performance.

There is also the general problem of inadequate knowledge of competitor’s orientation, customer orientation, and cognate process of organisation learning capability and how this can improve the quality of competitive intelligence that will lead to increased organisation performance. Therefore, the study focuses on competitive intelligence and implication for competitive advantage in Nigeria manufacturing sector.

1.3 OBJECTIVES OF THE STUDY

The specific objectives of this study include the following:
i. To assess the nature of the relationship between competitive intelligence and competitive advantage

ii. To ascertain the level of competitive intelligence in the productive activities of the Nigerian manufacturing sector.

iii. To ascertain the benefits achieved from competitive intelligence.

iv. To ascertain the challenges encountered for competitive intelligence in the Nigerian manufacturing sector

1.4 RESEARCH QUESTIONS

To achieve the above objectives, the following research questions were raised:

i. What is the nature of the relationship between competitive intelligence and competitive advantage?

ii. What is the level of competitive intelligence in the productive activities of the Nigerian manufacturing sector?

iii. What are the benefits achieved from competitive intelligence?

iv. What are the challenges encountered for competitive intelligence in the Nigerian manufacturing sector

1.5 RESEARCH OF HYPOTHESES

The study proposes the following hypotheses;

i. There is a positive relationship between competitive intelligence and competitive advantage.

ii. The level of competitive intelligence in the productive activities of the Nigerian manufacturing sector is significant.

iii. Competitive intelligence gives the ability to predict movements in the competitive environment and reduces uncertainty of managerial decision.

iv. Lack expertise, organizational politics and inadequate resources are challenges encountered for competitive intelligence in the Nigerian manufacturing sector.
1.6 SIGNIFICANCE OF THE STUDY

The study will be useful in the following ways:

The knowledge gained from the study will enable managers know how to identify market place opportunities, competitor’s threats, competitor risks, core assumptions and vulnerabilities in the business environment.

The study will serve as a reference material for future researchers.

1.7 SCOPE OF THE STUDY

This study focuses on the concept of competitive intelligence, the assessment of competitive intelligence, the strategic input of competitive intelligence, competitive intelligence and the formulation of market strategy, competitive intelligence and market effectiveness in the Nigerian manufacturing sector. The study was carried out in Innoson Group Emene, Enugu, 7up Bottling Company Ninth Mile Corner Ngwo, Aqua-Rapha Water Production Company, Ngwo, Nigerian Breweries Plc Ama, and Dulux Paints, Trans, Ekulu, Enugu. The study covered the period of 2010 to 2014.

1.8 LIMITATIONS OF THE STUDY

The major constraints encountered while carrying out this study are:

1. **Time Constraint:** Due to limited time given for this study, the researcher could not get all the information needed for the study.

2. **Attitude of the Respondents**

   Some of the respondents show negative attitude towards the study because there is no financial benefit attached, some refused to supply the necessary information required for fear of leaking secret of their organisations. The researcher was able to overcome this limitation through the help of the Managing Directors who sensitized and educated them on the proper purpose of the research as an academic exercise.
1.9 DEFINITION OF TERMS

Competitor Intelligence

Competitor intelligence is defined as those activities by which companies determine and understand their competitors, their strength and weakness, and anticipate their moves (Walle A.H, 1999).

Competitive Intelligence

Competitive intelligence is the practice of examining the external competitive environment, direct rivals, economic/regulatory matters, and more, to support the development of more resilient, robust strategy and tactics (Viviers, 2005).

Competitive Risks

Competitive risk is any market place change that could negatively impact the firm’s current or potential strategy (Fahey, 2007).

Tactical Intelligence

Tactical Intelligence is the provision of information designed to improve short-term decisions, most often related within the intention of growing market share or reverences (Gilad, 2010).

Strategic intelligence

Strategic intelligence (SI) is a competitive Intelligence tactics which focuses on the longer term looking at issues affecting a company’s competitiveness over the courses of a couple of years(Gilad, 2010).

Market Knowledge

Market Knowledge is the understanding of the Market context (the market definition of the potential product/service, the targeted customers, the existing competitors offering, the legal, normative or ethical requirements) in which a business operates. (Walle,1999).
1.10 PROFILE OF ORGANIZATIONS UNDERSTUDIED

Nigerian Brewery plc.

We are proudly Nigeria’s pioneer and largest Brewing firm. Our company was incorporated in 1946 and in June 1949, we recorded a landmark when the first bottle of STAR lager beer rolled off our Lagos Brewery bottling lines. This first brewery in Lagos has undergone several optimization processes and as at today boasts of one of the most modern brew house in the country. In 1957, we commissioned our second brewery in Aba. The Aba Brewery has also recently undergone several optimization processes and has been fitted with best in brewery technology. In 1963 we commissioned our Kaduna Brewery while Ibadan Brewery came on stream in 1982. In 1993, we acquired our fifth brewery in Enugu. A sixth brewery, sited at Ama-ek in 9th Mile, Enugu was commissioned and christened Ama Brewery in October 2003. Ama Brewery is today the biggest and most modern brewery in Nigeria. Operations in the Old Enugu Brewery were however discontinued in 2004. We acquired a malting Plant in Aba in 2008. In October 2011, our company bought majority equity interests in Sona Systems Associates Business Management Limited, (Sona Systems) and Life Breweries company Limited from Heineken N.V. This followed Heineken’s acquisition of controlling interests in five breweries in Nigeria from Sona Group in January 2011. Sona Systems’ two breweries in Ota and Kaduna, and Life Breweries in Onitsha have now become part of Nigerian Breweries Plc, together with the three brands: Goldberg lager, Malta Gold and Life Continental lager. The merger became final on December 31, 2014. Following the successful merger, we now have three additional breweries in Ijebu-Ode, Ogun State, Awo-Omamma in Imo State and Makurdi in Benue State. The merger also brought an additional seven brands into our portfolio. Thus, from that humble beginning in 1946, our company has now grown into a Brewing Company with 11 breweries, 2 malting plants and 26 Sales depots from which our high quality products are distributed to all parts of Nigeria. Nigerian Breweries Plc has a growing export business which covers global sales and marketing of our brands and dates back to 1986. NB Plc offers sales, logistics and marketing support to make our brands shelf-ready in international markets, including world-class outlets such as TESCO and ASDA Stores in the United Kingdom. Our brands are available in over thirteen countries, across the United Kingdom, South Africa, Middle-East, West Africa and the United States of America (http://www.nbplc.com/ourhistory.html).
Seven Up

The Seven-Up bottling company Plc is one of the largest independent manufacturer and distributor of the well-known and widely consumed brands of soft drinks in Nigeria. Seven-Up brands are: Pepsi, 7UP, Mirinda, Teem and Mountain Dew, which they produce and market in all their present 9 manufacturing plants. Seven-Up also markets their products through over 200 distribution centres that they call depots spread over the nooks and crane of Nigeria. Seven-Up workforce is currently in the neighbourhood of 3500 employees. A Lebanese Mohammed El-khalil who came to Nigeria for the very first time in 1926 founded the company. Mohammed is the father of the company's current chairman Faysal El-Khalil. The company metamorphosed from a very successful transport business [El-Khalil Transport] in a bid to diversify the then largest transport company in the entire West of Africa. On October 1st 1960, the exact day our great country Nigeria won her independents, Nigerians also experienced the birth of a soft drink giant as the first bottle of 7Up rolled out from our factory located in Ijora. Since then, Seven-Up companies continued to grow in the leap and the bound. In the late 80s, Seven-Up established two more plants in Ibadan and Ikeja. In the early 1990s when Pepsi International took over 7Up international, Seven-Up again got great opportunities to introduce the Pepsi brand to the Nigeria people. As at today, the company has its headquarters in Beirut and operational bases in three African countries namely Nigeria, Tanzania and Ghana.

The Vision Seven-UP Bottling company is to become the most admired and innovative company in Nigeria while the Mission is to inspire and refreshes a youthful lifestyle (http://www.sevenup.org/home/aboutus.php#, Retrieved, 26/10/2015).

ii. Innoson Technical and Industrial Company

Innoson Technical and Industrial Co. Ltd produces the best plastic products in the country. Products include chairs, jerry can, drums, motorcycle parts etc. Innoson Technical and Industrial Limited is a subsidiary of Innoson group of companies and was incorporated in 2002 with its Head Office/Factory situated at Plot W/L Industrial Layout, Emene, Enugu State, Nigeria. Full scale operations and production commenced in October 2002. It is an indigenous blue chip company engaged in the manufacturing of Plastic Chairs, Tables, Trays, Plates, Spoons, Cups, Jerry Cans of different sizes and many other allied products. Since
inception, this company ranks the biggest plastic industry in Nigeria. It produces the highest quality range of the plastic products of international standard and has a production over 10,000 pieces of chairs and tables per day. Due to the rapid demand of these products, the company's twelve production lines of injection moulds have since been increased with tremendous and near perfect production lines of international standard. It was also established to further consolidate our leading position in the Motorcycle industry by producing the motorcycle plastic requirement of Innoson Nigeria Limited which is a sister company. This effort was in direct response to the Federal Government policy direction towards encouraging private sector as the engine of growth for the economy. Over six hundred indigenous employees and few expatriate staff are working in the company. The company has an annual turnover of 3.6 billion Naira. Our foreign partners are Cretec Industries Co Ltd (China) whose wealth of experience is unquantifiable.


**Mission:** To satisfy the industrial and household plastic requirements of our clients using the highest standard of automation and technology and with well-motivated and trained indigenous work force to ensure adequate returns for the stake holders


**Vision:** To be a dominant player in the plastic industry, producing products of first choice in Nigeria [http://www.innosongroup.com/motorcycle_profile.php](http://www.innosongroup.com/motorcycle_profile.php).

**Winning Strategy:** Innoson Technical and Industrial Company utilizes the latest technology and machinery together with its technical partners to produce high quality products at affordable prices within the market place. The company is always one step ahead of any competitor due to the close relationship with its technical partner. We know very well that the demand for plastic products is enormous, and we are growing every year, therefore, utilizing the latest technology and being aware of the market prices, the company will ensure that products are produced at high volume output to be competitive. We will invest in the latest technology which converts waste plastic at land fill sites into an end product. This project is very important to Nigeria, as the environment is saturated with waste plastic, which will be converted into plastic wood, plastic pallets, and many other end users products. This re-
cycling project converts waste to an end product, and will be an ever growing project. We have the technology to service the ever growing oil sector and will be able to supply quality container products to the major oil groups. We have the ability to supply container/crates within the ever growing beverage sector by utilizing the latest technology molds and machinery. We have a devoted management team that have a wealth of experience in all areas and are able to make fast decisions on new developments which will always put the company one step ahead of its competitors.


**Corporate Awards:** SON quality award;2006 Industry of the year by the Nigeria Union of Journalist, Enugu State; Economic and Social Justice Award by Amnesty International; The Best Exhibiting Pavilion in Plastic, April 2007, by Enugu Chamber of Commerce, Industry, Mines and Agriculture (ECCIMA); Special Merit Award, April 2008 by the Nigerian Society of Engineers Enugu Branch and; Merit Award for contribution to the Nation's Economy, September 2008, by the Manufacturers Association of Nigeria.


**Corporate Membership:** Enugu State Chambers of Commerce, Industries, Mines and Agriculture (ECCIMA); Nigerian Association of Chambers of Commerce, Industries, Mines and Agriculture (NACCIMA); Manufacturers Association of Nigeria (MAN) and; National Anti-corruption Volunteer Corps (NAVC) as integral part of Independent Corrupt Practices and Related Offenses Commission (ICPC).


**Aqua Rapha**

Aqua Rapha Investment Nigeria Limited was incorporated on 7th November 2003 (RC 498461) as a private limited liability company. AQUA RAPHA was coined from two words. AQUA is a Latin word for water while RAPHA is a Hebrew word for healing hence AQUA RAPHA implies Healing Water a product which has its foundation in God the Holy Spirit. The main objective of the company is the provision of quality drinking water and other beverages at affordable prices for the populace. Similarly the need to provide employment for the teeming unemployed youths in our society as well as provide assistance to the less privileged also informed the decision to establish Aqua Rapha. Thus the company in pursuit
of her objectives set up a plant for the packaging of table water with 3 sachet water filling machines in February 2005. This has grown to 70 sachet water filling machines in 2009 with the help of effective and efficient management. The company expanded into the production of yoghurt, manufacturing of Plastics and Poly bags, through the recycling of water cellophane bags into pelletized raw materials. The Plant has annual installed capacity of 25,000,000 (twenty five million) bags of sachet water, 500000 (five hundred thousand) crates of bottled water, 560,000 (five hundred and sixty thousand crates of Yoghurt and 292 (two hundred and ninety two) tonnes of Poly Bags. The Plant commenced production in 2005. The products recorded an instant success and attained production and sales of over 80% of installed capacity. Attesting to the excellent potentials of the company.

The Flagship Brand – Dulux

Dulux is the leading authority in the decorative paint segment and as such has always stood in the forefront on innovation and quality. The brand is a premium quality paint that provides an exceptional combination of durability and beauty. It allows consumers to fully express themselves in colours and creativity.

Today, CAP Plc fully operate in the coatings business and fully provides a wide range of quality products and services, and it brand have become household names. In November 2013, the company was awarded the ISO 14001:2004 certification on Environmental Management system (EMS). Dulux, the flagship brand, is positioned in the premium segment. Caplux is offered in the standard segment as fighter brand to protect overall volume share.

Distribution Channel

Dulux is strategically distributed through Dulux Colour Centres (DCCs) as the primary channel. Dulux Colour Centre is an innovative strategy introduced to bridge the gap between Dulux and its consumers. CAP Plc pioneered the colour centre concept in Nigeria in the year 2005, a move that began a revolution in the Nigerian paint industry.

Dulux Colour Centre Concept
The Dulux Colour Centre is a revolutionary strategy that meets the needs and aspirations of the Nigerian consumers who had expected the paints market to come up to standards as in the developed economies.

The DCC is designed to:

1. Offer customers an opportunity to express their individualism in colour.
2. Provide an array of colours (over 12,000) and excellent colour scheming with speed and high precision.
3. Provides superior colour consultancy for discerning customers who visit the Dulux Colour Centre.

The DCC operation is hinged on these pivotal factors:

1. Ambience and courtesy
2. Promptness
3. Smartness
4. Integrity
5. Team work

**Dulux Mobile Colour Centre**

Dulux Mobile Colour Centre is a mobile outlet that was introduced to get the brand closer to the target consumers. This mobile outlets also serves as an experimental marketing tool, customers get same offerings as they will get from the company’s main distribution channels (Dulux Colour Centres).
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CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 CONCEPTUAL FRAMEWORK: COMPETITIVE INTELLIGENCE DEFINED

McGonagle and Vella (1999: 212) see competitive intelligence as the use of public sources to locate and develop data that are then transformed into information, generally about competition, competitors and the market environment in the broadest sense.

