

## Ethical Relations Among Parties In Scientific Research

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### -----ABSTRACT-----

*Engagement in scientific research is guided by standard principles which regulate the behavior of the individuals involved. This article is a re-consideration of the ethical principles that provide the platform for acceptable norms to generate acceptable behavior and result in a research situation. The aim of the article is to re-enact and bring to the fore the ethical principles and laws which researchers must abide by. Problems of human rights abuses, lack of validity of research results, dishonesty and poor treatment/lack of respect for human research subjects arise out of non-adherence to research ethics. Advancement in Computer Science and use of the Internet has equally thrown up more challenges for researchers with the various cyber laws. The researcher adopted case examination and the review of literature as methodology. Irrespective of the area of research, the researcher is bound to be familiar with the laws and ethics which govern handling of research resources and relationship with others in the conduct of research. For future research, meta-analysis of unethical practices within the scope of Information Communication Technology and cyber research is suggested.*

**Key Words:** Ethics, jurisdiction, infringement, parties, subjects

Date Of Submission: 25 April 2013



Date Of Publication: 20,May.2013

### I. INTRODUCTION

Teaching, learning and research in any formal environment are guided by a number of theories, the choice of which is determined by the adopted philosophy of education, objectives, nature of content and learners' readiness. While teaching, learning and research are objective-driven, focus is not shifted from ethics. Therefore, considering the environment of research, a number of issues interfere and tend to militate against the relations between parties involved in a research. Because of the diverse cultural views and perceptions which emerge in the environment of research, ethical stipulations have become imperative to guide the conduct of parties. The issue of research ethics has become very important in order to maintain the privacy and integrity of parties involved in a research interaction.

However, the focus of this paper is restricted to the legal framework, rights and principles, all of which regulate the conduct of researchers, as well guide any perceived relationship between a researcher and research subjects (sample) or respondents. In some developing countries, issues do arise which tend to frustrate research candidates (within institutional environments) whose supervisors' behavior may run contrary to the ethics of research in what should naturally have been an understanding and collaborative relationship. Although lack of adequate knowledge of research ethics could throw a research candidate into infringement consequences, improper attention and lack of courtesy demonstrated by research supervisors further hampers the procedure of a scientific research. In the light of the problems which violation or ignorance of research ethics may evoke, this article is significant as it highlights what new researchers need to abide by. In the same vein, the incorporation of cyber laws dictates a new dimension in Internet and Computer Science research. This article is hinged on principle and practice of ethics, intellectual property rights, infringement and law, and cyber law in relation to the Internet. In order to understand the appropriate content of ethics in research, it is imperative to clarify such concepts as research, research methodology and ethics in the main.

### II. CONCEPTUAL CLARIFICATION

It is common knowledge that research is designed to address problems and advance the cause of society[1]. However, it is ideal to state that knowledge is equally a product of research as much as of experience. Research is fact-finding [2], thinking through and brain storming[3]. Research is an organized way of enquiry into a problem and providing reliable solutions. A standard view of research was provided by George[4].

The view sees research as a venture associated with data collection, analysis and generalization, using the principles of science. Research is pervasive as it is applicable to all human and non-human endeavours. Mankind and society progress cannot advance without a significant measure of research. On the other hand, research adopts a methodology, following some carefully planned procedures and principles[5]. In order to arrive at a logical conclusion, a series of planned steps/stages is outlined supported with some concrete rationale, dictated by the nature of study. Research methodology is signified by the systematic design and use of methods which aid the researcher in the collection of data, analysis, interpretation and formal presentation for dissemination to enable a specific public understand as well as apply the recommended solution[6]. Consequent upon the above, research methodology subsumes in a broader perspective all the strategies adopted by the researcher to address a problem with vivid objectives in view. In a more rational manner, research methodology represents the totality of all scientific methods and principles from which any researcher can be guided in the conduct of a meaningful, purposeful and goal-oriented study. Indeed, it is the science of research which provides an answer to the how of a research. How then is ethics viewed? Ordinarily, ethics is the science which deals with morality in relation to rules or principles of behaviour which govern a person or groups [7]. It would therefore suggest that ethical considerations concern a system of moral behaviour. There is the inference that moral obligation is implied in the actions of people or parties that are engaged in a particular cause in relation to the researcher. Research ethics[8] is viewed as the appropriateness of the researcher's behaviour in relation to the rights of those who become the subject of a research project, or who are affected by it. What then are the ethical considerations in research? How do ethics apply to the conduct of research? What are the dos and don'ts in research? What moral obligations must researchers and their subjects exercise? These issues form the focus of the principle and practice of ethics in a research environment.

