

The Information Paradox
Transparency on the Scale
Dr. Radia Adam Mohammed
Department of Informatics
Faculty of Arts - University of Khartoum

‘Where is the Wisdom we have lost In Knowledge? Where is the knowledge we have lost in Information’ T.S Eliot

The title of this paper implies that two basic topics are to be addressed, namely Information, its properties and technologies on the one hand, and the on-going hot controversial issue of Transparency and its impact in combating ignorance and corruption on the other hand; obviously the two subjects are inseparable and overlapping, the difficulty in drawing lines and boundaries between them in itself is an advantage facilitating addressing both Information and Transparency concepts, perspectives and practices as one lot with equal emphasis on both. Hence we start with Information being the fundamental

Information -as we know- is an infra structure, needed by every one in all walks of life for actionable enterprises starting from personal level, ending with International and Global levels. Eventually, it is not a coincidence that business- business here is just an example chosen because nowadays every thing could justifiably be described as being business- these days is changing its traditional parameters and stepping in to an

entirely modern and sophisticated setting to embrace the newly acquired concept of knowledge-based reality. Gone forever the time when management was conceived and run with guesses, speculations and arbitrary visions. Gone forever the time when ignorant, idiotic, and those who are quite oblivious of the significant, articulate and leading role of Information, to have a mere chance of conducting business; business now is the prerogative of the Smart, and Informed only. Corruption in running business is always interpreted in terms of lack of appropriate Information (for more details see TI Report 2005 on Corruption)¹

Needless to indicate in this respect, that Information is the back bone of modern business management, if one logically needs financial, physical, and human resources to start business even in the traditional manner; make sure; by to days scientific measures and standards, it is a well established fact that, he or she needs Information most; for the simple reason that, it is the catalyst that sets the former three dimensions in action. One needs Information for depth insight, manipulations, and maneuvers. Business logically, organizationally, and in the actual steps of implementation and evaluation, always depends on a wealth of knowledge, and a body of literature, which is sincerely supported by authentic package of well-processed Data.

Having said that; it may be plausible at this juncture to establish a firm case for the significance of Information provision at large, and particularly in one area where Information is indispensable namely:

¹ www.globalcorruptionreport.org

Decision- Making: -

Apparently human activities are based entirely up on choice, i.e. to choose from two or more options. Of course- one should admit- there are several ways for choosing: mere guess is one way, actually it is the nearest and the first sought, flipping a coin is another; recalling and relying completely without any reservation on an old experience is a third option; all are bad, but the worst of all is to chose not to chose i.e. indecision. What matters to us here is the fact that absence of Information in these choices is unmistakably clear. We need a substantial body of knowledge to rely upon qualitative evidences for safe decisions.

It is sad that some executives and decision makers to day still use the intuitive approach to decision making which depends entirely upon whims and hunches, rumors, personal experiences and value judgments, definitely without quantitative analysis.

Some very few smart executives employ the mechanics of the newly exploited area of Operations Research to reach sound decisions

Operations Research is applied decision theory, it uses any scientific, material, or logical means to cope with the problem that confront the executive when he tries to achieve a thorough-going rationality in dealing with his decision problems"²

Now a days there is a lot to add up to operations research through the newly coined term " scientific decision making ", meaning to base decisions on scientific methods; advocates claim that it is Operation Research +, any how at the end of the day both approaches are overlapping, and most of the time used interchangeably.

²Miller, D W & Starr, M. k
Executive DECISION & Operation Research; Englewood Cliffs, N.J, 1960

Pin pointedly what we are driving at is human activities, all human activities to make a success, has to be administered reasonably and rationally on the basis of authentic and reliable body of Information

But: we ought to know that data is dumb, beliefs are blind, and we need to hook up the avalanche of the incoming Information by scientific actions and methodologies. Obviously unless we organize Information in systematic tracks to facilitate Storage and Retrieval; we can never talk about benefits or adequate utility of Information to promote our human activities, because data in this respect no matter how voluminous they may be are of a very limited value, and some time of no value what so ever. We appreciate the fact that implicit knowledge are free, explicit data are not, they need clear rigorous streamlining and bibliographic control, still between the two the significant fact remains we need to strike a balance. From this stand the economic necessity of establishing Information Systems and Knowledge Repository came into being; in this respect we are particularly concerned with the easy flow of Information into systems on the one hand, and the fact that Information should be readily accessible to the end users on the other. Two platforms are extremely essential, the human and the technological perspectives. The quality of Information produced in such environment are changing the face of history and reality in many traditional scholarly disciplines suffice it here to mention two outstanding fields; economics and medicine, both endorsed the new trends of advanced technology and knowledge-based applications, opening new horizons not ever explored. The same shift happened to other Information intensive industries such as Banking, Insurance, Airlines, multinational business and News Agencies they are heavily dependent on ICT in its full capacity

