

## Discovering the user perceptions in formats of electronic and print resources

Mohammad Aslam

Director of the University Library, University of Nizwa Birkat Al-Mouz, Oman

### Abstract

The purpose of this article is to know more about format preferences between print and electronic resources among academic community at the university libraries. In times of shrinking budget, librarians will have to choose one format between both electronic and print. Library professionals need to know the format preferences of the users in order to make the decision about what format to purchase because library cannot purchase both formats at the same time. While more publishers are charging separately for the print and electronic, and it is not possible financially because budgets become tight, therefore librarians have to decide one format or another. Advantage and disadvantage of both formats electronic and print resources including collection process discussed throughout the paper, situations that affect the selection of use between both formats and outlines are also discussed.

**Keywords:** academic libraries, electronic resources, print collections, information retrieval, user perceptions, ease of use, individual differences

### Introduction

The aim of university library is to provide academic contents and services in order to support in teaching, learning, and research activities on campus and beyond. The purpose of collection development at the university library is to provide information that supports the curriculum and research needs of the university community. From the beginning, university libraries were offering the print materials and other forms of traditional materials. Since the late 1980s, electronic resources (e-resources) have become increasingly important tools for research community. Since last two decades, the explosion of information resources in both print and electronic formats has been rapidly emerged in the university libraries across the world. Print formats represent traditional information sources, such as print books, print journals and reference tools. In terms of electronic resources are available on the web and off line in digital formats but most of the resources are available online in PDF formats<sup>[12]</sup>. A website, internet or any resources used by computer can be considered as an electronic resource and these resources may be a form of digital formats or electronic formats. Since the development of digital libraries over the past few decades, university libraries are offering their patrons with the access to a variety of electronic formats from the different platforms and these types of formats have become a significant collection for the libraries and users as well. University libraries will have to provide the balance collections of print and electronic resources in order to satisfy their user's information needs. As many studies highlight the usage of print and digital formats<sup>[21]</sup> as well as information seeking behavior of patrons in terms of both electronic and print resources. A study reported that print formats are in heavily used while electronic resources have been introduced at large scale in the academic world, as result studies has shown that library still need print resources to satisfy their users as in demand. Dadzie<sup>[5]</sup> reported the use of electronic resources by students, faculty and staff at Ashesi University to define the

level of use, the type of formats retrieved and the efficiency of the library's communication tools for information retrieve, and recognized that the usage of some internet resources were heavily used whereas the use of periodical journals and eBooks databases were found at low level, it may be due to lack of awareness among the community about electronic resources of the library<sup>[5]</sup>. A study has<sup>[16]</sup> reported that use of electronic resources such as e-books, periodical databases were found very low in usage by the library patrons at the Health Science Centre of Kuwait University<sup>[16]</sup>, it may be reason that they are not aware of the wealth of library subscription which is subscribed by the university library or another reason can be ineffective marketing strategic for the library resources and services.

A study has reported about the university community that academic community prefers more than 75 percent e-journals instead of print formats to retrieve full-text articles<sup>[11]</sup>. This result is reported about particular e-journals but we cannot generalize about the all resources used by library users at this rate. There may be individual difference and their perceptions with the print and electronic on their use of both formats, it has been reported particularly about journals. Individual perceptions are always critical in deciding how individuals use and think differently. In terms of collection development, this article explores the particular nature of users' behavior with the print and electronic resources in order to decide about individual opinions and gather information for the collection development at the university libraries. Author reports a better understanding of the effect of individual perceptions on users' differences with the print and electronic resources in terms of usefulness, ease of use, and use can help University libraries to recognize and meet the expanded information needs of their users more appropriately information resources can be acquired.

