

**LEARNING TO COPE WITH INFORMATION OVERLOAD: MOVING THE FOCUS
FROM RETRIEVAL TO USE**

BY

Ali Garba

Kashim Ibrahim Library, Ahmadu Bello University, Zaria, Kaduna State

Email: karayeunque@gmail.com Phone: +2348068520563

&

Abubakar Mohammed

Department of Library and Information Science,

Modibbo Adama University of Technology, Yola, Adamawa State, Nigeria

Email: amkareto@gmail.com Phone: +2347036660009

&

Adamu, Abbas Lamido Gora

Department of Library and Information Science,

Modibbo Adama University of Technology, Yola, Adamawa State, Nigeria

Email: swiss04@live.com Phone: +2348032095914

Abstract

The paper focuses on learning to cope with Information Overload: Moving the Focus from Retrieval to Use. It deliberated on the brief history, meaning, types and causes of information over load. The paper enumerated and discussed the effects of information overload on individual and organizations among which: it cause a decrease in workers and organizational productivity, it affects decision making process as well as the wellbeing of workers by contributing to stress among others .Information retrieval, information retrieval devices and information use were also explained, solution to information overload were itemized and explained such as, the application of information literacy skills, use of information systems, use of intelligent agents to mention a few. The paper concludes by stressing that information overload is a great challenge to our contemporary information society causing negative consequences for the proper functioning and wellbeing of an individual and organizations. Hence organizations and individuals should try as much as possible to apply the knowledge of competitive intelligent effectively to manage it and proper consideration should be given to information use because without consideration to it, activities such as information seeking and/or information retrieval are incomplete.

Keywords: *Learning to cope, Information overload, information retrieval, and information use*

Introduction

The speedy Development in Information and Communication technology in the last 50 years has made information in abundance to more people than at any other time in human history (Feather, 1998). Information is a veritable tool which shape our understanding of the world, guide us to get things done, help us to make good decisions, to learn and gain better mastery of the world, to understand what we can affect and what we must learn to live with (Jones, 2008). The term, information overload, was coined by Bertram Gross, the Professor of Political Science at Hunter College, in 1964 in his book titled “The Managing of Organizations.” However, it was popularized by Alvin Toffler, the American writer and futurist, in his popular book “Future Shock” in 1970 (Gross, 1964). From the period of the beginning of printing, there has been increasing demand on individuals to keep abreast and control the multitudes of information. Indeed, the Internet and the World Wide Web (WWW) has compounded the situation by considerably increasing the amount of available information and the speed at which it becomes accessible, hence information overload is regarded as a technology–related occurrence. The recent advances in ICTs have greatly influenced all the major organizational and social changes. Therefore, ICTs were not only seen as the means to increase the accessibility of information and allow virtually everyone to gain access to the infinity of information, but also were identified as the major reason for information overload and, at the same time, the only potentially solution to information overload. Information is created, processed and disseminated through various medium such as internet, television, e-mail, social media, videos, motion pictures, voicemail, faxes, cellular/mobile phones, newspapers, magazines, books, e-resources among others. This has created the situation where there is no excuse 'not to know' (Rochat, 2002). It is not only the fast growth and developments in ICTs and WWW however, that have generated information

overload. Similarly Global transformation of workplaces and organizations, as well as rapid changes in our various cultures and society at large. Information overload is mostly considered as a worldwide problem today. In this modern-day information society, we are bombarded with unsolicited information whether or not we actively seek it. We are all affected by the increasing number of sources from which information originates (Benselin and Ragsdell, 2015).