The second half of the c20th the witnessed a real, drastic changes in the global society that affected many scholarly dynamic fields such as administration, management, economics etc. Such fundamental changes could not be compared to any thing, but to those changes caused by the Industrial Revolution took place at the C18th and theC19th, and considered by all scholars and scientists the most imperative up lift in Man history. The impetus behind these changes was the Information Revolution manifested in Computers and Computers applications, which, in a nut shell a resultant of the Industrial Revolution itself. Anew age came into being. Information Revolution towards the mid fifties of the previous century was coupled by another Revolution, not by any means less than it in both effect and significance i e the Electronic Revolution manifested in Tele communication devices, together, the two revolutions made what we refer to as command of Information Revolution "ICT" which precisely describes the coming together of computer and data transmission technology, to revolutionize Information Systems:³ Computers are able to talk to each other, over Tele communication links, or can transmit data to and from remote terminals. Remote terminals can send data to computers and receive out put messages, not only this, Information Technology also involves other equipment and Information transmission systems, not just computers; for example, there is electronic mail, facsimile, cable television, Tele text, Electronic Telephone Exchanges, Satellite Communications and Data Transmission using laser Technology. The shift from oral tradition communication to electronic

³BPP

AAT. STUDY TEXT, paper 11
Analysis and Design of Information Systems. p 2

communication has always been described as the *paradigm shift*. In fact the transition has under gone four major stages worth to be mentioned:

- 1- Stage of human signals, using the five sensory organs.
- 2- Stage of writing and printing
- 3- Stage of telegraphs, telephones, phonographs
- 4- Stage of Tele communication, which came as a result of discovering the electromagnetic waves in 1896. Of course the greatest advancement in the field of data transmission lies with the Internet. The third millennium emphasized the significance of ICT in every walk of life.

Recent years have significantly raised the speed of storage and retrieval capacity and the accessibility of much more complex, accurate and diverse Information sources. This has given a global dimension to local Information... Remote villages, international towns, can communicate via Instant Direct Dialing (IDD) with any place in the globe, and also through the Internet. Information can be retrieved and displayed world wide at much lesser costs than through conventional modes like postal services, TV or news channel. These developments created many business opportunities for either those, who produce and market ICT itself, or those who realized the commercial value of speedy, cost-saving communication and data transfer.

To appreciate all the above-mentioned technologies, one has to appreciate Information itself, and its basic qualities and properties such as:

- It is the starting point of any activity no matter how simple it may appear
- it is dynamic
- It is strategic
- Its quality or even quantity is never changed or reduced by use
- It is the only commodity that increases with consumption

Having said that, it is plausible at this point to highlight that the main theme underlining this paper, is more or less, built on the assumption that Information is an Infrastructure.

INFORMATION TECHNOLOGY:

The Industrial Age imperatively has given way quickly to the Information Age, arguably the technological advancements have paved the road for many electronic challenges and opportunities to present themselves in favour of human kind, making life more easier than before. The convergence of applications, and the content Delivery of computing, Tele communication, Electronic publishing, the revolution in Multimedia, the driving force behind innovation and manufacture of hard ware as well as soft ware, globalization and its implications; all these factors collaborated in shaping the map of the new world, notably the effect of these concrete factors is reflected in the following areas:

- investment in education "capacity building"
- development in ICT infrastructure "modern technology"
- growth of investment in R&D
- growth in ICT business (question under review).

