The Use of Internet by Information Professionals: A Competitive Intelligence Approach

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Abstract

This paper examines the use of internet by information professionals in a competitive intelligence approach thereby producing and disseminating active information for tactical and top executive managers for decision making. The Internet which is part of information technologies is often used in competitive intelligence processes as a tool in gathering and analyzing raw information that will produce intelligence to give the organizations, libraries and other information centre a competitive advantage over the others. The paper aims to provide an overview of how the internet can be used by information professionals using competitive intelligence approach to support decision makers in various levels of managers in an organization. It focuses on the use of internet as a tool in supporting intelligence gathering using competitive intelligence approach and sources, involvement of information professionals using competitive intelligence in gathering, documenting, storing and retrieval systems. The paper further discusses the use of internet by information professional to produce raw information in intelligence activities. Emphasis was paid to the use of internet to support intelligence activities, the role and value of internet, the sources and search engines used by the information professionals, the role of information professionals in competitive intelligence processes. It concludes by emphasizing that Information professionals remained relevant to the organizations and with competitive intelligence skills acquired, they can adopt a creative and unique method of retrieving information from the internet and use such to promote the image of their organization as well achieve its stated goals.

1. Introduction

For an organization to remain globally competitive, the use of internet to gather and disseminate intelligence information for decision making is required. In view of this, Moon [17] opined that Internet plays a great role in supporting intelligence activities. It is used as the potentials to improve users' needs and services, business processes, the collection and analysis of information, dissemination of intelligence to decision makers, bringing innovations and new ideas as in the case of fee based services as well as gathering data about their competitors and external and internal environment.

1.1. Overview of Internet Usage by the Information Professionals and Competitive Intelligence

Internet plays an important role as a useful source of information. It helps in gathering raw data and processing such for strategy purposes which can be used to support the growth and development of the organization, Internet is a network of computers which allows users access to vast

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quantities of information and communication with everyone around the world. It is one of the major sources of both primary and secondary data. One can access intelligence information via Internet search engines: Meta search engines, information gateway, subject directories portals, Google scholars and online searches e.t.c. There are values in using internet as a source of finding data to support competitive process and it has a key place in modern competitive intelligence practitioners.

Cook and Cook [5] remarked that in ICT application, direction and analysis of information is the work of human resources. These are the information professionals and the competitive intelligence practitioners. Information professionals are part of the competitive intelligence practitioners that will obtain raw information to produce intelligence for making a decisive decision. Heavenga and Botha [9], King [14], and Marshal et al [15] posited that information professionals provide information edge for the organization by responding with sense of urgency to critical information. The processes with which the information professional concern themselves include the identification of information needs, information acquisition, its organization and storage, the development of information products and services and the distribution and use of information**.** King [14] reiterated that information professionals have role to play in competitive intelligence because they are known as good managers of explicit knowledge, who gather raw information for competitive intelligence advantage of the organization.

The extent, involvement and responsibility of information professionals towards the delivery of competitive are seen by using the existing skills of information professional to enhance their status in competitive intelligence activities. Pistorius [20] argued that prosperity depends on their ability to innovate in this information age, hence, competitive intelligence is critical for organizations to stay abreast of the changing market condition and have competitive edge over others. There is a link between competitiveness and the process of innovation. The information professional in order to improve and advocate for change in an organization has to employ valuable strategy to provide intelligence information for decision making.

According to Kahaner [11] and [12], intelligence may be required to attain a competitive advantage in a particular area of the organization and could provide the organization with a competitive edge over other organizations in the same industry. To this end, Yaya, Achonna and Osisanwo [23] opined that competitive intelligence is a tool that enhances effective job performance of librarians in the academic library. Hence, information professionals should strive to be relevant in competitive intelligence activities in anticipation of its resurgence in the near future. Their aim should be to gather intelligence information that will assist them in marketing and promoting of library services to various clienteles within and outside the organization.

To determine the use of internet in achieving competitive intelligence and the involvement of information professional in intelligence gathering, the consideration of the following definition of competitive intelligence is required.

