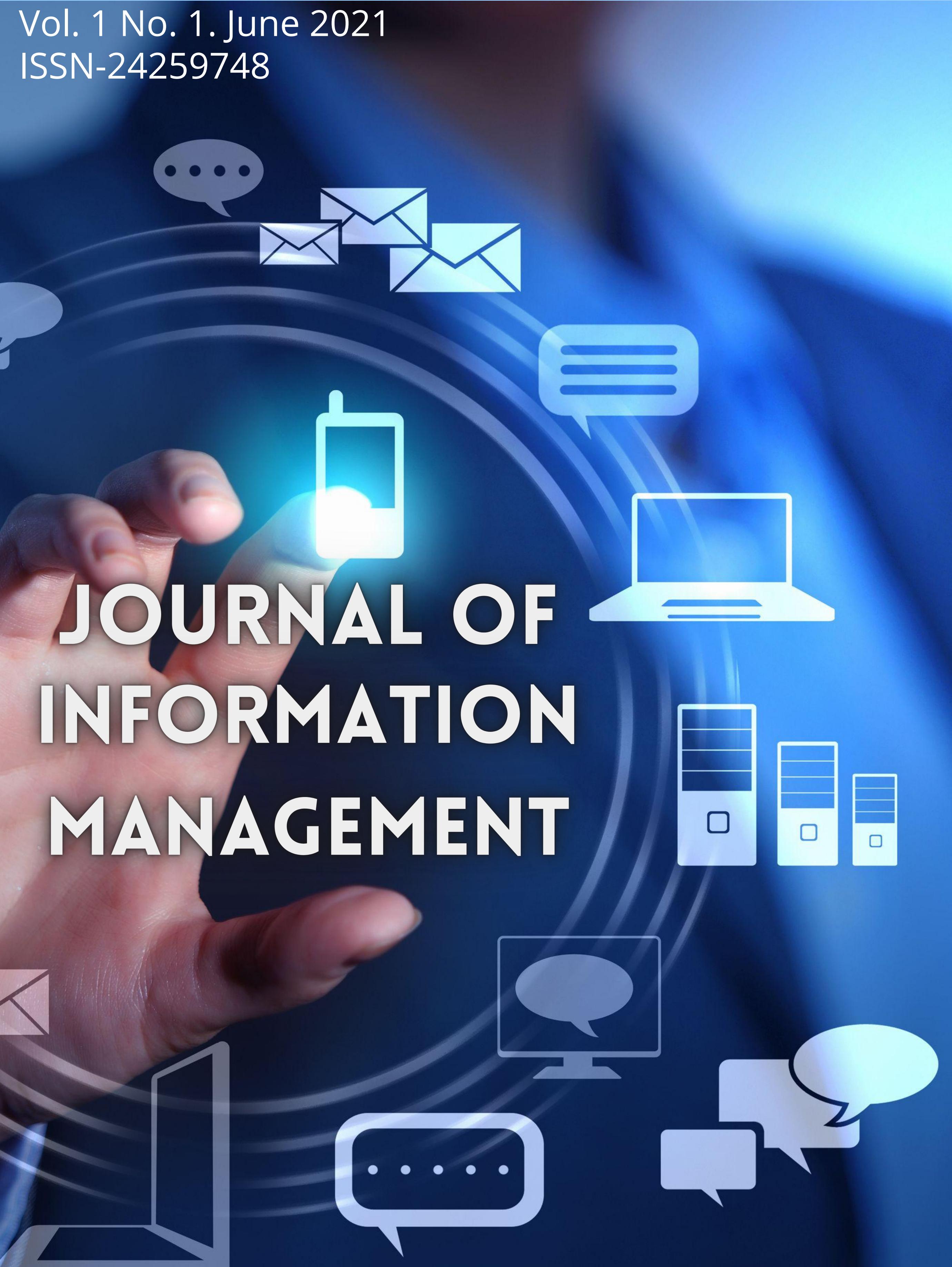




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The Knowledge of Library Organizations Among University Students: The Role of Classification System

Nor Syazwani Aida Che Noor Shan, Nur Aini Sofia Mohamad Nayan, Wan Norayuni Wan Na'aman,
UiTM Kelantan, Machang Campus

Abstract

Knowledge has been created at various points in history. It is both known and unknown in the various subjects. Libraries play an important fundamental role in society and organizations as a gateway to knowledge. Furthermore, the services they provide foster learning, support literacy and education, and aid in the formation of new ideas and perspectives that become the focal point of creative and innovative societies. Knowledge management is the conscious process of defining, structuring, retaining, and sharing an organization's employees' knowledge and experience. The two main types of knowledge covered by the definition of knowledge management are tacit knowledge and explicit knowledge. Tacit knowledge is more intuitive, but it is more difficult to package and share with others. Innovative thinking and understanding body language are two examples of tacit knowledge. While explicit knowledge is information that can be easily codified and taught, such as how to change the toner in a printer and mathematical equations, implicit knowledge is information that cannot be codified or taught.

Keywords: Knowledge, knowledge management, type knowledge

Introduction

Classification knows as the method of deciding where an asset fits within the classification's structure and after that allotting the documentation that most closely approximates the aboutness of the asset. One of the two strategies utilized to encourage subject get to library materials is library classification frameworks. Thesauri and subject headings records are cases of in sequential order ordering dialects. Classification organizes information and library materials in a coherent arrange based on their subject substance, while subject headings give get to to reports through lexicon terms. (Carbonero and Dolendo, 2013)

The classification framework plays a vital part in an organization as get to information of the materials accessible within the library. Library classification frameworks and guidelines have been created from this century to the another to supplant its past non-specific categorization. There are various classifications, but as it were three common bibliographic classifications are broadly utilized globally. (Idrees, 2012)

The Dewey Decimal Classification (DDC), the Widespread Decimal Classification (UDC), and the Library of Congress are three of them. The Dewey Decimal (DDC) framework is utilized by medium to little libraries and has ten primary subject categories which in turn are advance partitioned into ten areas. The Library of Congress framework partitions all information into 21 essential classes, each starting with a single letter of the letter set and advancing from A to Z. (The letters I, O, W, X, and Y are not utilized.) UDC is one of the foremost broadly utilized classification plans over all disciplines. It is utilized in over 130 nations for libraries, bibliographic, documentation, and data administrations, and it is distributed in over 40 languages. (Kumbhar, 2012)

Objectives

The objectives of this study as follow:

- To survey the library role of classification system among university's students.
- To determine university's student's knowledge of library classification system.

Problem statement

The organization of understudy information within the libraries that have created exceptionally wealthy collection of such knowledge has been an issue range. The reason of this issue is that the standard library classification systems that are utilized to organize the materials as per their topical course of action and esteem do not provide adequate put, appropriate count and coherent extension for assets. In response, such libraries have received exceptionally incomprehensible, conflicting and non-uniform hones; sometimes employing locally created non-standard frameworks, making developments inside given put by standard classification frameworks and in some cases formulating extensions utilizing elective put (documentations) inside the standard frameworks.

Literature Review

The writing checked on of classification was a critical information organization strategy within the past, and it is presently noteworthy and will be basic within the future, agreeing to the literature described over. This writing audit will appear some valuable of classification in a few ways for comparative reason. Due to it is broad working, classification is one of the most punctual devices set up by curators and data professionals, and it is respected as the foundation of librarianship. A few of the key advancements within the subject of classification incorporate the birth of various species of classification schemes, such as enumerative, analytic-synthetic, and electronic. It is noteworthiness stems from the truth that the library could be a well-organized data store, which is accomplished by classification. One of the most seasoned and most broadly utilized strategies of information organization is classification. It is the bedrock of librarianship and other information- administration frameworks. As a result, a significant sum of classification writing has been composed. David & Rusell (2013), analyzed the cataloguing and categorization writing that distributed between 2000 and 2002, distinguishing patterns and critical advancements in these two related subject zones. Other than, it's moreover clear from the past writing (and what takes after) that classification concepts, speculations, and strategies are advancing. The importance of the later transformation in library classification. The flexibility of classification's capacities includes its esteem. Tragically, the various communities included within the creation and usage of classification frameworks don't communicate well with one another, coming about in a critical sum of duplication of work whereas on the furthermore side, such duplication gives classification unused measurements.

Proficient custodians with an uncommon intrigued in categorization, as well as organizations established by them, have made noteworthy commitments to classification. These people and education contribute not as it were to the advancement of categorization, but too to the improvement of an assortment of supplemental and supplementary strategies for organizing information. These days advanced innovations, such as data and communication innovation (ICT), do, in any case, impact categorization and classification. ICT contains a bearing on categorization. From analyst overview, it showed the preparing showed up to have helped within the improvement of positive demeanors toward the utilize of ICT for cataloguing and classifying purposes. The significance of computing innovation on categorization is additionally tended to, with computer innovation metamorphosing library classification in arrange to preserve its significance to librarianship. The cutting edge innovation (ICT) has its possess excellencies, categorization and ordering concepts may lead to significantly more

precise and focused on programmed looking and recovery than is some time recently achievable. In any case of which framework (information organization framework) wins out, the human intellect's part in gathering and naming will proceed to be in tall request. Human engagement in classification is fair as significant as categorization itself. (Zins and Santos, 2011)

Function

The classification functional journey began with the effective arrangement of printed books on shelves and progressed to knowledge management, resource organization, and Internet discovery. From the researcher survey, in the present electronic age, classification is unquestionably crucial which is even more in the ultramodern semantic web setting. Apart from that, the role of classification in the current era, stating that the traditional aim of classification for locating physical goods on shelves is rendered obsolete in the case of remote electronic resources. Categorization, the other purpose of classification, is more useful in the case of electronic resources since it supports the use of classification as a subject- organizing tool. Attempts to organize electronic resources using library classification techniques have expanded beyond the sphere of libraries and their catalogues. Library classification is potential in organizing material on the Internet has been investigated by information scientists, database developers, and information retrieval specialists in order to improve browsing and subject searching. Several studies have shown that classification methods like the Dewey Decimal Classification and the Universal Decimal Classification are effective while on other side, using the Library of Congress Classification can help to describe, organize, and find electronic materials. LC is similar to the DDC system in that it is used as a unique identifier for each book in the library as well as a technique to put books with similar subjects together on the shelves, although DDC prefers to categories books into ten classes or large subject areas. However, LC can be considered as more logical arrangement of topics compare to DDC system. (Idrees, 2012)

Classification Use in Islamic Literature

In the early history of Muslims, there is evidence of knowledge preservation and vast production of literature. This may be observed in the creation of massive libraries and the growth of massive collections prior to the invention of the printing press, when multiple copies of books were handwritten. The abundance of currently available publications demonstrates that Islamic studies is a dynamic subject of research. Standard classification schemes were all compiled by people from Western countries (Carbonero and Dolendo, 2013). These schemes were designed with a specific context in mind, and omissions of information categories were noticed later. For literature on Islam, only one notation at the third level of DDC has been assigned, which is insufficient. As a result of this flaw, DDC has been expanded, and the notations initially assigned to Christianity have been applied to Islam. Asian libraries are affected by DDC's flaws, according to Qaisar (1974). He has advocated several variations from the Islamic notations as well as an acceptable amount of expansion. The classification scheme for Islam has two goals which is to generate debate or discussion on the urgent need for modern categorization schemes on Islam and to give a model, although a crude one was for evaluation and criticism.

Arranging Periodicals and Browsing Online Catalogues

For academic libraries, whether a categorized or alphabetical arrangement is superior for shelving print publications is still a point of contention. The unique characteristic of the classification system is that it improves patron browsing abilities. Classification and cataloguing have always been mutually beneficial. The classified catalogue was once thought to be the most sophisticated subject access device. This was especially true in the context of university and research libraries. The categorized catalogue was particularly valued for two reasons such as it grouped together catalogue entries on the same subject and its sub-subjects, and its layout mirrored that of the documents on the shelves. The idea of a classifier catalogue, or the use of classification as a form of subject access, has nearly vanished from the minds of today's librarians. The same authors describe an example that shows a ray of hope for the classified catalogue's rebirth while noting the virtual extinction of the classified catalogue. To improve the functionality of their online catalogues. For its shared online catalogue, the Western North Carolina Library Network (WNCLN) created a 'classified browse' function that employed Library of Congress classification. This function provides a new option for both new and experienced library users to find appropriate resources, as only the online catalogue shelf list browsing functionality that allows users and researcher to experience classification via online.

Organization of Bibliographic Centre

Bibliographical passages can be organized in chronological arrange by the archive distribution dates, in order by creator, title, and or subject headings, or agreeing to a subject classification plot from the suitable field. Each of these approaches has its claim set of focal points and drawbacks. The classificatory strategy is best to the other two options. A multi-faceted classification framework based on sound logical standards may be a great choice. For an example of how such a classification plot may be created in arrange to assist understudies and analyst to less demanding looking for their needs or to display their quotation or reference in current classification conspire for their assignment.

Information Retrieval

It was essential to set up a connection between categorization and data recovery (IR). The classification of records ought to not be constrained to the organization of an inactive collection. In the interim, instead of seeing the library as a put where individuals go to meet their data necessities, librarianship ought to be seen as a teach that permits us to get to data and information, with an energetic interaction between classification and recovery whereas moreover composed around the utilize of categorization and classification hypotheses in IR.