Wheelen and Hunger (2010) cited in Ezigbo and Uduji (2013) define competitive intelligence as a formal program of gathering information on company’s competitors. It is one of the fastest growing fields within strategic management. Accordingly Hoffsman (2006:) Competitive Intelligence is a structured judicious method and informing strategy and an innovation engine that draws better business outcomes.

SCIP (2007) cited in Krugaer (2010) defines competitive intelligence as a systematic and ethical program for gathering, analyzing and managing external information that can affects a company’s plans, decisions and operations. It shows that competitive intelligence is information oriented and the information must be useful to organisational plans, decisions and operations.

Competitive intelligence is seen as actionable recommendations arising for a systematic process that involves planning, gathering, analyzing and dissemination of information on the external environment for opportunities or developments that have the potential to affect a company’s or countries competitive situation (Calof and Skinner, 1993 cited in Nasri (2012:2).

Competitive intelligence is a continuous process of gathering data, information and the knowledge about actors (competitors, customers, suppliers, government etc) which interact with organisation in the business environment in order to enrich the decision making process for enhancing competitiveness of organization (Poppa, 2002 cited in Nasri (2012:2).

Brody (2008: 13-16) defines competitive intelligence as the process by which enterprises gather actionable information about competitors and the competitive environment and, ideally, apply it to their planning process and decision making in order to improve their
enterprises performance. It is very important for organisation to be aware of what its competitors are doing.

According to Haataja (2011:) competitive intelligence is a strategic tool that helps enterprises to be aware of their competitors behaviours and plans. Competitive intelligence produces actionable intelligence that, in turn, helps enterprises in decision-making . A good decision leads to higher achievements; hence competitive intelligence is regarded as tool that helps enterprises to improve their performance (Shi , 2011).

Competitive intelligence is a necessity for strategic management in any enterprise that wishes to succeed. Muller (2005) sees competitive intelligence as a way to alert enterprises constantly of changes in the competitive environment. To some researchers, the objectives of competitive intelligence include enhancing enterprise competitiveness, predicting business environment, competitors actions, customer’s requirements and even influences generated by political change, providing better support for the strategic decision-making process, revealing opportunities and threats by surveying weak signals and early warnings, processing and combining data and information to provide knowledge and insight about competitors, satisfying the information needs of decision-making and problem solving, decreasing reaction time and devising marketing strategies (Ucui,2009).

Kahaner (1998) defines competitive intelligence as a cycle made up of four phases; planning and direction, data and information collection, analyses and dissemination of intelligence to those who will use it. However such process must be driven by a specified objective or purpose.

Viviers, Saayman and Muller (2005) State that the purpose of competitive intelligence is to gain competitive advantage and includes: competitor intelligence, as well as intelligence gathered on customers, suppliers, technology, environments and business relationships which give the ability to predict movements in the competitive environment, reducing the uncertainty of managerial decisions. Ultimately, the goal of competitive intelligence is to provide actionable intelligence which consists of information that has been synthesized, analyzed, evaluated and conceptualized. To achieve this goal, organisation needs to create a corporate culture of promoting a culture of competitiveness, allowing for the exchange of knowledge and ideas among individuals and departments (Viviers and Saayman and Muller 2005).
Teo and Chao (2000) describe competitive intelligence as an ethical and legal business practice and focus on the gathering of information from the external business environment which is converted to actionable intelligence and utilized in business decision making. Actionable intelligence information enables executive management teams to make strategic decisions and action aimed at enhancing the competitiveness and overall innovation performance of a firm (Ferrier, 2001).

The challenge of competitive intelligence is therefore to make fast, informed, less risky confident and correct decisions on a regular and un-ending basis, based on meaningful information that allows the decision maker to be aware of and act on changes in the competitive environment (Vibert et al, 2001).

The foundation of a good intelligence is to provide the necessary competitive intelligence to the decision maker in time to take a correct decisions. The true difference among organisations is no longer based on the information they acquire, but rather how they interpret, disburse and exploit the information (Buhlen, 2003).

According to Kahaner (1997:16), Competitive intelligence is a systematic program to collect and analyze information about competitor’s activities and general business trends to achieve the goals of the company. He further stated that competitive intelligence comprises of identification of intelligence needs within an organisation, collection of data from primary and secondary sources, evaluation and analysis, he emphasized that the main objective is to provide intelligence information for the decision making process in order to add value to the organisation.

Competitive intelligence goes beyond analyzing the competitors but include making the organisation more competitive relative to its entire environment and stakeholders; customers, competitors, distributors, technologies, and macroeconomic data. The business executives must engage in the action of defining, gathering, analyzing and distributing intelligence about products, customers, competitors and aspects of the environment needed to support making quality strategy that will enhance organisation performance (Buhlen, 2003).  

http://en.wikipedia.org/wiki/competitive
2.1.1 The Evolution of Competitive Intelligence

Competitive intelligence became a fundamental area for more and more large organisations. The development of competitive intelligence has been stimulated by global competition, the emphasis on quality management and the realization by managers about actionable intelligence. The field of competitive intelligence exists since the middle of 1960, competitive intelligence was primarily a library function and the involvement of top management in competitive intelligence towards the decision making process was limited (Prescott, 1991).

Bergeron (2002) presents Michael Porter’s work on strategic management as the catalyst that fostered renewed interest in competitive intelligence as a concept and practice in the early 1980s. During that time, significant emphasis was given to the analysis of the industry structure and competitors, making the transition from data collection to data analysis apparent. Moreover, Prescott (1999) states that this transition performed before the 80s gave employees in leading edge organisations the advantage to pilot the creation of business cases for competitive intelligence in order to illustrate to top management what competitive intelligence was, why competitive intelligence was essential and how competitive intelligence could assist in decision making. Secondly, workers appeared to be more interested in espionage and breaches than the competitive intelligence process, and thirdly the challenges for developing skills in order to transform data into intelligence.

During the last decade, an increased emphasis has been given to the strategic implications of competitive intelligence efforts. In most cases these efforts require the involvement of other initiatives such as quality improvement. The usage of competitive intelligence within organisations has significantly contributed towards the sharing of ideas, addressing competitive dynamics, identifying new opportunities and avoiding surprises (Buhlen, 2003).

2.2 BENEFITS OF COMPETITIVE INTELLIGENCE

Malrz and Kohli (1996) state that many organizations failed to use market information that is freely available to them. This issue has resulted in greater emphasis on competitive intelligence due to competing organizations having access to the same intelligence The
foundation of good intelligence is to provide the necessary intelligence to the decision maker in time to make a difference and in time to take the correct actions.

The true difference among organizations is no longer based on the information they acquire, but rather on how they interpret, disburse and exploit the information Buhler (2003). The ability to use correctly this information is the source of an organizations competitive advantage (Malrz and Kohli,1996).

Competitive Intelligence is increasingly being considered as an important, mandatory component of each organization’s overall strategy and functioning, this is because, competitive Intelligence has the ability to boost an organizations bottom line if used and developed in the correct way, based on the organization’s needs, internal organisation and competitors (McGonagle and Vella, 2004). Competitive Intelligence has earned its rightful position as an acknowledged business discipline and has become a major technique for achieving competitive advantage and organization performance (Saayman and Muller, 2005).

Competitive Intelligence’s purpose is thus to gain strategic advantage, and includes competitor intelligence, as well as intelligence gathered on customers, suppliers, technologies, environments, and business relationships, which gives the ability to predict movements in the competitive environment, reducing the uncertainty of managerial decisions (Saayman and Muller,2005).

The ultimate goal of competitive intelligence is to provide actionable intelligence which consists of information that has been synthesized, analyzed, evaluated and conceptualized. To achieve this goal, organizations need to create a corporate culture of promoting a culture of competitiveness, allowing for the exchange of knowledge and ideas among individuals and departments (Viviers and Saayman and Muller, 2005).

By achieving the above mentioned goal, Competitive Intelligence serves the following primary purposes (Calof and Wright, 2008):

a) Competitor profiling, benchmarking, assessment and tracking.

b) Market, industry, political, customer, supplier, and technological profiling, benchmarking, and assessment.
c) Early warning of opportunities and threats.

d) Support for strategic planning and implementation.

e) Support of strategic decision making.

Hoffman (2006) states that “Competitive Intelligence offers a framework that helps companies break away from the pack”. Hoffman identifies the need for competitive intelligence as a means for scanning rival organisations for threats allowing the organisation to be optimally configured and positioned to confront threats and adapt instantly to changes in the competitive environment, if it is done optimally will result in significant value for the organisation overriding costs of the competitive intelligence process.

Kahaner (1996) acknowledged that some of the objectives of using an organized information system of competitive intelligence includes: discovering new potential competitors or customers and supporting starting of new businesses, identifying and analyzing new technologies, product and processes that influence organisations activities and behavior, identifying and analyzing situations from competitors, customers, suppliers, that evolved into successes or into failures. There are many empirical studies that support this claim, according to Miller (2001), executives at companies with top-notch competitive intelligence programs agreed that they have a better understanding of the competitive landscape such as having a universal view of where competitive threats and opportunities lie.

Vedder et al (1999), assert that the understanding of the competitive landscape by the executives helps them to quickly get on the same page with regard to competitive understanding and move more quickly toward devising strategies and plans to maximize competitive advantage and therefore increasing organization performance.

Also, several theoretical approaches, such as competitive forces, the resources-based theory of the firm and the dynamic capabilities approach all support the idea that competitive intelligence is able to provide the organization with sustainable competitive advantage (Santos and Coricia, 2010).

2.3 DIMENSIONS OF COMPETITIVE INTELLIGENCE
The five empirical dimensions of competitive intelligence identified by Saayman et al (2004).

(1) **Process and Structure**

The success of competitive intelligence process requires appropriate, and a formal (or informal) infrastructure allowing employees to contribute effectively to the competitive intelligence system Vivers et al (2005). Without visible support by management the function will never be viewed as priority in existing initiatives in larger organisations. Such a formal structure would involve dedicating a competitive intelligence manager to guide and drive the collection, analysis and dissemination of intelligence within organisation. Such a person needs to be trained in developing and running competitive intelligence and should be well respected at all levels in the organisation, preferably be a member of the executive team and needs to have an understanding of the industry and organisations to also benefit from his/her contact network. Furthermore, competitive intelligence is a strategic management tool and is situated close to the strategic decision makers and not in a line functional department Vivers et al, (2005). An organisation’s structure is supported by the appropriate organisational culture (Dishman, 2007).

Indeed, research undertaken by Wright et al, (2002) suggests that the overriding influence on successful competitive intelligence activity is the existence of a management style, culture and structure which encourage trust, facilitate communication and encourages the easy flow of information.

(2) **Planning, Focus and Collection**

This phase provides the necessary direction to the competitive intelligence efforts, ensuring that the operation focuses on collection and analyzing only key data relevant to specific intelligence requirements (Viviers et al, 2005).

Herring (1999) asserts that systematic KIT process for the identification of specific intelligence needs for organization. The key intelligence topics (KITs) are assigned to one of three functional categories: strategic decisions and action, including the development of strategic plan and strategic; early warning topics, including competitor initiatives, technological surprise and governmental actions; and description of the key players in the specific marketplace including competitors, suppliers, regulations and potential partners.
Fahey (2007) has identified five strategic inputs that an intelligence researcher needs to focus: market place opportunities, competitor threats, competitive risks, key vulnerabilities and assumptions. He argues that each type of intelligence input requires considerable judgment value-added on the part of intelligence professionals.

(3) **Data Analysis and Quality Control**

It is here that meaning is attached to volume of information and put in the adequacy context. The decision makers require for effective decision making. The analysis phase of the competitive intelligence process is the most difficult part (Du Toit, 2003).

A variety of analytical tools are used to analyze information, including PEST (political/legal, economical, social-cultural and technological analysis), Porter’s five forces model, SWOT (Strength, Weakness, Opportunity and Threat) analysis and competitor profiling. When applied correctly, these analytical models convert disparate pieces of information into actionable intelligence. The analysis phase ends by making some intelligence products which take the form of some documents and activities such as: company profiles, competitive benchmarking, market or industry analysis, customer or supplier profiles, technology assessments, daily reports, strategic impact analysis, and risk and opportunities bulletin, daily competitive intelligence bulletin. The analysis technique of choice depends largely on the nature of competitive intelligence (tactically centered or strategically centered e.t.c.). The ability to perform appropriate analysis and interpretation is vital for the success of the process of competitive intelligence (Du Toit, 2003).

The quality of the intelligence produced through a competitive intelligent process can be measured across one or more of the following attributes (Eppler, 2003).

**Accuracy**: Does the intelligence normally prove to be accurate?

**Clarity**: Is the information understandable or comprehensible to the target group?

**Usability**: Must be in a form that facilitates ready comprehension and immediate application.

**Depth**: Is the intelligence provided sufficiently detailed to facilitate the definition of counter measures?
Relevance: Does the intelligence cover topics that are relevant to the day-to-day management of our business?

Responsiveness When special requests are made does the system provide a response within an acceptable timescale?

Timing: Is the intelligence received with sufficient lead time for the company to make effective plans?

(4) Culture and Awareness

To utilize competitive intelligence efforts successfully, there is the need for appropriate organisational awareness of competitive intelligence and culture of competitiveness (Vivers, 2005).

Awareness of the importance of intelligence competitive needs to be created in the organisation. Without proper awareness and attitudes that favour information sharing, it is difficult to develop intelligence within an organisation. Competitive intelligence is the ability to fully understand, analyse and assess the internal and external environment associated with customers, competitors, markets, industry and use the acquired knowledge to find new opportunities and stay competitive. There should also be mechanisms in place to support employees in identifying intelligence that is of significance (Murphy, 2005).

To be successful, managers must create a culture within their organisations that promotes a culture of competitiveness and of exchanging knowledge and ideas among individuals and departments (Viviers, 2005).

(5) Skill Development

To be effective, competitive intelligence must reach the right people within the organisation, and they must be willing to act on it and contribute towards competitive intelligence. A variety of disciplines can be represented: marketing and sales, production and distribution, product
development, finance and accounting. They must be capable of carrying out a variety of basic intelligence activities in a professional and proficient manner (Herring, 1997).