To start with, one indicates the very fact that we have been in the Information Age for a considerable period of time, that we came to understand quite clearly what is meant by the phrase "Information is Power". The thrust and the significance of Information is well illustrated by the fact that now a days we are all with out any discrimination very much fascinated and fond of associating our selves with the glamour of Information culture, and the magic of electronic environment even if it is just for intellectual pretension. Presumably it is the fashion today to add the term Information or knowledge to any idea, old or new, so as to highlight it and give it new connotation, take for example and for more insight the following (newly coined) phrases; Information Society.

Information Age, Knowledge Management, Knowledge based Economy etc. If we are brave enough to bring about in our phraseology and new vocabulary building, the very hot, on-going phrases -digital and electronic- then emphasis will be focused directly on Computing and Communication epitomized in the Internet; and eventually indicating the use of Networking Technologies. As a matter of fact, ICT significance is increasingly promoted by the proliferation of microelectronics, and the down escalation in the cost of both, computing and data transmission. Progress in this respect is revealed in many aspects, such as E-Commerce, Internet Hosts, etc

WHY KNOW ABOUT IT:

An individual must know and understand about IT in order to use it effectively and productively. In a report produced by Committee on Technology Literacy, entitled, "Being fluent with IT", four broad categories of rationale motivating quantitatively and qualitatively the understanding of IT, are indicated

- Personal rationale
- Workforce rationale
- Educational rationale
- Societal rationale

Because of these rationales every now and then a new technology is introduced in our midst, intending to make our live easier, some of these technologies die quickly leaving no trace behind them, other take hold, and acquire a momentum and become revolutionary in magnitude; this

every type of technology changes and colours our live, some times results in very sharp upheavals affecting our way of thinking, that is to say "scholarly change", and the way of getting things done meaning "managerial changes". Computer & Communication technologies are two good examples to illustrate our point; their remarkable impact is more or less like that of the steam engine, electricity and solar energy the time they were invented.

Now it is an established fact among planners, executives and successful managers that managing a modern organization depends increasingly on managing Information & Knowledge of and about that organization. The Information Revolution has vastly increased the capabilities that are available for analyzing, and transmitting Information on the one hand, on the other hand, Communication Revolution in particular, has enhanced, and notably revolutionized Information handling and transmission. We are presented at the moment with an avalanche of modern technologies working collectively to make life easier; digital manipulations, high connectivity, reliable interactivity, new horizons in terms of manufacturing and producing new multimedia accessories, new business opportunities, new applications and new interfacing of different traditional apparatuses, giving them new qualities of novelties and functionality etc, etc; all are fueling great Communication explosion analogous only to that of Information. The nearest and the best example to demonstrate the hegemony of ICT is the Internet, particularly the Web. Headline news pushed to the desktop, web browsing from a palmtop, cyber book stores, auction houses; all these and many others are typical examples of how the web has fundamentally changed where, how, and when we do business. Kofi Annan, the Secretary General of the UN,

intelligently recognized the significance of endorsing ICT in his future world development plans. Annan says: If the world is serious about achieving the millennium development goals of halving the number of people living in extreme poverty by the year 2015, ICT must figure prominently in the effort ⁴

The use of IT and services, group – decision, super systems, electronic mail, electronic data interchange (EDI) and electronic Information services such as videotext, audiotex CD ROM, and of course all the on-line services, has received a considerable attention in recent research, and practical daily life, currently all these issues are integrated in intelligent Networks.. .

Now it is banal and entirely self-evident that ICT capabilities can add to an organization's growth and effectiveness by topping and improving the abilities to gain and use Knowledge

These very days, the Information arena is dominated by a world of computing, based on the newly very significant off shoot of the fifth generation in the investigated areas of Artificial Intelligence 'AI' and the philosophy of computer simulation, leading at the end of the day to the glamorous zone of the virtual reality, which presented to us a new type of computers, known as intelligent. This new brand of computers is well equipped to execute very brainy operations, previously confined to human beings. To this type of computers new progress in the field of Information Science is attributed.

Knowledge-based Systems are more or less the natural output of the latest advancement in computation, where Data is reduced through human

⁴<http://10unctad.org/commerce/en/edio2.html>

activities to information, information is further reduced by abstraction, diffusion, formalization and other methods to knowledge; the end product of this complicated process is known as a Repository of Knowledge Management, where all the required information from various individuals concerned in a given organization, is pooled together in one place at a given time and made available for the benefit of the group. The human element in this context brings life to the static Information Systems by introducing concepts, ideas, and emotions which are historically known as being the prerogatives of the rational.