Knowledge Representation

It is emphasized the significance of classification within the representation and revelation of information in bibliographic databases. Concurring to the creator, classification frameworks have qualities that permit for the portrayal of things and associations in structures that reflect space information. The capacities to reflect, investigate, and create unused information of four classification frameworks - pecking orders, trees, standards, and aspect investigation - are clarified in terms of their qualities and confinements.

The Legal Information Profession

Cataloguing and classification capacities are fundamental indeed within the electronic age, based on the points of view of nine unused lawfudata pros from both scholarly and law firm libraries.

E-Learning

The classificatory structures, such as an imaginary thesaurus, can be utilized to build e-learning program through concept maps and subject maps. The creator utilized physical topography as a space teach and the test bed for the Alexandria Advanced Soil Model venture to grandstand the conceivable outcomes of categorization in e-learning.

Classification of Agricultural Information

In 2009, to fulfill the necessity for data administration and trade in agrarian websites, set up a framework of classification and coding for web cultivate data. From the analyst overview, the creators utilized an assortment of strategies to create this classification conspire, counting analyzing the characteristics of data classification in a household agent agrarian site in arrange to consider the benefits and downsides, as well as collecting information as exploratory fabric to consider the characteristics of agrarian web data. The modern classification approach is well-suited to the organize environment, helps in effective web horticulture data administration, increments the data utilize calculate, and energizes data sharing

Collection Development

On the off chance that the obligations of a classifier and a cataloguer were combined, the creator theorized, classification seems play a part within the advancement of a document collection. Indeed, within the arrangement of a collection of inter-disciplinary subjects, classification is significant. A few subjects are amazingly multidisciplinary, combining two or more disciplines. Interdisciplinarity makes challenges within the building of collections, particularly the issue of duplication of perusing materials whereas cross-disciplinary classification plans help within the evasion of excess work

Methodology

This paper seeks to study the library role of classification system among university's students and to determine university student knowledge of library classification system. Articles were chosen from 2001 to 2020 for this literature review.

The literature primarily focuses on studying the library knowledge and role of classification system among university students. The available literature on the problem and its relevant aspects has been compiled and reviewed. For guidance, the standard classification systems and schemes were also consulted. The purpose of choosing this main theme was to convey the role of classification system among university students. The databases used to find articles for this study were Emerald insight, Google Scholar, and Science Direct. Articles were chosen and identified based on concepts, terms, or keywords, as well as prior research related to the classification system and students' knowledge of the library. A basic look within the Emerald bits of knowledge database for the term "library classification framework" yielded roughly 55,000 hits. Another catchphrase utilized to discover articles related to this think about was "library information," which yielded 44, 000 hits. A combination watchwords look on the article yielded 8000 hits for the watchword "library information and the part of classification system." The abstracts, inquire about technique, writing audit and information investigation the articles selected were examined to form certain that each article had the data with respect to the investigate. Auxiliary information was utilized to analyze the investigate objective, which is data that has as of now been assembled by other analysts

Data analysis and discussion

Cataloguing, Classification, and Subject Analysis Skills

In Table 1, the outcome proves that it is in the area of subject analysis that the university student practitioners have difficulty with. The interview responses of the LIS practitioners also substantiated this effect. Although there is no obvious disparity of the compared general results, it is still evident that it is in the determination of subject content of the material that the university students' practitioners found to be intricate. Expounds that only when the cataloguer had determined the subject area of a work and identified it with explicit terms.

TABLE 1: Comparative Cataloguing and Classification Results

Level of education	Cataloguing:	Cataloguing:	Classification
	Access Points	Use of ISBD	
Pre-Diploma	Proficient	Developing	Proficient
Diploma	Accomplished	Proficient	Proficient
Degree	Proficient	Proficient	Developing

Descriptive Cataloguing Skills

Description, which is central within the cataloguing handle, is the portion concerned with the recognizable proof of a thing and with recording data around the thing in such a way that the thing is recognized precisely and cannot be confounded with any other thing. The normal aptitudes of LIS specialists for both sub regions in descriptive cataloguing, especially within the recognizable proof of getting to focuses and utilize of the ISBD is capable. The comes about indicate that the LIS practitioner's information and abilities in said ranges are adequate in quality or amount to meet the requirement for quality asset distinguishing proof and openness

On the Identification of Access Points

Numerous pieces of data approximately a thing contribute to its recognizable proof. A title is nearly continuously the primary distinguishing component, taken after by the name(s) of an individual or people capable for the substance of the thing. Following, one looks for data distinguishing a version: the title of the version; the title of an editor or a reviser. Indeed, the estimate, the sort of number of outlines, or the degree of the thing (e.g., number of pages of a book) may be supportive data for a supporter looking for a particular version of a work. The access points, as elucidated within the same site, are built in a form that will make them promptly available within the catalogue. Typically done taking after cataloguing rules at least level preparing, taking after duplicate in handling, and taking after cataloguing rules and reference to the specialist record in unique cataloguing. Be that as it may, determination of getting to focuses is done after depicting a thing. Names of people and corporate bodies related with the work are chosen concurring to cataloguing rules whereas title get to focuses too are chosen when, in expansion to the title appropriate, there's an elective title or variation title.

International Standard Bibliographic Description

In terms, the expertise application of the terms of library asset classification still depends of variables just like the require for an in dept understanding of how classification of materials is done and why it ought to be done appropriately. Appropriately classified materials within the library implies distant better;a much better;a higher;a stronger;an improved">a distant better chance for particular clients to find them and thus, maximize substance. The classification expertise of college understudy is three or capable. Meaning, the information and aptitude of the curators in classifying materials, which is the allotting of a given archive to a course in a classification framework, is satisfactory. They can encourage get to by permitting the client to discover out what works or archives the library has on a certain subject and can give a known area for the data source to be found. A three, two, three, and two marks for expressive cataloguing, subject examination and classification separately are earned by Curator from the comes about of the works out with a graphic identical of capable. Essentially, the information and abilities in cataloguing and classification are satisfactory. But since the score drop at the lower restrain within the specific extend, it is proposed that all skill regions included within the ponder be given center within the application of cataloguing and classification aptitudes

Difficulties of the LIS Practitioners in Cataloguing

Following discussions spawn from the answers to questions regarding cataloguing and classification in general. It also includes their thoughts and ideas engendered from the post activity.

Table 2. University's student Difficulty in Cataloguing

Cataloguing Areas	Frequency (f)
Descriptive Cataloguing	0
Subject Analysis	4
Classification	1
TOTAL	5

More significantly, who replied that it is on subject examination that he finds troublesome, clarified that in subject cataloguing, one ought to perused and get it the fabric at hand to be able to translate the subject substance and allot the proper and most fitting phrasing that will stand for the complete book. The test p-slip (Table 2) appears minor error in subject investigation. Oftentimes, the cataloguer ought to begin with decides the critical characteristics of a work and after that deciphers the subject substance into terms of the frameworks being utilized the documentation of the classification conspire and terms chosen from the library authorized subject lexicon.

Conclusion

As a conclusion, classification plot had been utilized for most each library particularly for scholastic libraries within the around the world for way better reason in course of action and classify the materials by utilizing classification frameworks such as Dewey Decimal, Library of Congress, Director of Record, and All-inclusive Decimal Classification. These classification frameworks have their claim special in arrange to distinguish and classify which is havedistinctive ways in course of action but with comparable reason.

The classifications are viable administration instruments for electronic assets particularly for these days innovation and request in arrange to gives needs in more detail classification, great course of action, speedier and availability. It has capacity to bargain with multidimensionality and complex subject depiction and recovery issues. This is often due to the reality that these plans are recognized by a careful investigation of terms and an exact recognizable proof of semantic and syntactic linkages and structures.

The strategy for building information structures based on perspective expository concepts is depicted. Other than, with the quick development of computerized storehouses and chronicles, there's a developing request for satisfactory and adaptable classification strategies which will be actualized utilizing modern innovation such as object-oriented programming strategies. For this point, classification and the concept of faceted approach can be quite valuable. For analyze it is utility within the advancement of the semantic web and proposed an adaptable and expectant hypothetical system for portraying and syndicating computerized store substance.

Library robotization capacities contrast broadly in their significance for library clients and for library staff and administration, and within the requests, they make on computer program and equipment assets. For clients, get to the catalogue is without a doubt the foremost vital, closely taken after by circulation control. In loaning libraries, the catalogue gets to and circulation capacities must be combined. Clearly, catalogue get to needs cataloguing offices, so the arrangement of these is additionally an essential work. Circulation control makes the heaviest requests on the equipment since it requires moment overhauling of duplicate and client records, an ensured fast reaction time and tall unwavering quality. The open get to catalogue needs distant more terminals and great reaction time, and is verifiably the foremost troublesome to plan and to program, but records require as it were periodic, batch, overhauling. Catalogum is not an

overwhelming stack on assets unless it is required that modern records be right away open to clients of the open get to catalogue. Classification frameworks in libraries for the most part play two parts. Firstly, they encourage subject get to by permitting the client to discover out what works or archives the library has on a certain subject. Furthermore, they give a known area for the data source to be found. In libraries, classification bargains with the assurance of the essential subject of a work and the task of particular documentation. Typically utilized for recovery purposes, additionally for requesting the things in an orderly catalogue and for racking the thing with other things on comparative subjects. Classification frameworks organize library collections into subject-related categories, so comparative subjects will be gathered together on the rack. There are three major classification frameworks, Dewey Decimal, Library of Congress, and Director of Archives. Library classification shapes portion of the field of library and data science. It goes hand in hand with library (expressive) cataloging beneath the rubric of cataloging and classification, some of the time grouped together as specialized administrations. The library proficient who locks in within the handle of cataloging and classifying library materials is called a cataloger or catalog custodian. Library classification frameworks are one of the two instruments utilized to encourage subject get to. The other are in sequential order ordering dialects such as Thesaurus and Subject Headings frameworks. A few classification frameworks are more reasonable for supporting subject get to, instead of for rack area. For case, UDC which employs a complicated documentation counting additionally, colons are more troublesome to utilize for the reason of rack course of action but are more expressive compared to DDC in terms of appearing connections between subjects. So also faceted classification plans are more troublesome to utilize for rack course of action, unless the client has information of the quotation order.

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THE USING OF DIGITAL LIBRARY AMONG UNIVERSITY STUDENTS: DIGITAL LIBRARY RESPONSIVE, INFORMATIVE, AND RESOURCES.

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ABSTRACT

The availability of e-resource and how they are used by the students has been a major concern to academic libraries and information centres. The use of the digital library can be measured when students use digital library responsive, digital library informative and digital library resources. As faculty and students are overwhelmed by adapting to online teaching and learning, it becomes even harder to reach. As a way of supporting students learning, digital library resources and services were offered to patrons. Despite the many challenges that libraries were facing, many are being innovative enough to identify and offer services that could support students learning. Few articles have been selected as a guide of previous studies to learn more about the digital library. We had referred to several articles as a guide from past research as the data to be studied. It consists of a questionnaire survey, observations, and interviews. To be reminded that we do not make any approach ourselves as it all comes from the articles that we had studied. The result of using digital library responsive, informative and resources steps positively affected the student learning in university. This paper highlights literature on the effectiveness of students' learning and the subsequent actions of higher education institutions as part of campus sustainability. These findings should be seen as a reference for policymakers at higher education institutions, as voluntary tools alone would not produce meaningful results for students.

Keyword: Library, Digital Library, Electronic Library, E-Resources

1.0 INTRODUCTION

The digital library has used several different phrases over the years to denote this concept electronic library, virtual library, library without walls and it never was quite clear what each of these different phrases meant. “Digital library” is simply the most current and most widely accepted term and is now used almost exclusively at conferences, online, and in the literature (Dominic, 2009). Another factor adding to the confusion is that digital libraries are at the focal point of many different areas of research, and what constitutes a digital library differs depending upon the research community that is describing it. According to Dominic (2009) this definition of a digital library, and these characteristics, are the most logical because it expands and extends the traditional library, preserves the valuable work that they do while integrating new technologies, new processes, and new media.

A digital library is not a single entity. According to Trivedi (2010), it requires technology to link the resources of many collections. The links between digital libraries and their resources are transparent to users. Digital library collections are not limited to document surrogates (bibliographic records). They are the actual digital objects such as images, texts, etc. Information Technology (IT) infuses all aspects of modern life, and the growth of digital information continues at an unprecedented rate. Higher education institutions have invested heavily in providing campus IT infrastructure to students. With the convenience of this technology, it has helped students learn on the go. Time and cost of travel to and from campus are eliminated. Digital library promotes individualized instruction or learner-centred education where students may set their own objectives and explore their own learning needs online.

A digital library also referred to as an electronic library or digital repository, is a collection of documents and files in the form of an organized electronic, available on the internet. Users may be able to access magazine articles, books, papers, pictures, voice files, and videos in it. Universities in the world today, have taken advantage of this phenomenon by having their own website. University websites are expected to participate in the success or failure of the university; this is because these websites are now used as marketing tools of their programs to the users in general. Therefore, students' perceptions of the quality of digital library resources and services that can be accessed can be assessed from digital libraries.

2.0 LITERATURE REVIEW

The study of relevant literature presents the perceptions to the investigator about the study and research that has already been published on the subject and its allied areas. With the development of time and technology, the library has developed from a simple collection of reading materials to an information centre. The literature in all fields is growing rapidly, and in the fields of science and technology-it has doubled many times. Due to the increase in user demand, libraries have adopted modern methods of computers, the Internet, and intranets.