Prescott and Miller (2001) state that all employees can be trained to provide information for the competitive intelligence group and that they are most likely to do so if they receive information in return to enable them make valuable decisions. For example, marketing, sales and service staff are always aware of market behaviour and trends, and of how competitors are creating them or usually responding to them. Sales people are more than likely dealing with more than one organisation, smaller organisations will not only be able to find out about changes in their supplier industries but also will be able to obtain information about what their competitors are doing. Although training is an additional construct to the competitive intelligence process, it is clear that training contributes to the success of each of the phase in the competitive intelligence cycle (Strauss and Du Toit, 2010).

Embedding competitive intelligence necessitates considerable training throughout the organisation. Employees need to know the rationale for the program. They need to perceive the usefulness of the competitive information they encounter. Finally, every employee must be motivated to become active in the program. Employees need education about possible sources of information that exist and about how to communicate in other to make the process work. A good intelligence program works only if everyone participates, (Strauss and Du Toit, 2010).

Incentives- without incentives to provide a personal benefit, employees lack motivation to join the intelligence effort. Many organisations motivate their employees to contribute by simply feeding back information through newsletters, emails or competitor information bulletin boards. Other organisations give awards to employees who have contributed to vital market and competitor information management (Strauss and Du Toit, 2010).

Awareness- even in high-morale organisations whose employees are happy to contribute vital information to management, individuals need to know what information is important and who need to know what information is important and who needs it. Organisations raise employee awareness in many ways. For example Xerox’s copier group constantly “broadcasts” competitor information through the organisation via bulletin boards and displays. In one long corridor, for example, the Competitive Assessment Team posts competitors’ newspaper
advertisement to raise awareness of competing products, features and prices (Strauss and Du Toit, 2010).

2.4 DEMANDS FOR COMPETITIVE INTELLIGENCE

There is demand for Competitive Intelligence, how Competitive Intelligence adds value in organizations and how the value of Competitive Intelligence can be assessed.

1. The Need for Competitive Intelligence

Today the business environment is changing rapidly and in many industries the competition takes place at a level. Leaders are concerned especially about unpredictable and discontinuous changes in competitive, technological, regulatory and social environments (Gbosbal and Kim, 1986).

A 2002 survey by the Academy of Competitive Intelligence shows that as many as 92 % of managers reported that during the past five years their company faced at least one surprising event that had the potential to impact their long-term market position. 24 % of the respondents reported that they had faced such an event more than three times during the past five years (Gilad, 2003:7).

In the end, the need for CI is based on the fact that decision-makers need timely and accurate actionable intelligence in order to make good business decisions. To put it simply, CI helps managers and leaders to make more informed forward-looking decisions (Bose, 2008).

2. The Value of Competitive Intelligence

Today Competitive Intelligence is getting more attention from the top management as executives are more concerned about the different threats to the competitive advantages of their companies (Juhari and Stephens, 2006).

Thus, Competitive Intelligence has become an essential element helping executives to make better and more informed strategic and tactical decisions. In addition, Competitive Intelligence function itself can be a source of competitive advantage (Hughes, 2005).
Companies usually base strategic decisions on certain assumptions (Mintzberg, 1994). In an ideal situation, the company can test and validate the core assumptions with the help of CI. Furthermore, Competitive Intelligence can help in identifying the possible gaps that a company did not originally recognize in its assumptions. Competitive Intelligence helps the company to better understand its industry, its competitors as well as the company itself. Therefore CI can also contribute to the strategy formulation (Bose (2008)).

Competitive Intelligence itself does not create any value. Value is created when the intelligence is used in decision-making. A study by the Competitive Intelligence Foundation (2006) found that companies expect the value of CI to realize in the following areas:

i. new or increased revenue;
ii. new products or services;
iii. cost/time savings;
iv. profit increases; and
v. financial goals

Competitive Intelligence Foundation (2006) also found that companies are focusing on the following key intelligence topics (in rank order):

1. Company profiles;
2. Competitive benchmarking;
3. Early warning alerts;
4. Market or industry trends;
5. Customer or supplier profile;
6. Technology assessment;
7. Economic/political analysis; and
8. Executive profiles.
2.3.3: Measuring the Value of Competitive Intelligence

In this context, we need to first consider what the concept of value actually means. Lönnqvist and Pirttimäki (2006) recognize that in the context of business intelligence or Competitive Intelligence, value can be assessed from two perspectives:

(1). In terms of improved profit of the company that is using the intelligence; and

(2). From the perspective of the individual user in terms of perceived usefulness. Kelly (1993) also points out that CI does not have any value if the information is not used. The value comes from the decisions that are based on CI. The profitability of an investment can be measured by calculating the return on investment (ROI):

If we want to calculate the return of investment of a CI investment, we need to first take into consideration all the costs related to the CI activity. This includes for example labor costs, software costs and information acquisition costs. However, the most difficult part is to estimate the gain from the investment. Lönnqvist and Pirttimäki (2006) argue that the measurement of the gain from the investment is challenging, because it is difficult to determine what part of the financial outcome was a result of the CI investment. In addition, there is usually a time lag before the financial gains are realized.

Competitive Intelligence inputs refer to the costs related to the CI project and CI outputs refer to the gains from the CI project. Both costs and gains should be measured in financial terms. However, the monetary value can be only an estimate that is based on several qualitative factors, for example, how satisfied the decision-maker was with the information and how well the objectives were achieved. Herring (1996) states that there are four areas that can be considered when the value of CI is estimated:

1. Time savings;

2. Cost savings;

3. Cost avoidance; and

4. Revenue enhancement.
However, the problem of how to measure these effects still remains. A survey by Marin and Poulter (2003) provide additional interesting methods on how companies are measuring the value of CI in real life. Actually, more than half of the respondents were not measuring the value of CI in any way, but the rest had implemented some interesting and even creative methods (the category of the method is in brackets):

The intelligence created by the CI unit is compared to the cost of hiring consultants (cost avoidance).

i. The win/loss ratio of strategic deals where the CI team was involved is compared to the same ratio of deals where the CI team was not involved (revenue enhancement and cost avoidance).

ii. Key intelligence users are surveyed periodically (perceived value of the decision-maker).

iii. Analysis of revenue-generating opportunities that CI contributed to (estimated revenue enhancement).

iv. Analysis of cost savings that CI contributed to (cost savings).

2.5: ORGANIZATION OF COMPETITIVE INTELLIGENCE ACTIVITIES

Competitive Intelligence activities are organized in corporations as follow:

1) Competitive Intelligence Cycle

The Competitive Intelligence cycle is by no means straightforward. Instead, the cycle is highly iterative and consists of series of iterations both within and between the different phases (Bergeron and Hiller, 2002). For example, there might first be several iterations only within the phase one when the managers are designing the CI system.

The first phase consists of planning and directing of the CI system. In this phase one of the most important tasks is to define what information is needed and by whom. This requires a systematic and cooperative communication between CI professionals and the intelligence users in order to define the company’s intelligence needs (Herring, 1999). These intelligence
needs can be also referred as key intelligence topics (KITs) that are used to identify and prioritize the decision-makers’ areas of interest (Prescott, 1999).

The second phase consists of the actual collection of data and information. There are several possible sources of data and information as well as several methods to collect data and information.

After the data and information has been collected from various sources, the next phase is to transform it into intelligence. This is the part of the CI cycle where most of the value is created. However, this phase is at the same time extremely complex (Bergeron and Hiller, 2002).

Most of the actual analytical techniques and frameworks are taken from other disciplines including, for example, management science, marketing, economics, and information sciences (Bergeron and Hiller, 2002).

The choice of methods naturally depends on the type of data and information as well as on the type of the topic. As there are various ways in which this phase can be executed, the success of the phase eventually depends on the capabilities of the CI professionals that are responsible for analyzing the information and drawing the conclusions. Taylor (1986) has presented a framework, the value-added spectrum, to examine how data is transformed into productive knowledge that decision-makers can act upon.

The final phase of the cycle consists of dissemination and evaluation of the intelligence. Today, technology plays a major role in the dissemination part and technologies like corporate intranets, online discussion groups and e-mail are often used to disseminate the intelligence. Although technology can help and streamline the dissemination of the information, Marin and Poulter (2004) state that in order to be effective, the dissemination has to be person-focused. The today’s challenge is the huge amount of information and therefore the intelligence reports should be customized and targeted to specific decision-makers in order to be effective (Marin and Poulter, 2004).

The value of CI is another issue that has to be considered in the final phase. ROI-based framework for assessing the value of a CI investment. Considering the number of phases in
the CI cycle, there is some variation between different authors. Some scholars divide the process into three phases, some into five and some even into seven (Bergeron and Hiller, 2002).

However, in the end, the difference between the models is mostly in how much details are presented in the different components of the cycle. Most of the commonly used CI process models cover essentially the same core elements (Bergeron and Hiller, 2002).

It is evident that the CI cycle is such a complex activity that it cannot be automated entirely with any technologies. However, information technology tools are today the core of any CI system. For example, online databases, intelligent agents, intranets, extranets, enterprise resource planning systems, document management systems, text analysis tools and data warehousing solutions play a key role in any modern CI system (Bergeron and Hiller, 2002).

(2) Types of Competitive Intelligence Use

Cartwright et al (1995) suggest that there are four types of CI use in companies: adhoc, continuous-comprehensive, continuous-focused and project-based.

Adhoc refers to a situation where CI is used in a specific situation, for example, in response to an event in the competitive environment. The nature of ad hoc CI’s output is one-time and it is usually focused on a competitor, competitor’s product or competitive event that may have an impact to the company. Ad hoc CI does not require a formal CI function, and in fact, it is often informal and uncoordinated approach to create actionable intelligence. (Cartwright et al, 1995).

Unlike the ad hoc type of CI, continuous-comprehensive CI is performed continuously and it covers the whole spectrum of the competitive environment. This usually involves a formal CI staff and even a CI unit, and requires a comprehensive information development and distribution system (Prescott and Smith, 1987). The continuous-focused type of CI is similar to the continuous-comprehensive type of CI, but the approach is narrower and ongoing analysis is performed only on selected topics. These may include, for example, specific competitors or other strategic areas defined by the key decision-makers. (Cartwright et al., 1995).
Project-based CI is refers to a CI activity that is related to a specific project. The analysis focuses only on the relevant issues related to the particular project and therefore also the outputs are usually more focused compared to the comprehensive type of CI. In a project-based CI the CI activities are usually performed by a project team, which means that the organization for CI is temporary (Prescott and Smith, 1987).

2.6: THE POSITION OF COMPETITIVE INTELLIGENCE ACTIVITIES IN AN ORGANIZATION

Many corporations have formal CI units that provide managers with actionable intelligence that helps them to make more informed decisions about critical business matters such as investment decisions, marketing activities and strategic planning. An influential milestone that speeded up the development of formal CI activities occurred when Porter (1980) argues that it was not nearly enough for companies to have informal intelligence gathering processes. Instead, Porter (1980) saw the need for systematic and continuous intelligence gathering processes in order to identify opportunities and threats. During the 1980s, companies started to increasingly hire CI practitioners which also led to the founding of the Society of Competitive Intelligence Professionals in 1986 (Prescott, 1999).

Competitive Intelligence encompasses several business activities and organizational elements (Calof and Wright, 2008). CI should not be an independent business unit or a process that operates in isolation from the other business functions or information processes (Bergeron and Hiller, 2002). Instead, CI should be an organizational learning process that via sense-making and knowledge-creation transforms pieces of data into the organization’s view of the world (Choo, 2002).

Calof and Wright (2008) state that CI practitioners should be able to work across different functions acting as a “glue” between disparate functions. This way the CI professionals can influence significantly to the success of the organization.
Bergeron and Hiller (2002) state that the main actors of a CI process can be divided into three categories:

1. The CI professionals who manage the CI process;
2. Decision-makers who act upon the actionable intelligence produced by the CI process; and
3. Members of the organization who form the human intelligence network.

An organization may have one or more formal CI units or not any formal CI units at all. A corporation can also organize CI in a centralized or decentralized manner (Gilad and Gilad, 1986). In a decentralized approach the CI professionals are scattered around the organization’s business units. In a well-organized situation there would be at least some collaboration between the information specialists and analysts that are located in the different business units. In the real life this is not always the case, but it is important to understand that separately working CI units might lead to a piecemeal CI that causes a lack of strategic intelligence.

If business units have similar customers and competitors, a lot of synergies can be achieved by centralizing the CI activities. If the customers and competitors differ significantly between the different business units, the CI activities should be decentralized. However, also in the decentralized situation there should be collaboration between the different CI units at least in the form of best practice sharing.

Gilad and Gilad (1986) state that some elements of a CI system remain decentralized in either case. For example, some internal business and technical experts with specific knowledge remain always in their business unit, which means that it is important to enable information exchange and collaboration between different actors. The organization of CI depends also highly on the size of the company. In general, small and medium-sized companies tend not to have any formal CI units or CI professionals (Bergeron and Hiller, 2002).

Instead, CI activities are carried out in a more informal way by the decision-makers themselves or other people working closely with the decision-makers. Earlier in this chapter we presented the different types of CI use: ad hoc, continuous comprehensive, continuous-focused and project-based. We can argue that in a situation where a corporation does not have
a formal CI unit, the type of CI use is *adhoc* or project-based. It is also evident that continuous-comprehensive and continuous focused types of CI units usually require a formal CI unit whereas the *ad hoc* and project-based CI can be organized in an informal way.

Gibbons and Prescott (1996) stress that regardless of whether or not a company has formal CI units, individual business units tend to always conduct their own informal CI activities. The problem with this is that these extra CI activities are duplicative and not collaborative with the formal CI units.

Considering the two perspectives of approaching the organization of CI, formal versus informal and centralized versus decentralized, we can propose a two-dimensional framework for analyzing the organization of CI in companies. In the framework, the level of formality is presented on one axis and the level of centralization on another axis. According to this framework, there are four ways to organize CI. Furthermore, we can claim that the different forms of organization involve different types of CI (Gibbons and Prescott, 1996).

In the case of informal CI activities, the level of centralization does not apply, because informal activities are always carried out by some independent groups or individuals in the organization. Informal CI activities tend to lack the continuous aspect, so the type of CI use is *adhoc* or project-based. It needs to be emphasized that the different ways to organize CI activities are not mutually exclusive. In other words, a company may have a formal centralized CI unit simultaneously with informal CI activities occurring in different business units. It is even possible to have a formal centralized CI unit together with several formal decentralized CI units which is considered as a so called support approach by Gilad and Gilad (1986).

**2.7: SOURCES OF COMPETITIVE INTELLIGENCE**

A common way to classify the sources of CI is to divide them into primary and secondary data sources (Bergeron and Hiller, 2002). Primary data sources consist of direct observations, participation on trade shows or seminars, reverse engineering and human intelligence networks. Human intelligence networks by itself is a wide area as it can contain several types of contacts for example, employees, clients, competitors, consultants, journalists,
government officials, shareholders, and suppliers. Secondary data sources are resources that already exist and are not directly related to the specific problem at hand (Nair, 2009).