### Literature Review

A number of studies have focused on electronic and print

resources at the higher education institutions across the world. Haridasan's and Khan<sup>[9]</sup> stated that electronic resources are very important collections for the academic libraries, and a huge amount is invested in the collection development and resources management of electronic formats in the libraries, librarians must have collection development policy that will help to library staff for the collection development<sup>[30]</sup>. They recognized that e-resources in the National Social Science Documentation Centre (NASSDOC) library in New Delhi, and decided their usage, preferences, level of user satisfaction, and issues faced in the use of electronic resources<sup>[9]</sup>. The study highlights the impact and access of e-resources by social scientists pursuing research in the NASSDOC library<sup>[9]</sup>. The major outcomes of the study identify that respondents were aware of the electronic resources and large numbers of research scholars and faculty members were using electronic resources for their research tasks. Accessibility of electronic resources is related to the establishment for presence of the resources as the databases of the organization<sup>[33]</sup>. Organization should provide training and access to electronic information when resources are available at the organization<sup>[6]</sup>. Electronic resources should provide with reliability, authority, accuracy, and timely information. Literature review has identified that electronic resources are easy to access, easy to download, easy to save and print and multiuser access at the same time is incredible advantage for both institution and users<sup>[12, 24]</sup>. Therefore, electronic resources in higher education institutions are increasingly in demand due to their prospective and unbelievable advantage. Yan<sup>[32]</sup> describes that electronic resources provide easy and fast discovery to information resources in all aspects of human effort where are available<sup>[6]</sup>. However, some of the factors include awareness and users should know how to access, and use of digital formats. Awareness and techniques of searching information are necessary elements to gathering information<sup>[4, 24]</sup>. Access to information plays a key role to the performance in the education institutions. Users have limited abilities to solve the problems and make right decisions about the resources and accessibility, if they have a wide knowledge and awareness then they can solve the problem and find right information<sup>[23]</sup>. Research has identified accessibility as the main factor that identifies whether information resources are utilized or not<sup>[14, 18]</sup>. A study reported that introducing electronic information into an organization's business is basically dependent upon the availability and accessibility of electronic formats, on the other hand Kebede<sup>[11]</sup> highlights that effective use of electronic resources by the users is dependent on the comfort of browsing to access information<sup>[8]</sup>. A study on the location of electronic information access among the users exposed that specific classroom and laboratories were the most preferred location of electronic resources access by the academic community<sup>[3, 4]</sup> Zha<sup>[33]</sup> stated that many studies focused on the usage of print and electronic resources as well as information seeking behavior in both formats. Zha<sup>[33]</sup> reported that print resources may continue to be extensively used even after the introduction of electronic resources. Study found that some university students accessed information through the internet and usage was very high for the internet resources and use of scholarly databases found very low usage statistics<sup>[28]</sup>. It means that users are willing to access electronic resources through the commercial search engine

rather than library databases. On the other hand, many studies reported about text books that undergraduate and graduate students prefer print books rather than electronic full text books. The main reason has been reported that ease of use, visibility and availability, therefore they prefer print books to electronic books<sup>[31]</sup>. Although many universities purchase single title from the publishers and other university libraries purchase as a whole package of electronic books. It has been noticed that purchasing a single title option is the best option for small size of library rather than whole package. Another issue has been reported that electronic books have different attitude when they access off campus and usefulness is not the same as on campus<sup>[3]</sup>. There are many issues in electronic books when students use them from distance or remote access because many publishers provide access through IP address and another issue is reported internet speed, therefore access is not the same as on campus. There may be a reason that the specific classrooms and laboratories are having effectively equipped with electronic resources facilities and easy to access by the academic community<sup>[3]</sup>. Shuling<sup>[25]</sup> has reported about a study on the use of electronic format and identified the use of electronic collections in Shaanxi University of Science and Technology. A sample has taken of 909 respondents and study found that 80% of respondents know a little about electronic collections and they were not using because of unawareness to electronic collections and they were also not familiar with the electronic formats. Almost half of the respondents use both printed and electronic formats, most of them prefer print resources especially books but in case of journals they prefer electronic formats. Also, Ali<sup>[1]</sup> emphasized the use of electronic information among the users of the Indian Institute of Technology (IIT) in Delhi. Respondents were collected from 300 IIT library users. Results discovered that 95% of users were found awareness of electronic resources provided by the library. This credit goes to the library staff because they made them aware of electronic resources and services at the Indian Institute of Technology<sup>[1]</sup>. Researchers have investigated the awareness and use of electronic resources among health science academics<sup>[16]</sup>. Results found that libraries are expansively used for research needs, preparation of class lectures, and for gaining innovative knowledge. Lack of time was the central reason given for not using electronic collections (37%) and unawareness with electronic searching comes next (22.6%). General users opinion toward the use of electronic resources found positive, with students and faculty are enjoy by using the electronic resources and finding comparatively few problems while using the electronic collections<sup>[4, 22]</sup>. Rogers<sup>[18]</sup> described that e-resources are used not only by students, but also by teachers, researchers, workers, artisans, private and public organizations, scientists, and others for a multitude of causes. Overall, the electronic information has dramatically changed the way that users access and browse information across the world<sup>[7, 12]</sup>. In addition, library professionals, students, faculty members and researchers prefer to use of electronic resources and universities are moving forward the hybrid collections.