SCIP [21] defined Competitive Intelligence as the process of ethically collecting, analyzing and disseminating accurate, relevant, specific, timely, foresighted and actionable intelligence regarding the implications of the business environment, competitors and the organization itself. Society of competitive intelligence (SCIP); while Pellissier and Nenzhelele [19] gave:

> a comprehensive and universal definition is therefore proposed for Competitive Intelligence. Competitive Intelligence is a process or practice that produces and disseminates actionable intelligence by planning, ethically and legally collecting, processing and analyzing information from and about the internal and external or competitive environment in order to help decision-makers in decision making and to provide a competitive advantage to the enterprise (p. 512).

The authors reiterated that there are many definition of competitive intelligence in the literature. Weiss and Nahyer [22] positioned that of all definitions in Literature none had achieved worldwide acceptance these definitions differ by sematic changes in language and emphasis. It can be established that there is no universally accepted definition of Competitive Intelligence, it is a field with no restricted borders. This implies that information professionals can perform competitive intelligence activities perfectly and with the core skills and core competencies an information professional can become a competitive intelligence practitioner in so far as they are knowledgeable in internet use or surfing, database management, processing software and statistical software as well as being managers of explicit knowledge.

Internet is relevant in the age where information explosion has continued with the evolution and use of electronic databases on the internet. It has also prompted information professionals to incorporate competitive intelligence to better manage information for competitive advantage in organization. Miller [16] identified the components of the intelligence processes to include identification analysis of users and their needs, the collection and analysis of information as well as dissemination of intelligence to decision makers and for strategist. Communicating intelligence is the primary function of competitive

intelligence and its value is attributed to the communication of intelligence that is required by managers which when collected forms knowledge.

Thus, competitive intelligence and information professionals share similar characteristics and this allows information professionals remain relevant to the organization to play the influential information role more in a fashionable manner of resending the intelligence in helpful format. Oder [18] in his work summarized that Competitive Intelligence is an ongoing process that support the decision making at the top level management. It further summarizes that Competitive Intelligence has an imperative value that requires information professionals to have immaculate skills and good knowledge of internal and external sources of intelligence. This tool alerts executives to threats and opportunities to the business and finally presents critical information to those who need it.

So, competitive intelligence involves the gathering of raw information and the knowledge of provision of an enabling environment for decision making. It is the internet that will be used as a tool to gather information that will have the potentials to improving customer services, business process, bring new products to the market and bring innovation of new ideas. Using competitive approach by information professionals in gathering data via internet, we have to consider the type of data collected, the extent of analysis conducted on the data, the degree of top management attention and the linking of competitive intelligence attention decision making process.

1.2. Use of Internet for Competitive Intelligence

Internet is a global computer network that permits several computers across the globe to communicate with each other for information accessibility, retrieval and dissemination. Hutchison and Sawyer [10], Capron and Johnson [2] defined Internet in technical terms to mean the worldwide publicly accessible network of interconnected computer network that transmit data by pocket switching, using the standard Internet Protocol (IP). It is a network that consists of millions of smaller domestic, academic, business and government networks which together carry various information and services such as electronic mails, online chat, file transfer, and the interlinked web pages and other documents of the worldwide web internet. It has been the most useful technology of the modern times which allows information professionals and other individuals' access to vast quantities of information and communicating the decision makers with raw information about their competitors, clients, Environmental data and products. It represents one of the most powerful instruments for gathering, creating and disseminating of information. Therefore, internet is viewed in

this paper as a tool to aid intelligence information for decision makers by gathering and collecting raw information while the information professional will analyze and disseminate intelligence to all levels of managers.

As reiterated by Cook and Cook [5], human resources sustain the ICT application in a proper context to obtain intelligence, direction and analysis. This implies that both the information professionals and competitive intelligence practitioners rely heavily on the use of the internet for their intelligence activities. Internet carries an extensive range of information facilities and services such as worldwide web and electronic mails. Web is a very popular service on the internet and the web address is also known as Uniform Resource Locators (URL) which specifies the protocol to be used and exact location of the website on the internet. It is used for services such as electronic mails which is e-mail, worldwide web, remote access, file sharing leisure and marketing e.t.c. With these services, it is to be used in numerous ways to produce intelligence. The internet is the most important means of producing raw data into actionable intelligence and has also provided a lot of resources for competitive advantages. Many of these resources are free and some are fee based but the mission is to capture and communicate intelligence information to decision makers. Improved information flow can improve the quality of decision making and internal operations.