There is no generally universally accepted definition of information overload, it is subject to various interpretations by several scholars, such as having more relevant information than one can assimilate or it might mean being loaded with a large supply of unsolicited information, some of which may be relevant (Butcher, 1998). However, Feather (1998) submitted that information overload could be termed as the point where there is so plentiful information it could no longer be used effectively, while Bawden et al. (1999) stated that information overload happened when potentially valuable information received became a hindrance rather than a help. He further stated that Information overload is a state in which a decision maker faces a set of information (i.e., an information load with informational characteristics such as an amount, a complexity, and a level of redundancy, contradiction and inconsistency) comprising the accumulation of individual informational cues of differing size and complexity that inhibit the decision maker's ability to optimally determine the best possible decision. Therefore, Information overload can be regarded as a situation or condition in which an individual or organizations are having plentiful information and which stops them from making good use of it. Wilson (2001) has identified two types of information overload namely Personal Overload and Organizational Overload.

The Causes of Information Overload

There are many causes of information overload the most common causes of information overload nowadays according to Zanarini, (2019) include the following:

- a. The ease of creating, duplicating and sharing of information online by every one
- b. Massive volumes of new information being constantly produced every day.
- c. The exponential increase in channels to receive and disseminate information in various format by; radio, television, print media, websites, e-mail, mobile telephony, RSS feeds, etc.
- d. Pressure to create and compete in information provision – leading to a quantity over quality effect in many industries and organizations.
- e. The increasing weight of historical data available to us
- f. High volumes of conflicting, contradictory and plain old inaccurate information
- g. No simple methodologies for quickly processing, comparing and evaluating information sources.
- h. A lack of clear structure in groups of information and poor clues as to the relationships between those groups

Effect of Information overload to individual and Organizations

Information overload as one of the societal challenges in our contemporary information society has some negative consequences both to an individual and organizations. As the volume of the existing information rapidly grows, individuals and organisations become overwhelmed by the overabundance of information. This can decrease workers and overall organizational productivity and performance, hinder learning and innovation, affect decision making process, well-being of workers and cost organizations huge amounts of money (Jackson and Farzaneh,

2017) While there are obvious benefits from easier access to information, research conducted by Lewis, (1996) has established that information overload can lead to stress, loss of job satisfaction and physical ill health. This will eventually affects the attainment of an individual and organizational aims and objectives.

Information overload definitely has negative consequences for the proper functioning and wellbeing of an individual it negatively affects performance because it engenders poor decision making, poor execution of tasks, and loss of time because of interruptions in work activity, and diminished creativity. It also negatively affects well-being by contributing to stress, anxiety, fatigue, loss of motivation, Bad judgment and Information anxiety and even depression (Winkle as cited in Ifijeh (2010). From an organizational viewpoint, workers including managers may result in loss of productivity, poor strategy and implementation of processes and procedures, and consequently resulting in great economic losses. The common claim that information overload is an undesirable state that has significant negative consequences on individual decision-making and overall organizational performance, very few parallels between the studies can be identified (Lewis, 1998, Levy, 2008 and Ifijej, 2010).

Informational Retrieval and Use

According to Muhammad (2011) Information Retrieval can be referred to as any type or form of activity carried out consciously and or unconsciously to access any given information. He went further to stressed that retrieval devices are useful for retrieving/searching for information or rather; information resources and sources include library catalogues of all types including online catalogues, indexes, abstracts, bibliographies, references at the end of books and published/printed papers as well as ‘see and ‘see’ also reference, internet search engines such as

Yahoo, Google, ask.com etc. In order to ensure full access and utilisation of information for any purpose, there is the need for viable retrieval devices and knowledge on how they can be manipulated to secure the needed information. Regardless of which type of retrieval device in use, basic functions is to facilitate easy location, identification, trace and gain access to the needed information resource and source through the provision of vital data about them. Ingwersen (2002) is of the view that, they are designed to help users to find, identify, select, and obtain information resources .Each information retrieval tools contain record that act as descriptors; such as author, title and subject which could facilitate access to an individual information resource in a collection through an access point, which could be the title or subject term chosen by an indexer. Information retrieval devices form a bridge between the upstream acquisition and refinement through effective organisation practices that feeds end users. The user is the focal point of all information retrieval systems because the sole objective of any information storage and retrieval is to transfer information from the source to the user.