According to Sanjay Gupta & Sanjeev Sharma (2016), they have conducted a study about “Awareness and Satisfaction of users Using Digital Information Resources and Services in the Libraries of IIT Kanpur and IIT Kharagpur” stated that the purposes of the use digital information resources by the majority of students is to get the study material, literature for the studies and to get current information whereas the purpose of using digital information services through majority respondents is to get the study or research material, to know the availability of material and to understand the availability of material . This study clearly depicts that majority of respondents from IIT Kharagpur are more aware of digital information resources as compared to respondents of IIT Kanpur.

In this study conducted that the statistic has been analysed about the awareness of using digital information resources, so the numbers of respondent's range in analysis for different digital information resources. It is obvious from the study that the majority of respondents from IIT Kanpur cited that digital information resources are very essential as compared to respondents from IIT Kharagpur. E-books are taken into consideration as very important 71.1% of respondents from IIT Kanpur in the evaluation of 59.2% respondents from IIT Kharagpur. Subject portals are taken into consideration as very crucial with the aid of using 68.8% respondents from IIT Kanpur observed with the aid of using 65.9% respondents from IIT Kharagpur. E-journals are taken into consideration as very crucial with the aid of using 62.4% of respondents from IIT Kanpur in the assessment of 59.8% of respondents from IIT Kharagpur. CD/DVD databases are taken into consideration as very important with the aid of using 58.6% respondents from IIT Kanpur in comparison to 56.2% respondents from IIT Kharagpur. Bibliographic databases are taken into consideration as very important with the aid of using 54.3% of respondents from IIT Kanpur in the assessment of 48.4% respondents from IIT Kharagpur.

For centuries, libraries were the guardians and vendors of “books, journals, maps and different materials which are utilized by college students within the learning process”. Today, they are worried approximately their sometimes-dwindled function in society and this function is predicated increasingly on the records and conversation era. The reaction of libraries to the cutting-edge challenges changed into an improvement of recent virtual records assets supplemented with the aid of using new content material transport offerings. Online lending is a free service that provides access to a wide range of lending services such as peer-to-peer lending, computer lending, and online book lending.

According to Radovan Vrana (2017), said that “the existence of such a trend in which students of today have closely embraced modern technologies to enhance their learning, and libraries have become their companion in the role of knowledge organizer offering various services which might be ICT incorporated”. This study stated that, the digital libraries offer “online catalogues, databases, multimedia, online journals, digital repositories, electronic books, electronic archives and online or electronic services”. The existence of digital libraries has had an impact on library services, from the automation of internal record-keeping systems to the digitization of physical collections. Digital libraries are important to education because they provide up-to-date materials, instant access to various resources that do not exist physically, and they provide resources anytime and anywhere through an Internet connection and obtain these benefits in digital format.

The relationship between digital libraries and e-learning is straightforward. Digital libraries as networked records structures are already a part of the learning system. The need for digital libraries in e-learning might be additionally observed within the very definition of e-learning. E-learning might be interpreted as digital learning; the learning that includes the Internet, learning from a distance through the resource of the net or other digital gadgets. E-learning includes all kinds of digital supported learning and teaching, which can be procedural in person and intention to impact the development of understanding with regards to personal experience, exercise and understanding of the learner. E-learning isn't viable without the learning material, and this is in which digital libraries because the resource is available convenient.

According to Pavani (2016), stated that whether digital libraries are appropriated for inclusion in the learning process and determined out the following reasons. For example, documents in all formats are controlled in a unified way, (texts, animations, interactive exercises, audio files, video streams, e-books, e-journals and online tests) may be saved, defined and dispensed through computer systems and network, access control (contents can be assigned different types of access according to the classes of user which might be entitled to them.), content sharing (authors could make their contents available for other faculty to combination into their courseware.), interactivity (contents stored in digital library may be interactive and primarily based totally on multimedia.), customization (a few users can also additionally required special traits of the contents and the system.), reuse (courseware may be evolved with a granularity that makes it flexible to combine and guide multiple syllabus.) cross organization cooperation (digital libraries are networked information resources and allow that content may be used from one of kind cooperating institutions.), and any place and any time learning (any students observe in one of kind hours of the day any day of the week).

According to Fahimme Abbasi (2012), libraries each traditional and digital one has 3 roles in schooling which is a region for sharing reach records, preserving ideas, and supply recognition to deliver collectively character with gaining knowledge of aims. The primary reason for every library is helping, facilitating, and increasing formal schooling in mom organization. Next step is to help with casual schooling. Resources in libraries are amassed to assist in gaining knowledge. Digital libraries offer the spot to get admission to a huge variety of reasserts now no longer exist physically, in an assessment with conventional libraries which can be confined to region and time. Digital libraries without bodily boundaries can offer assets thru a web connection every second from every region. Because of those advantages, in virtual libraries gaining knowledge is an impartial process. Digital libraries offer suitable possibilities for novices, due to inclusive of updated records.

Digital libraries are at the manner to hyperlink their records at the Web to serve their users. Unfortunately, virtual libraries are lagging in the back of to put up their first-rate assets at the Web for wider network usage. Many libraries are succeeding in efforts to introduce present-day Web requirements within the shape of the Semantic Web through the use of connected records technologies. According to Zahid Raza, etc. (2019) stated that traditionally libraries had been working as storehouses of books, journals, manuscripts, audiovisual fabric and different reasserts of data. With the emergence of virtual and Information conversation technologies (ICT), libraries additionally have become data companies without the requirement

of buildings. Digital libraries and virtual libraries had been the superior paperwork of library offerings for far-flung customers. In a conventional library, the catalogue is used to locate traditional library fabric. With the life of digital data on the Web, librarians are sure now to comply with the connection between libraries and computers. The ICT revolution is curbing the conventional roles of the librarians and libraries.

The application of related statistics technology in digital libraries has enabled Web users to get entry to quality statistics of libraries round-the-clock at the Web. Linked statistics technology aid that statistics resources ought to be had at the Web without any retrieval restriction. Linked statistics technology use faceted browsing facility the use of distinctive related statistics structures to offer required statistics of the users. Maria et al. (2016) described in their study entitled Current state of Linked Data in digital libraries that the application of linked data technologies in libraries has made capable the digital collection to be viewed by machines on the Web just like humans. Machines can better read, interpret, and reuse information using linked data technologies to respond the human queries in a Semantic Web environment. This study also describes that linked data applications are utilized by European, a digital collection from museums, data and libraries of Europe which includes audiovisual collection. Its users can search and share the material on social media sites.

Another study conducted by Anyim (2018) stated that University e-libraries have made studies greater exciting, and feature attained the fame of intellectually prepared statistics useful resource Centre and a global of expertise at researchers' fingertips. Adoption of college e-library is a good match towards making researchers, college students, school individuals and the college greater studies driven. The reason for the adoption of e-libraries in universities in Nigeria is purely to offer digital and online assets for the team of workers and college students a good way to beautify academic improvement and offer academic assets for powerfulteaching, studying and studies sports.

It is obvious that most of these respondents are both postgraduate students who are also the academic staff of the universities. In an academic society where there is a traditional slogan “either you publish, or you perish” continuous research and publication remain the predominant engagement of academic staff. The digital resources are available in digital libraries in universities in Kogi State. This includes electronic Journals, online databases, Online Public Access Catalogue, wireless network, search engines, electronic books, Local Area Network (LAN), the World Wide Web (WWW) and online newspapers CD-ROMs and online indexes

and abstracts. These libraries lack institutional repositories, DVD Rom, and official portals. The major e-library services are provided by university e-libraries in Kogi State Nigeria. These services include: information literacy services, digitalization of local contents, online internet search service, electronic document delivery services, e-reference services, CDROM searching service, online inter-library service, technical training in ICT for staff and users, data management services, customer care services, awareness and workshop services, online cataloguing services, e-mail services and data analysis services while audio/ video conference services are not available in these e-libraries.

According to Ekere, etc. (2016), state that the satisfaction of library users is a function of the quality of information products or resources received the quality of information system as well as library facilities and services provided to access the information product. Therefore, satisfaction is a function of three main sources quality of the information product, the information system and the services that make the information product available. Services in e-library consist of the standard conventional library and data offerings and different international data offerings thru computer and telecommunication systems. Ekere, etc. (2016) confirmed the various services provided at the digital library which consist of: online net search services; email services; online reference services; online cataloguing and classification service; customer care services; management of online databases; Subscription services; awareness and workshop services; Audio and video communication services; information groups/speak databases; digital file shipping Services; Interoperability services; Technical schooling in ICT for a group of workers and users; online inter-library services; digitized finding aids together with online indexes and bibliographies and online cataloguing and classification services.

3.0 RESEARCH METHODOLOGY

This paper seeks to examine the use of digital libraries among university students which includes digital library responsive, digital library informative and digital library resources to assist the objectives of this study such as is to observe the use of digital library among university students, to know the importance of various digital resources and services amongst the students and to know the awareness of students about the available digital information resources and services. Based on the results of this study that included methods of content analysis. Articles were chosen from 2016 to 2020 for this literature review. The literature primarily focuses on the digital library to give satisfaction to students when uses the digital library. The purpose of selecting these key themes was to convey how to develop effective student learning with a digital library. Google Scholar, Research Gate, Science Direct, Emerald Insight, Web of Science were that databases used to search for articles related to the sustainability of the digital library. Those articles were selected and identified by primarily using the concepts, terms, or keywords related to sustainability based on the digital library. A simple search using Google Scholar with keywords or concepts that related to the digital library that related with resources, informative and responsive, from 2016-2020. The articles selected represent as a reference to investigate the abstracts, methods sections and result to make sure that each of the articles had information that reliable and related to the sustainability of digital library with responsive, informative and resources. This study was developed to examine the digital library in order to assist in the implementation in the university. To make students use the digital library more efficiently and effectively, we had referred to several studies related to the digital library. The previous article prefers to survey by having questionnaires either directly or indirectly.

4.0 RESULTS AND DISCUSSION

Since we focus on the use of the digital library, the students are always considered as responsible people who carried out a vital role which a critic and taking care of the digital library. According to Shukla and Sialai (2016) in a conference presentation, the development of ICT and its application in library and information centres have changed the nature of collections, the needs of users, the library environment, and the roles of LIS professionals.

The library services are important because these services can give an impact on students' satisfaction when using the digital library. This is because students will refer to the librarians if need their services if there is any problem or need guidance related to the library. The current study also identified the importance of asking a Librarian as a library professional. As a result, the library services can be more effective if the librarians play their roles.

Users with virtual reference services via a live chat software, text messaging, and email form which students can access through embedded links and widgets on their library's official website. It implies that the students are conversant with the importance of digital information services in knowledge acquisition in the 21st century. Digital information services are easier and more convenient to use. The database of digital material is open to all students in university and can be accessed everywhere.

In terms of library responsiveness, library responsiveness is strongly associated with the student's satisfaction. This is because digital libraries have recorded some importance such as bringing information to users, providing enhanced searching, collaboration, sharing, and have drastically reduced the issue of the digital divide.

Digital library also has changed the way humans interact with information, for, as long as there is an internet connection available and the user has an appropriate access device, the requested information can be accessed from anywhere at any time. Moreover, in so doing, Digital Library has introduced learning, and especially distance learning, to new dimensions.

The library informative has a significant influence on student satisfaction and students' learning. Digital library informative is about the quality of the resulting information and the process to identify its needs measures of the success attained. The contents of the digital library must be manipulated and prepared to best serve the other stages of the information life cycle. It also wants to investigate that the digital library are makes relevant information about its service available to the users.

Ensuring that relevant information resources and to users goes a long way to encourage users to visit the library more often in future. A library is a warehouse of information without users. The users are the ultimate consumers of library services. King (2005) says that information needs and expectations are continuously changing in the rapidly changing information scenario. Libraries ought to re-orient their collections, services, and facilities to stay pace with these advancements. User feedback is taken into account because the most reliable consider mensuration the utility and effectiveness of any library. Librarians will offer a comparative photograph of usage by creating user surveys a daily part of the library's activity.

The emergence of digital technology has accelerated the library's subscription to journal databases, e-book, cataloguing and reference management. In existing digital repositories, online databases and multi-search engines have become reliable sources to their users. These online database resources deepen the availability of electronic resources and extend the boundaries of academic research.

Resources are critical to students learning. The availability of resources both print and electronic can have a significant influence on user satisfaction. The overall perception of a library's services and resources contribute to user satisfaction. Ensuring that relevant information resources and to users goes a long way to encourage users to visit the library more often in future. Nearly all new info is made in digital format.

The libraries collected the data resources and provided them to the users. One in all the foremost necessary aspects of the digital library within the university is its info quality services to the university community, significantly by students. Info quality additionally plays the necessary role in a digital library to supply the data to users.

The services and resources can help the users improve their daily work and task. However, these services and resources need to upgrade from time to time based on the latest developments and user needs. In order to improve users' satisfaction, improvement can be made in the features considered important by users.

The librarians should include aspects that identify directions for development in the field, the implications of the information technology plan. Digital libraries are open to new developments and information resources, human and services are factors for progress.

Various new services like access to electronic or digital collections (online information electronic journal, e-books, and digitized collections), electronic commercial enterprise, online

references and online library instruction are introduced by the librarians. This development has improved access to activities in digital format.

This development additionally has improved access to acceptable, current and pertinent data at unimaginable speed. The system quality of the digital library is to supply and explore the potential of web-based mostly in digital libraries by providing the system that distributed repositories of knowledge, thereby providing info to users with effective tools and may find what users want and may examine it handily and well.