The more we abstract, the more we permit knowledge to migrate from being resident, from being organic host to mechanical or computational devices. This is the new climate we are supposed to work in at the present time. The shift from Information Management to Knowledge Management, has-naturally- its' magnitude and repercussions. It was once described as the shifting paradigm leading may be to the Global Information Society. This is perhaps the first brain-blowing challenge facing Information professionals at the moment.

The second challenge facing us in the Electronic era, is the environment we are supposed to work in, which more often than not is described as being changing, unstable, wicked, harsh, nasty etc. Organizations, corporations are now demanding more and more functionality from their computerized Systems and also from the extant Technology, assuming that the present technology is incapable of accommodating the new drastic and dramatic changes in the Information environment There is understandably a pressing need for: -

1-adjustment, seen in the shifting paradigm i.e. Knowledge Management, which is gaining momentum day after day, and;

2-perfection, seen in the adoption of certain measures among which, is the concept of Total Quality Management TQM.

According to the above-mentioned challenges, there are some significant issues ought to be addressed promptly to ratify the situation, all of them evolve around the concept of change, one understands and articulately believes that change is both inevitable and desirable, here are some examples:

1-changes in the work environment; one admits there is now a need for creation of micro- environments of Knowledge based Systems 'Networks' to suit the requirements of each particular organization. The Internet is not enough in this respect; the call is now for something more intimate, functional and individualistic. The Intranet is seen as the heavenly answer to cater for adequate internal information provision, where all relevant information is gathered in one place at the time of request 'this trend by the way is referred to as transparency.'

2-changes in the style of information provision, where most if not all traditional services are upgraded and made computer-oriented,

3-for effectiveness and efficiency, the concept of TQM should be fully endorsed, because TQM means quality service'

4-staff qualifications have to be upgraded to a very high level to cope with the sophisticated level of IT required

5-the extant IT has to be continuously reviewed and qualified to cope with the demanding time and perspective

6-application of TQM means those models of Performance Measurement become crucial. A high quality, Unified Sets of Standards should be activated for of course accurate, authentic measurability, consistency and

prediction; there is pressing need for mastering the C21st Information. The ultimate goal of all Information Engineers is to develop a new Information Paradigm that gives availability and full accessibility with new knowledge and skills to cope with the new challenge working in the digital environment.

7-last but not least, users services by definition have to be thoroughly scrutinized, revised and modernized and highly technologized to satisfy the end user. Eventually, to be pragmatic in such situation, professionals have to endorse a number of conceptual changes and transformational measures in their mentalities and their practices, and to enjoy a high sense of adaptability in order to be in the same frequency with today's sweeping currents of modern technology and modern cognitive innovations.

Last but not least I will close down in this section with Guy Clairs⁵ words talking about the inevitability and desirability of change:

‘We have to do it, because if we are going to be working in knowledge-based organizations- which we know we are- then the whole organization becomes information focused. And the information is not limited to external information or internal information or what the librarian finds or what the record manager finds. Those categories will become irrelevant, as information customers begin to demand one-step shopping in an integrated information environment’.

The remarkable transformation is clearly shown in libraries and other Information apparatus and their services and operations, apparently they are in the midst of a period of radical change, conceptually and

⁵CLAIR ST. GUY⁵
TOTAL QUALITY MANAGEMENT IN INFORMATION SERVICES
LONDON: BOWKER, 1996 P 27.

technologically, precipitated in large part by swift, piercing advances in automation and nowadays the glamorous tools ever recognized in the area of Information i.e. information-based systems and at amore advanced level, knowledge – based systems

Establishing Information Systems and Knowledge Repository came into being; never the less in this respect we are particularly concerned with the easy flow of Information into systems on the one hand, and the fact that Information should be readily accessible to the end users on the other. Two platforms are extremely essential, the human and the technological perspectives. According to the definition of A AT, MIS could be defined as follows

'a computer system or related group of systems which collects and presents management information relating to a business in order to facilitate its control'⁶⁰ much more elaborate and informative definition by the same source goes like this, MIS is'

" an information system making use of available resources to provide managers at all levels in all functions with information from all relevant sources to enable them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible."⁷

The simplest definition of the Information system is the system that provides and communicates Information. A more specialized definition that applies to business systems:

⁶ AAT.op.cit.