Secondary data sources are, for example, online databases and other internet sources, journals and company’s internal documents (Bergeron and Hiller, 2002). Also social media falls into the category of secondary data sources (Bergeron and Hiller, 2002).

Considering the secondary data sources, it is always important to consider the quality of the data. Reliability of the data can be evaluated by investigating who has collected the data and how accurate it is (Nair, 2009: 93). A researcher should also consider the suitability and adequacy of the data which depends on the project at hand (Nair, 2009).

A study by Marin and Poulter (2003) recognized ten major sources of CI that companies tend to use. The five most important sources were news providers, corporate web sites, trade publications, competitors’ annual reports and employees. The big picture has probably not changed after 2003, but we can argue that today social media has the potential to be a new recognized source of CI. In 2003, social media was not recognized as a source of CI, but it can be compared to current awareness services that were the eighth most popular source of CI according to the 2003-study (42 % of the respondents indicating the use of it).

3. **The Challenges of Organizing Competitive Intelligence**

Although the importance of an effective CI system is widely recognized, there are still a lot of challenges that companies are facing with CI. Companies are struggling with recognizing the useful information sources, finding the right tools and integrating CI into the actual decision-making processes (Juhari and Stephens, 2006).

Considering the level of centralization of CI activities, there exists challenges both in a centralized and decentralized approach. Gilad and Gilad (1986) have identified four problems that corporations often face when they are implementing centralized CI systems:

1. **Number of collection targets:** For a centralized CI unit it is challenging to track a big number of topics.

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

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

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

Gilad and Gilad (1986) have identified three challenges that corporations face with decentralized CI systems:

1. **Resources:** An individual business unit has often very limited resources when it comes to intelligence gathering and analysis.

2. **Perspective:** The focus areas of an independent business unit differ from the corporate parent’s. Therefore a decentralized system may lack the strategic point of view of the parent.

3. **Efforts:** In a decentralized approach the different business units may have duplicate resources which mean that the corporation as a whole is putting too much effort to CI causing inefficiencies.

Gilad and Gilad (1986) have found a support approach to work well in many companies that have first tried both centralized and decentralized organization models. In the support approach, there exists a corporate level as well as business unit level intelligence units. The objective of the corporate level intelligence unit is to support business level intelligence units and conduct intelligence activities that are of interest at the corporate level.

Gilad and Gilad (1986) propose that the corporate level intelligence unit is responsible for educating managers and employees, acting as a quality control to the intelligence activities, conducting intelligence activities at the corporate level and offering other expertise to the business unit level intelligence functions. The business unit level intelligence functions can then focus solely on areas that they find to be the most important in the specific business unit.
Bose (2008) sees two general problems that companies have with CI: ignorance and arrogance. First, some companies are simply missing the skills of gathering and analyzing external information properly and effectively. Secondly, some companies arrogantly ignore the use of Competitive Intelligence, because they believe they are already serving customers better than anyone.

2.8: COMPETITIVE INTELLIGENCE PROCESS

Competitive intelligence is often described as a continuous process consisting of several sequential phases. The literature presents many different but only slightly varying process models (Choo, 2002; Vitt et al., 2002). Pirttimäki and Hannula (2003) state that the most significant distinctions between the process models occur in the number of phases, structure of cycles, and sources of information.

First, what information is needed in the organisation needs to be identified. Second, information from multiple sources according to the needs is gathered. Third, the information is processed and analysed applying suitable analysis tools and methods. Fourth, information is disseminated and shared in form of analytical, presentations, reports and so on, and stored in databases or other suitable places. Finally, the information is used to make decisions that steer the organisation towards its goals. This competitive intelligence process is often illustrated as a cycle. The last phase of the process leads to the very first phase, thus starting it all over again. The following subsections discuss the phases in more detail (Choo, 2002).

(1) **Identifying Information Needs**

The competitive intelligence process starts by identifying information needs i.e. what information is really needed, when, and in which format in order for the company to make sound decisions. This is the base of a successful competitive intelligence process, since without it is not possible to understand what information is useful, making it impossible to acquire it (Fuld, 1991; Choo, 2002). The key tasks of this phase are

1. defining the most important information needs
2. reducing the accumulation of excess information
3. promoting the use of relevant information
4. keeping critical information safe from those who do not need it to perform their tasks.

Case (2002) defines information need as recognition of the existing knowledge being insufficient to reach the target. Nicholas (2000:23) states that it is the information a person should have in order to perform his tasks or solve a problem in a satisfactory way. A company’s information needs can be described on macro level: the company needs information regarding anything affecting for the pursuit of the goals. As a company’s collective knowledge consists of individuals’ knowledge, so are the company’s information needs derived from individuals’ needs: what information the sales department needs about a competing product, or what information a marketing manager needs in order to decide on how to promote a new service to customers.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Key tasks</th>
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<tr>
<td>Identifying information needs</td>
<td>- Defining the most important information needs</td>
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<td>- Reducing the accumulation of excess information</td>
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<td>- Promoting the use of relevant information</td>
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<td>- Keeping critical information safe from those who do not need it to perform their tasks</td>
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<td>Information gathering</td>
<td>- Acquiring information from different sources</td>
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<td>- Evaluating the quality, reliability and usefulness of the information</td>
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<td>Processing and analysis</td>
<td>- Evaluating the quality, reliability and usefulness of the information</td>
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<td>- Indexing and storing the information</td>
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| Dissemination and sharing | - Analyzing the information  
- Delivering the information to decision-makers  
- Sharing information and insights with others |
|--------------------------|--------------------------------------------------------------------------------|
| Utilization              | - Doing actions based on the understanding given by the received information  
- Giving feedback whether the information satisfied the need or created new ones |


According to Frishammar (2003) less experienced people need more information to back up their decisions and rely more on the information gathered by the organisation than the more experienced colleagues.

Wright and Ashill (1998) find that experience increases the predictability of information needs, but does not correlate with how well the needs are or can be met. The factors affecting information needs can be described by asking what, what kind, and when:

1. the job description and responsibilities affect the topic (what)
2. the type of decisions being made affects the subject and focus (what kind)
3. the business cycle of the company and industry affect the timing (when)

The fourth factor that is not directly to do with information needs as such but more with meeting them, is the hopes and wishes regarding in which form the information is preferred to be received (how).

After identifying the need a request for the missing information is made and it can be assigned, for example, to an internal information provider (e.g. an analyst), an external information source (e.g. a research institution) or an information system (e.g. a data warehouse, Internet search engine). However, before making efforts to get the information the need should be evaluated and prioritised. Not all information needs can or even should be satisfied: despite the fact that the information is considered to be essential to decision-making its acquisition may be far too expensive or simply impossible. For example, a personnel manager would surely need to know which employees will be on sick leave in the coming
week in order to recruit the necessary stand-ins or allocate the assignments, but there is no way of knowing who will fall sick and when. Wright and Ashill (1998) state that the following questions for evaluating information needs:

1. Availability: is it possible to make the information needed available in time to support the decision?
2. Cost vs. benefit: are the costs of acquiring the information proportionate to the benefits gained from it?
3. Time: how urgent is it to provide information in order to make the decision?
4. Uncertainty: how do changes in the business environment affect the life span of information?
5. Cost of error: what will be the consequences and costs of making a bad decision without adequate information?

(2). Information Gathering

The next phase is to gather information from suitable sources according to the needs identified. The key tasks of the information gathering phase are

1. acquiring information from different sources
2. evaluating the quality, reliability and usefulness of the information. (Choo, 2002)

Choo (2002) states that information sources should be chosen carefully and their observation and evaluation should be continuous. This is important in order to ensure the reliability of information. Criticality is crucial especially when the information is obtained from an external source. Depending on the source’s own interests the information’s truthfulness can be questioned. For example, companies may deliberately spread erroneous information, that is, misinformation in order to mislead their competitors. According to Choo (2002) information should be acquired from many different sources so that the company can choose the information that is most relevant and best suited to its purposes. Using multiple sources also helps in corroborating information and therefore gives more certainty in using the information.
The sources of competitive intelligence are various: from informal and personal human contacts (e.g. colleagues, customer representatives) to formal and impersonal (newspapers, marketing reports) (Butcher, 1998).

The most used sources are often the explicit ones, such as reports from a database, news service feeds or consultant analyses, because due to their definite form they are easier to access and utilise. For example, using a search engine to find information in the Internet is cheap, quick and brings abundant answers related to the search terms used. However, the search results, though numerous, may not be very accurate or useful in any way. In addition, information obtained from a source available to everyone, such as a public database, does not bring much of an advantage to a company, because the competitors can equally obtain the same information from the same source. Therefore unique sources that possess relevant knowledge are of great value, even though they may be more difficult to reach.

Often impersonal sources and human sources can be overlapping or used to complement each other: information obtained from a personal source may originally be from an impersonal source. For example, a subordinate has read a consultant report and tells his peers and superiors in a meeting about its core content and implications. Such human sources are especially valued, as in addition to an actual piece of information they can provide in-depth knowledge and interpretations regarding it (Erickson et al., 2003; Frishammar, 2003).

Fuld (1991) and Fleisher (2001) state that they are the best sources to acquire the most critical pieces of information in competitive intelligence.

Wright and Ashill (1998) state that the volatility, uncertainty, diversity of the situation and cost of error affect the information gathering and analysis: the more complex the situation is, the more frequent and formal the information gathering should be. Consequently, increasing diversity calls for more analysed and summarised information.

(3). Processing and Analysis
Information gathered from different sources is not usually in such a form that it can be utilised as such in decision-making and therefore it needs to be processed. The key tasks of processing and analysis phase are

1. evaluating the quality, reliability and usefulness of the information
2. indexing and storing the information
3. analysing the information.

Accordingly, information is evaluated for its reliability, validity and timeliness, and information not meeting the criteria is discarded (Gilad and Gilad, 1985).

The remaining information is analysed in order to understand its meaning from the point of view of the company or the situation in hand. Analysis can be defined in many ways, but it is basically performing different activities and applying suitable techniques to interpret information to understand its implications for a given situation (Gilad and Gilad, 1985).

Many companies have people called analysts, whose job it is to analyse, information in a certain context. In the competitive intelligence context their job revolves around three central questions they try to answer: “what?”, “so what?”, and “now what?” (Fleisher and Bensoussan, 2007).

However, it can be argued that analysis is an essential part of all decision-makers’ work in a company. Even though they are provided with a concise analysis of information, they interpret it from their own viewpoint, adding their own experience and knowledge to it. This way analysis (i.e. the knowledge it holds) can also be input for another analysis (Gilad and Gilad, 1985).

Analysing information may include performing activities such as conceptualising, describing, explaining, extending, forecasting, hypothesising, illustrating, modelling, predicting, re-organising, synthesising, visualising (Johnston, 2005).

Quantitative information can be analysed by statistical means or data mining techniques to aggregate meaningful patterns. Data mining techniques can quickly rake through massive amounts of data searching for hidden patterns that reveal predictive information and summarise it in a useful form for decision-making (Fleisher et al., 2008). Well-known
analysis tools, such as SWOT, PESTEL, Five-Forces, scenario technique etc., can be applied to make sense of the external environment (Porter, 1980; Stoffels, 1994; Fleisher and Bensoussan, 2007; Bensoussan and Fleisher, 2008).

As noted earlier, information, is assessed for, its usefulness and necessity as it is gathered. Often it is also analyzed to some proportion at the same time. The end product of analysis is some sort of synthesis and increased knowledge and understanding of the issue. Analysis can be made by the person gathering the information or, if that person is not the end user, it can be disseminated as such to users. In any case, from their own point of view decision-makers make their own analyses based on the information received. If there are designated personnel responsible for competitive intelligence, they usually brief the conclusions to the decision-makers as some sort of information products (Kamensky, 2008).

4. Dissemination and Sharing

As stated in the preceding section, if the analysis is made by someone other than the end user, it needs to be delivered to the end users so that they can act on it. In addition, the phase includes sharing one’s interpretations and insights derived from the information with others in the company, for example, by discussing it at meetings and in coffee breaks. Accordingly, the key tasks of the dissemination and sharing phase are

1. delivering the information to decision-makers
2. sharing information and insights with others.

In order to benefit from the information analyzed it needs to be made available to those who may find it useful in their work. This can be done by delivering information products or giving oral presentations, having phone discussions and so on.

Information products produced by competitive intelligence personnel vary from regular newsletters, memos, presentations and market reviews to personalised ad hoc reports (Pirittimaki, 2007).
Information products in explicit form can be delivered by technological means, such as intranet, email and webcasts, or whatever is the suitable channel or media for each occasion. Disseminating information within companies is increasingly linked to technology, even though it can be argued that the most valued way of sharing competitive knowledge is through personal, informal human interaction. For example, discussing the figures and implications of a market report during lunch is actually collective analysis of the information. This creates insights and new knowledge between the participants of the discussion which they can use in their work. However, this kind of informal and oral sharing of information does not guarantee that information reaches the users sufficiently and in time. Therefore, enabling wider discussions in explicit form that enable their sharing to a wider audience often requires the use of suitable technological means (Kamensky, 2008).

### 4. Utilization

The most sophisticated and accurate analysis or crucially important information delivered in time is of no value if it is not taken into account, that is, if it is not used. In order to benefit the company, information needs to have an impact on the decision making. Therefore, a focal part that clinches the value of the competitive intelligence process is the utilization phase. The key tasks of the phase are

1. Making actions based on the understanding given by the received information
2. Giving feedback whether the information satisfied the need or created new ones.

Decision-makers evaluate the information they receive for its usefulness and benefits and decide whether it should have any impact on their actions. Even though the information is
timely, accurate and very valuable, the decision-maker may ignore it or decide to not act as the information indicates (McKei-tzie et al., 2011).

Thus even if information is utilised to back up decisions, it does not necessarily mean that the information always leads to the best decision. Using information leads to action, and this again creates change that affects its surroundings. Information is used to form a decision that guides the activities, it therefore simultaneously gives input for the information gathering and analysis phases (McKei-tzie et al., 2011).

To complete the cyclic process, there is usually a perception of how useful or accurate the decision-maker found the information that the process produced and delivered. This feedback may be as simple as noting that the original information need was not satisfied, that is, the ultimate question could not be answered with the information gathered and analysed, and that additional information is needed to solve the problem. The feedback may lead to new information needs or gathering extra information, starting the cycle all over again (Case, 2002).