Apart from being the major source of information for competitive intelligence activities, the internet has greatly facilitated personalized marketing. It is clear that the internet has become a large market for companies which allow them to market a product to a people more than any other advertising medium. Information gotten from the internet can add value to our products and services. This internet information can be published, distributed and accessed by clients & organizations. Some of these organizations have excelled by taking advantage of the efficient nature of how cheap advertising and commerce is through the internet. The internet has also revolutionized shopping and other marketing activities globally. Shopping is without borders with internet. For leisure, many use the internet to access and download, advertising jingles, music, movies, games, short cartoons, news & reports and other works for their enjoyment, relaxation and competitive intelligence. Some of the information collected here can be used against one's competitors. It is the fastest way to spread information to a vast numbers of people simultaneously by gaining access to expertise who will share their experiences through discussion groups as well as receiving feedback from customers about competitors or products.

1.3. Information Retrieval on the Internet

According to Haliso and Ogungbeni [8], "internet can be viewed as the biggest library in the world in which information is not properly structured and organised, there are no standardised rules of classification or access. There is issue of the volatile nature of sites, lack of information on these sites will come in the way of accessing the Internet" (p. 61). This calls for the input of human resources. Thus, information available on the internet is made possible due to human technological skills which help in gathering, processing and storing information from the human environment and used such in meeting the information needs of various information seekers. These information sources are vital while carrying out different research work in the human society. There are several different ways in which one can search for information and the method chosen depends on the type of information being searched and the amount of information one intend to search. According to Eyitayo [7], there are different ways through which information could be surfed and retrieved from the internet search engines and Meta search engines. The entire search engines consist of huge databases web pages and information laden files. It permits browsers to directly request a document from the computer it is stored upon. Search engine and Meta search engine are good for precise search, although you have to know their tips and tricks to be able to use them effectively. We have the individual search and the Meta search engines. Examples of individual search engines are: All the web: http://alltheweb.com, Alta vista: http://www.altavista.com, Google: http://www.google.com and Hotbot: http://www.hotbot.com, while the Meta search engines, search the databases of multiple sets of individual engines at the same time; examples include: Vivisimo: http://www.vivisimo.com, Surf wax: http://www.surfwax.com, Ixquick: http://www.ixquick.com, and Ask Jeeves: http://www.askjeves.com. Internet tools the following:

1.3.1. Subject Directory Portals

These are collection of databases and information sites created and maintained by human editors. The editor reviewed and selected sites for inclusion in their directories. The subject directories are powerful tools for exploring the information space of the web and many directories services are offered. For example: Excite: http://www.excite.com, Ask Eric (educational) and information: http://www.eduref.org, and EIDIS the gateway to Development Information: http://www.eddis.org. Subject directories are the best for browsing and for searches of a more general nature. They are good sources of information on organizations, commercial sites and products

1.3.2. Software Agents

Personal software agents can be used in filtering and ranking search in which hundreds and thousands of document are been identified with a set of keywords, the software provided internet users with a simple ways of creating and accessing text, image and video document. The standards they created are responsible for the appearance of information sources known as the worldwide web, an expanding global collection of inter-connected information sources known as the worldwide web.

1.4. Other Useful Internet Tools

According to Khan and Bhati [13], there are variety of ways in which individual and groups can communicate on the internet; starting with basic services like e-mail, private mailing list or newsgroups, blogs, Really simple syndicate or Rich Site Summary (RSS) discussion group, internet forum, online help.

1.4.1. E-mail

Can be used to send and receive messages globally, with internet you can access a wide variety of different discussion groups, read the message placed in the groups and respond to messages by e-mail.

1.4.2. Mailing List

E-mail assists in creating a mailing list. An e-mail message could be sent to multiple destinations and predefine distribution lists of people that would receive messages.

1.4.3. Newsgroup/Discussion Group

Newsgroups are powerful medium for rapidly conveying information when other methods are restricted. People send out information through the internet even when radio and television services in their country have been shut down. News group are publicly accessible forums for discussion. Anyone with internet access is able to access a wide variety of different discussion groups, read the messages placed in these groups and respond to messages by e-mail.