### Current Trends in libraries and formats

With the explosion of the web resources in the middle of 1990s, academic communication publishers directed toward electronic resources; after a decade, libraries moved their

subscriptions accordingly. In the beginning, electronic resources supplemented the print formats, but over time, libraries moved almost completely from print journals to electronic subscriptions. In the last two decade, many libraries in the developed countries moved entirely from print journals to electronic formats but they still have printed text books and reference materials. This dramatically changes was noticed due to explosion of electronic resources and another reason is pricing model for both electronic and print resources, therefore universities have decided to subscribe electronic journals to print formats <sup>[3]</sup>. The recent trend is affecting to the libraries as well as information seeking behavior in academic libraries, users have no choice if libraries do not have print journals. Although, there is different trend with reference materials and text books, libraries still have print format because of the users demand as many studies have reported that students prefer hybrid collections. The LIS (Integrated Library System) does not support to the electronic resources because system has basically designed to manage the print formats as well as library holdings, although some issues can be deal with the LIS such as financial management, subscription date and each item tracking system, licensing terms and conditions, products, venders and publishers information. ILS also does not support to the analyze usage statistics which are critical in making decision regarding the maintenance and renewal of any given electronic subscription. Other technology are design to support the electronic subscription such as federated search engine, discovery tools, open URL technologies, these technology may work with the ILS. A type of electronic resources management systems emerged in the mid-2000s such as Verde, Meridian, Millennium, E-Resource Management system and later 360 Resources manager from Serial Solutions. Libraries must have technology to manage their resources and provide to the library patrons. Some university libraries are using local designed system; even some libraries use the spreadsheets, local databases with data storage on individual computers. These trends in libraries are not challenges for libraries and librarians but library patrons have the challenges to use the technology and resources <sup>[7]</sup>. However, both libraries and patron will have to adopt the emerging trends in the libraries and preferences can be decided with the recent trends in formats selection because many resources are currently available in the electronic formats only.

### **Preferences between print and electronic**

Online databases, commercial search engine, internet resources and web based resources are all electronic resources available to the library users in a digital environment. There are basic differences in physical formats, visibility and availability of resources which can be accessed in the libraries. However, several differences are clear and understandable; therefore it is important to understand both electronic and print resources before moving forward to a discussion of why one format of a collection should be selected over another format for the library collections. Both print and electronic resources have different characteristics and applications when libraries have both formats <sup>[29]</sup>. Print formats are available on the library shelves with classification numbers and these numbers bring all material together on the same place at the subject and users can select according to

their choice from the library shelves. Print materials provide option to select a material from the huge collections on the same subject at one place. On the other hand, a book has been checkout to a user then another user cannot find the book if library holds a single copy, it means that one user can use at a time print material unless library holds multiple copies of a title. Print resources are usually cheaper than electronic resources and available to the users free of charge, and require no special skills or equipment to access and use the information. Usually, a print resource may be defined by its hard cover. Print materials like books and others resources are touchable in physical form that are purchased by library for the users. Librarians usually claimed that they are owner of the print materials when referring to physical formats and academic libraries have proud when they count number of volumes in the library. However, print materials have many benefits for both users and libraries, especially when libraries offer wealth of collections in multiple formats. In addition, academic libraries also need print collections for the accreditation that depends on the number of volumes available in the library as hard copies. On the other hand, electronic resources have incredible benefit for both academic libraries and library patrons. Electronic resources can be accessed at many libraries, branches of libraries and different locations at the same time as well as many users can use at once <sup>[29]</sup>. Electronic resources are expensive in comparison to print resources and libraries subscribe for their user, users do not pay for access to information. Electronic resources do not have cover to describe about item and no physical charm as the print item speak about object. Libraries are not owner of the electronic resources they subscribe for one year only, and some time is difficult for libraries to purchase as a whole package while libraries have no choice to select particular items from the package. Therefore, electronic resources are not inexpensive and no ownership for the electronic resources.