### **III. PRINCIPLE AND PRACTICE**

#### **3.1 Ethical Issues: The Research and the Supervisor**

Using academic research as a parameter in an academic environment, there is a shared responsibility between a research candidate and the supervisor. However, it is fair to reflect on the role of the research supervisor and to know what exactly is expected of each party. The first major obligation is that the research candidate ought to have a focus and, should be able to meet the requirements of his supervisor [9]. Shouldn't a supervisor share the blame when a research candidate fails to meet the standard? There is emerging trend that the pendulum is swinging away from the idea of a supervisor as a source of expert advice to someone who is expected to take even greater responsibility for research candidates' work. In ideal terms, both the supervisor and the research candidate have to examine the research topic together and agree on it. Such agreement may be premised on modifying the selected and agreed topic or choosing a new one on the parameters suggested by the supervisor. It would be considered absolutely unethical for the supervisor to impose a research topic or area on the research candidate without first establishing the candidate's consent, input, competence, interest and motivation for the area in question. For a start, there needs to be a clarification of who does what and what the supervisor and candidate can expect in terms of contact hours and reading of draft. The supervisor is more of a guide to research candidates, making suggestions when necessary but where he deviates from this, he cannot justify his role.

Consequently, a good relationship between supervisor and research candidate is essential for cohesion. However, the supervisor needs to vary at different points in the course of a research[10]. As the relationship lasts, the supervisor has a duty to embark on rigorous correcting, where necessary. And of course, there should always be feedback in form of counseling and directives from the supervisor. On this note, the research candidate's failure to make a reasonable mark is a shared responsibility, although the candidate should take greater blame. The supervisor and a research candidate are presumed to be in a mentor-relationship. Researchers are expected to conform to ethical standards that are internationally recognized. It is acknowledged that researchers must be honest in presenting a research report to avoid misleading the final users and other decision-makers[11]. A major feature of any scientific research is data. Researchers have an obligation to present and analyze such data without bias or prejudice. Misrepresentation of facts or 'tailoring' data to suit the researcher's purpose is unethical and amount to breach of trust. In his interaction with sampled subjects, the research candidate should not make false promises to them in order to enjoy their co-operation. Such false promises may jeopardize the efforts of future researchers.

The researcher has a moral obligation to protect the identity of his subjects[12]. This is especially so where it is evident that revelation of subjects' identity could have undesirable consequences on the subjects. There is implied existence of trust between the researcher and his subjects. It is on the basis of this implied trust that subjects offer their co-operation.

Again, wherever some risk is involved, it is incumbent on the researcher to provide such information to the subjects early enough to enable them decide whether to participate in the research or not. Another major obligation of the researcher is in communicating the research findings to others. It is worth noting that other people outside the researcher's area of interest may read a copy of the research report. For this reason, the researcher ought to present the report in simple language. The researcher will therefore, have to focus on the target audience in the use of technical terms. There is some background information which the researcher possesses, but unknown to his report readers. Such suppressed information could lead to making assertions which are clear to the researcher but appear unreasonable to other readers. The researcher is obliged to make conscious effort to explain the research procedures and whatever must have informed such assertions and conclusions in the report[13].

While a research report should be factual, logical, reliable, coherent and grammatically' acceptable, the role of the research supervisor is very crucial. The supervisor readily provides a kind of intellectual back-up. It[14] is further agreed that the supervisor is an assessor as well as an editor since he assists the researcher in improving the structure, content and quality of the research report. It is acknowledged that a post graduate research is exclusively more of an individual effort, but the role of the supervisor at this level is a subject for ethical discussion. Although a researcher ought to write his report, using the approved standard requirements, the work must be well planned and written in lucid language. This is arguable in some quarters, the supervisor's conduct may be queried and considered as unethical. This is the case where the supervisor abandons the candidate without regularly appraising his work, and only to offer some damaging and frustrating criticism of the candidate's work after rushing through[15]. This act is likened to a sinister approach, and considered grossly unprofessional. It is expedient for the supervisor to devote time and energy to attend to a research candidate. The supervisor has an obligation to examine a candidate's view, discuss with him and accord him prompt attention within the agreed time schedule.