Dalkir (2005) affirmed that the effectiveness of information retrieval devices encompasses timing, frequency, form language and that its effectiveness add value to the information service in organisation ;if not the information retrieval devices has failed to deliver value to the individual and ultimately to the organisation. The purpose of Information retrieval devices in a very broad term is to guide users to information that changes the knowledge state of users so that he or she will be able to solve problem, take decision to perform future task. Information use refers to the capability of an individual or group to successfully use or apply information regardless of its form or format to be informed or a make a decision. According to Choo (2002) People use information to create knowledge but not just in the sense of data and facts but in the

form of representations that provide meaning and context for purposive action. He also viewed information use as a dynamic, interactive social process of inquiry that may result in the making of meaning or the making of decisions. The first type of use is intrinsic to the user, involved with human understanding and integration with the user's knowledge base. This is a process of interpretation that may evolve into a process of inquiry and debate that ultimately results in knowledge creation.

This type of information use has no visible indicators except in the depth and breadth of one's personal knowledge base. The second form of information use concerns decision-making. While Choo discusses this form in the context of organizational decision-making, some aspects are equally applicable to individual decision making. Interestingly, his approach is also at a conceptual high-level matching of potential uses with stages of the decision-making process: identification, development, and selection. Contributing to this Afolabi (2004) reiterated that information use leads to better decisions by managers; it facilitate growth and development and erroneous conceptions, views and opinions on programmes and activities of institutions and organisations are corrected when information is properly collected, used and disseminated. Lough Borough University (2014) is of the view that Information is used to: widen knowledge, develop skills, deepen understanding, solve problems, reduce uncertainty, gain inspiration, save time or effort, secure power / advantage and to be entertained. It should be noted that without consideration of information use, consideration of activities such as information seeking or information retrieval is incomplete

Solutions to information overload

Information overload is causing a lot of obstacles both to an individual and organizations. One of the best solutions to information overload is adoption and use of information technology. Information systems may be designed to do some of the work of processing, structuring, storing and retrieving information for us and to help us to intelligently interpret and recognize relevant information. Better search engines and filtering systems may be developed, intelligent agents may help us with information queries, and the development of semantic web technologies may further facilitate information retrieval, organization and use (Levy, 2008: 47). Contributing to this Edmunds and Morris (2000) has enumerated the following factors as solution to Information overload:

1. **Personal information management**
2. **Push technology**
3. **Intelligent agents**
4. **Value-added information**
5. **Maintaining currency**
6. **Information Literacy skills**

Personal information management

Personal information management is concerned with finding, keeping, organizing, and maintaining information by an individual. It also deals with managing privacy and the flow of information. We need to prevent other people from getting access to our information without our permission. It is equally important to safeguard our information from telephone calls, email messages, the television, radio, and the Web to fulfill our life's goals, roles and responsibilities. Personal information management according to Jones (2008) denotes to both the practice and the

study of the activities a person performs in order to acquire or create, store, organize, maintain, retrieve, use and distribute the information needed to meet various life goals (every day and long-term, work-related and not) and to fulfill life's many roles and responsibilities (as parent, spouse, friend, employee, member of community etc.). places special emphasis on the organization and maintenance of personal information collections in which information items, such as paper documents, electronic documents, email messages, web references, handwritten notes and the rest are preserved and stored for future use and repeated re-use. One of the supremacy of personal information management is that we always have the right information in the right place, in the right form and of sufficient completeness and quality to meet our current need. Tools and technologies help so that we spend less time with time-consuming and error-prone actions of information management. We then have more time to make creative, intelligent use of the information at hand in order to get things done (Jones, 2008).

An individual must create their own information management approaches, the following indicators as suggested by Krill (2001) may assist:

- Develop a personal workable information strategy
- Filter information
- Accept that not all the available information will be evaluated prior to decision making
- Attempt to recognize quality data
- Take control.