1.4.4. Blogs

A blog is one of the easiest ways to use websites, where one can quickly post thoughts, interact with people and moreover it is a user generated site and it is free. Reading blogs is an excellent way to learn.

1.4.5. Internet Forum

Internet forum is used for holding discussion and posting of user generated content, it makes it easier for groups to communicate on the internet and these people share similar interest example Yahoo discussion list: http://groupsyahoo.com/

1.4.6. RSS (Rich Site Summary)

RSS is used to publish frequently updated digital content such as blogs, news.

There are values in using internet as a source of finding data to support competitive intelligence as well as other area of research. The fact remains that information professionals needs some competitive intelligence approach to do their jobs better by finding and analyzing secondary sources to produce intelligence and special reports on the wide range of external factors that impact on the organizations business.

1.5. Types of Information That Can Be Sought Through Internet

I.   Competitors profiles

II. News profiles – news relevant to competitive intelligence and information professionals

III. Links to competitive websites

IV. The searchable news section of the intranet makes it easy for decision makers.

V.   E-mail alert are set up so that information on a key topic for particular individuals and projects can be delivered to the executive manager of the organization feeding them with the required information.

1.6. Internet Competitive Intelligence Sources

There are many ways to find information on competitors and products. A number of these site are free and some charge fees. Some of these sites are sources that give general information, where you can learn about your competitors, industry trends, your customers as well as help evaluate a market or an opportunity.

I.   Company website: The Company's homepage.

II. Company profiles: Online company directory can be used to identify competitors. A good resource that allows a researcher to search for information about public and private companies.

III. Financial information: A lot of information can be sourced from the annual report.

IV. News coverage: Competitive intelligence professionals monitor press releases, company news, newspapers, magazines and television broadcast.

V.   News group: Most information on a competitor's product or services can be gathered from a news or discussion group.

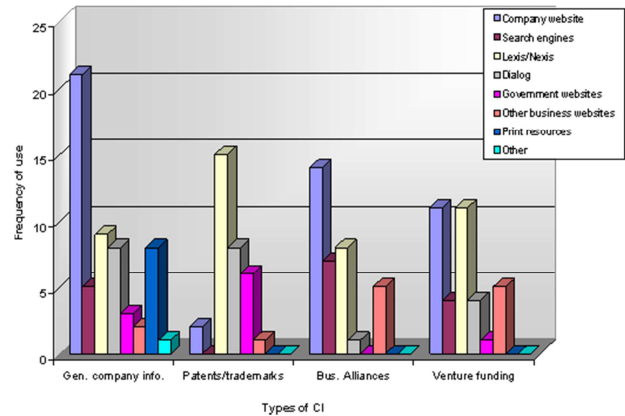VI. Intellectual property: Involves trademarks and patents.

Figure 1. Use of Resources for Specific Types of CI.

Source: Adapted from Erdelez and Ware [6]

From the result of a study conducted by Erldez and Ware [6] on "finding competitive intelligence on Internet start-up companies…", it was discovered as shown in Figure 1 above that the general company information are mostly retrieved from the company's web site. The study also provided insight into the characteristics of the overall information-seeking strategies that are applied in this type of competitive intelligence research. This indicates that internet is very useful in disseminating relevant and up-to-date information needed by any information seeker at any time without necessarily visiting the company's building.

1.7. Purpose of Information

a. Determine what information that is needed and to select the appropriate sources of the information.

b. Collect or gather the information.

c. Organize the information.

d. Analyze the information.

e. Present the information to decision makers.

f. Summarize and describe the information.

g. Decision making

1.8. Information Professionals

The need to use competitive intelligence approaches in Library and Information Science discipline are growing, decision makers are starting to recognize the role and importance of competitive intelligence in libraries and other organizations in the human society. According to Heavenga and Botha [9], information professionals could be defined as those individuals that are primarily responsible for harnessing the organization's information resources and information capabilities to enable it to learn and adapt to its changing environment. By this definition, Information professionals are of different categories such as: librarians,

information brokers, computer scientists, competitive information professionals, Information architects, Information informatics, Digital asset managers, Content managers, archivist, Analyst and Social media managers, Human resource managers, Product developers & Information technologist [Ahmad & Yaseen, 1]. In the same vein, King [14] agreed that the processes with which the information professionals are concerned with identification of information needs, information acquisition, its organization and storage, the development of information products and services and the distribution and use of information.