2.9 IMPLEMENTATION OF COMPETITIVE INTELLIGENCE

Carrying out competitive intelligence process and benefiting from it is not as straightforward and simple as the theory might suggest. It can even be argued that the competitive intelligence process described above is not even applicable as such in everyday business life. Not all companies have a systematic and organised competitive intelligence function such as a competitive intelligence unit or full-time analysts dealing with external information. However, it can also be argued that every company does at least perform some of the phases of the competitive intelligence process (i.e. defining information needs, information gathering, processing, analysing and utilisation). Competitive intelligence activities are not always conducted consciously and in a businesslike manner; they are rather ad hoc and non-systematic in nature. In many companies intelligence processes and activities are not formally documented or acknowledged. The implementation of competitive intelligence is impacted at least by
1. How the operations are organized within a company
2. The methods used to carry out the activities
4. Competitive intelligence can be implemented in various ways depending on the company. For example, a competitive intelligence process can be carried out by each individual as a personal information management process (McGonagle and Vella, 2003). In this case, each individual, after recognizing that he needs more information to complete a task, funds the sources, acquires the information he can combines the bits and pieces to increase his understanding of the issue in hand (McGonagle and Vella, 2003).

This is often the case in small and medium sized companies, where information dissemination and sharing is often irregular and intuitive (Groom and David, 2001). In addition, in small companies information storing is frequently inconsistent: decision-makers store information in random places in documents and information systems. On the other hand, small company size may enable information to flow quite freely and openly. As the company grows and becomes more international so often does the need for a more formal structure of implementing competitive intelligence (Groom and David, 2001).

Many companies have a designated personnel or a competitive intelligence unit or department responsible for carrying out and coordinating the competitive intelligence activities. These units usually consist of several analysts and in many cases their own manager (McGonagle and Vella, 2003).

Competitive intelligence units, if not having a complete department for themselves, are often located under marketing, sales or corporate development departments, or directly under the top management. The unit acts as a screen between information overload and decision-makers by preventing unnecessary information from getting into the decision-making process. Correspondingly, the main job of such a unit is to ensure that the information needs are met by providing decision-makers with relevant information, often in the form of different kinds of information products (Choo, 1998). Authorising competitive intelligence personnel to carry out the process can be justified by cost efficiency (Murray, 2005).
It enables other employees to focus on their core duties instead of having to satisfy their information needs individually: It also eliminates overlapping information acquisitions by centralizing, for example, the purchase of consultant reports. A lighter version of such a unit is having full-time analysts located under different departments (Murray, 2005).

Competitive intelligence software and portals are often used to support other functions. They act as storage for information and information products and help in processing the information. Competitive intelligence software offers tools such as data mining or text visualisation to help identify patterns of data or summarising and communicating the significance of information. Competitive intelligence portals are used to centralise the storage and exchange of competitive knowledge and also restrict access to those who need it in their job. The choice of how to implement competitive intelligence depends on several features of a company (Murray, 2005).

2.10 HUMAN INPUT IN COMPETITIVE INTELLIGENCE

Employees as Knowledge Sources

A great deal of competitive knowledge is latent inside the company (Fuld, 1991; Herring, 1991; Bemhardt, 1993).

A company’s own employees are important knowledge sources, and when it comes to competitive knowledge, they can be seen as the most valuable sources for competitive intelligence (Fuld, 1991; Collins, 1997; Fleisher, 2001). All the company’s employees participate at some level in producing data, information and knowledge that are used in decision-making. Most of this information concerns the company’s own processes, for example sales figures and productive capacity, and is typically in the form of data or information as it is automatically gathered and processed by the company’s information systems. Therefore, the employees are not usually used as primary sources of this information (McGonagle and Vella, 2003).

The employees often have valuable information not only on the company’s own operations but also on competitors, customers and external market situation, and they should not be overlooked as a source of external information. Especially such boundary positions as the
marketing and sales force often have direct contact to customer, competitor and market information that is extremely valuable and needed in the organization’s decision-making (Simon, 1993). Even though the sales force is identified to be a great possessor of competitive knowledge many companies do not have the means or ability to utilize them in the competitive intelligence process (Broome, 2001).

Prescott (2001) states that in addition to the sales force virtually all employees can be significant information sources: as an intrinsic and natural act they acquire and interpret information that they need to perform their tasks. The company’s employees’ competitive knowledge is not homogenous, as every boundary group and even every employee may see the external environment and define the key drivers of competition differently, according to their tasks.

For example, research and development personnel may regard a small technology firm as being a potential competitor worth keeping an eye on, whereas the sales and marketing department prioritises companies producing similar kinds of products operating on the same markets (for different patterns of how competitors are defined see e.g. Porter, 1980; Porac and Thomas, 1990; Chen, 1996; Pirtilä, 1997).

Hannon (1997) states that employees are neglected as competitive intelligence assets because of over-emphasising the role of formal competitive intelligence units and analysts. Although the company’s competitive intelligence unit may gather information from the same sources as the employees, the information obtained by the employees may be of more value: they can provide in-depth explanations and interpretations of information based on their own experience and knowledge (Choo, 2002 and Erickson et al., 2003).

Liu and Liu (2008) found that even though the external information obtained by the employees is valued, the external sources usually have more novelty value. That is, the employees’ competitive knowledge does not usually reveal surprising news, but it rather deepens and refines the understanding of a given situations or issue. Employees can therefore have a valuable role in piecing together a puzzle that reveals a clearer picture of what is going on in a company’s business environment: they create and possess competitive knowledge.
The best source of potential competitive advantage is in knowledge that makes a difference, and is obtained and acted upon before competitors can access it. A company has the best and possibly exclusive access to its employees’ competitive knowledge. By better integrating employees into the competitive intelligence process their knowledge can be shared and used more effectively and wider within the company (Hannon, 1997).

**Sharing Employees’ Competitive Knowledge**

Engaging employees in the competitive intelligence process is recognized to be worthwhile, even though not always an easy task. Actually, successfully obtaining and utilising employees’ knowledge is said to be one of the most difficult tasks in competitive intelligence (Koskinen et al., 2005), and so far companies do not consider themselves successful in incorporating it into the process (Halonen and Hannula, 2007). The potential of employees as information sources has been underutilized due to a lack of communication and coordination (Fuld, 1991; Herring, 1991; Bemhardt, 1993).

Putting employees’ knowledge to work for the company depends on the success of knowledge sharing and knowledge transfer. Knowledge sharing is “the act of making knowledge available to others within the organization” (Ipe, 2003:341).

It is a voluntary, conscious act between two or more individuals resulting in joint ownership of the knowledge between the sender and the receiver (Davenport, 1997; Ipe, 2003). When this shared knowledge is used, for example, in decision-making, the process is called knowledge transfer (Darr and Kurtzberg, 2000; Bircham, 2003). In short, knowledge sharing is imparting knowledge to others, and knowledge transfer is sharing and using knowledge. Knowledge transfer is essential for the competitive intelligence process success: if the knowledge is not used, it does not have or create any value for the company. However, knowledge transfer cannot take place if knowledge is not shared. Although acknowledging the importance of knowledge transfer, this research focuses on knowledge sharing, that is, how the employees’ competitive knowledge can be made available for others to use, as it is the premise for knowledge transfer (Hannon, 1997).
According to Ipe (2003) the major factors influencing knowledge sharing are the nature of knowledge, motivation to share, opportunities to share and organisational culture. Hannon (1997) states that the problem in engaging employees to share their competitive knowledge is three-fold: first, employees may not know that the knowledge they possess may be of value to the company. Second, Ipe (2003) stresses that even if they recognise the importance of the knowledge, they may not be motivated to share it. Third, even if the employees are motivated, there may be no medium to share knowledge to others in the company.

According to Hannon’s (1997) and Ipe’s (2003), the factors influencing competitive knowledge sharing are:

1) Understanding the value of knowledge
2) The motivation to share knowledge
3) The organisational culture
4) The nature of knowledge
5) The opportunities to share knowledge

Some of the factors are somewhat overlapping and interrelated, as can be seen in the following subsections discussing the factors in more detail.

1. Understanding the Value of knowledge

Not all the knowledge employees have is relevant for competitive intelligence purposes, and therefore it is important to identify and communicate what kind of knowledge is interesting and indispensable for the company and should therefore be shared.

Drott (2001) states that the awareness of what information is needed could be raised by communicating the company’s information needs to the personnel. However, a downside in this is that if the specific interests of competitive intelligence are widely circulated it can be seen as too revealing and risky.
It is important to note that knowledge sharing should be used selectively and it also entails risks. One is the risk of drowning in useless information and the other is increasing the risk of knowledge spills and leaks by making critical information available to those who do not need it or understand the need to protect it (Von Krogh et al., 2001).

Von Krogh et al. (2001:425) state that “not everybody in the company needs to know everything at all times.” Sharing competitive knowledge and keeping it secure are the two sides of the same coin, and the key to success in both activities is the employees’ awareness about what knowledge is valuable to the operations of a company.

2. Motivation to Share

Employees’ motivation is a key success factor in engaging them in the competitive intelligence process. A common reason for employees not wanting to participate in competitive intelligence activities is the fear of losing something when compelled to share their knowledge (see e.g. Hannon, 1997). Knowledge that is considered valuable for the company is also a valuable personal resource of the employee, and an employee may equate sharing it with sharing power (Mintzberg, 1973).

Pirttilä (1997) suggests that sharing competitive knowledge is not losing something but actually doubling it, since then both parties have the same asset. In any case, the perceived value of knowledge impacts the motivation to share it (Barachini, 2009); valuable and important knowledge is often horded and jealously protected, not shared (Davenport, 1997).

Jones and Jordan (1998) state that emotional ownership to highly valued knowledge is strong. This indicates that the owner is willing to share knowledge as long as he gets credit for it. To motivate the employees to share their knowledge they should be able to trust that by sharing their knowledge they promote their own and the company’s success (Sydanmaanlakka, 2004). The level of trust within the company correlates with the employees’ willingness to cooperate and is an important prerequisite for knowledge sharing and its success (Barachini, 2009).

The key motivational factors that enhance knowledge sharing are:
Motivational factors can be divided into intrinsic and extrinsic that is, those internal and those external to an individual. According to Ryan and Deci (2000) intrinsic motivation is a drive to do something that is self-rewarding and extrinsic motivation is a drive to do something for external sanction. In the case of extrinsic motivation the issue is either to avoid negative sanction or to gain positive sanction. However, even if extrinsic motivation is more obvious, and easily comprehended, there are also some underlying intrinsic factors as well, for example someone wanting financial rewards for altruistic reasons.

Intrinsic motivation is derived directly from the work itself for example altruism as in feeling good about doing the work in the first place, regardless if there is no extra reward. Knowledge self-efficacy and enjoyment in helping others are also distinct motivational factors (Lin, 2007). Moreover, the main point in intrinsic motivation is to do something that externally may seem utterly pointless, but leads internally to fulfillment and is thus self-rewarding.

Extrinsic motivation is influenced by indirect or instrumental needs that bring satisfaction independently of the outcome of the actual work, for example, getting financial or social rewards (Jeon et al., 2011). Frey (2002) mentions self-promotion, expected reputational advantages or other advances in social or organisational status as drivers for extrinsic motivation. Lin (2007) underlines expected organisational rewards and reciprocal benefits as key sources of extrinsic motivation. Compared to intrinsic motivation, extrinsic motivation is
directly interconnected with sanction, thus it also makes sense externally. It is debatable whether a motivational factor is intrinsic or extrinsic. Some factors are overlapping, and it depends on the interpreter whether it is seen as internal or external.

It is not enough to grant permission and prerequisites for knowledge sharing; the motivational factors need to be actively fostered and enhanced (Bock and Kim, 2002). Not all the motivational factors are straightforward to use. For example, offering a tangible reward for employees who actively share knowledge is seen as a good way to motivate them to share (Ipe, 2003; Swart and Kinnie, 2003; Jeon et al., 2011).

3. Organizational Culture

Knowledge sharing is influenced by the company’s organisational culture, that is, the basic pattern of assumptions, values and beliefs and the practice of how the members of a company perform their tasks, and act on problems (Leidner and Alavi, 2006).

Rather simple behavioural choices affect the formation of organizational culture. For example, keeping doors open and thus inviting collegial interaction or enabling hallway discussions promotes a more symbiotic organisational culture and creates more opportunities for knowledge sharing. Conversely a culture where personal advantage is emphasised over collective efforts and helping others is not valued and does not create a favourable setting for knowledge sharing. Organisational culture also influences the understanding of what knowledge is important and valuable (De Long and Fahey, 2000).

Al-Adaileh and Al-Atawi (2011) found that knowledge sharing within a company can be enhanced by promoting an organisational culture supporting teamwork and information flow between employees. Ho (2009) states that strategy and leadership supporting knowledge management functions, for example knowledge sharing, have even more substantial positive effects on the success than organisational culture alone.

4. Opportunities to Share

In order to fully realize the potential of employees’ competitive knowledge the company must provide adequate opportunities for knowledge sharing (Weiss, 1999).
The nature of knowledge sets conditions for what kind of opportunities should be provided for knowledge sharing. The motivation will not be increased, quite the contrary, if the channel indicated for sharing competitive knowledge does not work properly for this purpose (Weiss, 1999).

When provided with optional channels for knowledge sharing people naturally choose the channel that seems most appropriate for the task at hand (Huber, 1990). In the case of competitive knowledge it is understandable that individuals prefer to share it orally and through informal channels, as it is the easiest way to articulate personal knowledge and accompany it with meta knowledge, that is, explanations about the underlying issues so that the knowledge is correctly understood. Although informal channels are often the most preferred channels for sharing and obtaining knowledge from personal sources the problem with them is that others than the participants of these situations do not get the information, or they get it by coincidence or too late. This information could be needed by many people for many decisions within the company, but it will not without a doubt and unnecessary delay reach the person in need if there is no suitable channel connecting the source and the user (Huber, 1990).

Pirttilä (2000) states that especially in the case of competitor information the sources are usually informal and oral and therefore the information obtained from them is often unorganized and unstructured, which makes it difficult to store by technological means.

Traditional collaboration tools, that is, groupware, such as emailing, video conferences, multi-participant phone meetings or document sharing have become more popular, but they do not meet all the knowledge sharing needs regarding competitive intelligence. One pervasive problem is, again, that only a limited number of people are actually able to participate in the groupware sessions: the individuals having the best up-to-date knowledge concerning the issue discussed may not be present at those meetings or on those email lists, or may not be known as possible knowledge sources. The participants or recipients have to be predetermined, which may exclude some valuable people from the knowledge sharing situation. In addition, traditional knowledge sharing channels and groupware require synchronism, that is, the participants need to be present at the same time in order for a meeting or a discussion to take place (Pirttilä, 1997).
2.11 THEORETICAL REVIEW

Theory of Performance

Theory of performance by Elgar (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 mindset, 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 Elgar, 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 mindset:** Performer’s mindset 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, analyzing strengths and areas for improvements, analyzing 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 related to learning—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.