⁷ AAT.ibid.

" A collection of men, machines and methods organized to accomplish a set of specific functions"⁸

Precisely, business Information System is designed to support and enhance the following goals:

1. To generate a reasonable financial return for shareholders
2. To maintain a high market share
3. To increase productivity annually
4. To offer an up-to-date product range of high quality and proven reliability
5. To acknowledge social responsibility
6. To grow and survive autonomously

The six above- mentioned areas to prosper and achieve their objectives; Information Transparency, prompt accessibility

There are several types of Information systems, each suit specific audience; each type could be divided and subdivided on basis of disciplines or specialization. Let us now have a quick word on the major and characteristic types of Information Systems taking some definitions and may be an overall idea about the main features governing them.

MANAGEMENT INFORMATION SYSTEM (M I S)

Clearly, it is a system that helps managers at different levels of management to take sound well-informed decisions. System supplies the top management with strategic Information necessary for planning and policy making; it supplies the executive level with the right Information to transform and break down plans and policies into programmes ready

⁸ ACCA.

Information Systems in Development & Design.BPP1998

for execution; it also supplies the operational level to set programmes into action.

DECISION SUPPORT SYSTEM) DSS.

One of the very specialized systems, in its self it does not make decisions, but it helps enormously in the process of making and taking the right decision, through accurate analysis and presenting the manager with options and alternatives backed with authentic data to chose from.

Decision Support Systems are a form of management information systems, to aid Managers in making decisions on issues, which are complex and unstructured.

EXECUTIVES INFORMATION SYSTEMS (EIS)

The simplest definition to offer here is that of, Management Accounting, January 1989, it reads, E I S, is:

" an information system which gives the executive easy access to key internal and external data"⁹

It is quite clear from the above-mentioned types of systems that managers and executive can draw from a wide range of Information with complete easiness and great satisfaction. This is the optimum use of Information

Libraries are now swiftly moving form their traditional role as custodian of printed materials to embrace a new role integrating modern methods of Information Storage and Retrieval, and making use of advances in Transmission Systems.

⁹ AAT. Ibid.

Information Transparency

These days the area that has competed and may be beaten and completely stolen lights and glamour of Information is Transparency. In roots and essence the two terms are in a way or another synonymous to, and more often than not interwoven, and some times complementary to each other to the extent that each one could easily be a defining element for the other in a sense that if one wants authentic Information, he or she is demanding absolute transparency on the one hand, and if he or she is after absolute transparency then clear authentic information is on demand. In a nutshell the most significant links between the two are clarity of Roles and Responsibilities.

It may be plausible at this juncture to dwell and elaborate my previous point for more insight and appreciation, and to demonstrate the scalability and inter-operability of the two concepts (Information/ Transparency) by giving certain goals and objectives lavishly attributed to Transparency, which could not be under any circumstances interpreted in isolation from Information, these objectives could possibly be compared lately if necessary with those of Information to discover the analogy and the vitality of Information supply and intervention:

- Transparency should be timely, if it is late it is of no value
- Information should be made readily accessible to all
- Transparency is not a goal in itself it should be followed by investigations and accountability -here where Information is vital-, there is no value of reporting bribes or other sorts of

corruption if no action is to follow, Transparency means disclosure of corruption to be counteracted and prevented

- Transparency should be secured and backed by the necessary legislation to make it effective.
- Absence of the effective role and presence of Civil Society Organizations, being blind and dumb for instance or quite oblivious of sources of Information is the most serious problem defeating the ultimate goals of Transparency, because Civil Societies are supposed to be the whistle blowers and the watchful eyes

Obviously Information is the backbone in the above-mentioned statements. It is clear now that Transparency measures and safeguards are evolving around concepts of availability and accessibility of adequate information to prevent corruption. Freedom of Information (FOI) is a very central parameter in this context yet the effect of Advocates and Crusaders of Freedom of Information in theory and practice is very minimal. follow up and accountability by the media and journalists is of paramount significance; to disclose corruption more vital and more vocal tools are to be implemented, issue should not be left for academic forums and intellectual writings. ‘Constitutional provisions are not enough to ensure the right to Freedom of Information in practice; implementing legislation is required ’ says Toby Mendel, head of the law programme ‘at the NGO Article19’

