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Discussion of one or more challenges and/or opportunities in the area of information science

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Abstract

Data has always been crucial to the creation of information and its usage. Information has become the energy of the 21st century. In almost every industry today, information is very salient for its survival. The need for data and information scientist has been more crucial than ever. Harvard review call data science career “the sexiest job in the 21st century”. Security for data today has been very important after some companies such as Uber and Apple Inc. complained of hacking and cyber-attacks. In the library or information setup information science cannot be left out. It plays a major role in this internet age. For this reason, most libraries are making all effort to inculcate it into their systems. This does not come easily there is a price to pay. There is the need for all stake holders to commit to embracing the opportunities and making effort to solve the challenges associated with it. Though information science help elevates the services of libraries and other information industries, the cost of infrastructure does not come cheap.

The processing of information, protection, accessing, sharing, disseminating all brings it share of challenges and opportunities.

Keywords: opportunities, information, protection, accessing, sharing

1. Introduction

1.1 Background study

Many times when information is being accessed it goes a long way to solve fundamental challenges affecting the researcher of information user.

Information science can be defined as the discipline that investigates the properties and behavior of information, the forces governing the flow of information and the means of processing information for optimum accessibility and usability.

The advent of information science in the library industry was meant to take advantage of the benefits of information technology and computer science within the library. Though it came with its own challenges. In all the advantages far outweighs the challenges.

The future if the information scientist seems uncertain due to the challenges associated with it. Information has become virtually free due to the advent of the internet and its related search engines. The free flow of information has broad about a lot of opportunities for its users. Users of information have come to value the need for accessing the right information and using it for their purpose. Companies have taken advantage of the abundance of information on the world wide web and the internet to progress and develop. Information has become very useful to everybody today either for communication or to solve a particular challenge. The use of gadgets and high speed technology is on the rise due to the importance of information to users. We are living in an increasingly information rich, knowledge-based society. New and disruptive technologies will help improve access to information. E-books and e-resources provide an exciting new format. Growth in education through greater availability of online courses can only increase the demand for information services. The information scientist have an expanded role in content creation and can help disseminate new work. In universities, there is an increased role for information professionals in the research field. Information professionals are well positioned to counteract executives’ information overload.

1.2 Statement of Problem

Library practitioners in the traditional library industry are finding it very difficult to embrace information science. Partly because it is an ambiguous discipline and the cost and effort needed to practice it looks cumbersome.

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But in any case, library and information science have become one entity and therefore they go hand in hand. Information satisfy users in so many ways such that, the growth of data has exceeded expectations. Applications are now being developed to handle big data.

If traditional library professionals are able to find out the benefits of using information science in the library environment it will motivate them to get there.

The responsibilities associated with merging information science with the traditional library industry constitute the challenges involved with information sciences.

1.3 Objectives

This project deems at analyzing the opportunities as well as the challenges associated with the area of information science. It practically looks at what has barred the traditional library professional from completely embracing information sciences and what they stand to gain if the risk is taken to venture into that new area of the library industry. Though it is not a very popular discipline, information science seeks to solve a lot of societal challenges. The researcher seeks to make aware the presence and the use of information science in our daily lives and activities and to make readers recognize its essence

The challenge of sorting out a vast array of information and sifting through them for the useful ones also comes with a lot of work. This calls for data scientist who have the capabilities of writing script languages that can sort and organize information into the desired order.

1.4 Scope

This project is mainly for all the different types of libraries. It also focus especially on digital libraries.

Information science is not only limited to librarianship alone it can also be applied to other disciplines such as bioinformatics, information systems, information governance, information security, information society and culture, information for development and change, information literacy and family literacy, information organization, representation and retrieval, information dissemination, information law, ethics and philosophy, knowledge management, political economy of information, research trends in information science, infopreneurship, archival science, archives and records management, data curatorship, diplomatics, digital records forensic, bibliometric, informetrics and webometrics, social informatics, information studies, information management, information resources, computer science, information technology, sociology, information engineering, etc. it is a discipline that has vast areas of research and its associated opportunities and challenges.

It will also look at how information is being handled, processed, resourced, disseminated, stored, protected, the study of information and the manner in which it is generated, recorded, retrieved, transmitted, and used etc. all these processes require challenges. generating digital information requires a

1.5 Limitations

The challenges I will encounter during the research are:

- a. Finance
- b. Access to technology
- c. The study does not go beyond the other disciplines of information apart from the library.

2. Literature Review

2.1 Introduction

A lot of articles on information science looks at its application on other various disciplines. It also tries to defines the discipline as it is a little bit ambiguous. In other literature review, it looks at information science with respect to library (fundamentals of library and information science). Different literature tries to define the discipline in its own way according to area where it reflects.

Apart from its definitions, other publications also try to explain the need for information science and its usefulness by researchers and research institutions., its relevance, problems information has succeeded in addressing, information retrieval etc.

3. Methodology

3.1 Research Design

For this experiment, I looked at the various processes of information such as disseminating, storing, sharing, protecting etc. and simulated it challenges as well as it opportunities.