**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 analyze level of competition within an industry and business strategy development. The theory which was drawn upon industrial organization and economics derived 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

**Resource-Based Theory**

The resource base theory by Grant (1991) states that organisation have resources which enable them to achieve competitive advantage and superior performance. Resources that are valuable and rare can lead to the creation of competitive advantage. Organisation performance can be sustained over a longtime to the extent that the organization is able to protect against resource imitation, transfer, or substitution. Researchers have argued that internal resources are more important than external factors for an organisation. However, the theory believes that organisation performance is determined by internal resources of the organisation such as employees: training, experience, intelligence, knowledge, skills, and abilities, information systems, patents, trademarks, copyrights and databases. In sum, resource base theory asserts that resources are basically what help an organisation to exploit
opportunities and neutralise threats. Resource base theory proposes that the mix and type of organisation internal resources should be considered first and foremost in devising strategies that can lead to sustainable competitive advantage and long term organisation survival.

Shaibu (2010) proposes that organisation’s sustained competitive advantage is primarily determined by its resource endowments. According to Grant (1991), five-step resource-based approach to strategy analysis include:

i. Identify and classify the organisation’s resources in terms of strengths and weaknesses.

ii. Combine the organisation’s strengths into specific capabilities and core competencies.

iii. Appraise the profit potential of these capabilities and competencies in terms of their potential for sustainable competitive advantage and the ability to harvest the profits potential from their use. Are there any distinctive competencies?

iv. Select the strategy that best exploits the organisation’s capabilities and competencies relative to external opportunities.

v. Identify resources gaps and invest in upgrading weaknesses.

**Dynamic Capabilities Theory**

The dynamic capabilities theory propounded by Teece, Pisano and Shuen (1997) attempts to explain two key questions. They are

1. How can senior managers of successful companies change their existing mental models and paradigms to adapt to radical discontinuous change?

2. Ultimately, how can organisations maintain threshold capability standard and hence ensure competitive survival?

The theory submits that when senior managers are confronted with the task of building dynamic capabilities, they have the responsibility to consider sometimes drastic fluctuations in the threshold capability definition standards, making it more and more complex for organisations to understand the minimum requirements to remain in the game as an industry
player. In turn, these fluctuations are therefore derived from external change in the macro environments and the total resource sum available in an entire industry. Monitoring of these external and increasingly unpredictable parameters will then allow managers to tackle the internal process of adapting their resource base. Often, this is simply not possible because of strong path dependencies or practical feasibility constraints that apply to certain industries. For example, some industries rely on a certain manufacturing process. Once a new technology arrives, changing the manufacturing process at short notice is unrealistic. It is therefore more likely that adaptations are centered on managerial routines at the capability level, rather than apply to the resource base level. In other words, managers need to make the most of their existing resource material yet simultaneously understand the ongoing depreciation of this resource base (Shaibu, 2010)

According to Shaibu (20101), capabilities refer to an organisation’s ability to exploit its resources. They consist of processes and routines that manage the interaction among resources to turn inputs into outputs. For example, an organisation’s marketing capability can be based on the interaction among its marketing specialist, informational technology and financial resources. A capability is functionally based and is resident in a particular function. Organisations have different types of capabilities such as marketing capabilities, manufacturing capabilities, and human resources management capabilities.

Thompson and Strickland (2004) submits that a distinction needs to be made between capabilities (resources or competences) that are at a threshold level and those needed for performance. Threshold capabilities are those needed for an organisation to meet the necessary requirements to compete in a given market. These are threshold resources required to meet minimum customer requirements: for example, the increasing demands by modern multiple retailers of their suppliers mean that those suppliers have to possess a sophisticated information technology infrastructure simply to stand a chance of meeting retailer requirements. Or they could be the threshold competences required to deploy resources so as to meet customer’s requirements and support particular strategies.

Thompson and Stricland (2004:118) give example of competitive capabilities to include: short development times in bringing new products to the market, a strong dealer network, strong partnerships with key suppliers, an R&D organisation with the ability to keep the
organisation’s pipeline full of innovative new products, a high degree of organisational agility in responding to shifting market conditions and emerging opportunities, a cadre of highly trained customer service representatives, or state-of-the-art systems for doing business via the internet.

**Organizational Learning Theory**

Two of the initiators and the most contributors to the field of organisational learning theory are Chris Argyris and Donald Schon. According to Argyris and Schon (1996), organisational learning is a product of organisational inquiry. This means that whenever expected outcome differs from actual outcome, an individual (or group) will engage in inquiry to understand and, if necessary, solve this inconsistency. In the process of organisational inquiry, the individual interacts with other members of the organization and learning take place. Learning is therefore a direct product of this interaction.

Argrys and Schon (1996) stress that this interaction often goes well beyond defined organisational rules and procedures. Their approach to organisational learning theory is based on the understanding of two (often conflicting) modes of operation.

**Espoused Theory:** This refers to the formalised part of the organization. Every organization tends to have various instructions regarding the way employees should conduct themselves in order to carry out their jobs. These instructions are often specific and narrow in focus, confining the individual to a set path. An example of espoused theory might be “if the computer does not work, try rebooting it and then contact the information technology department (Shaibu, 2010)

**Theory-in-use:** This is the actual way things are done. Individuals rarely follow espoused theory and rely on interaction and brainstorming to solve a problem. Theory in use refers to the loose, flowing and social way that employees solve problems and learn. An example of this might be the way someone actually solves a problem with their computer by troubleshooting solutions, researching on forums, asking co-workers for opinions. The fact that there is a mismatch between these two approaches is potentially problematic if the organisation enforces its espoused theory. In order to create an environment conducive to learning, organisations are encourage to accept theory in use, and make it easy for the individual to interact with his working environment in an undefined and unstructured way.
Essentially they should provide the right environment for organisational inquiry to take place, unconstrained by formal procedures.

Organisational learning is transmitted through socialization, education, imitation and so on, and can change over time as a result of interpretations of history.

Argrys and Schon (1996) identify three levels of learning which may be present in the organisation:

- **Single loop learning**: Consists of one feedback loop when strategy is modified in response to an unexpected result (error correction). E.g. when sales are down, marketing managers inquire into the cause, and tweak the strategy to try to bring sales back on track.

- **Double loop learning**: Learning that results in a change in theory-in-use. The values, strategies and assumptions that govern actions are changed to create a more efficient environment. In the above example, managers might rethink the entire marketing or sales process so that there will be no such fluctuations in the future.

- **Deutero learning**: Learning about improving the learning system itself. This is composed of structural and behavioral components which determine how learning takes place. Essentially deuteron learning is therefore “learning how to learn”.

Effective learning must therefore include all three, continuously improving the organisation at all levels. However, while organisation employs single loop learning, double loop and particularly deuteron learning are a greater challenge.

### 2.12 EMPIRICAL REVIEW

Ezigbo and Uduji (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.
Ul-Ain, Waheed and Jawil (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 and performance of the organisation to attain a strong position in the market and to meet with competences against its competitors.

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 analyze customer’s needs and seek to satisfy them.

Nemutanzhela and Iyamu (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 overemphasized 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.

Ngugi, Gakure and Mugo (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.

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.

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.

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 Nigeria telecommunication industry.
Kama, Ntayi and Ahiauzi (2011), conducted out 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-Saharan 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 managers should developed their organizational resources, remain committed and develop organizational learning culture, and to encourage and practice innovativeness at all levels of work.

Shimakalantarian, Baratimarnani and Salavati (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.

Ahmad, Khoso, Arif and Palwishah (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.

2.13. SUMMARY OF THE REVIEW OF THE RELATED LITERATURE

The chapter provides conceptual framework on evolution of competitive intelligence, benefits of competitive intelligence, sources of competitive intelligence, dimensions of competitive intelligence, demand for competitive intelligence, competitive intelligence process, and implementation of competitive intelligence.

The chapter carried out a theoretical review such as theory of performance, Competitive force theory; Resource based theory Dynamic capabilities theory and Organizational learning theory

Empirical review of works of past scholars that are relevant to the study was conducted and it was discovered that this work is unique and sufficient to close the gap identified in the literature.
REFERENCES


CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

The study was carried out primarily through the survey method and interview of employees in three manufacturing firms in Nigeria. This chapter contains the area of the study, sources of data, population and sample size determination, description of research instrument, Method of data analysis, validity of the research instrument and reliability of the research instrument.

3.2 RESEARCH DESIGN
For the purpose of this study, survey research design was adopted. Given the nature of this study, survey research design was employed. A survey is a series of self-report measures administered either through an interview or a written questionnaire (Stangor, 2007:103). The use of surveys is one of the most commonly used forms of data collecting descriptive information about a group of people. It is a well-accepted practice for collecting data in many fields of research particularly in the social sciences and organizational behaviour (Roztocki and Morgan, 2002:89).

3.3 AREA OF THE STUDY

The study was carried out in five selected manufacturing companies in South East Nigeria: Innoson Group Emene Enugu, 7up Bottling Company Ninth mile corner Ngwo, Aqua-Rapha water Production Company, Nigerian breweries plc in Ama, and Dulux Paints Trans Ekulu Enugu; all in Enugu State.

3.4 SOURCE OF DATA

Data for this study were generated from both primary and secondary sources.

Primary Data: The primary data are the original or firsthand information obtained by the researcher from the respondents directly for the purpose of the study. To generate this data, the researcher employed the use of questionnaire and interview.

Secondary Data: Secondary data are facts that the researcher collected from already existing sources. In this study, the secondary sources of data were from journals, textbook, newspaper, magazines and internet.

3.5 POPULATION OF THE STUDY
A population is the total of all the individuals who have certain characteristics and are of interest to a researcher (Anikpo, 1986). The target population of the study includes senior and junior staff of the selected manufacturing firms in Enugu. The population of the selected organizations are as follows:

Table 3:4:1 Population Distribution

<table>
<thead>
<tr>
<th>S/No</th>
<th>Names of companies</th>
<th>Staff Categories</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>senior staff</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Innoson Group</td>
<td>42</td>
<td>174</td>
</tr>
<tr>
<td>B</td>
<td>7up Bottling</td>
<td>47</td>
<td>203</td>
</tr>
<tr>
<td>C</td>
<td>Aqua-Rapha</td>
<td>36</td>
<td>143</td>
</tr>
<tr>
<td>D</td>
<td>Nigerian Breweries Plc.</td>
<td>28</td>
<td>126</td>
</tr>
<tr>
<td>E</td>
<td>Dulux Paints</td>
<td>31</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>184</strong></td>
<td><strong>803</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2014

3.6 SAMPLE SIZE DETERMINATION

A sample is the act of selecting and observing only a specified subset of the population unit (Ugwu: 2003). The formula adopted in determining the sample size for this study, was propounded by Taro Yamane (1964). The mathematical formula is given as:

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

Where

\[ n = \text{Sample size desired} \]
\[ n = N \left( 1 + \frac{e^2}{N} \right) \]

In applying this formula in determining the sample size of this study, we substitute as follows.

\[ n = \frac{803}{1 + 803 (0.05)^2} \]

\[ n = \frac{803}{1 + 803 (0.025)} \]

\[ n = \frac{803}{1 + 2.0075} \]

\[ n = \frac{803}{3.0075} \]

\[ n = 266.999 \]

\[ n = 267 \]
Therefore 267 represent the sample size for the population. The sample size for each stratum or category was estimated using Bowley’s proportional allocation statistical techniques as stated below.

\[ nh = \frac{nN_h}{N} \]

Where:

- \( nh \) = Number of units allocated to each firm/staff category
- \( N_h \) = Number of employee in each firm/staff stratum in the Population
- \( n \) = The total population size under study

Thus:

**Innoson Group**

Number of units allocated to each firm/staff category.

\[ nh = \frac{267 \times 174}{803} = 58 \]

Proportion of top management staff sampled = \( \frac{267 \times 42}{803} \) = 14

Proportion of middle management staff sampled = \( \frac{267 \times 132}{803} \) = 44

Company A’s total sample size = 58
7 up bottling company

Number of units allocated to each firm/staff category

\[
nh = \frac{267 \times 203}{803} = 67
\]

Proportion of top Management staff sampled = \(\frac{267 \times 47}{803}\) = 15

Proportion of middle management staff sampled

\[
= \frac{267 \times 156}{803} = 52
\]

Company B’s total sample size = 67

Aqua-Rapha water

Number of units allocated to each firm/staff category

\[
nh = \frac{267 \times 143}{803} = 48
\]

Proportion of top Management Staff sampled = \(\frac{267 \times 36}{803}\) = 12

Proportion of middle management staff sampled = \(\frac{267 \times 107}{803}\) = 36

Company C’s total sample size = 48
Nigerian Breweries Plc

Number of units allocated to each firm/staff category

\[ nh = \frac{267 \times 126}{803} = 42 \]

Proportion of top management staff sampled

\[ = \frac{267 \times 28}{803} = 9 \]

Proportion of middle management staff sampled

\[ = \frac{267 \times 98}{803} = 33 \]

Company D’s total sample size

\[ = 42 \]

Dalex paints

Number of units allocated to each firm/staff category

\[ nh = \frac{267 \times 157}{803} = 52 \]

Proportion of top management staff sampled

\[ = \frac{267 \times 31}{803} = 10 \]

Proportion of middle management staff sampled

\[ = \frac{267 \times 126}{803} = 42 \]

Company E’s sample size

\[ = 52 \]
Therefore the five companies’ total sample size = 58 + 67 + 48 + 42 + 52 = 267

Table 3.5.1 Allocation of Sample Size

<table>
<thead>
<tr>
<th>Organizations</th>
<th>population</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innoson Group</td>
<td>174</td>
<td>58</td>
</tr>
<tr>
<td>7Up Bottling company</td>
<td>203</td>
<td>67</td>
</tr>
<tr>
<td>Aqua Rapha Water</td>
<td>143</td>
<td>48</td>
</tr>
<tr>
<td>Nigerian Breweries Plc</td>
<td>126</td>
<td>42</td>
</tr>
<tr>
<td>Dulux paints</td>
<td>157</td>
<td>52</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>803</strong></td>
<td><strong>267</strong></td>
</tr>
</tbody>
</table>

Source: field survey 2014

3.7 DESCRIPTION OF THE RESEARCH INSTRUMENTS

The instruments used for data collection are structured questionnaire and Interview. The questionnaire has two parts. All the questions in part A provide general information about the respondents while the remaining questions in part B address the research questions. Five points Likert scale format was used. There were 21 questions in the questionnaire.