Jeremy Pope, executive Director of TI’S Center for Innovation and Research writes in The Global Corruption Report 2003 ¹⁰indicating that

¹⁰ WWW.globalcorruptionreport.org

‘Ordinary citizens need access to government-held information in order to exercise their rights in just about every phase of their lives, without it they are ready prey to corruption’

The Global Corruption Report 2005¹¹ finds that lack of Transparency in large- scale projects can have a devastating impact on economic development ‘corrupt contracting processes leave developing countries saddled with sub-standard infrastructure and excessive debt. Corruption raises the cost and lowers the quality of infrastructure. But the cost of corruption is also felt in lost lives’ The Report concluded with a set of standards for Public Contracting. Access to Information is the central issue dominating the whole Report. Here are some salient points:

- Ensure that all contracts- between the authorities and contractors – are subject to open competitive bidding ‘emphasis is mine’
- Provide all bidders and preferably the general public, with easy access to information about all phases of the contracting processes, including the selection and evaluation processes and the terms and the condition of the contract and any amendments
- Ensure that internal and external control and auditing bodies are independent and functioning effectively, and that their reports are accessible to the public, Any delays in project execution should trigger additional control activities

Information Transparency & Intellectual Freedom

The coloration between information and Transparency is self-evident in a sense that they have common grounds both articulate the same ethics

¹¹ [Www.globalcorruptionreport.org](http://www.globalcorruptionreport.org).

and functions in their essence such as issues pertaining to the Intellectual Freedom, Freedom of Information, Accessibility and Availability of Information etc. In this respect our responsibility as Information Scientists is to maintain adequate Knowledge Repositories and to direct all our Information apparatuses to facilitate access to all expression of knowledge, opinion, intellectual activities and creativity, including works which some of us may not justify and consider 'unconventional, unpopular, unorthodox or unacceptable'; our golden rule is 'no politics, no ethics and no religion' 'Canadian Association Of Research Libraries'¹²

In this context Intellectual Freedom is closely associated with the big issue of Transparency. It gives the individual the right to both hold, and express opinion and seek Information, thus constituting a strong base to Democracy. Accordingly all libraries and Information Centers are under obligation to defend the public Rights to access Information without obstructions by acquiring and making available the widest variety of materials to satisfy the public and help them to remain well informed in all issues of their concern

All advanced nations are now committed to promoting societies where intellectual activities and creativity and freedom of expression and debates, and access to Information are encouraged and nurtured as vital elements underpinning individual and community fulfillment in all aspect of human life 'CILIP'¹³ this right is not confined to library material in particular, but is now extended to by various Laws, Act and Bills of Rights to public access to and Freedom of Expression in Networked Information. Libraries have a significant role to play in the maintenance

¹² <http://www.ifla.org/faife/ifstat/carlstat.htm>

¹³ <http://www.ifla.org/faife/ifsat/lastat.htm>

of civil and democratic societies where people are informed and Information is readily accessible. CAL¹⁴ is of the opinion that 'Freedom to read is a corollary to the constitutional guarantee of Freedom of the Press. Freedom of choice in selecting materials is a necessary safeguard to freedom to read and shall be protected against extra-legal, irresponsible attempts by self-appointed censors to abridge it'. Censorship is the greatest enemy to Freedom of Information.

The ALA library Bill of Rights¹⁵ and other Bills of Rights affirm that all libraries are for information and ideas therefore books and other library resources should be provided for the interest of and the enlightenment of all people presenting all points of view on current and historical issues, libraries should co-operate with all persons and groups concerned with abridgement of free expression and free access to ideas. The most important role attributed to libraries is challenge of censorship

Intellectual Freedom is the basis for democratic systems where the concept of accessibility and availability of Information is recognized and well taken at various levels and individuals are enjoying full rights to seek and to receive Information from all points of views without restrictions

'If all mankind minus one were of one opinion, and only one person the contrary, man kind would be no more justified in silencing one person, than he if had the power, would be justified in silencing mankind'

Transparency therefore is exemplified in the availability of authentic, transparent Information. It is a necessity against the insecurity of

¹⁴ <http://www.cal-wc.org/ifhandbook.html>

¹⁵ <http://www.ala.org/oif/basics/intellectual.htm>

competitive co-existence, in a sense that Information Revolution imperatively is characterized by economic consequences. History and now time proved that the theory of monopolistic and imperfect competition could easily be challenged by the availability and equity in accessibility of the required Information.