However, Marshall et al [15] opined that information professionals provide the information edge for the knowledge based organization by responding with a sense of urgency to critical information. Information professionals have a role to play in competitive intelligence because they are known as good managers of explicit knowledge, who gathers raw information for competitive advantage of the organization. Competitive intelligence approaches greatly enhance the service rendered by information professionals in any organization like library and information centers, as it enables them to identify new opportunities leading to innovation and ultimately benefiting status of the organization and the information professionals.

Heavenga and Botha [9], and Chisita [4] observed that the new information driven economy presents insurmountable challenges to information professionals as they have to rebrand, redefine their roles and titles, developing skills and identifying function and tasks to add and eliminate, developing relationship with different categories of clients and colleagues establishing a new process, gathering and applying new concept of information resources and techniques with the increasing need for the information organization. Information professionals are required to be competitive information managers utilizing competitive intelligence to communicate information for strategic purpose and remain purposeful in their capacities.

The aspects of competitive intelligence approach that information professionals can incorporate into their work is information retrieval which in the disciplines plays a critical and substantial role, is the quest for locating the information fundamental to competitive advantages. Intelligence is required to give the organization a competitive advantage over the other organization and information professionals have a good basis to develop a strong and authoritative presence in any organization. Information retrieval involves the intellectual aspects of the description of information and its specification for search and the systems, techniques used to carry out the operations. In order to do this, information professionals need to be more integrated with business

processes of their organization, develop sound business skills and be aware of events that are affecting the business. Heavenga and Botha [9] however noted that in order to accurately assess the exact extent and nature of the information professionals' involvement and responsibility towards the delivery of competitive intelligence, it is necessary to consider the existing skills of the information professionals. Therefore information professionals plays the role of providing information retrieved from the internet, provision of information for the intranet, gathering competitive intelligence and providing research services as requested by tactical and top executive managers for decision making.

1.9. The Information Professional Skills

Information professionals have different skills to produce intelligence and also, they need to integrate all these skills needed for the competitive processes. Marshall et al [15]. According to these authors, professional skills relate to information professional knowledge in the areas of information resources, information access, technology management, research and the ability to use the areas of knowledge as a basis for providing information services. Personal skills enable information professionals to work effectively, be good communicators, focus on continuing learning throughout their careers, demonstrate the value added nature of their contributors and survive in the new world of work".

The skills required for the competitive process are:

I.   Communication skills: Effective communication helps in achieving the organizational plans and objectives.

II.   Technical skills: Ability to work with resources in a particular area of expertise and without technical skills, one will not be able to manage the work effectively. Technical skills are indispensible to efficient operations.

III. Conceptual skills: The success of any decision depends on the conceptual skills of the people who make the decision and those who put it into action.

IV.   Human skills: Managers ability to work with group members.

V.   Presentation skills: A presentation skills is a fast and potentially effective method of getting things done through other people. Presentation skills are used as a formal method for bringing people together to plan, monitor and review its progress.

VI.   Time management skills: It is very effective for supervising position. No one should allow procrastination to keep him/her away from getting the assigned work done.

VII. Leading skills: One must understand values, personality, perception and attitude of people. Because, as an individual you can act differently from another individual.

VIII. Planning skills: The ability to think ahead and forecast the future. You have to plan to predict the future course of direction of an organization process.

IX. Organizing skills: Organizing follows planning processes while planning specifies what will be achieved while; organizing specifies who will achieve what and how it will be achieved.

X. Controlling skills: Consist of action and decisions which managers undertake to ensure that the achieved results are consistent with desired result.

XI. Decision Making: Decision making skills are present in planning; organizing, leading and controlling processes with good decision, the performance of the organization will be enhanced. It is important that good managers make important decision that is good in quality and satisfactory in producing solution to a problem.

Other core skills required by information professionals in competitive intelligence activities are: facilitating skills, networking skills, negotiation skills, persuasive skills, mentor skills, coaching skills and consensus building skills.