**Interview schedule:** some respondents were interviewed orally using interview schedule to get more information about the study especially those not covered by the questionnaire

3.8 METHOD OF DATA ANALYSIS

Data were be presented and analysed in tables and percentages. Hypotheses (1) were tested using Pearson product moment correlation coefficient while hypotheses 2 and 3 were tested by chi square while hypothesis 4 was tested with Z-test using SPSS.
(1) **Pearson product moment correlation coefficient**

\[
r = \frac{n\sum XY - (\sum x)(\sum y)}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}}
\]

(2) **Chi-Square (X2) Test**

Hypothesis was tested using chi-square (X²)

\[
X^2 = \frac{(F_0 - F_e)^2}{F_e}
\]

Where \(X^2\) = Value of the chi-square

- **C** = Summation
- **F₀** = Observed frequency
- **Fₑ** = expected frequency

### 3.9 DECISION RULE

In testing hypotheses, the calculated value of the test statistic will be 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 hypothesis. Therefore, the decision rule applied in this research is to reject the null hypothesis if the calculated value at 5% significance level with respective degrees of freedom is greater than the table value, otherwise do not reject

### 3.10 VALIDITY OF THE RESEARCH INSTRUMENT.
Onwumere (2005:69) define validity as the extent to which a measuring instrument on application performs the function for which it is designed. To make sure that the research instrument applied in this work are valid. The researcher ensures that the instrument measure the concept they are supposed to measure. A proper structuring of the questionnaire and a conduct of a pre-test of every question contained in the questionnaire will be carried out to ensure that they are valid. Also design of the questionnaire will be made easy for the respondents to tick their preferred choice from the options provided as it has been established that the longer the length of questionnaire, the lower the response rate (Lavine 1987). Response validity was obtained by re-contacting individuals whose responses appear unusual or inconsistent.

3.11 RELIABILITY OF THE RESEARCH INSTRUMENT.

To ascertain that the instrument is reliable, test-re-test method was adopted in which 25 copies of the questionnaire were distributed to the five firms understudied; five copies to each company. These were collected afterwards and re-distributed for the second time. The outcome of the test-re-test was determined using the spearman rank order correlation coefficient. The result gave a reliability coefficient of \( r = 0.83 \), showing that research instrument is reliable.

<table>
<thead>
<tr>
<th>Questionnaire Item</th>
<th>Rank (^1)</th>
<th>Rank (^2)</th>
<th>(d)</th>
<th>(d^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>4</td>
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<tr>
<td>2</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>4</td>
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<tr>
<td>3</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
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</tr>
<tr>
<td>15</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>

\[ \sum d^2 = 97 \]

\[ n = 15 \]

\[ n^3 = 3,375 \]
\[ r = 1 - \frac{6\Sigma d^2}{n^3-n} \]

\[ r = 1 - 6 \times 97 \]

\[ 3375 - 15 \]

\[ r = 1 - 6 \times 97 \]

\[ 3,360 \]

\[ r = 1 - 582 \]

\[ 3,360 \]

\[ r = 1 - 0.173214285 \]

\[ r = 0.83 \]
REFERENCES


CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

The essence of this chapter is to present and analyze the data collected for the study. The presentation and interpretation of data were based on the questionnaire administrated to the staff of the selected organizations. A total of two hundred and sixty seven (267) copies of the questionnaire were distributed to the respondents and a total of two hundred and forty five (245) copies were returned while twenty two copies (22) were not returned.

Table 4.1 Distribution and Return of the Questionnaire

<table>
<thead>
<tr>
<th>Organizations</th>
<th>No. Distributed</th>
<th>%</th>
<th>No. Returned</th>
<th>%</th>
<th>No. Not Returned</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innoson Group</td>
<td>58</td>
<td>22</td>
<td>53</td>
<td>20</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>67</td>
<td>25</td>
<td>64</td>
<td>24</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>------------------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>7up Bottling</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aqua-Rapha</strong></td>
<td>48</td>
<td>18</td>
<td>43</td>
<td>16</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td><strong>Nigerian Breweries Plc.</strong></td>
<td>42</td>
<td>16</td>
<td>37</td>
<td>14</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td><strong>Dulux Paints</strong></td>
<td>52</td>
<td>19</td>
<td>48</td>
<td>18</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>267</td>
<td>100</td>
<td>245</td>
<td>92</td>
<td>22</td>
<td>8</td>
</tr>
</tbody>
</table>

Sources: Field Survey, 2015
Table 4.2: The Nature of the Relationship between Competitive Intelligence and Competitive Advantage

<table>
<thead>
<tr>
<th>S/no</th>
<th>Questionnaire items</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>undecided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>There is a positive relationship between competitive intelligence and competitive advantage position</td>
<td>100</td>
<td>126</td>
<td>10</td>
<td>9</td>
<td></td>
<td>245</td>
</tr>
<tr>
<td>2</td>
<td>Competitive intelligence helps firms to make strategic decision that boost organizational productivity</td>
<td>200</td>
<td>30</td>
<td>5</td>
<td>10</td>
<td></td>
<td>245</td>
</tr>
<tr>
<td>3</td>
<td>Competitive environment can be managed through competitive intelligence</td>
<td>191</td>
<td>42</td>
<td>10</td>
<td>2</td>
<td></td>
<td>245</td>
</tr>
<tr>
<td>4</td>
<td>Competitive intelligence promotes competitive fitness and organizational performance</td>
<td>205</td>
<td>25</td>
<td>8</td>
<td>7</td>
<td></td>
<td>245</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>919(94%)</td>
<td>61(6%)</td>
<td></td>
<td></td>
<td></td>
<td>980</td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2015

Table 4.2 reveals that 919 (94%) of the respondents are in the agreement category while 61 (6%) of the respondents are in the disagreement category. This shows that there is a positive relationship between competitive intelligence and competitive advantage.

Table 4.3 The level of Competitive Intelligence in the Nigerian Manufacturing Sector?

<table>
<thead>
<tr>
<th>s/no</th>
<th>Questionnaire items</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Undecided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>The level of competitive intelligence in the Nigerian manufacturing sector is significant</td>
<td>104</td>
<td>105</td>
<td>20</td>
<td>16</td>
<td></td>
<td>245</td>
</tr>
<tr>
<td>6</td>
<td>Process and structure are the levels of competitive intelligence in Nigerian manufacturing sector</td>
<td>168</td>
<td>27</td>
<td>31</td>
<td>19</td>
<td></td>
<td>245</td>
</tr>
<tr>
<td>7</td>
<td>Competitive intelligence level can be ascertained through planning, focus and collection</td>
<td>145</td>
<td>77</td>
<td>17</td>
<td>6</td>
<td></td>
<td>245</td>
</tr>
<tr>
<td>8</td>
<td>skill development is a level of competitive intelligence in Nigerian manufacturing firms</td>
<td>132</td>
<td>103</td>
<td>7</td>
<td>3</td>
<td></td>
<td>245</td>
</tr>
</tbody>
</table>
Table 4.3 reveals that 861 (87.8%) of the respondents are in the agreement category while 119 (12%) of the respondents are in the disagreement category. This shows that the level of competitive intelligence in the productive activities of the Nigerian manufacturing sector is significant.

Table 4.4: Benefits Achieved from Competitive Intelligence

<table>
<thead>
<tr>
<th>s/no</th>
<th>Questionnaire items</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Undecided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Competitive intelligence gives the ability to predict movements in the competitive environment and does not reduce uncertainty of managerial decision</td>
<td>160</td>
<td>70</td>
<td>10</td>
<td>5</td>
<td>-</td>
<td>245</td>
</tr>
<tr>
<td>10</td>
<td>Detecting early warning of opportunities and threats are benefits of competitive intelligence</td>
<td>120</td>
<td>110</td>
<td>8</td>
<td>7</td>
<td>-</td>
<td>245</td>
</tr>
<tr>
<td>11</td>
<td>Competitive intelligence promotes strategic decision making in Nigeria manufacturing sector</td>
<td>110</td>
<td>109</td>
<td>11</td>
<td>15</td>
<td></td>
<td>245</td>
</tr>
<tr>
<td>12</td>
<td>Competitive intelligence supports strategic decision making</td>
<td>200</td>
<td>32</td>
<td>8</td>
<td>5</td>
<td></td>
<td>245</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>911(93%)</td>
<td>69(7%)</td>
<td>-</td>
<td></td>
<td></td>
<td>980</td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2015

Table 4.4 reveals that 911 (93%) of the respondents are in the agreement category while 69 (7%) of the respondents are in the disagreement category. This shows that ccompetitive intelligence gives the ability to predict movements in the competitive environment and reduces uncertainty of managerial decision.
Table 4.5: The Challenges Encountered for Competitive Intelligence in the Nigerian Manufacturing Sector

<table>
<thead>
<tr>
<th>s/no</th>
<th>Questionnaire items</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Undecided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>lack expertise, politics and collection target are challenges encountered for competitive Intelligence in the Nigerian manufacturing sector</td>
<td>210</td>
<td>24</td>
<td>7</td>
<td>4</td>
<td>-</td>
<td>245</td>
</tr>
<tr>
<td>13</td>
<td>lack of relevant analysis is a challenge encountered for competitive intelligence in the Nigerian manufacturing sector</td>
<td>195</td>
<td>40</td>
<td>5</td>
<td>5</td>
<td>-</td>
<td>245</td>
</tr>
<tr>
<td>14</td>
<td>Inadequate resources is a challenge encountered for competitive intelligence</td>
<td>94</td>
<td>117</td>
<td>11</td>
<td>23</td>
<td>-</td>
<td>245</td>
</tr>
<tr>
<td>15</td>
<td>Organizational politics hinder implementation of Competitive intelligence in the manufacturing sector.</td>
<td>121</td>
<td>97</td>
<td>16</td>
<td>11</td>
<td>-</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>898 (92%)</td>
<td>82 (8%)</td>
<td>-</td>
<td></td>
<td></td>
<td>980</td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2015

Table 4.5 reveals that 898 (92%) of the respondents are in the agreement category while 82 (8%) of the respondents are in the disagreement category. This shows that lack expertise, organizational politics and inadequate resources are challenges encountered for competitive intelligence in the Nigerian manufacturing sector.
Test of the Hypotheses

To test the hypotheses formulated in chapter one, the study adopted the following statistical tools: Pearson’s product moment correlation coefficient, Chi-square and Z-test, with the aid of computer Microsoft special package for social sciences (SPSS).

**Hypothesis (1)**

Ho: There is no positive relationship between competitive intelligence and competitive intelligence advantage

Hi: There is a positive relationship between competitive intelligence and competitive intelligence advantage

**Table 4.6: Contingency Table (Reproduced Table 4.2) for Testing Hypothesis (1)**

<table>
<thead>
<tr>
<th>s/no</th>
<th>Questionnaire items</th>
<th>Agreement</th>
<th>Disagreement</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>There is a positive relationship between competitive intelligence and competitive advantage position</td>
<td>226 (229.75)</td>
<td>19 (15.25)</td>
<td>245</td>
</tr>
<tr>
<td>2</td>
<td>Competitive intelligence helps firms to make strategic decisions that boost organizational productivity</td>
<td>230 (229.75)</td>
<td>15 (15.25)</td>
<td>245</td>
</tr>
<tr>
<td>3</td>
<td>Competitive environment can be managed through competitive intelligence</td>
<td>233 (229.75)</td>
<td>12 (15.25)</td>
<td>245</td>
</tr>
<tr>
<td>4</td>
<td>Competitive intelligence promotes competitive fitness and organizational performance</td>
<td>230 (229.75)</td>
<td>15 (15.25)</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>919</strong></td>
<td><strong>61</strong></td>
<td><strong>980</strong></td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2015

**Table 4.7 Descriptive Statistics There is positive relationship between competitive intelligence and competitive intelligence advantage**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
</table>
Table 4.8 Correlations

<table>
<thead>
<tr>
<th></th>
<th>Competitive intelligence</th>
<th>Competitive advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive Intelligence</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>245</td>
</tr>
<tr>
<td>Competitive Advantage</td>
<td>Pearson Correlation</td>
<td>.583(**)</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>245</td>
</tr>
</tbody>
</table>

Source: SPSS Version 15.00.

Table 4.7 shows the descriptive statistics of the competitive intelligence and competitive advantage, with a mean response of 1.4836 and std. deviation of .86850 for competitive intelligence and a mean response of 2.7891 and std. deviation of 1.16169 for competitive advantage, and number of respondents (245). By careful observation of standard deviation values, there is not much difference in terms of the standard deviation scores. This implies that there is about the same variability of data points between the dependent and independent variables.

Table 4.8 is the Pearson correlation coefficient for risk management and competitive intelligence advantage. The correlation coefficient shows 0.583. This value indicates that correlation is significant at 0.05 level (2tailed) and implies that there is a relationship between
competitive intelligence and competitive intelligence advantage, \( r = .583 \). The computed correlations coefficient is greater than the table value of \( r = .195 \) with 504 degrees of freedom (df. = n-2) at alpha level for a two-tailed test \( r = .583, p< .05 \). However, since the computed \( r = .583 \), is greater than the table value of .195 we reject the null hypothesis and conclude that there is a positive relationship between competitive intelligence and competitive advantage \( r = .583, P<.05 \).

**Hypothesis (2)**

\( \text{Ho:} \) The level of competitive intelligence in the productive activities of the Nigerian manufacturing sector is not significant

\( \text{Hi:} \) The level of competitive intelligence in the productive activities of the Nigerian manufacturing sector is significant

**Table 4.9 Contingency Table (Reproduced Table 4.3 ) for Testing Hypothesis (2)**

<table>
<thead>
<tr>
<th>s/no</th>
<th>Questionnaire items</th>
<th>Agreement</th>
<th>Disagreement</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>The level of competitive intelligence in the Nigerian manufacturing sector is significant</td>
<td>209 (215.25)</td>
<td>36 (29.75)</td>
<td>245</td>
</tr>
<tr>
<td>6</td>
<td>Process and structure are the levels of competitive intelligence in Nigerian manufacturing sector</td>
<td>195 (215.25)</td>
<td>50 (29.75)</td>
<td>245</td>
</tr>
<tr>
<td>7</td>
<td>Competitive intelligence level can be ascertained through planning, focus and collection</td>
<td>222 (215.25)</td>
<td>23 (29.75)</td>
<td>245</td>
</tr>
<tr>
<td>8</td>
<td>Skill development is a level of competitive intelligence in Nigerian manufacturing sector</td>
<td>235 (215.25)</td>
<td>10 (29.75)</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td>861</td>
<td>119</td>
<td>980</td>
</tr>
</tbody>
</table>

**Source:** Fieldwork 2015
Table 4.10: Chi-Square Tests Computed from the Frequency Cross Tabulation

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>18.270(a)</td>
<td>4</td>
<td>.006</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>18.911</td>
<td>4</td>
<td>.004</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.441</td>
<td>1</td>
<td>.507</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>980</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.10 is the output of the computed Chi-Square values from the cross tabulation statistics of observed and expected frequencies with the response options of agree and disagree based on the responses of the research subjects from selected organisations. Pearson Chi-Square computed value \(X^2_c = 18.270\) is greater than the Chi-Square tabulated value \(X^2_t = 9.49\) with 4 degrees of freedom (df) at 0.05 level of alpha \(X^2_c = 18.270, p < .05\)

**Decision Rule**

The decision rule is to accept the alternate hypothesis if the computed Chi-Square value is greater than tabulated Chi-Square value otherwise accept the null hypothesis.