### **Why Preferences for electronic resources**

Many studies have discussed the preferences and reasons to select electronic resources for academic libraries, but here are top five preferences and reasons to select electronic resources for academic libraries while many studies have given several preferences and reasons to select electronic resources for academic libraries such as:

Providing remote access

- (1) Access by more than one user at the same time
- (2) Timely access
- (3) Searching abilities not found with the print materials
- (4) Unique linking facilities features which are not found with print materials

### **Providing remote access**

Providing access is unique facility which is not possible with the print materials because users can access 24-hours desktop as well as mobile devices access from off campus. While print materials cannot provide this type of facilities, users have to visit the library and checkout the materials for the limited time. Libraries have different circulation policies to checkout materials, but there is no policy to check out the electronic resources. Users can access e-resources as long as library has subscriptions to the e-resources <sup>[13]</sup>. This is incredible advantage with the electronic resources, therefore libraries

and users prefer electronic resources instead of print materials.

### **Access by more than one user at the same time**

Many libraries purchase maximum 2 copies of a title; if both titles are check-out then third user cannot use the item. In this case, accessibility is limited with the print material while electronic resources do not have such type of restrictions and limitations to access electronic resources. This is a unique feature with the electronic resources, accessibility is so wide and benefit for both users and libraries.

### **Timely access**

Print materials go through a long process of publishing and users get item after waiting for a long time. Publishers take a long time to publish a print material, for example: a book goes through several steps to final publishing and after publishing library receives. Libraries also have a long process to select the print books then order to publishers or vendors to purchase the print materials; usually it takes 4-6 weeks to receive the library. Once library receive a book then it takes time to cataloging and classification so technical department takes some time to process the print material then it can be display on the library shelves. On the other hand, electronic resources are available to the users immediately after subscription and electronic resources do not pass through several steps to access. Library immediately provides link to access the electronic resources without further process as print materials.

### **Searching abilities not found with the print materials**

Many studies explore that electronic resources have powerful searching abilities and faster results can be display on the screen which are not found with the print materials. Electronic resources have great impact on users browsing and searching materials in the electronic environment. All databases provide options to narrow search users can narrow search by subject, date, type of materials and publications users are able to find right materials on the topic within few minutes. Users can access not only their library resources but also search other library resources at the same time which is not possible with the print materials.

### **Unique linking facilities features which are not found with print materials**

Electronic resources provides unique linking facilities during the search material in electronic resources, these link provide similar resources on the same topic. Many databases provide link right side on the result page that links are related to the other resources at the same topic and users can access by clicking on the individual links. Yan <sup>[32]</sup> described that linking facility is not possible with print materials; therefore linking potion is unique with the electronic resources. In addition, consortia has become an essential for the academic libraries and libraries system and electronic resources provide access through linking by other libraries and search options to the users which is incredible advantage for the academic community, therefore academic community prefer electronic resources as well as libraries.

### **Selection Criteria for Print and Electronic resources**

Selection criteria for print and electronic resources are

different but both must have a collection development policy for both electronic and print. Traditionally, print formats are books journals and reference materials in hard copies. Libraries checkout the print materials in the libraries at the circulation desk and users return at the same place or users can use self-checkout and check-in machine. On the other hand, electronic resources (e-resources) are the following but not limited to; online journals, indexing and abstracting services, reference tools, full-text books and electronic journals. Regardless of location, users can access any time from off campus, they do not visit the library to check-out or check-in the electronic resources <sup>[33]</sup>. Regardless of type, e-resources should be selected for the library collections based on the selection criteria guidelines in the collection development policies, meet the research needs of the university community, and develop the collections by improving use of information and access to information can be in traditional formats or in electronic formats. Both electronic and print resources must be selected based on the collection development policy of the library that helps librarians to select useful materials which meet the requirement of the university community.

### **Selection criteria for print material**

Traditionally, librarians involve in the selection criteria process for the library materials and made decision on a set of criteria by which to decide print materials. Publishers or venders sent a list of books and other items (publisher catalog) and librarians distribute that list to the all colleges and institutions based on that list colleges select items and send their recommendations back to the library. Librarians make a decision to purchase items based on the following criteria:

#### **Selection Criteria**

- Appropriate reading ability level for all library patrons.
- Level of content should be appropriate for the university level patrons.
- Capacity of the material to support the academic curriculum needs of the university.
- Significance of the subject matter for current and durable interest.