All these skills are managerial skills that an information professional needs to obtain in order to acquire intelligence information for decision making. Information available on the internet needs skills to gather, analyzed and disseminates such to meet the information needs of clienteles. Hence, the core competencies required by information professionals in competitive intelligence processes and activities are:

I. Ability to gather and analyze competitive intelligence processes and activities.

II. Understanding the competitive intelligence process.

III. Ability to use information technologies.

IV. Change management skills.

V. Project management skills.

VI. Document and information management skills.

With the aforementioned core skills and core competencies, an information professional can become a competitive intelligence practitioner.

The process of gathering data for competitive advantage becomes simpler through improved accessibility of information via the internet. It has been recognized that information professional needs to demonstrate their ability using their various skills and competencies to add value to their profession. A career move into competitive intelligence could prove an ideal way of doing things better in the profession. Information professional needs to understand the forces that drives firms to be knowledgeable and analytical towards their competitors identify the key competitors, their products, their prices, the market sectors, their services, employees and the need to gain market share by competing more effective. Finally, they must apply ethical and standards when searching for data gathering intelligence information and analyzing the information to support decision makers.

2. The Role of Information Professionals in Competitive Intelligence

The role of information professional is in the sourcing of accurate information for decision makers of an organization. They know where exactly to look for information, have experience in dealing with databases vendors, as well as have a high developed questioning skill in term of knowing both what search term to enter into databases and how to question individuals to determine what specific information they require.

In this regard, Carbo [3] identified ten roles for information profession of which some of them can be applied in our course of study they are as follows: Manager, Resources producer, Creator or producer, Preserver of culture, Organizer, Researcher or Retriever, Educator, Life Long Learner, Expert or advisor and Advocate. Focus here is on the Managerial aspects of information profession as a manager and custodian of knowledge.

I. Organizer: Organizing information and knowledge from all sources in all formats and media to provide subject directories, search engines and websites etc.

II. Researcher or Retriever: Not only assist in research, but doing research also. More data available because of information technology (internet) from increasing sources with less time spent on gathering information.

III. Educator: As educators the traditional role is changing. Now the information professionals deals with more people, wider content and increasing methods of learning e.g. Learning organizational concepts, Life-long learning, distant learning etc.

IV. Life-long learner: The importance of continuing to learn to keep abreast of developments, on society and environment.

V. Expert or Advisor: - Value for our skills and knowledge are increasingly being called upon to provide our expertise and advice.

VI. Advocate: Marketing and promoting our services, to the organization.

Moreover, in order to undertake good competitive activities, the information professional essentially needs the foresight to know what sources is most relevant, and must be able to pass this advice onto others. In fact information professional can help turn information into intelligence by helping others to manage their own information. Organization can outsource part of their competitive intelligence activities because of so many reasons, probably because they need analytical skills, networking skills and the ability to demonstrate and advise others in this capacity to help ensure that, information known by decision makers can be put to best use. According to Weiss and Naylor [22], competent information professionals should have an awareness of the range of sources that can provide clues to intelligence required. In a nut shell, the major role performed by information professionals in competitive intelligence activities is gathering competitive intelligence, provision of information for intranet, search services as required by tactical and top executive managers as well as document management.

3. Conclusion

From the foregoing, it can be observed that the use of internet by information professionals in carrying out competitive intelligence operations is practice all over the world and internet is an important competitive intelligence tool which is an enabler to strategic advantage. The paper looked at internet tools and services and involvement of information professionals in supporting intelligence. For information professionals to achieve their objective in meeting the information needs of various information seekers, there is the need to run an effective information gathering with a competitive intelligence approach. This implies that information professionals are expected to possess some skills that had been highlighted in this paper. Also, there are many valuable resources available on the internet that can help an information professionals to monitor the business environment and gather data on specific interest.

Besides, it is shown in this paper that competitive intelligence practitioners and information professionals share similar characteristics because they all are in the business of gathering, analyzing data and disseminating relevant information to support decision making at top level management. Therefore, information professionals remained relevant to the organizations inspite of information explosion via internet; but with competitive intelligence skills they possessed, they can adopt a creative and unique method of retrieving information from the internet and use such to promote the image of their organization as well achieve its stated goals.

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