Present traffic and future prospects of Information emphasize social, cultural agreements and commitments of Information Scientists to invest on clarity and transparent information provision. It is a wholesale area of morals, ethics and responsibility

ETHICS AND RESPONSIBILITY

Business and presumably all decent human activities have their own ethics and moral values. with out these norms and values business would turn to be some sort of hankering. Each company for instance is composed of various components: shareholders, managers, owners, employees, customers, and society at large, all linked together with vertical, horizontal and lateral relations of reciprocity, these type of mutual relations is often exhibited and expressed in terms of rights and obligations. To maintain order and stability in business administration, it is not enough to cater for logistics and other materialistic requirements; ethics and moral values do matter and govern the whole process of running business honestly and successfully

To fulfill their moral obligations and to satisfy the needs of all target groups, executives should always be conscious, conscientious and very strict with themselves in dealing with matters pertaining to ethics and

responsibility. Here Transparency is the right word required. The snag is; things are never sweet and smooth all the time. The dilemma begins when needs and interests conflict, and the executive tries to compromise i.e. to ensure one area and compromise the other, because there is no middle solution. If the manager tries to act in the company's best interest-as it is the case most the time-; it would automatically be at the expense of the customers, in other words Transparency is lacking, it is not always easy to reconcile competing and conflicting interests; resultant is confrontations, trespassing and open violation of laws, by- laws and regulations. This is the difficult time when managers often pay a heavy price if not inspired to take the right decision even if it is against the company's interest. Because it is non-ethical to do it other wise.

Information Ethics

The correlation between Information ethics and that of business is quite logical in this respect as they are entirely inseparable; they are complementary in their nature and composition.

If business has responsibilities to, and for customers; Information also has a big responsibility for business i.e. to back it promptly with the required, authentic and adequate data for maximum efficiency and minimum loss of time. To achieve this goal, Information has its means and ways, and has its logic and Ethics, which is presented in one package to be detailed in the following attributes.¹⁶

¹⁶ Burch, John, G

Information Systems: theory& Practice
New York, John Wiley and Sons, 1983

1. **Timeliness**

Here we refer to the receipt of the required data in the right time for prompt decisions, exactly when it is needed not before or after

2. **Precision**

The emphasis here is on the measurement detail used in providing Information

3. **Accuracy**

The degree of the absence of error in Information

4. **Clarity**

This means the degree to which Information is free from ambiguity

5. **Quantifiability**

Reference here to the ability to state and restate numerically

6. **Verifiability**

The degree of consensus arrived at among users examining the same Information

7. **Freedom from bias**

The absence of intent to or modify information in order to alter influence recipients

8. **Comprehensibility**

Completeness of Information

9. **Appropriateness**

The degree of relevance, how well the Information relates to the user's needs?

10. **Accessibility**

This is the most desirable attribute; Information ought to be readily accessible when it is required

Transparency if properly defined could be no more than the above-mentioned attributes

Information and communication as a matter of fact are the means by which the activities of a business organization are unified. Information is communicated so that action can be taken. All big activities start with defining the problem in question, gathering the required data, analyzing or processing this data and arriving at a decision for action. Any procedure other than this is futile

If all the previously mentioned credentials and attributes are well catered for, then Information responsibility is fulfilled, and ethics are maintained in support of business, which means standards, quality and perfection are also maintained

CONCLUSION:

Operating business successfully requires first hand information on a number of issues. The informed decision is the right short cut to progress and success. Absence of Information is disastrous. The following quotation from a famous book entitled *Great Information Disasters*, give lessons and warnings to those who still underestimate the role of Information :

" Ignorance of essential facts will lead to inexorably to disasters such as the sinking of the Titanic, when the absence of vital data creates life-threatening situation. Sometimes however, the willful ignorance of established data can also lead to disaster. In this case it

is human judgment, which is at fault, but it is still an Information disaster¹⁷

¹⁷ Horton, F. W and Lewis, D. ed
Great Information Disasters, Aslib1991