5.0 CONCLUSION

Digital libraries provide a variety of benefits that can help users in many ways. Digital library existence certainly greatly helps educational academics in finding learning resources. The core benefits of digital libraries are easy to access, unlimited space and time, preservation of collections. From many benefits provided by digital libraries, do not make it replace the position of conventional libraries. The position of the digital library is complementary to the existence of conventional libraries in facing technological developments. Although it has many benefits, digital libraries still have various problems in their practices.

These problems will later become a challenge for educational managers. These challenges are facilities that do not support, challenges of digitizing library collections, challenges of human resource ability in operating and managing digital libraries, challenges of copyright protection, and challenges of financing. Conventional libraries are irreplaceable by other library models including digital libraries. Although conventional libraries have their disadvantages, digital libraries come with all the benefits they offer as a complement to conventional libraries in facing the technological developments.

Digital library practices should be integrated with conventional libraries so that their use is more effective in supporting learning activities in every university library. Librarians should be familiar with every challenge that will face in implementing a digital library. Therefore, they can prepare whatever needs to be done to face each of these challenges in the implementation of digital libraries.

The digital resources give largely advantages to the digital library such as the speed of access to digital resources, huge number of digital resources available and personalization. According to Norazlin (2012), she stated that all of these can make user put their expectation of the library higher, which library users want to be more independent in conducting or searching information needs on their own. Designers must aware that digital library utility is measured by getting more sophistication from users.

To make DL services more helpful, designers must learn and study more about users' needs and try to fulfil them. For example, in designing user interfaces, designers need to investigate from the users whether DL interfaces are designed in a user-friendly manner. It is because only users may have interaction with the interface of the systems provided by the library (KaniZabihi et al., 2006). The author reveals in his study that in order to establish a digital library, the online system is part of it and very important things to be considered.

Therefore, librarians and especially users need to know how to hits and use the systems provided by the library to retrieve needed information at anytime, anywhere.

In the related previous work of Stelmaszewska and Blandford (2004) undertook a study in order to understand better people's interaction and their needs in the context of a traditional and physical library. The results of the studies showed that the first attempt at finding information in a library was to search the OPAC by the title keyword. Whilst users need to be familiar with a physical library environment to find information that they are searching for. Through all studies that have been done by scholarly researchers and professional shows that only expert user of digital library (DL) is more successful at finding the information needed rather than non-expert users. Thus, it's supporting views that DL design has to take into account the IT skills of the users.

Libraries around the world have been working hard to face digital library issues and challenges. With several years of experience, librarians discovered that they should seriously focus on legitimate copy and digitization. It is not an easy task for the libraries to establish a digital library without embedded current technology. From the reviews, we can conclude that the key to library services to the remote users are universal and must be addressed to meet successfully the needs of patrons.

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A good change in library system for university students

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Abstract:

This paper reviewed articles on library system that has previously studied by researchers which focused on changes and improvement by implementing library system. Articles from 2014 to 2021 were considered to be reviewed. Most of the literature reviewed focuses on how the library's system changes to meet the requirement of university students. The databases used for searching articles relating to the library's system are Google Scholar, Emerald Insight, and Science Direct. Other articles are also searched from other trusted websites. The articles were chosen and identified mostly via the use of search phrases or keywords such as "information management," "library information system," "library system," "IMS," and "university library user". A review on previous studies shows that the library system changes the way people search, use and manage libraries' information and sources. The improvement of the library system provided a better change toward library management and satisfied its user. In this research, many types of library systems and their improvement are found and studied by researchers. In conclusion, we need to enhance the library system in order to better assist library management and provided more beneficial features to its users. This study focuses on literature review in this area. We compared published articles in the field of library systems from library databases and other resources.

Keywords: Library, Library system, University, Students

1.0 Introduction

The library system in many years has stayed the same in universities especially universities in Malaysia. We have referred to this one particular article to completing our article regarding our topic: a good change in the library system for university students. According to TheFreeDictionary (2003) library system or the operating system manages a system library, which is an ordered collection of a computer system that is kept online with a computer system by being stored on a secondary storage device.

The authors remark that “with the popularization of wireless networks and mobile devices, more people now using mobile devices to go online.” In addition, many students including teachers, and lecturers now use tablets, PCs and smartphones to read e-books or e-journals rather than go to the library. As a result, electronic resources and digital libraries are turning and becoming increasingly important sources for obtaining the information (Huang et al., 2014).

The problems occur when the library system stayed the same and no paradigmatic shift in the university library system. This problem should not happen because we are living in a fast-paced technology life and the usage of technology everywhere.

Here we stated three objectives regarding the article proposed here:

- 1) To determine the change in library system will make it systematic to university students.
- 2) To improve the library system to a systematic library system.
- 3) To identify what changes will happen and impact to library because of a change of new library system.

There are several problems we face while completing this article. The problems after all starting from the students themselves. The non-technology savvy student has a hard time using the library system, the library is still using the traditional library system and method. Last but not least, the uninteresting library system makes it hard to attract students.

Regarding the problem statement we have mentioned above, the solution that we have discussed and to be implemented in order to solve the problem are library should provide a program about library system literacy for students. To add, the library should upgrade their system to accommodate the latest technology system whilst still using the traditional method and promoting the new library system to students while they are receiving a lecture in class with the hope that it can attract the students' attention towards new library system.

2.0 Literature review

2.1. Library system

The main purpose of any library system is to collect, store, organize, retrieve and make information available to its user. According to Robinson (2017), library systems during this era make a constant shift from mini-computers serving individual libraries and information provision to the World Wide Web (WWW) where billions of information shared and to clients picking up information and sources from almost anywhere as long as there is an internet connection.

According to Manifold (2014), he mentioned the discussion on library systems by another author named Montague (1993). In his paper, Montague (1993) discussed the first library system which is compatible with the available hardware and the software capabilities at that time. This system is very simple, where users can eliminate tedious manual work involved with particular batch processes with only single-function applications.

Other studies conducted by Huang et al. (2015), which explained mobile library service systems. In their paper, they mentioned that old online services provided by libraries are inadequate if their user wants to search information and other resources anytime and anywhere they want. They explained that the main idea of their study is to use the benefits of mobile communication services. From that idea, they develop a system for the library resources of the National University of Tainan Library which was a mobile library service system by adapting the Android open-source code. They also mentioned that students and faculty can easily find information by using this system. This system aimed to provide more suitable and actual information services to users.

Huang et al. (2015) stated that they use Android open source code to produce an application for the mobile library. This application can be used on PCs, smartphones and tablets. This system provided Faculty and students some basic features which the ability to check new book notices, the status of books, and personal book-borrowing, reservation and return records.

Saarti et al. (2015) discussed the joint library system. They said that this joint library system is the new rage in Finnish library automation in 2015. These have been most large-scale developed in the academic libraries that previously use joint library automation systems. According to them referring to Loukkanen et al. (2012), the purpose of this system was to set

up a joint system with regular databases for all the libraries in all sectors who are pleased to cooperate in this work. This purpose led to the planning of the possession of a new library system. They claimed that the aim to implement a long-time digital preservation system, automation systems and joint interfaces for all Finnish memory organizations (archives, libraries and museums) which happened to be the recent trend of document dissemination digitalization has led to a national policy.

Other studies conducted by Robinson (2017), mentioning the Open Sources library system in his paper. “The interest in Open Sources was based on the benefit provided in effectiveness in other factors such as virtual learning environments, repositories and research data management, not to mention creating the foundation of many webs and systems implementations which could provide the chances to embed library systems into information and enterprise environments which the traditional ‘black box’ or ‘turnkey’ systems could not”. (Robinson, 2017).

An Open-Source integrated library system (ILS) has been discussed by Avery (2016). The author purpose of the study was to investigate the situations and processes involved in executing and drifting from a proprietary integrated library system (ILS) (Follett’s Destiny) to an open-source ILS (Koha) for a special focus institution. According to the author, most libraries mostly academic libraries do not use open-source Integrated Library Systems, and librarians have different feelings among them concerning open-source systems in spite of living in the situation where people are open regarding the use of open-source ILS systems.

Other researchers also provide research on the integrated library system. In Hastings et al. (2016) paper, they explained the implementation of an integrated library system in Kansas which is a state in the Midwestern United States. Hastings et al. (2016), informed that seven regional library systems were created in Kansas by law in 1965. They said that each regional system also operates freely under its own board and the member libraries also remain administratively self-reliant. Each regional system contains budget-setting and policy-making authority. Kansas relies approximately minimal on state subsidize or membership fees which are quite different to member libraries who receive permits from the regional systems and has tax-levying authority.

According to Hastings et al. (2016), each regional system comes out with services to libraries around its described region which were determined by the board in order to meet the needs of the libraries in the region. The authors mentioned that the services provided have large similarities and obvious differences with all regions. They said that although the services provided are varied, all of the systems provide libraries with grants, consulting, continuing education, and technical support. Some but not all systems provide libraries with interlibrary loans, rotating books, mail-a-book, processing, cataloguing, and other services that can be provided by other systems.

According to Yang (2013), she mentions new library system in that era. The new system has a variety of names, including "library management platform" and "library service platform" (Breeding, 2012), "library management service" (Dula et al., 2012), "web-scale management solution" (Burke, 2012), "Next Generation Comprehensive Library System" (Wang & Dawes, 2012) or more commonly known as the new library system. Five well-known next-generation library systems have been released or are in development which is Kuali Open Library Environment (OLE) from Kuali Foundation and OCLC from OCLC, Intota from Serials Solutions, Sierra from Innovative Interfaces and Alma from Ex Libris. These new systems have a lot in common, but each has its own unique attributes that distinguish them from other systems. All next-generation library systems are RDA compliant. Libraries can add, display, index, and search MARC fields to RDA data. field. In addition to MARC, the new system can also provide other record formats, such as Metadata Object Description Scheme (MODS), Encoded File Description (EAD) and Dublin Core.

2.2. Changes of implementing library system.

Differences between the backward technology in library management and the new library system implemented are big. Improvement in the library system gives a beneficial change to the library management. There is a lot of research mentioning the improvement of library management by implementing a new library system.

Research by Huang et al. (2015) mentioned the effect of implementing a new library system which is a mobile library system. This system is implemented for academic libraries and used by college students. From the finding of the study, the author mentioned that the students think that the mobile library service system was helpful in term of information searching. The college students who participated in the survey of this study perceive that the focal mobile library service system functioning to aid them in instantly searching for information or resources they wanted. This means that students are very satisfied with the system, as they are willing to use and recommend it to others. This new system implementation provided a good change to library management and gain satisfaction from their user.

Implementing integrated library system (ILS) provide a good improvement to library management. According to Hastings et al. (2016), Integrated Library Systems are an unfamiliar system to some of the librarians in the new institution. Central Kansas Library System Consultants highlight that unique features, using basic processes as opposed to attractive features, and ease of learning are the most important criteria for rating. They explained the aim of this integrated library system is for every library to be able to participate in statewide resource-sharing with the statewide catalogue. So, in other words, they implied that by implementing integrated library system, all libraries in Kansas can share their information and resources with each other.

3.0 Methodology

This paper is to describe a good change in the library system for University students and evaluate the methods used in the planning of the new library system. This is based on the findings of this study, which utilized content analysis methodologies. For this literature study, articles from 2014 to 2021 were considered. Most of the literature focuses on how the library's system changes to meet the requirement of university students. The goal of picking these main topics was to highlight how the library system changed year after year to ensure that it met the needs of the students. The databases utilized to look for papers relating to the library's system were Google Scholar, Emerald Insight, and Science Direct. The articles were chosen and identified mostly via the use of search phrases or keywords such as "information management," "library information system," "library system," "IMS," and "university library user". These articles were chosen as resources for this article.

Nowadays, students need to adapt to new learning methods such as ODL (open distance learning). In this situation, the library's system plays an important role for students who want to retrieve data from home. A new library system opens new opportunities for innovation and quick change, which is especially important in the higher education context. Libraries are one of the main places for students to collect information during ODL, so the old system needs to be changed to give a complete library system for all forms of data.

4.0 Results

4.1 The Respondents Profiles Analysis

The authors remark that “structural equation modelling was adopted to test the cause-and-effect relations among the constructs in the research model, with the partial least square method used as the analysis tool,” (Huang et al., 2014).

The authors state respondents’ details are presented and males accounted for 47.1 per cent of the respondents and females 52.9 per cent,” (Huang et al., 2014).

The authors remark “with regard to age, 38.8 per cent of the respondents of the respondents were 21-30 years old, while those younger than this accounted for 61.2 per cent,” (Huang et al., 2014).

The authors state that “only 9.7 per cent of the respondents were in the second year or higher of graduate school, and 2.4 per cent were in the first year of graduate school, while senior students (including those in the higher grades, but not studying in graduate school) accounted for 13.2 per cent, junior students for 21.8 per cent, sophomores for 15.5 per cent and freshman for 37.4 per cent of the total,” (Huang et al., 2014).

According to Huang et al. (2014), “with regard to the students’ colleges, education accounted for 27.2 per cent, environmental sciences and ecology for 5.3 per cent and performance and visual arts for 1.9 per cent”.

The results are shown above with respondents’ profiles analysis, reliability analysis and validity analysis. Relating to these three analyses, the objectives that have been stated by this article one of which is to determine the change in library system will make it systematic to university students. In respondents’ profiles analysis, the highest frequency and per cent are from freshman grades with a frequency of 77 and 37.4 per cent rather than other grades.