#### **Consideration of literary content**

- Quality of the writing
- Logical development of plot
- Continuing presentation of concepts or theme throughout the work;
- Development of main theme;
- Solid, realistic characterization;
- Diversity of ideas, perspectives, and cultures;
- The historical or literary significance of the author.

#### **Consideration of physical appearance of the item**

- Appropriate binding of an item;
- Color reproduction is clear;
- Suitable size of print type and quality of paper;
- Item has CD or DVD to read offline.

#### **Selection Criteria for electronic resources**

On the other hand, selection criteria for electronic resources go through a long process and not easy to make a right

decision to select the electronic resources. The criteria for electronic resources include the following;

- Library gets on trial;
- Put link on library website;
- Send email to: all faculty-all staff and all students;
- Marketing electronic resource during one month trial period;
- Get feedback from individuals;
- Get feedback from all colleges and institutions on campus;
- Look at the usage statistic;
- Read the carefully licensing terms and conditions;
- Negotiation with publishers and vendors;
- Selection for individual journals and e-book based on discipline;
- Selection of package based on institutional requirement;
- Marketing throughout the academic year;
- Renewal based on usage statistic and feedback;
- Show a solid return on investment to the university administration for the next year renewal.

Additional considerations for the electronic resources may include the following:

#### Technical requirements

- Should be web based and easily accessible
- IP or proxy authentication rather than user name and passwords
- Easy to install, set up, access and manage
- Make sure that all link working properly

#### Functionality and usability

- easy to use and must be included help screens and tutorials
- well designed
- consistent navigation and link
- remote access
- without limitations printing and downloading<sup>[32]</sup>

Most selection criteria for electronic resources have developed through a long-established list and it has many complications<sup>[19]</sup>. However, the process of electronic resources needs more than traditional selection of print materials and the selection of electronic resources raise the questions that why library users prefer one to another formats. Criteria of selection may help to answer the question and decision models have been created to aid in the selection and comparisons of print and electronic resources<sup>[19, 23]</sup>. The discussion began with the traditional selection criteria and how they have extended in scope to include electronic formats. These criteria will help users in deciding their preferences between both formats and help librarians in collection development for their libraries based on users preferences.

#### Use of print and electronic resources

Use of resources has been broadly admitted as a complex element to decide patron's behavior. Examination to ease of easy usage of both formats print and electronic resources has been identified in the existing literature. Sathé *et al.*<sup>[20]</sup> stated that how library patrons used both print and electronic collections in the different ways. A few faculty members preferred print journals instead of electronic format while most researchers and scholars preferred electronic journals because ease of searching, ease of downloading and printing

and these were common reasons to prefer electronic journals, on the other hand print resources found easier to read with better pictorial quality, easier to access were the most reported reasons to prefer print collections<sup>[22]</sup>. While Stewart<sup>[26]</sup> stated that electronic resources were easier to use due to many reasons such as vigorous searching and browsing options, speed, accessibility and comprehensiveness, and print formats can be directly accessible without any barrier to information technology engagement and without limitation of equipment including software or hardware<sup>[12, 23]</sup>. As Ashcroft<sup>[2]</sup> reported that undergraduate students with higher information literacy at the university library use print books more effectively in comparison with e-books, and it is easy to search similar books on the same subject<sup>[2, 3]</sup>. E-books have many issues such as downloading and speed, complete book at a time because many publishers allow some chapter from a book because of their policy. Hiller<sup>[10]</sup> conducted a survey at Washington State University and identified that periodical databases in electronic format are easier to find previous volume or issues, articles and references from office as well as off campus<sup>[10]</sup>. This is a great advantage with the electronic resources that these formats are available 24/7 (twenty four hours and seven days a week) and regardless of collation. Ashcroft<sup>[2]</sup> reported that the lack of print collections in the library was a barrier to choose content for their teaching materials as respondents reported about print formats.