3.2 opportunities and challenges of handling information

Information today is money in the hands of its owner. No wonder data science and cloud computing has become the order of the day. Information being in the hands of a library or an institution can be used to improve the functions and operations of the institution in the science that patrons will have to link up with the institution in order to benefit. The society at large can also buy information from such source and use it for their various benefits. We live in a global village and an information society or world. Information is now being used by a lot of industries and companies such as engineering, the humanities, sciences, computer science, journalism, bioinformatics, building and architecture, business information systems, languages (translation software) etc. this has made information a hot cake in today's economy.

Information in the hands of an institution has other challenges. They need to be reviewed and updated to suit the current trends and challenges and to be able to solve today's problems. Since information change every six months, it is always important for individuals who handle information to be constantly updating their information stock. It also needs adequate protection from scammers, virus and other unforeseen threats.

3.3 opportunities and challenges processing information

Processing information brings into account an effective combination of both hardware and software. Information is being processed into many formats for easy storage, transfer, downloading and upload. Computers used for processing of data or information needs to be of high specs. That is to say it should have high processors and memories. Information can be processed into audio, video, text, image etc. a bad storage facility or disk can corrupt a processed information. This is one of the few challenges that comes with processed information. On the other hand, a very well processed information can be used so many times without damage. When information is processed to suit a particular purpose, it makes it easier for a user to use it for the intended purpose. For instance, uploading a particular file may need to meet a pixel size and file size in this case a

software could be employed to reduce or increase both the file size and pixel in order to achieve the intended purpose.

3.5 opportunities and challenges disseminating information

Distributing and disseminating information makes it one of the crucial reasons on how information is generated. When data is disseminated it afford other users to generated new knowledge or information. Peers do share information through gadgets such as Bluetooth, internet, Wi-Fi, direct share, intranets, airdrop, and other portable sharing devices. The challenges of file sharing come with threats from virus to distance and untrusted destinations to connectivity issues. In other instances, there is data cost involved in file or data dissemination.

3.6 opportunities and challenges storing information

Data warehouses, data banks, static disks, hard drives, pen drives, compact disks, clouds, SD cards, external hard disk drives, smart phone internal storage, etc. all form the hardware part of information storage. There is also a software that is being installed in storage devices in order to configure and partition them to prevent disorganization and easy damage in case of hard disk crushing.

Storing data keeps the data safe from physical wear and tear as opposed to hard copy books or physical materials. Information stored makes it readily available for use at any time in any place.

Stored information that are not encrypted is liable to being hacked by unauthorized people. Since there are portable storage devices available stored information can be carried to other places for easy accessibility. There are also removable storage devices which can also be detached from one computer and attached to another whenever the need arises.

3.7 opportunities and challenges of protecting information

Encrypting information makes it secure form unwanted poachers. Also information is being protected for other reasons such as virus infection, theft issues, damage by other files. Information can be needed twenty years from the day it was generated. Such information needs adequate protection so that it can be accessed whenever it is needed. It is very important that backups of storage disk and copies of essential information is being saved for future use when the need arises. This is quite frustrating and also involving but the exercise is worth it.

3.8 opportunities and challenges of generating information

Information has many sources. It could be generated from peers, internet, scanned material, through digital camera, WI-FI, mi-fi, form the keyboard, from social media, from data warehouse, from a network computer etc. with all these sources of information, there are processes involved in generating of desired information for a needed purpose. There is also hardware that is being used to generate information for a particular use. This could be computers, scanners, microphones, ear phones etc.

Information generated also needs to be saved in a manner that will make it easy to be stored and accessed. Most audio files are stored in mp3 because a lot of audio players can

easily access mp3 file. Image files or information are saved in jpg or Jpeg because of its ease in assessment. There are other image file formats such as tiff, png, etc. text files are mostly saved in pdf and doc or txt where as video files or information as stored in mp4, avi etc.

Generating information from one smart phone to another may have compatibility issues. As a particular smart phone may not support another due to its software incompatibilities. Generation information form the internet may also have downloading issues. A site may have benne moved away or a user may not be able to access a particular site due to network issues. INFORMATION generated can also be corrupt if the storage is damaged. using Wi-Fi to generate data is a bit complex when the user is not a tech savvy. The distance between the two Wi-Fi gadget should not be more than 100meters.

3.12 opportunities and challenges of using information

The right information needs to be used at the right time for the right purpose in order to achieve the right results.it is also very crucial for information users to check the information generated and to make reference to whoever the information belong. Copyright, plagiarism, piracy issues are of much concern here as far as using literature is concerned.

4. Conclusion and Recommendations

4.1 Results

At the end of the study the research found out that, information science opportunities to society far outweigh its challenges.

Institutions that use information science witness lot of patronage in their work. Libraries that make use of digital information see tremendous growth and an increase in internally generated funds as well as patron visits.

It was also found out that information sciences in the library industry is almost being ignored dues to the fact that it application in the industry is quit laborious and needs extra and continuous training.

The broadness of information sciences makes it quit difficult to make a clear definition. Therefore, the definition is mostly based on the particular research area in question.

4.2 Recommendations

Information science in the library though very cumbersome in its implementation comes with a lot of challenges as well as opportunities. The opportunities far outweigh it challenges.

It encourages information professional to embrace information science s in the library and delve more into information technology. In that case the risk involved in information science will be dealt with and minimized.

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