4.2 Reliability Analysis

According to Huang et al. (2014), “the Cronbach’s alpha coefficient was used to test the internal consistency of each construct. The greater the value is, the greater the intercorrelations of an items’ construct are, which indicates higher internal consistency. It shows coefficient ranges from 0.809 to 0.919, and thus, the items in this study have good internal consistency and a high level of reliability”.

The second objectives state that to improve the library system to a systematic library system. Believe with such a systematic library system could bring a new paradigm shift to the library and for the people who go to the library. Under the reliability analysis, it shows that Service Quality (SQ) is the highest and System Use (SU) the lowest among all.

4.3 Validity Analysis

The authors remark the “when testing the same construct item, the higher the intercorrelation is, the better the convergent validity of the measurement is. It shows that in this study, this ranges from 0.876 to 0.943, which is greater than the suggested value, thus indicating good internal consistency of all the items,” (Huang et al., 2014).

According to Huang et al. (2014), referring to Fornell et al. (1981), “also suggested that the value of the average variance extracted should be greater than 0.5, and shows that, these ranged between 0.640 and 0.805. The results thus indicate that all the construct items in this study had good convergent validity”.

The last purpose and objectives are to identify what changes will happen and impact the library because of a change in the new library system. Once a new library system is being adapted to, for sure the changes is noticeable and must be informed for everyone of the changes. According to the research results states by (Huang et al., 2014), the average variance from table validity analysis shows that the highest among all is Service Quality (SVQ) with 0.805 average variance extracted and the lowest among all is System Use (SU) with just 0.604 average variance extracted.

As stated in the introduction regarding the occurring problems statement we are facing, the problems which started from the students itself, we will make sure to solve it with the students itself and guiding the non-technology savvy students to adapt with the new technology system, and last but not least, ensuring the library system looks interesting in the students' eyes by organizing workshops regarding the library system for free to all students.

5.0 Conclusion

For many years, the library system in universities, particularly in Malaysia, has remained unchanged. The library system was useful when students were looking for books or relevant information. The enhancement of the library system resulted in a better shift in library administration and delighted its users. Many different types of library systems and their improvements are discovered and explored by experts in this study.

The change of the library system will make it easier and more systematic for students to retrieve the information. the new system should be able to attract students to use it because the new system will be more interesting and easier for non-technology savvy students. This is proven when the first objective of this paper, which is to determine the change will make it systematic to university students get the higher frequency and percent from the students.

The new library system will be more efficient for students since the system is user-friendly. Even the non-technology savvy student will be easy to understand the new library system. The systematic library system will attract new students to come to the library since it is easier to use. To fulfil the second objective in this paper, which is that to improve the library system to a systematic library system, the libraries need to upgrade their system with the latest technology system.

Lastly, to achieve the last objective, which is to identify what changes will happen and impact the library because of a change of new library system. Libraries need to keep promoting their new library system to the students. Library also can provide a program about library system literacy to students, so that students can understand more about the new library system. Finally, we need to improve the library system so that it can better help library administration and give more useful services to its users.

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The Impacts of Digital Literacy Skills Among Students

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ABSTRACT

Digital literacy means having the skills you need to live, learn, and work in a society where communication and access to information is increasingly through digital technologies like internet platforms, social media, and mobile devices. This paper aims to identify the impacts of digital literacy skills among the students. Based on this paper, digital literacy skills are very much needed in daily life especially for students. Thus, this paper is made to find out the extent to which students' knowledge of digital literacy skills that will give affect to their daily life performance. For the methodology of this conceptual paper, the articles from 2011 until 2020 were reviewed as a part of the literature review that fully focus on the deep meaning of digital literacy skill, impact of digital literacy skill and the student performance. Beside that, various online sources such as trusted website also were included in order to find an information and expand the ideas about the writing of the paper. The purpose of this journal paper is to look into the effects of students' digital literacy skills. Researchers discovered that each student's success in embracing the new learning standard varied depending on their digital literacy capabilities. There are various conclusions that can be drawn from this study, including the effects of digital literacy on pupils and the more prevalent usage of technology and the internet in this COVID-19 environment.

Keywords: Digital literacy skills, Impact digital literacy, Digital literacy, Literacy skills, Digital

1.0 INTRODUCTION

While the word “literacy” alone generally refers to reading and writing skills, when you tack on the word “digital” before it, the term encompasses much, much more. Reading and writing are still very much at the heart of digital literacy. But given the new and ever-changing ways we use technology to receive and communicate information, digital literacy also encompasses a broader range of skills everything from reading on a Kindle to gauging the validity of a website or creating and sharing YouTube videos. The American Library Association’s digital-literacy task communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills (Liana, 2016). Digital literacy means having the skills you need to live, learn, and work in a society where communication and access to information is increasingly through digital technologies like internet platforms, social media, and mobile devices (Western Sydney University, 2020).

In 21st century, digital literacy plays an important role in defining a student’s chances of success both in university and throughout their lives. The progress of technology and the internet’s expanding significance in our society has made digital literacy an essential skill for everyone. Digitally literate’s students understand how to locate and consume digital materials. They understand how to develop, convey, and distribute digital material. Students who are learning and understand the digital literacy know the essentials of Internet safety, such as how to create secure passwords, how to understand and use privacy settings, and what to publish and what not to post on social media. In today's information age, almost every job requires some form of digital interaction, so teaching students how to find, evaluate, communicate, and share online content is critical to their future success and responsibility..

The objective of this article is to investigate “The Impacts of Digital Literacy Skills Among Student”. Researchers find that the students performance in accepting the new norm of learning were different in each person based on their digital literacy skills. Digital literacy skills are very much needed in daily life especially for students. This is because the existence of the COVID-19 crisis that growing every day has caused students to study from home. In that case, they require high skills in the use of technology. Thus, this research is made to find out the extent to which students' knowledge of digital literacy skills will affects on their daily life performance.

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

This chapter will be discussed a literature review as a part of dissertation or the proposal concerning a deep overview to the present or existed studies to see the extent of the digital literacy impact to the students. In essence, a literature review identifies, evaluates and synthesizes the relevant literature within a particular field of research. It illuminates how knowledge has evolved within the field, highlighting what has already been done, what is generally accepted, what is emerging and what is the current state of thinking on the topic. It is also the survey of educational sources that providing the overview in the particular topic. The literature review recognizes the efforts of earlier researchers, assuring the reader that their study is well-thought-out. It is expected that the author has read, assessed, and assimilated a previous work in the subject of study by citing it.

2.2 BACKGROUND OF STUDY

The 21st century is frequently referred to as a technological period. Today, technology plays a critical part in our lives. It is seen as a foundation for economic progress. In today's world, an economy that is technologically deficient can never flourish. This is since technology makes our jobs or task simpler and faster. Rapid advancements in information and communication technologies (ICTs) enhance the working environment and help professionals complete their tasks more efficiently. As a result, major changes have occurred in industry, education, health care, and agriculture as a result of "ICTs." Moreover, with the introduction of smart phones, human circumstances surrounding the usage of information has completely transformed.

This paper focuses on the impacts of the digital literacy skills among the students. Digital literacy skills give many impacts to students in using the technologies. Having that digital literacy skills make the students know how to use and handle the technologies. Continuous acquisition of knowledge and skills has become necessary to ensure people's integration and responsibility in the society that they belong, as well as the development and sustainability of the economy. (Goulão & Fombona, 2012). In order to deal with the rapid advancement of technology, students must be encouraged and prepared to acquire lifetime knowledge and abilities in the classroom. The present state of knowledge of the idea of digital literacy is defined by complexity and technological skills,

as well as cognitive and psychological components of being digitally literate. (Norazilah and Fazli, 2016).

At the end of last 2019's December, the whole world was shocked and had been plagued by the news of a very dangerous disease that was confirmed as a new kind of novel coronavirus. This virus was officially renamed as COVID-19 by the World Health Organization (WHO). The World Health Organization (WHO) has rated the COVID-19 as a very high global risk and threat since it has been spread and expanded to every countries corner around the globe day by day and become a pandemic. (World Health Organization, 2020). Due to the crisis of COVID-19 now, digital literacy skills are very important for students to solve the work because most of the universities conducting an online distance learning (ODL). This paper tries to help students to develop their digital literacy skills such as library literacy, computer literacy, tool literacy and information retrieval literacy that give many benefits to them. In an advanced century with a wide range of technologies, we recognize that the information we have now is easily surpassed. The new generation has a unique view on how to discover and access information, as well as a unique view on research. They require assistance with information literacy. (Secker, 2010; Cakmak, Özel & Yilmaz, 2013)

2.3 HISTORY OF TOPIC

In the background of its pioneering information literacy, digital literacy is also debated. As a result of war propaganda in the 1930s and the rise of advertisement in the 1960s, media literacy education started in the United Kingdom and the United States, respectively. Deceptive marketing and the rise of multiple modes of media further troubled educators. In order to educate people how to judge and evaluate the media updates they got, educators started to encourage media literacy education.

Marc Prensky, an American writer and speaker in education fields had invented and promote the digital natives, can be defined as a term to describe the generation of people who grow up in the age of ubiquitous technologies, including computer and internet. The application of digital literacy is been practiced for long time-being in various fields. In education, in order to keep up with accelerating technical advances, schools are constantly upgrading their curricula.

This also entails computers in the classroom, the use of instructional technologies for teaching curricula, and the online availability of course materials to students. Students are also taught reading skills such as online authentication of reputable reports, citation of blogs, and plagiarism avoidance. Digital literacy also necessary to help people stay connected, exchange information and buy and sell the goods or service. Employees are supposed to be technologically literate in the new age, with complete technical expertise. Technologically literate are more likely to be economically safe, since in order to perform simple tasks, many occupations need working knowledge of computers and the internet.

2.4 CONCEPT OF TOPIC

The topic is investigating The Impacts of Digital Literacy Skills on Among Students. Individuals' digital literacy skills are critical for enhancing collaboration, community participation, information retrieval, and problem solving skills or interactions skills. (Zhong, 2011). It also assist students in providing library literacy, computer literacy, tool literacy, and information retrieval literacy to their users based on their information and educational requirements. (Emiri, 2017).

Digital literacy is not a novel approach to a student's acquisition of information and knowledge. A fundamental part of digital literacy is the capacity to use technology to allow us to use things correctly. To begin, the most obvious part of digital literacy is access to the internet. In our day, the internet is no more a supplementary tool, but rather a need. (Rahmah, 2015)

2.5 SIMILAR STUDIES ON TOPIC

According to the previous similar study by Scholastica C. Ukwoma and Nkiru E. Iwundu (2016), Because the majority of institutions have adopted online education, they infer that digital literacy skills are critical in the administration of e-learning. They also stated that these abilities provide benefits to university graduates in terms of preparing them for future careers. In addition, by Asad Khan (2020) define that digital literacy abilities are defined as the capacity to recognize, understand, and use digital information, managing, integrating, accessing, retrieving, appraising and assimilating the information in digital platforms.

Furthermore, refer to the past study by Tolga Cakmak, Nevzat Ozel and Muharre, Yilmaz (2013) stated that digital literacy skills give the huge impact in the process to accessing the information with the use of reliable sources. Refer to this article, this skill might give the effects on the use of Open Educational Resources which is the new information resources in learning environment. Definition of digital literacy by Wawta Techataweewan and Ujsara Prasertsin (2017) is the ability to use multiples models likes digital software and hardware that includes cognitive, motoric, sociological and emotional skills. They also stated that digital literacy skills involves four skills of groups which are operational skills, formal skills, information skills and strategic skills.

3.0 RESEARCH METHODOLOGY

This paper seeks and aims to analyse the impact in digital literacy skills among the student in the use of digital platforms especially in the purpose of education. It is also assist the learning process for the students. This is based on the results of this study which included the methods of the content analysis. In literature review section, we are choosing the few previous related article from 2011-2020. The literature review primarily attention on the impact of digital literacy skills for the students. This previous related studies had been search through the platform of ResearchGate. This platform is a social networking site for the scientist and researcher in sharing the paper, question and answer and finding the collaboration.

The selected articles that have being analyse and identifies using a variation of keywords. Using the terms of ‘digital literacy skills’, ‘impact digital literacy’, ‘digital literacy’, ‘literacy skills’ and ‘digital’. The purpose of this few article is to being as the references in completing this study. This selected article was the best selection to be used as a source and reference material. According to the Google Scholar, we are searching some article with the keywords ‘impact digital literacy’ has reached in 1,110,000 search results refer to this topic. Referring to this study in section of abstract, research methodology and result in data analysis of article were being selected because of few reasons. Firstly, the article is used as a references in the literature review section to serve as an initial overview of a topic discussed. In addition, this article is used as a measuring tool on how digital literacy skills use will impact the lives of students especially in the field of learning and education these days. Furthermore, these article also providing the answer for specific questions according to the fact, statistic and background information that stated on the articles. To conclude, this study only focusing on the topic impact of digital literacy skills among the students that can define as the skills having to society communicate and access the information through the use digital technologies.

4.0 DATA ANALYSIS

The data analysis are presented based on the previous study.