Evidence[16] has shown that in some conventional Nigerian universities, there are cases of loss of research candidates' files and materials in the supervisor's custody, shabby treatment of research candidates, undue delay in their programmes, thus keeping them unnecessarily longer than the official academic calendar. While this is grossly unethical, it is a considered opinion that both the supervisor and research candidate are presumably in a partnership academic enterprise, as both learn from each other. That the research candidate draws more knowledge from the supervisor is unquestionable in this context, though. It is the supervisor's avowed responsibility to ensure that research candidates' materials are safe and candidates can follow the comments and observations sequentially. Where a candidate has demonstrated excellence by producing a good research report to the delight of the supervisor, the supervisor's use of the report or part thereof for publication purposes without notifying the candidate is unethical. Because of the relationship between them, the candidate may allow the situation to pass by, but such action by the supervisor could attract litigation for copyright infringement. A supervisor is thus under obligation to notify his candidate if he must adopt the candidate's work for whatever reason.

Depending on the nuances, disposition and discretion of the supervisor, a number of ethical issues may be involved in the relationship between a supervisor and research candidate. But generally, the onus is more on the research candidate to conform to rules. One relative factor is that the candidate should not operate outside what has been agreed on with the supervisor or outside the designed research proposal. In case of any deviation, the supervisor ought to be informed, giving reasons for such changes[17]. This point also extends to the generalization of results. It is considered grossly inadequate for a research candidate to make generalizations, using the research results and conclusion outside the context of the research coverage. Such an act is misleading and unethical. Because of the issue of human perception and diverse cultural backgrounds, words are ascribed a variety of meanings[18]. For this reason, and to avoid ambiguity, the researcher is obliged by operational standard to define concepts and terms as he expects to use them in the course of the research and in the main body of the research report.

### **3.2 Ethical Issues: The Researcher and Human Subjects**

Perhaps one area where ethical issues are more pronounced is medicine. Ethics in this area surrounds the moral relationship between the researcher and patients, society generally and the supervising authority. Ethics in such research areas as medicine[19] is aimed at protecting the right and welfare of participants. While ethical values may not be highly pronounced in non-medical fields, a level of ethical demonstration must be considered by the researcher and supervising authority. Nevertheless, all human research must at least conform to agreed and approved standards.

Ethical practices in the medical profession stipulate observance of the Hippocratic Oath, Physicians' Oath, Declaration of Helsinki II (recommendations guiding medical doctors in research involving human subjects) and guidelines of the Ethics Committee[20]. Other considerations include risks to human subjects (a minimal level), specification of the nature of subjects' participation, right of subjects (participants) to withdraw when deemed fit for obvious reasons, subjects' informed consent whether by oral or written means, statement of specific procedures to be followed and assurance of confidentiality[21]. These are ethical issues with legal implications where wrongly manipulated to the detriment of any human subject involved.

When conducting research on human subjects, minimal harm and risks are expected if they cannot be absolutely avoided because of unforeseen circumstances. A high degree of respect, human dignity, privacy and autonomy is expected to be demonstrated in such a situation. In particular, special precautions are taken when dealing with vulnerable population or selected subjects. Researchers are also encouraged to strive to distribute fairly the benefits and burdens of research. It is reasonably fair to maximize the benefits of research than spreading risks. In more specific terms, and with reference to the social sciences, research topics, which hinge on individual privacy, state security or issues which may provoke sentimental outburst, are restricted to the strictest observation of ethical codes of conduct. Alternatively, the researcher may tread cautiously, narrowing the research topic to a unit where he can obtain data more freely with minimum ethical liberty.

Courtesy places a demand on the researcher to make self-introduction, present the purpose of the research and convince the subject in order to secure his consent to participate in the study. In doing this, the researcher must be exceedingly polite, and make attempts to avoid encroaching on the subject's privacy. And in conducting an interview, the researcher should obtain as much background information as possible so that the respondents' valued time is not wasted on easily attainable facts. An unprepared interview can be a waste of participants' time[22]. In this regard, the researcher must prepare a list of questions or an interview schedule.