#### Usefulness of resources

Usefulness is recognized to be a significant breadth for the choice of diverse types of library collections. Many studies have examined usefulness of both print and digital collections. A study conducted by Kaur<sup>[12]</sup> reported that a strong benefit of the electronic format over print format of the research material was its ability to immediately publish and provide access to the complementary information such as photographs, tables, images and videos that shaped part of the original research<sup>[31]</sup>. Stewart<sup>[26]</sup> reported that electronic formats were more useful to link with their ability to other sources such as multimedia elements and other related similar topics while print resources were noticed as an archival form and were seen as a heritage wealth of collections. Shuling<sup>[25]</sup> describes that library website increase the usage of resources and motivate to the users and library website pays an important role to promote library resources and services as well as easy to access information through the library website. Specifically, the Ph. D. students and faculty group were more likely to identify the usefulness resources through the university library website than the undergraduate students and graduate students. Tenopir *et al.*<sup>[27]</sup> reported that medical students and health professionals mostly trusted on traditional print formats because of the pictorials and other graphic materials are useful for their readings and visibility. Print format still has many advantages over electronic resources in terms of how researchers will use the material (visibility of pictorials, ease of navigation and taking note). However there are still a large number of library users across the world especially students that prefer print materials. While many students want to use the e-books option but they are not familiar with the technology and system as well. It is difficult to decide about the future because visibility is so limited; therefore we cannot predict future of the libraries especially

in academic settings. Many studies have conducted on user preferences but no one has clearly declared what will happen in the future. Although one thing is clear, if change will occur whether it is desired or not, but both librarians and library patrons have to learn how to work around the changes.

### Usage of print and electronic formats

Kaur <sup>[12]</sup> stated that the majority of the academic community used electronic information for the purpose of scholarly works as well as academic endeavors, although most of users preferred print to electronic information resources in India. Rogers <sup>[18]</sup> assessed library patrons use the print collections as well as electronic resources at the college level and noticed that undergraduate patrons used both electronic and print formats; comparatively, print collections were more greatly used by patrons than electronic resources. A study reported that both electronic and print resources used by the library patrons and study found that the use of electronic resources had a greater preference rather than print collections <sup>[13, 19]</sup>. Mizrachi <sup>[15]</sup> identified when undergraduates students conducting search to their assignment and class related projects with the usage of electronic formats, print collections found still dynamic components because of their accuracy, permanent accessibility and visibility in nature. A survey conducted by Mizrachi <sup>[15]</sup> exposed that graduate students in a metropolitan university appeared to expect a hybrid of print and electronic collections which offered users with more access points of choice between the two formats. Garofallou and Samson <sup>[7]</sup> identified that most academic institutions are going toward transition from print to electronic resources and higher education institutions spending more their budget on electronic resources. Ashcroft <sup>[2]</sup> recognized the usage of e-books with compared to print books by graduate and undergraduate student community usually prefer print books instead of e-books because simple usage of print books at no requirement such as hardware and software while e-books have many limitations and complications. Students at undergraduate level are not comfortable with the technology and interface of the publishers so they prefer print books to electronic books.

### Advantages and disadvantages of electronic textbooks

Many studies have focused on some potential disadvantage and advantage of electronic books. An electronic text book has numerous advantages over the traditional printed book these advantage include the following;

- Global availability
- Multi-media and multi user options
- Allowed printing on demand
- Saving paper and individual learning styles
- Greater flexibility and accessibility than printed copies
- Highlighting and marketing easier than print
- Visual appealing

There are some disadvantage with electronic textbooks, such as technical requirement and familiarity with interface, difficult to read and download if users don't have fast internet speed. It is also important that readers must have up to date software requirement for the electronic resources such as latest version of PDF and Microsoft, and browser should be latest version. In addition, users get easily nervous and frustrated if they do not have a strong technical background. Literature review found that multi-media, portability, and

flexibility in searching/browsing were advantages of electron textbook and also full-text searching and reference linking <sup>[32, 30]</sup>. As a result, technical requirement of hardware and software is disadvantage with electronic textbook and it is not a good option for them who are not tech savvy person, technology is make a big difference with the electronic resources.

### Training for electronic resources

The literature review highlights that electronic resources need training and awareness to use the library collection in electronic formats. Library users need special training on searching and browsing e-resources in order to get right information with print collections do not need any special training to find out the material from the library shelves or display anywhere in the library. Kebede <sup>[11]</sup> described that the lack of searching skills may have a negative effect on the library patrons as well as library resources because library online catalog and publishers databases need techniques to access and brows the material from electronic resources. Therefore, students are having difficulties to find materials online due to lack of searching and browsing skills. It has been noticed that library users visit the library to access OPAC (online public access catalog) and they ask for assistance from the library staff. All academic libraries provide library orientation program to the faculty and students but orientation is not enough to train the library patrons unless library offers research session to the faculty and staff. These options increase awareness among university community and increase library resources level at large such type options may include training, workshop, research sessions and orientation programs should be arrange frequently on campus <sup>[33]</sup>. Many studies have reported that training in electronic resources have a significant and positive impact on their preference and use of electronic collections <sup>[5, 11]</sup>. The literature has reported that majority of the library users who received training on the electronic collections believed that training increase their performance for the use of electronic resources <sup>[22, 28]</sup>. It has been identified that training for electronic resources should be included in the strategic plan of the library so that users could have benefit with the full range of collection in electronic formats. Academic libraries are spending more than 60% their budget on electronic resources and library will have to show a solid return on the investment so that they may get continue support from university administration.