Level of study/gender	Frequency	(%)
<i>Level of study</i>		
First year	21	11.4
Second year	21	11.4
Third year	25	13.6
Fourth year	38	20.7
Fifth year	25	13.6
Master's	39	21.2
PhD	15	8.2
Total	184	100.0
<i>Gender</i>		
Female	65	35.3
Male	119	64.7
Total	184	100.0

Table I.
Background
information of the
respondents based on
level of study and
gender

Table I: Background information of respondent based on study and gender

From the previous study, Table I shows the background information of the respondents based on level of study and gender. From the result, we know that 184 respondents have answer that survey. It show that 119 (64.7%) out of 184 respondents are male and the rest are female (65 or 35.3%).

Next, for the level of study, the highest rank is Master's level. A total of 39 out of 184 respondents or 21.2% have took this survey. And the second rank was followed by fourth year level which is 38 respondents or 20.7%. Then, third year and fifth year level shared the same value (25 or 13.6%). It's also happened to first year and second year level where they shared the same value as well as 21 or 11.4%. And lastly, the lowest value of respondents based on the level of study is PhD's level which is 15 out of 184 respondents or 8.2%.

SN	Digital Literacy skills	First year (%)	Second year (%)	Third year (%)	Fourth year (%)	Fifth year (%)	Master's (%)	PhD (%)
a	Using ICT to process and retrieve information	99	117	135	211	123	22.8	87
b	How to ask the right questions to ensure your research provides the results you are looking for	94	106	116	225	144	23.1	87
c	Evaluate websites to know its author, objectivity, currency, coverage, ease of use	124	105	133	171	105	27.6	85
d	To understand digital information from different sources	94	118	142	181	142	24.4	79
e	To create and communicate digital information effectively	110	94	157	157	110	28.3	87
f	To understand and use digital facilities for academic works	88	116	143	204	129	25.2	68
g	Ability to use and produce digital image	100	100	118	164	164	27.3	82
h	Ability to use Google Scholar and other databases for your studies	97	110	131	214	103	24.8	97
i	Ability to make video calls using the internet	102	133	133	194	92	27.6	74
j	Ability to navigate web pages and use links	101	94	116	203	152	23.9	94
k	Ability to upload/download text, video, audio and graphics	91	97	123	208	156	23.4	91
l	Ability to use the internet and your computer safely and securely	94	101	151	195	151	23.9	69
m	To understand the risks and how to protect your personal information	64	121	142	184	128	26.9	92
n	Ability to protect your computer from harmful actions such as spam, viruses, and spyware	94	126	165	158	134	25.2	71
o	Participating in social network for creation and sharing of knowledge	62	109	130	212	158	24.7	82

Note: NB – the percentage was calculated using only the total number that indicated they possess the digital literacy skills against the total respondents as we did in our first submission

Table II: Digital literacy skills possessed by users based on year of study

Table II showed the digital literacy skills possessed by users based on respondents' level of study. On the result, it's represented almost all values are low because some students are not possessed on digital literacy skills. Despite that, for the master's and fourth year level are different. On this level, students were possessed on some digital literacy skills and the values also showed higher than the others.

SN	Digital literacy skills	Male N = 119 (%)	Female N = 65 (%)
a	Using ICT to process and retrieve information	112(94)	58(89)
b	How to ask the right questions to ensure your research provides the results you are looking for	110(92)	49(75)
c	Evaluate websites to know its author, objectivity, currency, coverage and ease of use	75(63)	30(46)
d	To understand digital information from different sources	88(74)	39(60)
e	To create and communicate digital information effectively	91(76)	36(55)
f	To understand and use digital facilities for academic works	104(87)	45(69)
g	Ability to use and produce digital image	76(64)	34(52)
h	Ability to use Google Scholar and other databases for your studies	101(85)	44(68)
i	Ability to make video calls using the internet	65(55)	33(51)
j	Ability to navigate web pages and use links	96(81)	42(65)
k	Ability to upload/download text, video, audio and graphics	108(91)	46(71)
l	Ability to use the internet and your computer safely and securely	111(93.2)	48(74)
m	To understand the risks and how to protect your personal information	100(84)	41(63)
n	Ability to protect your computer from harmful actions such as spam, viruses and spyware	88(74)	39(60)
o	Participating in social network for creation and sharing of knowledge	104(87.3)	42(65)

Table III: Digital literacy skills possessed by users according to their gender

From the article that we have studied, Table III represented the digital literacy skills possessed by users according to respondents' gender. From Table III, male students (119 respondents) are more possessed on digital literacy skills than female (65 respondents). There are some skills that possessed by male students and it's showed the highest values. First, male students were possessed on using ICT to process and retrieve information (112 respondents or 94%). Second, ability to use the internet and your computer safely and securely (111 respondents or 93.2%) and followed by how to ask the right questions to ensure your research provides the results you are looking for (110 respondents or 92%). And lastly, 104 respondents of 87% male students are possessed to understand and use digital facilities for academic works and participating in social network for creation and sharing of knowledge.

From the table III, the findings on digital literacy skills possessed by female students showed that some of the students possessed on the skills that enabled them to use ICT to process and retrieve information (58 respondents or 89%). Besides that, 49 out of 65 female respondents (75%) were also possessed on how to ask the right questions to ensure your research provides the results you are looking for and followed by ability to use the internet and your computer safely and securely (48 respondents or 74%). Lastly, female students were possessed with ability to upload, download text, video, audio and graphics (46 respondents or 71%). We also identified that

the female students were less interested and possessed on evaluating websites to know its author, objectivity, currency, coverage and ease of use (30 respondents or 46%).

The knowledge of digital literacy skills give students the opportunities to use technology efficiency and effectively. It involves critical thinking of how to use the technology and to identify the quality of the information whether it relevant or not. In addition, all students at all level should be more learning to improve their digital literacy skills which will always be used in daily life.

S/N	Digital literacy skills possessed by users	Possessed (%)	Not Possessed (%)	Effective learning and performance
A	Using ICT to process and retrieve information	170 (92.4)	14 (7.6)	
B	How to ask the right questions to ensure your research provides the results you are looking for	159 (86.4)	25 (13.6)	
C	Evaluate a web sites to know its author, objectivity, currency, coverage, ease of use	105 (57.1)	79 (42.9)	
D	To understand digital information from different sources	127 (69)	57 (31.0)	
E	To create and communicate digital information effectively	127 (69)	57 (31)	
F	To understand and use digital facilities for academic works	149 (81)	35 (19)	
G	Ability to use and produce digital image	110 (59.8)	74 (40.2)	
H	Ability to used Google Scholar and other databases for your studies	145 (78.8)	39 (21.2)	
I	Ability to make video calls using the internet	98 (53.3)	86 (46.7)	
J	Ability to navigate web pages and use links	138 (75)	46 (25)	
K	Ability to upload/download text, video, audio and graphics	154 (83.7)	30 (16.3)	
L	Ability to use the internet and computers safely and securely	159 (86.4)	25 (13.6)	
M	To understand the risks and how to protect your personal information	141 (76.6)	43 (23.4)	
N	Ability to protect your computer from harmful actions such as spam, viruses and spyware	127 (69)	56 (30.6)	
O	Participating in social network for creation and sharing of knowledge	79 (79.3)	38 (20.7)	

Table IV.
Table of overall digital literacy skills possessed by users of the digital library irrespective of level of study and gender

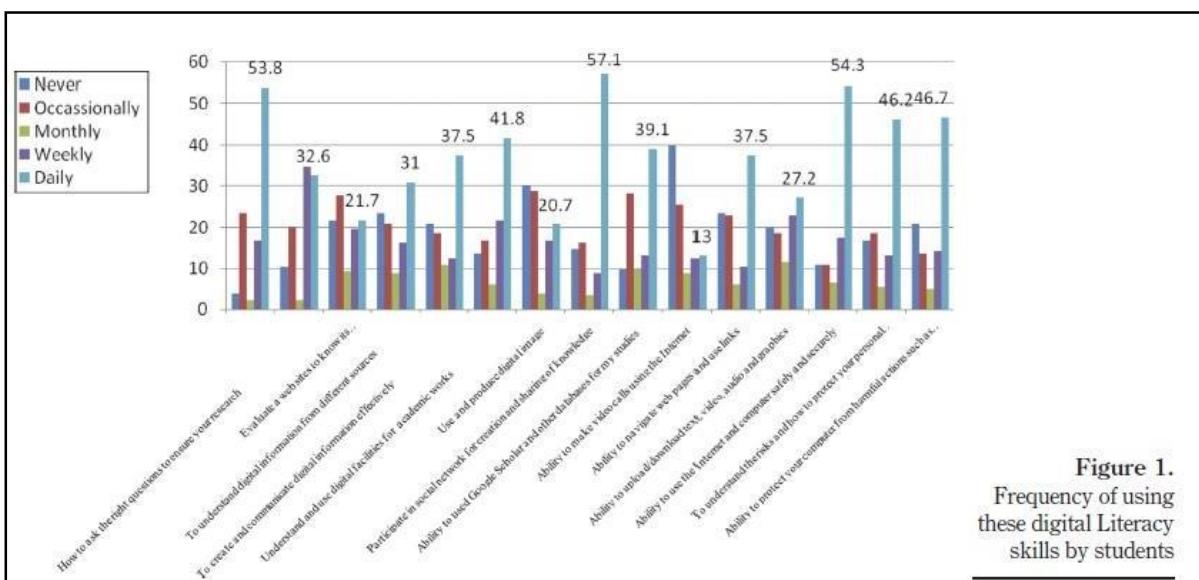


Figure 1.
Frequency of using these digital Literacy skills by students

Figure 1 represented the frequency of using these Digital Literacy Skills by students. The findings showed that almost all of the skills have been used by students daily. For example, the percentage of participating in social network for creation and sharing of knowledge were the highest for the daily (57.1%). This is because students are more interested in social networks such as social media and other applications that easy and comfortable to use. Next, followed by ability to use the internet and computers safely and securely (54.3%). Students are use computers to complete their works and communicate with others. Digital literacy is a useful requirement in a digital environment with new modernization in the world. Digital literacy skills should always up-to-date because technologies are always evolving rapidly. Then, students should prepare themselves that digital literacy skills also develop gradually according to the technologies.

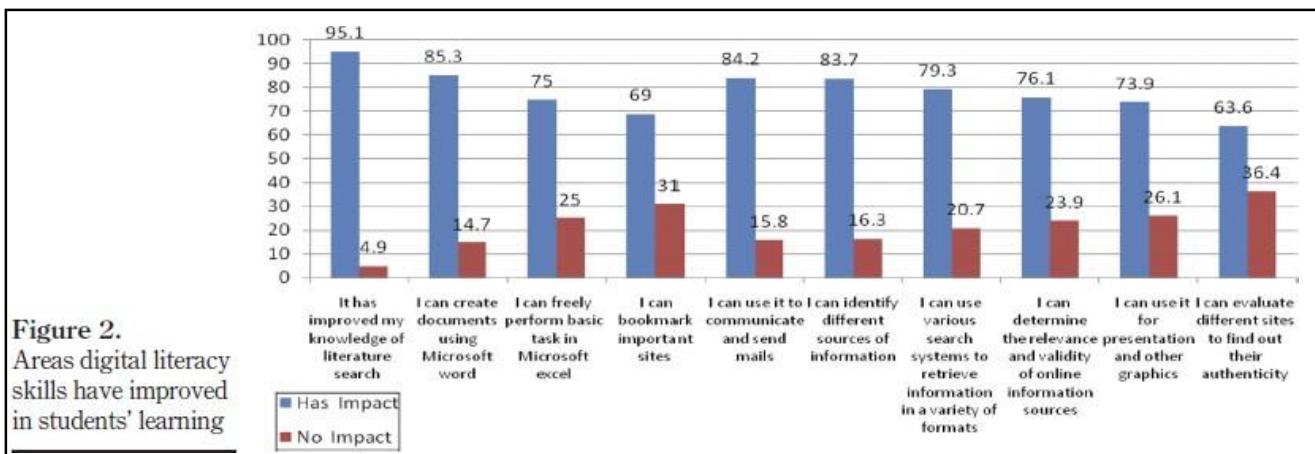


Figure 2.
Areas digital literacy skills have improved in students' learning

Figure 2 showed the digital literacy skills have improved in students' learning. The result in Figure 2 represented that 95% digital literacy skills has improved students' knowledge of literature search. Next, it followed by 85.3% and 84.2% where they can create documents using Microsoft Word and use digital literacy skills to communicate and send emails. Students also can identify different sources of information (83.7%) when they always learned and practiced the digital literacy skills in daily life. The other impacts also showed the highest values where digital literacy skills have successful improved in students' learning. In the previous study, it identified that digital literacy skills increasing the students' efficiency, effectiveness and performances. Having established that the areas of digital literacy has improved students' learning, this study goes further to find out the extent of the impact on their academic performance.