Closely significant in the interviewing process is listening. The most important thing a researcher should remember to do in an interview is to listen attentively and attempt not to distract or interrupt the respondent. One ethical principle to note is that interviews are primarily a way to gather information, and not a conventional exchange of views. Any action by the researcher, or whatever he says during the interview, should be to obtain research information[23]. The researcher is therefore not supposed to engage the respondent in any argument or debate, or demonstrate his mastery of the issue (topic). Listening is a key skill[24] because it is by listening to responses and being able to react to them that interviewing is made into such a powerful method of obtaining data. It is therefore unethical and an error for the researcher to leave an interview, provide the respondent the benefits of his own opinion or experience rather than exploiting the opportunity to gather data and learn from the respondents' perspective.

With reference to the questionnaire as a means of obtaining information / data, the design should be simple. The simpler the questionnaire, the more likely respondents will complete and return it. Clarity and simplicity of expression and content are therefore more desirable than length. The onus is on the researcher to communicate effectively and be clearly understood by the respondents. Otherwise, ambiguous questions or items on the questionnaire could frustrate respondents in their attempt to complete the questionnaire. In presenting his report, the researcher is presumed to be original and inventive.

### **3.3 Ethics and Promotion of Excellence in the Sciences**

Misconduct can have a tremendous negative impact on research. Misconduct is classified as a form of deviation from what is morally acknowledged. What ethics does is to help reduce the rate of misconduct in scientific research. Misconduct may occur because institutional pressures, incentives and other constraints compel some people to deviate from the norm[25]. A course in research ethics helps people have a better understanding of the implications of unethical conducts.

Similarly, research ethics is a form of training that sensitizes people in ethical concerns as well as improvement in ethical judgement and decision making. Research ethics is useful in helping to prevent deviations from norms even though it may not totally prevent misconduct. Many of the deviations that occur in research emerge because researchers simply do not know or have not given deep thought to ethical norms in research.

Excellence in the sciences depicts good performance from which mankind will benefit without inflicting the society with harm. If the results of scientific research are to be reliable and considered valid for the improvement of society, then there must be strict adherence to ethical norms.

If deviation from ethical conduct occurs in research as a result of ignorance or failure to reflect critically on problematic issues, then research ethics may help reduce the rate of deviation by improving researchers' understanding of ethics. Researchers need important tools, concepts, principles and methods that are useful in helping to resolve ethics which is why ethics in research is imperative.

#### **IV. DOCUMENTATION AND PLAGIARISM**

##### **4.1 Documentation**

Documentation encompasses the identification and acknowledgement of materials such as data, quotations and opinions from various sources which contribute to the quality and content of research presentation[26]. It is observed that: "Although rarely emphasized, documentation is an important aspect of the research process. It applies not only to research works, but also to all forms of writing such term papers, seminar/conference papers, articles ... in which ideas, materials or questions from other sources are used. Unless the works of other people, which are used in a research paper, are adequately acknowledged, a researcher stands the risk of being accused of plagiarism..."[27]

Documentation enables a researcher to give authority and credibility to a research work as well as enables readers to locate quoted sources with ease. It is standard convention that a research paper should be a carefully drafted presentation of a series of ideas and opinions which rely on other sources for verification. Facts and opinions must therefore be fully documented in any research paper. Reference to other cited authorities is documented through endnotes or footnotes, but in such a manner to show that they support, and do not overshadow the presentation[28].

It is therefore unethical for any researcher to lift materials from books, journals and other reference materials without acknowledging such sources. This inevitably makes the presentation merely a compilation of extracts from different sources thus, lacking originality. The decision to document sources of material is not only often guided by the researcher's knowledge and opinion about the materials used but also by originality. However, the writer may not document if the information supplied is one that is common knowledge. As in a court of law, where case references are cited to prove a case, assertions made in research presentation must be backed with a documented source[29].

##### **4.2 Plagiarism**

Any researcher who fails to acknowledge his sources is guilty of plagiarism. It is the wrongful act of taking the product of another person's mind and presenting it supposedly as one's intellectual property. Plagiarism is an academic crime, which obviously puts the offender in disrepute. Plagiarism is the false assumption of authorship[30]. The sources of technical information, which is not the original creation of the presenter (researcher), must be shown. Sources of the researcher's citations give due credibility and reliability to the work. The absence of such acknowledgement amounts to plagiarism.

A new dimension to the unethical question of plagiarism is introduced[31]. He considers piracy and plagiarism as related problems. Even though piracy refers to all forms of infringement on the copyright of an author through reproduction, plagiarism implies denying an author of his intellectual property. Plagiarism robs the original author of his identity by denying him due creative credit.