### Recommendations

- Author recommends librarians should aggressively interact with the library patrons so that librarians may better understand the exact nature of information seeking behavior of the users and their experience related to preferences in formats.
- Librarians should provide services to individual users in order to understand personalized preference in the library resources and collection development.
- Librarians should make full use of their knowledge about the particular environment of print and electronic collections across different subject areas
- Librarians should guide new and existing users to put priority to the wealth of resources (print or electronic) so that both print and electronic formats can be efficiently and effectively used by the library users.

- Academic libraries must have a balance collection of both print and electronic resources; a balance collection may fulfill their information needs and satisfy library patrons.
- Librarians should provide instructional services at all levels in order to access the full range of the library resources.
- Awareness is definitely the most important issue to preferences in formats, therefore librarians should make every effort to make sure that library users are aware of print and electronic resources and how to use and access them

### Conclusion

Based on literature review, Library patron's preferences in using digital and print collections were measured. In general, Library patrons still prefer printed resources especially textbooks instead of electronic formats but in terms of journals they prefer electronic resources. The main reason for their preference is the easy to use and simplicity with the print format to digital, and they believe that printed format of textbooks are more convenient to use than electronic textbooks as many studies have reported that e-books have many complications and requirements to access and download. On the other hand, some students prefer electronic textbooks because their required course materials in electronic reserve could be in one place at all the times and easy to access from anywhere or any time. Electronic resources have no barrier of distance and time and they are available 24/7- twenty four hours and seven days a week access to information from anywhere. Meanwhile, there are several issues with the electronic resources for both publishers of e-textbooks and university libraries. In effect, both need more focus on better understanding about student's benefits of using e-textbooks at minimum requirement and complications, what features e-textbooks should offer their users such as portability, highlighting, accessibility, downloading and printing, and how e-textbooks can be a good option for the academic community at all levels. In terms of print formats, print textbooks are very expensive and not easy to carry them all the times and space is also another issue for a small size of the university libraries, therefore electronic resources are more convenient for both libraries and users but the same time universities need a balance collection of both formats. The explosions of electronic resources and digital libraries have several significant impacts on the use of print resources and traditional libraries. This article discovers a wide range of the resources to which library patrons in university setting use print and electronic resources. Reading preferences and use of print and electronic resources differ among different subject areas. Students at the university level seem to expect a hybrid of print and electronic collections. They need to meet their information needs through a combination of print and online resources. As a result, many studies have identified that university community still prefer print books and other material instead of electronic formats, especially in the third world countries. Overall, the key to the success of an institution is satisfying the needs of its users. In case of the university library, the users are the students, faculty, staff and their needs include the relevance, appropriateness, coverage and currency of the information, the quick and easy access to the information available they

need and access without any barrier of location, time and technology.