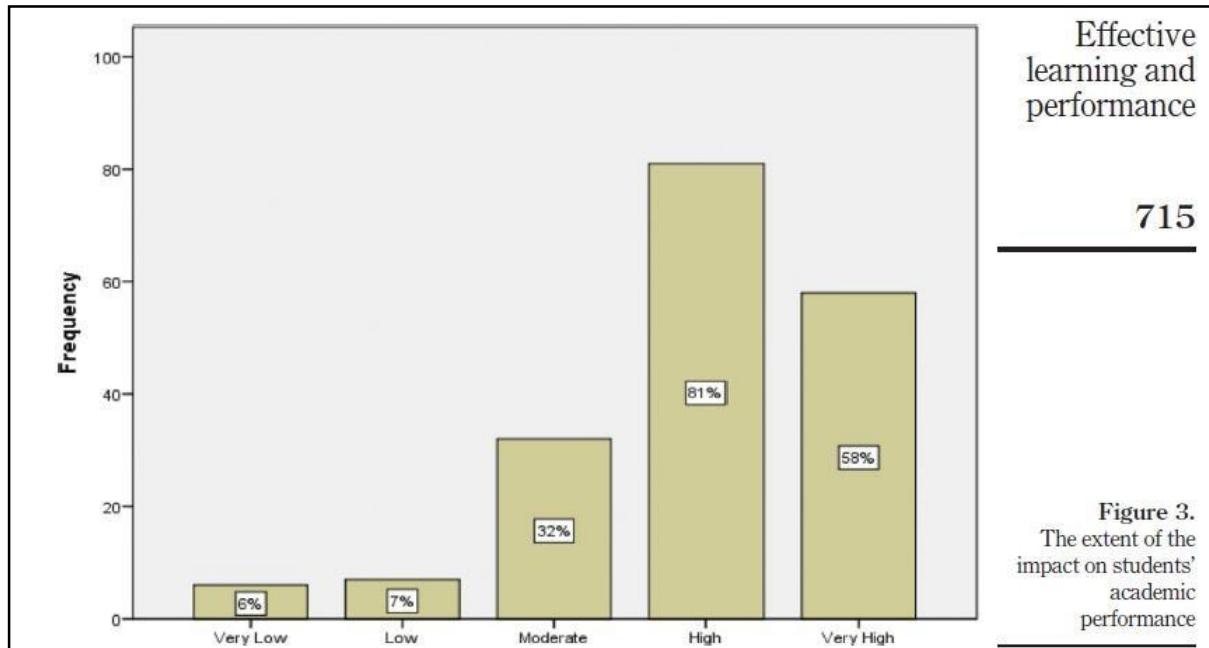


Figure 3 represented the extent of the impact on students' academic performance. From the figure, we seen that digital literacy skills have made the extent of the impact on students' academic performance at the high level. It shown that 81% effective when we practice digital literacy skills in daily life. The study discovered that there have many positive achievements when we learned and applied it in our daily life. The more we possessed to digital literacy skills, the more we get benefits from it.

5.0 CONCLUSION

In conclusion, these digital literacy in terms of skills have a lot of effects on students' lives, especially on the educational. Through this study, there are several things that can be concluded covering several aspects, namely the impact of digital literacy on students and the increasingly widespread use of technology and the internet in this COVID-19 situation. Generally, these digital literacy might provide benefits and positive impact from various angles. In the context of students, it provides benefits such as boost student performance in education, helping them to better understand information digitally, save times because information retrieval time is faster and good in the use of software and technology.

In addition, to conclude in terms of data analyse which is the result of the main article. The impact of this digital literacy skills exactly effect the students for effective learning and performance from the student in University of Nigeria. Percentage indicates that most of students have a skills and knowledge in few of skills stated. Most of this students skilled in using information technology and retrieved data, known in using the right keywords in information search, being able to upload or download the information and able in using internet and computer safely and careful. Hence, digital literacy skills also need to be as an achievement things for the students if they are being able to use that on this 21st century.

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Understanding Factors Influencing Information Communication Technology Adoption Behavior Among Students

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ABSTRACT

Information and Communication Technology (ICT) has become an essential part of today's society throughout the year especially for students. ICT enables students to conduct and organize their education style, provides students in remote places with access to expert educators and learning materials, and many other benefits. Previous research discovered that promoting better social interaction and communication is one aspect influencing users' adoption of Information Communication and Technology. However, there is no clear research on how far the factor can affect students. Thus, this paper briefly examines factors that are influencing ICT adoption behavior among students in order to assist their learning process. Methods of content analysis using articles searched in ScienceDirect, Emerald Insight, and Scopus from 2015 until 2021 were used in order to find relevant information related to the topic. Based on the analysis, the results reveal common factors that were actually related to student situation especially in performing online learning since the pandemic of Covid 19. Additionally, the results also reveal the new factor that rarely found research on it that is supposed to give the most relevant contribution.

1.0 Introduction

Information and Communication Technology (ICT) refers to the technological platform for creating, controlling, acquiring, keeping, and disseminating knowledge from one place to another. The technology is utilized

to manage telecommunications, broadcast media, audiovisual process, and transmission systems, intelligent building management systems (IBMS), network-based control systems (NCS), and monitoring functions. (Food and Agriculture Organization of The United Nations, n.d.).

Undeniably, Information and Communication Technology (ICT) has become a crucial part of today's society throughout the years. Most communities used ICT to communicate, create, manage, circulate and receive information via the internet and other means. ICT has become an essential source of innovation and development of efficiency for many sectors, especially in education. It has gradually replaced the traditional teaching method with online communication learning. It is believed that the internet and technology can help the education part become effective in retrieving and disseminating information. For instance, ICT in education has provided a new experience for students and teachers, especially long-distance communication (Henderson, 2020). As a result, ICT has become a crucial part of university students' learning process inside and outside the classroom setting. Whereas ICT has helped students conduct and handle their learning, it gives students remote access to expert teachers, academic resources, and many more. Over several years, the rapid growth of Information and Communication Technology (ICT) has influenced the student's adoption behavior (Sungsup, 2017).

Thus, facilitating better communication and social interaction is one factor that influencing Information Communication and Technology adoption behavior among users. To summarize, many factors are influencing Information Communication Technology adoption behavior among Students (Yu et al., 2017).

1.1 Objectives of The Study

The followings are the research objectives addressed in this study:

- i. To identify factors influencing Information Communication Technology adoption.
- ii. To investigate students' behavior towards ICT.

1.0 Statement of Problem

The followings are the problem statements addressed in this study:

- i. The social inequality in information resources and digital use patterns.
- ii. The psychological factors that influence information and information communication technology (ICT) adoption behavior.

2.0 Literature Review

2.1 History of ICT

ICT is known as Information Communication Technology. This term has been widely used since 1950. This idea was created when the first commercialized computer, UNIVAC I was created by scientists, John Eckert and John W. Mauchly in 1951. Twenty-five years onwards, mainframe computers were used in big companies for calculations and controlling a lot of information kept in a database. On the other hand, supercomputers were used in science and engineering, manufacturing aircraft and nuclear reactors, as well as forecasting weather worldwide. In 1970, the Massachusetts Institute of Technology created microcomputers, followed by other organizations. In 1980, minicomputers were used widely in small businesses, produce plants, and used in factories. However, IBM produced the first personal computer in the fall of 1981, inducing the popularity of microcomputers in the market. From the event, personal computers are growing drastically as they give more function than the largest computers. Nowadays, computers are divided into four categories, which are supercomputers, mainframes, minicomputers, and personal computers(Sakenov, n.d.).

Nowadays, ICT is more likely to relate to education. Computers and other gadgets are being used to assist individuals or institutions in using information. Therefore, students and teachers can utilize technology as a type of equipment to learn at school, as well as transmitting information within the institutions. With the existence of ICT, traditional telephone networks are obsolete in all institutions as well as give ease to these organizations to cut operation costs.

2.2 Concept of Understanding Factors Influencing Information Communication Technology Adoption Behavior Among Students

The concept of this topic is related to understand the factors influencing Information Communication Technology (ICT) adoption behavior among students. This study takes the form of a case study in which multiple cases are used to investigate those factors. Thus, this study focuses on elaborating the factors influencing ICT adoption behavior, which include social interactions, media technostress, media experience, and task characteristics.

Social interactions are established from affective social and advice network relationships among users. It represents the strength of a relationship and the frequency of communication among members of a community. Social interactions also can be an opportunity for students to exchange knowledge and give influence towards each other in order to trade more information. Indeed, users' behavior is affected by their environment, either getting influenced by their friends (Yu et al., 2017).

On the other hand, in media technostress, Yu et al. (2017) has stated that technological complexity and stress can affect ICT adoption behavior as people favor user-friendly technologies. It is seen that media technostress are the after-effects from the

negative point of view towards a person's point of view, faith, and thoughts by using ICT directly or indirectly. Similarly, Brooks and Califf (2016) defined media technostress as a negative impact on view, thoughts, behaviors, or physiology that is caused directly or indirectly by technology.

In addition, previous studies have defined media experience as a person's skills to use a specific type of ICT device, which plays a role in their judgment about ICT (Yu et al., 2017). Indeed, students need specialized training in order to obtain great skills in using ICT. As a result, students who have the knowledge of browsing ICT devices will experience greater satisfaction and they may feel convenient while using those ICT devices.

Moreover, students are exposed to the technology environment when they are exposed to ICT. Therefore, task characteristics play a role to ensure satisfaction in themselves during exploring the technology world. This is due to task characteristics have a positive impact on someone's satisfaction. Nevertheless, factors of task characteristics such as task clarity, freedom of work, autonomy, and belief facilitate in growing the students' productivity.

2.3 Similar Studies on Understanding Factors Influencing Information Communication Technology Adoption Behavior Among Students

Few previous types of research related to this topic were referred in order to gain a wide understanding. Every paper has shown different results and findings that can lead to new outcomes regarding the scope of the topic.

Previous studies have shown that knowledge ICT adoption behavior was encouraged by ICT media. Many online platforms are primarily designed to allow interactions between individuals and groups, guaranteeing ubiquitous communication

between regions via ICT despite differences in political and cultural contexts (Yu et al., 2017). In this study, the authors emphasize on social interaction since people are closely related to transferring knowledge and supporting other members of the group to achieve comparable goals. The study is one of the first to present a detailed model exhibiting the moderator effects of individual differences in information literacy and digital abilities on ICT use, intending to increase the knowledge about ICT adoption behavior among rural residents. The authors created an outstanding model that demonstrated the significant interactions between knowledge technology and digital skills on media experience.

Besides, there was a study by Menéndez Álvarez-Dardet et al. (2020), that found the rapid expansion of ICT, as well as the expanding possibilities they provide, is intimately related to concern about the potential consequences of hurdles to ICT adoption. This research was focused on ICT adoption by Spanish adults and analyzing their attitudes towards computers. In order to find accurate results, the authors used a questionnaire method that collects sociodemographic information, data on ICT adoption of three devices (Personal computer, smartphone, and tablet) and data on attitudes towards personal computers. As stated in the results section, the authors mention that most of the sample had access to one of the three ICT devices, with only a few not having any of the devices. In addition, this research identifies behavioral and usefulness components as crucial characteristics that may play an essential role in improving ICT adoption, at least with regard to personal computers (PCs).

Next, Park et al. (2019) conducted research on multimedia technology adoption. They mention in their study that information systems (IS) experts have researched theoretical models to assess IT acceptance and performance. For instance, the IS success model focused on the system use and service quality based on technical and functional quality,

and the Task Technology fitting model, focused on IT evaluation by applying task-to-technology fitment. The authors employed an integrated model of such theoretical frameworks in order to explain the usage of multimedia technology for learning purposes. In 1989, Davis, Bagozzi and Warshaw proposed the Technology Acceptance Model. As a result, the authors used the ideas from earlier research on technological acceptability and task technology fit to construct an integrated model for multimedia adoption.

3.0 Methodology

The study took a descriptive approach and attempted to identify all the growing factors impacting students' adoption of Information and Communication Technology (ICT). Our methods focus on seeking new outcomes based on the social inequality in information resources and digital use patterns and the psychological factors that influence information and communication technology (ICT) adoption behavior. In this case, method content analysis where it is conducted in expectations of striving for the results. This paper intended to investigate the factors of Information and Communication Technology (ICT) adoption behavior among students to assist their learning process. This is based on the outcomes of this study which included methods of content analysis. Articles were chosen from 2015 to 2021 for this literature review. The literature mainly aims at technology use in education. The objective of selecting these key themes was to share how technology integration has changed over the years and what the scientific community found regarding using technology in education. Emerald Insight, Scopus, and ScienceDirect were the databases used to search for articles related to educational technology. The articles were chosen and identified by mainly using the search terms or keywords 'ICT', 'education', 'online learning', and 'student adoption behavior'. The articles were selected to use as references in this article.

The article search was using ScienceDirect with the keywords ‘ICT’ from 2015 until 2021 provided approximately 38,000 hits with those words in the title. Moreover, the abstracts, method sections, and results of the articles selected were examined to ensure that each manuscript had the information to illustrate how technology integration has changed every year. For consistency, the word ‘ICT’ represents any digital device, operating system, or specialized software or hardware used to perform or facilitate an objective.

4.0 Result

Social interaction is one of the factors that have an influence on ICT adoption behavior. As stated before, ICT focuses on education. Indeed, students are using ICT mainly for information sharing as well as giving support to other students. This explained the previous studies’ statement where social interaction such as intrinsic motivation could give a positive impact on students’ behavior (Yu et al., 2017). This is due to their behavior being easily affected by the environment. In fact, they are willing to get influenced by other people, such as their friends. For example, users who are already familiar with ICT will motivate other users to socialize and make discussions among others in order to reach a specific goal (Yu et al., 2017). Whenever a student has created a relationship with other students, they will become more comfortable towards each other, as well as allowing themselves to express ideas, thoughts, and even stories among each other. As a result, more human interactions will lead to further virtual world participation (Ghobadi & Ghobadi, 2015).

In addition, media technostress is also coefficient with ICT adoption behavior. When the media technostress is increasing, the ICT adoption behavior is also increasing. Technically, students’ media technostress will affect their ICT adoption behavior. Yu et al. (2017) stated that people are preferring user-friendly technology. Users who experienced

media technostress will release their frustration or straining themselves (Brooks & Califf, 2016). For instance, students who find ICT devices are complicated and not easy to learn will experience dissatisfaction while browsing the media as well as adapting to ICT.