**Decision**

Since the Pearson Chi-Square computed \(X^2_c = 18.270\) is greater than Chi-Square table value \(X^2_t = 9.49\), the null hypothesis is rejected and alternate hypothesis is accepted. Thus, we conclude that level of competitive intelligence in the Nigerian manufacturing sector is significant

**Hypothesis Three**
Ho: Competitive intelligence does not give the ability to predict movements in the competitive environment and reduces uncertainty of managerial decision.

Hi: Competitive intelligence gives the ability to predict movements in the competitive environment and reduces uncertainty of managerial decision

Table 4.11: Contingency Table (Reproduced Table 4.4) for Testing Hypothesis (3)

<table>
<thead>
<tr>
<th>s/no</th>
<th>Questionnaire items</th>
<th>Agreement</th>
<th>Disagreement</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Competitive intelligence gives the ability to predict movements in the competitive environment and does not reduce uncertainty of managerial decision</td>
<td>230 (227.75)</td>
<td>15 (17.25)</td>
<td>245</td>
</tr>
<tr>
<td>10</td>
<td>Detecting early warning of opportunities and threats are benefits of competitive intelligence</td>
<td>230 (227.75)</td>
<td>15 (17.25)</td>
<td>245</td>
</tr>
<tr>
<td>11</td>
<td>Competitive intelligence promotes strategic decision making in Nigeria manufacturing sector</td>
<td>219 (227.75)</td>
<td>26 (17.25)</td>
<td>245</td>
</tr>
<tr>
<td>12</td>
<td>Competitive intelligence supports strategic decision making</td>
<td>232 (227.75)</td>
<td>13 (17.25)</td>
<td>245</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>911</td>
<td>69</td>
<td>980</td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2015

Table 4.12: Chi-Square Tests Computed from the Frequency Cross Tabulation

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>75.036(a)</td>
<td>4</td>
<td>.061</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>7.996</td>
<td>4</td>
<td>.027</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>4.911</td>
<td>1</td>
<td>.027</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>980</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4.12 is the output of the computed Chi-Square values from the cross tabulation statistics of observed and expected frequencies with the response options of agree and disagree based on the responses of the research subjects from the selected organisations. Pearson. Chi-Square computed value ($X^2_c = 75.036$) is greater than the Chi-Square tabulated value ($X^2_t = 9.49$) with 4 degrees of freedom (df) at 0.05 level of alpha ($X^2_c = 75.036, p < .05$)

**Decision Rule**

The decision rule is to accept the alternate hypothesis if the computed Chi-Square value is greater than tabulated Chi-Square value otherwise accept the null hypothesis.

**Decision**

Since the Pearson Chi-Square computed $X^2_c = 75.036$ is greater than Chi-Square table value $X^2_t = 9.49$, the null hypothesis is rejected and alternate hypothesis is accepted. Thus, we conclude that competitive intelligence gives the ability to predict movements in the competitive environment and reduces uncertainty of managerial decision.

**Hypothesis Four**

. Ho: Lack expertise, organizational politics and inadequate resources are not challenges encountered for competitive intelligence in the Nigerian manufacturing sector.

Hi: Lack expertise, organizational politics and inadequate resources are challenges encountered for competitive intelligence in the Nigerian manufacturing sector.

Table 4.13: Contingency Table (Reproduced Table 4.5 ) for Testing Hypothesis (4)
<table>
<thead>
<tr>
<th>s/no</th>
<th>Questionnaire items</th>
<th>Agreement</th>
<th>Disagreement</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>lack expertise, politics and collection target are challenges encountered for</td>
<td>234 (224.5)</td>
<td>11 (20.5)</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td>competitive Intelligence in the Nigerian manufacturing sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>lack of relevant analysis is a challenge encountered for competitive Intelligence</td>
<td>235 (224.5)</td>
<td>10 (20.5)</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td>in the Nigerian manufacturing sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Inadequate resources is a challenge encountered for competitive Intelligence</td>
<td>211 (224.5)</td>
<td>34 (20.5)</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td>in manufacturing sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Organizational politics hinder implementation of competitive intelligence</td>
<td>2183 (224.5)</td>
<td>27 (20.5)</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td>in manufacturing sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>898</strong></td>
<td><strong>82</strong></td>
<td><strong>980</strong></td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2015

Table 4.14 Descriptive Statistics computed from the frequency cross tabulation

<table>
<thead>
<tr>
<th>Lack expertise, organizational politics and inadequate resources are challenges encountered for competitive Intelligence in the Nigerian manufacturing sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>980</td>
<td>1.8248</td>
<td>1.23528</td>
<td>1.00</td>
<td>5.00</td>
</tr>
</tbody>
</table>

Table 4.15 -One-Sample Kolmogorov-Smirnov Test

<table>
<thead>
<tr>
<th>Lack expertise, organizational politics and inadequate resources are challenges encountered for competitive Intelligence in the Nigerian manufacturing sector</th>
<th>N</th>
<th>Normal Mean</th>
<th>Parameters (a,b) Std. Deviation</th>
<th>Most Extreme Absolute Differences Positive</th>
<th>Negative</th>
<th>Kolmogorov-Smirnov Z</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>980</td>
<td>1.8248</td>
<td>1.23528</td>
<td>.336</td>
<td>.336</td>
<td>10.723</td>
<td>.000</td>
</tr>
</tbody>
</table>

a Test distribution is Normal.

b Calculated from data.

Table 4.15 is the output of the computed Z-test values from the cross tabulation statistics of observed and expected frequencies with the response options of agree and disagree based on
the responses of the research subjects. Z computed value (Z_c= 10.723) is greater than the Z-
tabulated value (Z_t= 1.96) at 0.05 level of alpha (Z_c=10.723, p,< .05).

Decision Rule

The decision rule is to accept the alternate hypothesis if the computed Z- value is greater than
Tabulated Z- value otherwise reject the null hypothesis.

Decision

Since the Z-test computed Z_c= 10.723 is greater than Z- table value Z_t = 1.96, the null
hypothesis is rejected and alternate hypothesis is accepted. Thus, we conclude that lack
expertise, organizational politics and inadequate resources are challenges encountered for
competitive intelligence in the Nigerian manufacturing sector

DISCUSSION OF RESULTS

Hypothesis one was tested with Pearson’s product moment correlation coefficient to assess
the nature of the relationship between competitive intelligence and competitive advantage.
However the result revealed that there is positive relationship between competitive
intelligence and competitive advantage (r =.583, P<.05). Ali et al (2002) states that
competitive intelligence had a positive association with organizational performance.

Hypothesis two was tested using Pearson’s chi-square test to ascertain the level of
competitive intelligence in the productive activities of the Nigerian manufacturing sector.
With a computed chi-square value (X^2_c= 18.270) is greater than the Chi –Square tabulated
value (X^2_t = 9.49) the null hypothesis was rejected resulting in the conclusion that the level of
competitive intelligence in the Nigerian manufacturing sector is significant. Madhu and
Stanley (2013) state that there are forms of competitive intelligence in Nigeria manufacturing
firms
Hypothesis three was tested with Pearson chi-square to ascertain the benefits achieved from competitive Intelligence. The result indicated that competitive intelligence gives the ability to predict movements in the competitive environment and reduces uncertainty of managerial decision with 4 degrees of freedom (df) at 0.05 level of alpha ($X^2_c = 75.036$, $> X^2_1 = 9.49$; $p < .05$). Yazid et al. (2008) states that competitive intelligence prevents environmental disaster.
Furthermore, hypothesis four was tested using Z-test to ascertain the challenges encountered for competitive intelligence in the Nigerian manufacturing sector and the result revealed that lack expertise, organizational politics and inadequate resources are challenges encountered for competitive intelligence in the Nigerian manufacturing sector ($Z_c = 10.723 > Z_t = 1.96$). Egu (2012) supported the result by stating that inadequate resources are a challenge encountered by construction companies in adopting competitive intelligence.
CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

Findings at the end of the research are:

1. There is positive relationship between competitive intelligence and competitive advantage \( (r = .583, P < .05) \).
2. The level of competitive intelligence in the productive activities of the Nigerian manufacturing sector is significant \( \chi^2_{c} = 18.270 \), \( \chi^2_{t} = 9.49 ; p < 0.05 \). 
3. Competitive intelligence gives the ability to predict movements in the competitive environment and reduces uncertainty of managerial decision \( \chi^2_{c} = 75.036 \), \( \chi^2_{t} = 9.49 ; p < .05 \). 
4. Lack expertise, organizational politics and inadequate resources are challenges encountered for competitive intelligence in the Nigerian manufacturing sector \( Z_{c} = 10.723 > Z_{t} = 1.96 ; p < 0.05 \). 

5.2. CONCLUSION

The study concluded that competitive Intelligence is a vital tool for strategic planning and competitive advantage. In most organizations, Competitive intelligence is regarded as a system of environmental scanning that integrates the knowledge of all organizational members and encompasses marketing, structural, strategic and other organizational elements. Competitive intelligence (CI) is a continuous and evolving process by which businesses assess the behavior and capabilities of its current and potential competitors to assist in maintaining and developing a competitive advantage. It involves discovering, analyzing and using intelligence from publicly available, non-proprietary information sources and converting it into knowledge on a continuing basis. Competitive intelligence (CI) is a process for supporting both strategic and tactical decisions, and in order to support CI, organizations need systems and processes to gather and analyze reliable, relevant, and timely information that is available in vast amounts about competitors and markets. Competitive
intelligence is more concerned with doing the right thing, than doing the thing right. The goal of a competitor analysis is to develop a profile of the nature of strategy changes each competitor might make, each competitor's possible response to the range of likely strategic moves other firms could make, and each competitor's likely reaction to industry changes and environmental shifts that might take place.

5.3. RECOMMENDATIONS

Based on the findings, the following recommendations were made.

1. There should be adequate investment on competitive intelligence process, facilities and activities by manufacturing firms so as to be innovative, in their product, services and competitive dispositions.
2. In implementing competitive intelligence in an organization, employees should be equipped with the knowledge, skill and technical know-how of handling intelligence product.
3. Adequate resources should be made available for personnel to carry out effective competitive intelligence generation, sharing, distribution and deployment to areas of 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.

5.4. SUGGESTED AREAS FOR FUTURE RESEARCH

These are suggested areas for future research:

1. Relationship between competitive intelligence and organisational commitment
2. Impact of competitive intelligence on organisational productivity
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APPENDIX I: QUESTIONNAIRE

Department of Management,

Faculty of Business Administration,

University of Nigeria,

Enugu Campus.

Dear Respondent

I am a postgraduate student of the above mentioned university, currently conducting a research on competitive intelligence and implication for competitive advantage position of firms in Nigerian manufacturing sector.

The research is strictly academic. It will be of immense assistance if answers to the questions in the questionnaire are given without bias. Your response will be treated with utmost confidentiality and will be used solely for the purpose of this research.

Thanks in anticipation of your special co-operation

Yours Faithfully,

Maduemezia, Chinyere Edith
SECTION A

BIOGRAPHICAL QUESTIONNAIRE

1  Staff position (a) Senior [ ] (b) Junior [ ]

2  Sex (a) Male [ ] (b) Female [ ]

3  Educational Qualification

   (a) OND/NCE [ ] (b) HND/BSC [ ] (c) MSc/MBA/Ph.D [ ]

4  Age (a) 5-10 years [ ] (b) 11-15 years [ ]

   (c) 16-20 years [ ] (d) 21 years above [ ]

5  Working Experience

   (a) 0-1 year [ ] (b) 1-2 years [ ]
INSTRUCTION: please indicate your views about the statements by ticking the option which most closely matches your opinion. Use the responses of Strongly Agree (SA) = 5, Agree (A) = 4, Disagree (D) = 3, Strongly Disagree (SD) = 2.

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<tr>
<th>What is the nature of the relationship between competitive intelligence and competitive advantage?</th>
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<td>6 There is a positive relationship between competitive intelligence and competitive advantage position.</td>
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<td>7 Competitive intelligence helps firms to make strategic decision that boost organizational productivity</td>
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<td>8 Competitive environment can be managed through competitive intelligence</td>
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<td>9 Competitive intelligence promotes competitive fitness and organizational performance</td>
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<td>What is the level of competitive intelligence in the productive activities of the Nigerian manufacturing sector?</td>
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<td>10 The level of competitive intelligence in the Nigerian manufacturing sector is significant.</td>
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<td>11 Process and structure are the levels of competitive intelligence in Nigerian manufacturing sector</td>
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<td>12 Competitive intelligence level can be ascertained through planning, focus and collection of data</td>
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<td>13 Skill development is a level of competitive intelligence in Nigerian manufacturing sector</td>
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<td>What are the benefits achieved from competitive intelligence</td>
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<td>14 Competitive intelligence gives the ability to predict movements in the competitive environment and does not reduce uncertainty of managerial decision.</td>
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<td>15 Detecting early warning of opportunities and threats are benefits of competitive intelligence</td>
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<td>16 Competitive intelligence promotes strategic decision making in Nigeria manufacturing sector</td>
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<td>17 Competitive intelligence supports strategic decision making</td>
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<td>What are the challenges encountered for competitive intelligence in the Nigerian manufacturing sector</td>
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<td>18 Lack expertise, politics and collection target are challenges</td>
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<td>Lack of relevant analysis is a challenge encountered for competitive intelligence in the Nigerian manufacturing sector</td>
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<td>Inadequate resources is a challenge encountered for competitive intelligence</td>
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<td>Organizational politics hinder implementation of Competitive intelligence in Nigerian manufacturing sector</td>
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INTERVIEW GUIDE

1. What is the nature of the relationship between organisational learning and organisational effectiveness?
2. To what extent is Competitive Intelligence related to firm’s strategic fit?
3. To what extent is Competitive Intelligence related to innovation?
4. What are the challenges encountered for developing competitive fit?
5. What are the benefits of using competitive intelligence in your organisation?
6. What is the human input in developing competitive intelligence?