### References

1. Ali N. The use of electronic resources at IIT Delhi Library: A study of search behaviors. *The Electronic Library*. 2005; 23(6):691-700.
2. Ashcroft L. Ebooks in libraries: An overview of the current situation. *Library Management*. 2011; 32(6/7):398-407.
3. Camacho L, Andy S. Transitioning to e-books: Usage and attitudes among business faculty. *Journal of Business & Finance Librarianship*. 2010; 16(1):33-45.
4. Clark JC. Format preferences of performing Arts students. *Journal of Academic Librarianship*. 2013; 39(3):297-307.
5. Dadzie P. Electronic resources: Access and usage at Ashesi University College. *Campus Wide Information Systems*. 2005; 22(5):15.
6. Foasberg NM. Student reading practices in print and electronic media. *College and Research Libraries*. 2014; 75(5):705-23.
7. Garofallou E, Samson A. Digital libraries and the digital working Environment: What is their effect on library staff for sharing their knowledge?. *New Trends in Qualitative and Quantitative Methods in Libraries*. World Scientific Publishing, 2009, 359-66.
8. Gillwald A, Christopher S. ICT access and usage in Africa, 1. Policy Paper No. 2. IDRC, 2008.
9. Haridasan S, Muqtedar K. Impact and use of e-resources by social scientists in National Social Science Documentation Centre (NSSDC), India. *The Electronic Library*. 2009; 27(1):117-33.
10. Hiller S. Assessing user needs, satisfaction and library performance at the University of Washington Libraries. *Library Trends*, 2001; 49(4):602-25.
11. Kebede G. The changing information needs of users in electronic environments. *The Electronic Library*. 2002; 20(1):19-21.
12. Kaur A. Academics' attitudes towards use of electronic journals: A case study of Punjab and Chandigarh. *The International Information & Library Review*. 2012; 44(4):182-93.
13. Lamothe A. Factors influencing usage of an electronic journal collection at a medium-size university: An eleven-year study. *The Canadian Journal of Library & Information Practice & Research*. 2012; 7(1):1-22.
14. Leckie G, Katz P, Collins S. Modeling the information seeking of professionals: A general model derived from research on engineers, healthcare professionals, and lawyers. *Library Quarterly*. 1996; 66(2):161-93.
15. Mizrachi D. Undergraduates academic information and library behaviors: Preliminary results. *Reference Services Review*. 2010; 38(4):571-80.
16. Pikowsky R. Replacement of print journals with electronic journals as the solution to runaway serials cost. *The Serials Librarian*. 1997; 32(3/4):37-55.
17. Rehman S, Vera R. Awareness and use of electronic information resources at the Health Science Centre of Kuwait University. *Library Review*. 2004; 53(3):150-56.
18. Rogers M. Survey reveals college students' growing

- preference for E-text. *Library Journal*. 2001; 126(2):31.
19. Rowlands I, Nicholas D, Jamali H, Huntington P. What do faculty and students really think about e-books?. *Aslib Proceedings, New Information Perspectives*, 2007; 59(6):489-511.
  20. Sathe NA, Grady JL, Giuse NB. Print versus electronic journals: A preliminary investigation into the effect of journal format on research processes. *Journal of the Medical Library Association*. 2002; 90(2):235-243.
  21. Siebenberg TR, Galbraith B, Brady EE. Print versus electronic journal use in three Sci/Tech disciplines: What's going on here?. *College & Services Libraries*. 2004; 65(5):427-438.
  22. Shaw S, Fairhurst D. Engaging a new generation of graduates. *Education + Training*. 2008; 50(5):366-378.
  23. Shepperd J, Grace J, Koch E. Evaluating the electronic textbook: Is it time to dispense with the paper text. *Teaching of Psychology*. 2008; 35(1):2-5.
  24. Shih W, Allen M. Working with Generation-D: Adopting and adapting to cultural learning and change. *Library Management*. 2007; 28(1/2):89-100.
  25. Shuling W. Investigation and analysis of current use of electronic resources in university libraries. *Library Management*, 2006; 28(1/2):72-88.
  26. Stewart LA. Choosing between print and electronic resources: The selection dilemma. *The Reference Librarian*. 2000; 34(71):79-97.
  27. Tenopir C, King DW. Reading behavior and electronic journals. *Learned Publishing*. 2002; 15(4):259-265.
  28. Tenopir C, King DW, Bush A. Medical faculty's use of print and electronic journals: changes over time and comparison with other scientists. *Journal of the Medical Library Association*. 2004; 92(2):233-241.
  29. Tapscott D. *Growing up digital: The rise of the Net Generation*. McGraw-Hill, New York, NY, 1998.
  30. Vogel KD. Integrating electronic resources into collection development policies. *Collection Management*, 1996; 21(2):65.
  31. Woody W, Daniel D, Baker C. E-books or textbooks: Students prefer textbooks. *Computers and Education*, 2010; 55(3):1-13.
  32. Yan YL, Zha XJ, Xiao ZL. Exploring users' perceptions of conventional and unconventional electronic resources. *Serials Review*. 2013; 39(2):105-113.
  33. Zha X, Zhang J, Yan Y. Exploring the effect of individual differences on user perceptions of print and electronic resources. *Library Hi Tech*, 2014; 32(2):346-367.