In the academic community, plagiarism is considered the greatest crime that any scholar can commit. Where such cases are proven, the culprit risks automatic loss of his position and the reputation acquired overtime. The incidences of piracy and plagiarism are taken very seriously and all regulations relating to the protection of all forms of intellectual property are stringently enforced. This is with a view to maximizing the creative and intellectual potentialities of individual writers.

Plagiarism may take the form of repeating another writer's sentences, adopting a particular phrase or paraphrasing someone else's argument as if it were one's original creation. Presenting someone's line of thinking in the development of a thesis as one's original property is unethical and against international academic convention. Plagiarism is simply giving the impression that the writer or researcher has actually originally written or thought out what in fact belongs to another authority[32]. It does not imply that a researcher cannot freely adopt another individual's line of thinking or paraphrase someone else's line of argument. It is important to acknowledge the sources of information and data. The fact remains, that research work is more scholarly and authoritative when laid down procedures are followed.

## **V. INFRINGEMENT LAW AND RESEARCH IN COMPUTER SCIENCE**

Research in Computer Science is becoming multi-dimensional because of the interdisciplinary application of computer technology. Research in Computer Science evokes response to a number of ethical issues ranging from privacy, copyright, adoption of methodology and software use to cyber operations among others. Even though collaboration is permissive, ethical principles dictate that due procedures should be followed in securing permission for the use of adopted architectural designs, methodologies and codes. A number of core principles which should generally guide researchers are highlighted, and these include honesty, integrity, objectivity, confidentiality, respect for intellectual property, respect for research colleagues, non-discrimination and legality. These classical principles are not restricted research in Computer Science, they are application to research in other areas.

Encroachment on the rights of others is an infringement, and several laws are recognized in relation to the violation of rights. One of such is intellectual property. As a term, intellectual property refers to a number of distinct types of creations of the mind for which a set of exclusive rights are recognized under the appropriate coverage of law. Under the operation of intellectual property law, owners of new inventions or objects of creativity are granted exclusive rights to a variety of intangible assets such as literary, and artistic works; discoveries and inventions; and words, phrases, symbols, and designs. Intellectual property rights typically include patents, copyrights, trademarks, industrial design rights and trade secrets in some jurisdictions. The term *intellectual property* is used to describe many different legal concepts.

Many legal principles which govern intellectual property evolved over the centuries. It became common feature in the 20<sup>th</sup> century. The significant purpose of intellectual property law is to offer protection to individuals, groups or organizations that take the lead in discovery or invention. It is also to motivate new inventions by according special privilege to individuals who are inspired to set the pace in some areas.

There is intellectual property in general, including copyright, rules on fair use, and special rules on copy protection for digital media, and circumvention of such schemes. The area of software patents is controversial. The related issues of software licenses, end user license agreements, free software licenses and open-source licenses involves discussion of product liability and reliability, professional liability of individual developers, warranties, contract law, trade secrets and intellectual property. In various countries, application of Information Communication Technology is regulated strictly by government and professional bodies. There are rules on the uses to which computers and computer networks may be put. There are, in particular, rules on data privacy, unauthorized access and spams. There are also limits on the use of encryption and equipment which may be used to defeat copy protection schemes. The export of hardware and software among countries is also under regulation. There are equally laws which govern trading on the Internet.

Laws exist on censorship and freedom of expression as much as there are rules on public access to government information, and individual access to information held on them by private bodies. There are laws on what data must be retained for law enforcement, and what may not be gathered or retained, for privacy reasons. In certain circumstances and jurisdictions, computer communications may be used in evidence, and to establish contracts. New methods of tapping and surveillance made possible by computers have differing rules on how they may be used by law enforcement bodies and as evidence in courts. Computerized voting technology such as polling machines, the Internet and mobile-phones among others evoke a number of legal issues. Also, some countries use technical means and law to limit access to the Internet.