Push technology/Server push

A good development, push technology works by pushing notices of pre-selected information sources across the computer screen alerting users to new and updated information. Traditionally, the standard method for retrieving information has been to search and pull information. It can also be seen as a type of an online method of communication where the request for a given initiative is given by the publisher or central server and automatically get to where the request for the transmission is initiated by the client. (Alerting services). There is a lot of disagreement among scholars to whether push technology will help to reduce information overload and while some in the literature believe it may well be the answer, others warn that it may be yet another contributing factor toward information overl

Intelligent agents

These are technologies that scan, understand text, summarize it and automatically route it to the end-user (Edmunds and Morris 2000). The agent makes decisions about the relevance of the information based on data that it has acquired on individual preferences. It then predicts what would be of interest to the user and is therefore not necessarily under control of the user. Three types of such technologies are Farcast, WebCompass and WebWhacker (Tudor 1997). Farcast is a personalized news service that delivers retrieved information via e-mail. It is easy to use and give a quick link to the latest news. Web Compass, is a search manager that comprises of 45 preconfigured search engines to search the Internet for user-defined search inquiries

Value-added information

Information overload occurs as a result of inability of the business organizations to identify the methods in which information processes add value to information (Simpson & Prusak, 1995). Value added emphasized on the basic requirements for managers and decision-makers for high

value-added or quality information. They argue that there is a need to bridge the gap between information providers and users in their respective views of each other's roles, competencies and requirements in information terms

Information literacy Skills

The low level of information literacy compounds the information overload phenomenon. Managers receive vast quantities of information, but not always the right information. This has been demonstrated in observations of user behaviour when using Web search engines. Most users formulate short queries, only follow the links for the first 10 results and rarely qualify their requests.

The Association of Colleges and Research Libraries (ACRL, 2016) viewed Information literacy as the set of integrated abilities encompassing the reflective discovery of information, creating knowledge and participating ethically in communities of learning. Information Literacy (IL) is the ability to identify information needs, seek out resources to meet those needs, and then analyze, evaluate, synthesize, and communicate the resulting knowledge. It is necessary and important for an individual to be information literate in today's information society. Where focus on critical thinking, data-driven decision making and analytical problem solving is required (Ajiboye and Tihamiyu, 2018) Indeed, the University of Idaho (2011) obviously stated that "not all information is created equal: some are authoritative, current, reliable, but some are biased, out of date, misleading, false; the amount of information available is going to keep increasing and the types of technology used to access, manipulate, and create information will likewise expand". However to make the best out of the ever-growing list of electronic resources, it is consequently,

very necessary for individuals and managers to acquire basic information literacy skills necessary for the identification, retrieval and use of information.

The significance of information literacy skills to individuals and managers cannot be overstated since they assist in effective and efficient use of information. These skills help in formulating a search, identify appropriate information sources, to select the right search tools, to employ suitable search strategies as well as enabling them to evaluate the searched results. Information literate people will thus, demonstrate an awareness of how they gather, use, manage, synthesize and create information in an ethical manner and will have the information skills to do so effectively (SCONUL Working Group on Information Literacy, 2011).

Maintaining currency

In this our contemporary information society era, everyone believes that, there is proliferation of information and information products. Laskin has also written on this point since (1994) and he believes that Information overload is due to the proliferation of professional journals.

Conclusion

The paper in conclusion, stressed that information overload is a great challenge to our contemporary information society causing negative consequences for the proper functioning and wellbeing of an individual it negatively affects organizational performance because it engenders poor decision making, poor execution of tasks, and loss of time because of interruptions in work activity, and diminished creativity. It also negatively affects well-being by contributing to stress, anxiety, fatigue, loss of motivation, Bad judgment and Information anxiety and even depression.

Hence organizations and individuals should try as much as possible to effectively apply the knowledge of competitive intelligent to manage it and proper consideration should be given to information use because without consideration to it, activities such as information seeking and/or information retrieval are incomplete.