### **5.1 Jurisdiction in Internet Research**

Issues of jurisdiction and sovereignty have become imminent in the era of the Internet. Jurisdiction is an aspect of state sovereignty and it refers to judicial, legislative and administrative competence. The laws of a country do not expressly extend jurisdiction beyond the sovereign and territorial limits of that country. For the Internet as a source or medium of communication, this is particularly problematic because the Internet does not explicitly recognize sovereignty and territorial limitations. There is no uniform, international jurisdictional law of universal application, and such questions are generally a matter of conflict of laws. For example, where the contents of a website are legal in one country and illegal in another, jurisdictional contention arises should be a detected violation. In the absence of a uniform jurisdictional code, legal practitioners are generally left with an issue of conflict of law issue. Another major problem of cyber law lies in whether to treat the Internet as if it is a physical space (and thus subject to a given jurisdictional law) or to act as if the Internet is a unique geographical space.

Those who favor the latter view argue that governments should leave the Internet community to self-regulation. Governments of nations have been addressed as captioned in these statements: "Where there are real conflicts, where there are wrongs, we will identify them and address them by our means. We are forming our own Social Contract. This governance will arise according to the conditions of our world, not yours. Our world is different." [33] Another insight is given in the declaration of cyber secession which states that: "Human beings possess a mind, which they are absolutely free to inhabit with no legal constraints. Human civilization is developing its own (collective) mind. All we want is to be free to inhabit it with no legal constraints. Since you make sure we cannot harm you, you have no ethical right to intrude our lives." [34] Furthermore, "The problem for law is to work out how the norms of the two communities are to apply, given that the subject to whom they apply may be in both places at once." [35]

With the globalization of the Internet, jurisdiction has become a more controversial issue, and courts in different countries have taken various views on whether they have jurisdiction over items published on the Internet, or business agreements entered into over the Internet. This covers areas from contract law, trading standards and tax, through rules on unauthorized access and data privacy to more political areas such as freedom of speech, censorship, libel or sedition.

Obviously, the notion that the law does not apply in cyberspace is yet to be valid. Indeed, conflicting laws from different jurisdictions apply, simultaneously, to the same event. The Internet does not tend to make geographical and jurisdictional boundaries clear, but Internet users remain in certain physical jurisdictions and are therefore subject to the laws that are operational in such geographical locations irrespective of their use of the Internet. As such, a single transaction may involve the laws of at least three jurisdictions:

- The laws of the country where the user resides;
- The laws of the country which apply where the server hosting the transaction is located; and
- The laws of the country which apply to the business or person with whom the transactions take place [36].

An Internet user in Australia who is conducting a transaction with another user in Canada through a server in the United States could be subject to the laws of all three countries as they relate to the transaction in question. In practical terms, a user of the Internet is subject to the laws of the country within which he or she goes online. In the United States, an individual could face criminal charges for Internet misconduct, and several users of file-sharing software are subject to civil lawsuits for copyright infringement. This system runs into conflicts, however, when suits are international in nature. Simply put, legal conduct in one nation may appear illegal in another country. In fact, different standards concerning the burden of proof in a civil case create jurisdictional problems.

## **5.2 Internet and Cyber Law**

Laws that could effectively govern the Internet are fundamentally different from laws that govern nations in modern times. The unique topology of the Internet has evoked several judicial arguments. There is substantial literature to show that the Internet is not only controllable but is already subject to legal regulations by both private and public parties at different levels. Since the Internet defies geographical boundaries as it seems, national laws cannot apply globally and it is suggested that the Internet can be self-regulated as a transnational spatial entity. However, since the Internet law presents a new legal paradigm, there are still developmental processes [37].

It became necessary for the Internet to govern itself and instead of obeying the laws of a particular country, Internet users should only obey the laws of electronic entities like service providers [38]. Instead of being identified as physical beings, Internet users should be known by identity names or email addresses and password codes. Nevertheless, a great challenge to unfettered communication on the Internet is censorship of contents in some countries [39].

Many statutes, case laws and precedents reveal that actions on the Internet are already subject to conventional legislation in relation to transactions conducted on the Internet. For example, gambling, child pornography and frauds are regulated online [40]. One of the most controversial areas of evolving laws is determining which forum has subject-matter jurisdiction over activities conducted on the Internet. As cross border transactions affect local jurisdictions, it is certainly evident that a substantial proportion of internet activities are subject to traditional regulations. Any conduct that is unlawful off-line is presumed to be unlawful online, and subject to similar laws and regulations.

A legal mechanism exists which concerns the parameters of how information can or cannot be transmitted on the Internet. For instance, Internet filtering software, encryption programmes, and architecture of IP protocol are subjected to regulation. It is not arguable that all other modes of regulation either rely on, or are significantly supported by regulation[41].

As in all other modes of social interaction, conduct is regulated by social norms and conventions in significant ways. While certain activities or kinds of conduct online may not be specifically prohibited by the code architecture of the internet, or expressly prohibited by applicable law, these activities or conduct is invisibly regulated by the inherent standards of the community. Certain patterns of conduct will cause an individual to be sanctioned. In the same way, certain actions are censored or self-regulated by the norms of the community individuals choose to associate with on the Internet.

Markets evidently regulate certain patterns of conduct on the internet. While economic markets exercise limited influence over non-commercial portions of the Internet, the internet also creates a virtual marketplace for information. In addition, increase in popularity of the Internet as a means of transacting commercial activities has incorporated the laws of supply and demand into cyberspace.

Another major area of interest is Internet neutrality. Arguments over the neutrality of the Internet are inconclusive. Although it is not obvious to most Internet users, every volume of data sent and received by users of the Internet passes through routers and transmission infrastructure owned by private and public entities, including telecommunications companies, universities, governments and research organizations. This suggests that the Internet is not an independent platform[42]. This issue is being turned into one of the most critical aspects of cyber law, and has immediate jurisdictional implications.

Cyberspace has provided another means of communication which is regulated by the government. The Open Net Initiative whose mission statement is "to investigate and challenge state filtration and surveillance practices" and "to generate a credible picture of these practices"[43] has released several reports which highlight the filtration of internet speech in various countries. While China has proven to be the most rigorous in its attempts to filter communication features of the Internet among its citizens, Some other countries including Singapore, Iran, Saudi Arabia and Tunisia are engaged in similar Internet censorship[44].

The issue of filtration prompts some underlying questions about the freedom of speech. What legitimate role has any government to limit access to information? In consideration of the fundamental human rights to freedom of speech and access to information, blocking of websites by any government is an exercise in violation and an expression of conflicting interest[45].

## **VI. CONCLUSION**

Intellectual property rights, infringement law, legal provisions for plagiarism, the various copyrights laws and cyber law are all legal stipulations on the basis of ethics, which are designed to check misappropriation by either party in research. Ethical provisions embrace all known fields of study and research. In order to protect sampled research subjects or owners of original copyrights from being cheated, ill-treated or having their rights infringed, the law in various countries makes adequate stipulations. For the field of Computer Science, especially with reference to the use of the Internet, data management and mining, there is much exposure to insecurity, cyber theft, plagiarism, piracy and other unorthodox practices. Consequently, the operators of the different search engines have privacy regulations, and are covered by their respective country legal provisions, relating to infringement and privacy violation. Indeed, the issue of insecurity of data, cyber terrorism[46] and violation of intellectual property rights has made it mandatory for Internet users to accept or reject agreement rules on the use of data that can be accessed via the Internet.

Without a legal framework which constitutes the guide and restraint to professionals and others involved in purposeful research, there is the tendency for their work to be hijacked unduly. Such an action only denies the original researchers of the credibility due to them. Ethical codes are therefore designed to check unhealthy practices, establish the procedures for excellence and protect the various parties involved in the conduct of a research. Promotion of excellence in collaborative as well as personal research efforts in the sciences is the ultimate aim of research ethics without delving into the proprietary rights of others, and without infringing on the privacy of human subjects. Yet, jurisdiction of research area is visibly highlighted. Irrespective of the human dimension and the behavioural issues that intervene in research, legality, plagiarism and appropriate methodology are among several other issues that every researcher has to consciously consider.

Above all, the promotion of intellectual creativity, research inventiveness and documentation of works for historical purposes among others, has necessitated the establishment and strict adherence to ethical considerations in research. The importance of documentation in research presentation cannot be over-emphasized. This article emphasizes the primary responsibility of every researcher in the research and academic community. The direction of the article underscores quality control and the collaborative participation of other stakeholders in scientific research by means of motivation, but guided by related ethics. Although the work is limited by the absence of any statistical analysis of cases or any meta-analysis of ethical research issues, further research or articles may be presented to broaden the scope of cyber research.

## Acknowledgements

The author wishes to acknowledge the collaborative efforts of Raphael Sunday at Modern Approach and Trends Research Centre, Lagos, for the supply of research resources, proof-reading and research advice. The author also fully appreciates the motivational support given by Raphael Sunday in the course of preparing the article.

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