References

- ACRL B (2016) Framework for Information Literacy for Higher Education.<http://acrl.ala.org/framework/> [accessed 11th February 2019]
- Ajiboye, O.O., Tlamiyu, M.A.(2018) Effectiveness Assessment of an Information Literacy Course at the University of Ilorin, Nigeria. *Journal of Information Science, Systems* 2 (1)
- Bawden, D. (2001). *Information overload*. London: South Bank University. (Library and information briefing series, 92.)
- Benselin, J.C. and Ragsdell, G., 2015. Information over-load: the differences that age makes. *Journal of Librarianship and Information Science*, Online before Print, doi: 10.1177/0961000614566341.
- Buckland, M. (2017). *Information and Society. Massachusetts*: MIT Press. pp. 1–2. [ISBN 978-0-262-53338-6](#).
- Butcher, H. (1995). Information overload in management and business. *IEE Colloquium Digest* No. 95/223, London (pp. 1 }2).
- Choo, C.W. (2002) *Information Management for the Intelligent Organisation*:
- Dalkir,K.(2005).*Knowledge management: Theory and Practice*, Oxford: Elsevier
B.worth Hienemann
- Edmunds, A. and Morris A. (2000) The problem of information overload in business organisations: a review of the literature *International Journal of Information Management* 20 17}28 retrieved from
- Feather, J. (1998). In *The information society: A study of continuity and change* (p. 11). London: Library Association. Greenwood Press.
- Gross, B, M. (1964). *The Managing Organizations: The Administrative Struggle*, vol 2. pp. 856ff.

- Ifijeh, G. I. (2010). Information explosion and university libraries: Current trends and strategies for intervention. *Chinese Librarianship: an International Electronic Journal*,30 retrieved from <http://www.iclc.us/cliej/cl30doraswamy.pdf> on 30th March, 2019
- Jackson, T. W. and Farzaneh, P. Theory-based Model of Factors affecting Information Overload *Information and Computer Ethics*. New Jersey: John Wiley & Sons, Inc, pp. 497 – 515.
- Jones, W. (2008) Keeping Found things Found: The Study and Practice of Personal Information Management. USA: Elsevier
- Klapp O.E. (1986). Overload and boredom: essays on the equality of life in the society,
Laskin, D. M. (1994). Dealing with information overload. *Journal of Oral Maxillofacial Surgery*, 54(7), 661.
- Lastrebore, K. V. (2006) Managers' Information Overload: The impact of coping strategies on decision-making Performance. (Unpublished theses) Erasmus Research Institute of Management (ERIM) Rotterdam School of Management/Rotterdam School of Economics Erasmus University Rotterdam Retrieved from <http://hdl.handle.net/1765/1> on 30th March, 2019.
- Levy DM (2008) Information Overload. In: Himma K, Herman T (eds) *The Handbook of UsA*: Greenwood Press.
- Lewis, D. (1996). *Dying for Information?* (p. 2). London: Reuters Business Information
- Lough Borough University (2014) information Gathering retrieved on 15/03/2019 from <http://www.iboro.ac.uk/service/itd/campus/infouser.pdf>
- Mohammed, Z. (2011) Organisation, Retrieval of Information and Information Resources. *Nigerian Libraries, Journal of the Nigerian Library Association*. 44 (1)
- Rocat, C. (2002) Possible Solution to Information Overload. *South African Journal of Information Management* 4 (2) pp 3-7
- Rogers, Paul; Puryear, Rudy, Root, James (2013). *"Infobesity: The Enemy of Good Decisions"* UsA: Greenwood Press.
- SCONUL Working Group on Information Literacy (2011) The SCONUL Seven Pillars= of Information Literacy retrieved from www.sconul.ac.uk/sites/default/files/documents/coremodel.pdf on 31/3/2019

Simpson, C.W. and Prusak, L. 1995. Troubles with information overload – moving from quantity to quality in information provision. *International Journal of Information Management* 15(6):413–425.

Zanarini, P. (2019) Information overload: why it matters and way to combat it retrieved from <https://www.interaction-design.org/literature/article/information-overload-why-it-matters-and-how-to-combat-> on 31st March, 2019.