Furthermore, media experience had a positive influence on ICT adoption behavior. This is due to users’ media experience becoming more valuable as well as increasing their information literacy. When the experience is becoming richer, it is easier for students to convey information to each other as well as producing better communication (Yu et al., 2017). As an example, a student can understand how to adapt to ICT as the other students are exchanging accurate information with each other. Similarly, students that excel in using ICT devices will have a different judgment towards ICT which leads to greater satisfaction in using them (Yu et al., 2017). Indeed, students who know how to use ICT devices will feel convenient when using them.

Another factor to consider is task characteristics. This factor gave a big impact on student’s adoption of ICT because everyday students were acquired to do tasks using ICT media that came from their own desire or given by educators. In students’ life, task characteristics are the set of what they do during the course of study, class environment, and type of assignments has a positive impact on adoption behavior. However, it is found that different characteristics of tasks may approach different levels of adoption. For instance, students might use advanced technology tools in complex tasks and simpler tools in easily understood topics. According to Kukreti and Dani (2021), task clarification and its aspects, including such talent multiplicity, that refers to the variety of behaviors done in a certain work, as well as the flexibility of accomplishing the task, which refers to autonomy, play an important role.

On the other hand, the tasks that educators set have a major effect on how

students approach learning which can lead to new exposure towards ICT for students. Since the Coronavirus Disease starts in 2019 in Malaysia, most academic institutions have attempted to preserve the persistence of the learning process by switching to an online mode of learning in which students and teachers engage with one another using various technological tools and strategies (Rafique et al., 2021). This condition necessitated the use of ICT devices and platforms such as a smartphone, iPad, laptop, internet connection, and learning software for virtual learning. Consequently, students must willingly adapt the use of these tools to perform e-learning.

Next, a finding worth noting is the usefulness components that were identified as significant characteristics that may play a vital role in improving ICT adoption in research by Menéndez Álvarez-Dardet et al. (2020). Nowadays, the usage of technological gadgets is a necessity in daily life. It is not only for jobs and education. Otherwise, human life in the twenty-first century would be dependent on technology. Without a doubt, students of which technological generations can be considered ICT literate. That's because the usage of technical equipment is essential in their regular lifestyle. As an exemplification, a person may adopt ICT due to the requirement for online shopping. As a result, even if payment methods or the process of e-commerce were not covered in class, students can readily accept and use it as long as it is useful in daily life.

Along with it, task-technology fit (TTF) was also found as one of the significant factors in the development of an integrated model for multimedia technology adoption (Park et al., 2019). In this research, TTF was described as the degree to which a certain system is acceptable or suitable for assisting in the completion of activities based on job needs (Isaac et al., 2019). Task-technology fit was aligned with student life as they used various software and mobile applications as education tools. According to Li et al. (2019), users'

expectations of task-technology fitting can indeed be realized to a greater degree by using a mobile application, as they can deal with some tasks anywhere and at any time. Thus, as long as the tools suit the students' work needs, they might show positive adoption behavior towards ICT.

However, research on conceptualized task-technology fit by Rai and Sernes (2019) where they declared that the challenge with conceptualizing technological fit as a level of expertise is that it is unlikely to use the same impact on adoption as effectiveness. Students are likely to be quite motivated if they discover that a digital learning tool may actually help them improve their learning and grades, because strong grades are required for admission to the best schools and universities, as well as later in their careers. This can be proved by Khan et al. (2018) which found TTF positively impacts motivation in student life, indicating that ICT are appropriately matched with students' learning tasks.

5.0 Conclusion

In conclusion, ICT has become an essential part of many sectors globally, especially in the education sector. It is proven that technology can give many benefits in the education sector to become effective and efficient to improve knowledge retention, encourage individual learning, learn valuable soft skills through the technology, and many others. Hence, ICT has become an essential part of university students' learning process when ICT has empowered students and teachers to conduct and manage their teaching and learning sessions. On the other hand, ICT development over several years has influenced the student's adoption behavior. Therefore, the study understands factors influencing ICT among students, including social interactions, facilitating better communication. Besides, media experience, media technostress, and task characteristics also impact ICT adoption behavior among students.

Furthermore, a previous study related to ICT adoption behavior is encouraged by the ICT media and rapid expansion of ICT. In addition, Other than that, the behavioral and usefulness components are key factors that may play an essential role in improving ICT adoption, at least concerning PCs. All in all, many factors Influencing Information Communication Technology Adoption Behavior Among Students have been discussed in this study.

Hence, there is no doubt that ICT has provided people around the world the opportunity to transform in retrieve and disseminate information, especially in education. Indeed, since the Coronavirus Disease starts in December 2019 globally, education has changed drastically with the unprecedented surge of online learning. In contrast, education is undertaken remotely and on a virtual platform.

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The Impact of Electronic Resources on Researcher.

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ABSTRACT

Electronic resources (or e-resources) mean that are materials in digital format accessible electronically such as PDF, HTML, HTM, E-BOOK, E-JOURNAL, and more. The purpose of this research is to review the impact of electronic resources by the researcher. This paper was produced by previous research from 2001 to 2020 in various databases such as Emerald insight, Scopus and Science direct to find significant information about this topic. The impact of electronic resources requires understanding intelligence, research output, preparing and recognition of user knowledge. Electronic resources have a big impact on motivating and investigate the research culture in better education. Google was the highly popular method used in finding electronic journals. Findings revealed that academics depend on other than library resources to find information. Additionally, findings also will reveal the new impact that barely is found in the research that will give an important contribution.

Keywords: Electronic resources, information, researcher, impact of electronic resources, knowledge, culture.

1.0 INTRODUCTION

Electronic resources are referring to one electronic material that can be all the digital format that the library collection to support its universal collection. The library was the important participant that takes part on the promotion of education and research in the institution. E- resources was the electronic medium that generated to wide range and make it available to both site of viewers which is on- site and off site. The impact of electronic resources on researchers has increased along with the growth of information technology and the use of electronic resources. In the previous study also has mentioned that electronic resources were more common than print resources.

Digital technology has been using in the library for the subscription to databases, journals, e-book, references and cataloging. Electronic resources have been the support for this online database in academic research. The impact of online resources to access is the greatest for the researcher's performance. Before the existence of this database, Science Direct has been used for study the citation. The knowledge of databases in academic institutions is critical to know the effective contribution of academic achievement (Adetomiwa and Okwilagwe, 2018). Concerning the literature reviewed, our research objectives are to identify the impact of electronic resources among the resources and to investigate the electronic resources widely used by researchers

1.1 OBJECTIVE

The following below are the research objective of this study:

- i. To identify the impact of electronic resources among the researchers.
- ii. To investigate the electronic resources widely used by researchers.

1.2 STATEMENT OF PROBLEM.

The following below are the problem statements addressed in this study:

- i. The difficult of researcher face to use the electronic resources.
- ii. The impact that effecting the usage of electronic resources.

2.0 LITERATURE REVIEW

Numerous literature works have once discussed the origin of electronic resources which become part of real world demands of retrieving information. As told by Muhammad Rafi, Zheng JianMing and Khurshid Ahmad (2019), the lack of journals and database resources has slowed down scholars' scientific research. Starting from the year 1990s, technology has rapidly shifted how the world would work and the management of research journals with numerous databases to support scientific research in various are of fields (p. 42). The idea of implementation of technology into physical resources for long term preservation has started from the lack of resources provided by the libraries with publishers selling less journals with the increasing price each year. Archivists are also told on doing more work with less time and resources, providing clear discrimination against information management professionals. At the time when technological and cultural changes were occurring, a utopian vision was bought into the concept of electronic resources where publishers and their customers both hoped that by providing journals electronically, enough money could be saved, principally from paper, print, bind and postage costs, so that this downward spiral of lower sales and higher prices could be broken (Dixon, 1998, p. 3).

In addition to the early history, the impact of electronic resources on research as the main focus arises. Electronic resources and their importance to researchers was emphasized by Thembani Malapela and Karin de Jager (2017) in their research study where “publishing academic research is an essential part of academic life; hence, the access to collections of electronic journals is essential to the research process and stimulates research publication”. As consequence to this, the majority of universities and academic libraries choose on subscribing to reputable journals to enable their communities to access collections required by their researchers. This is especially a significant analysis in the era of technological advancement has taken place, enabling libraries to keep track of materials for research students and scholars by developing a large digital resource collection and aggregated electronic journal databases to meet their needs. As an example, that can be evaluated is how electronic information has gradually become a major resource in every university library with the debate regarding electronic resources becoming a hot topic in the field of library study and research (Shuling, 2017). It is safe to make the assumption how electronic resources have greatly assisted research scholars and students in the field of studies as investigated by the authors.

The phenomenon of electronic resources in research studies began meeting its validation through the discussion by Amjid Khan and Shamshad Ahmed (2013) in which the emergence and growth of information and communication technologies (ICTs) and the World Wide Web (www) have enabled libraries to provide quick and easy access with the creation of information in various formats and development of databases and transformation of information rapidly via networks has led to dramatic growth in the application of digital technologies in libraries. It can be argued that the introduction of the World Wide Web becomes the base for more knowledge of humanity to be stored in digital format and the establishment of digital libraries for researchers in accessing relevant information for their studies. Other benefits of electronic resources in research as mentioned by the authors also include the universal acceptance of the resources in digital library, which is not possible in the traditional environment, leading to a dependency of electronic resources as an important tool to provide extensive opportunities for research scholars and students access, evaluate and use the information to create new knowledge. There is also another argument told by the perspective of the professional that electronic resources not only offer golden opportunities of retrieving bulk of information from various sources but also scattering digital resources across the network with a statement of providing more access for patrons to research personal computers and workstations located anywhere.

While the suggested research studies have elaborated the effectiveness of electronic resources in research scholarly publishing world, some arguments arise between the researchers, scholars and information management professions that are linked to the persistent question – are electronic journals provide similar authority against librarians and archivists? Diana Kichuk (2010) argues that “many academic library staff expresses feelings of being overwhelmed or frustrated by the rapid growth and volatility associated with electronic collections and their impact on public and technical services” (p. 55). From the research article, an academic sector may readily talk about the growth of electronic resources, there are little published data on measuring the rapid growth of electronic resources, either by numbers or titles. This statement is supported by Liza Chan (1999, p. 12) regarding the barriers of a technological, sociocultural and economic barriers which can be summarised into lack of appropriate technology in managing electronic resources, social state of the patrons using the system and costs of electronic subscriptions. In addition, there is also raising concern regarding the cost of electronic records. In the past 30 years, the crisis due to escalating journal prices arises. As told by Golnessa Galyani Moghaddam (2009, p. 149), “various groups of

stakeholders, including publishers, libraries, and researchers, are concerned about these increases, which have increased faster than library budgets, causing fewer readers to have access to the journals they need.” Despite the positive influence of electronic records in the previous studies, there is no denying that even professionals are faced with difficult reviews. The literature works however provide insight into the connection between electronic resources with research journals and how it may influence the outcome of research studies

3.0 RESEARCH METHODOLOGY

This paper seeks to identify the impact of electronic resources among the researchers and to investigate the electronic resources widely used by researchers. This is based on the results of this study which included methods of content analysis. Articles were chosen by us from 2001 to 2020 for this literature review.

The literature primarily focuses on the impact of electronic resources among the researchers. The purpose of selecting these themes was to convey how the electronic resources will impact the researchers. The databases that we used to search for the articles related to electronic resources in order to finish this study are Emerald Insight, Google Scholar and also Science Direct. The articles were selected and identified by primarily using the concepts, keywords or terms ‘electronic resources’, ‘information’, ‘researcher’, ‘impact of electronic resources’, ‘knowledge’ and ‘culture’. Some articles were selected to be used as references in this study.

We did a simple search using Google Scholar database by entering the keyword “electronic resources”, which produce approximately 150, 000 hits. Hence, another keyword “impact of electronic resources” yielded about 1, 050 hits and the keyword for “researchers” resulted in about 6, 210, 000 hits. The abstracts, the information collected, the method used, and also the results of every article selected were investigated to produce certain that each article had the information according to the research.

4.0 RESULT AND DISCUSSION

From the study done, electronic resources are found to provide a significant impact in research based on several findings. The improvement in terms of quality in research done is one of the effects of using electronic resources. This finding aligns with a case study written by Paul Manda and Julita Nawe (n.d.) on the positive influence between the use of digital materials with the research output in terms of quality and quantity. However, this statement is flawed as the mutual connection is influenced by additional relevant factors to the study such as the state of electronic resources compared to traditional materials, nature of research, individuals' attribution and other applicable factors which has cause dispute between researchers and scholars. Regardless of the outcome, researchers can agree that electronic resources provide significant influence in terms of quality of the study. In better explanation, electronic records as the reference for scholars helps to identify key importance of their study through the previous research done by the previous authors, providing in-depth information regarding selectable topics. It also aids the researchers in pinpointing the flaws in their current study, eliminating the inaccuracy and better quality in research.

In addition to the discovery, electronic records are proven to provide faster transaction and information delivery compared to their physical counterpart. While printed materials are still part of the research discipline in every work, electronic records have become a new addition in research workflow for its convenience. Tenopir (2003) agrees to this statement through his research methodology on the members of the university regarding 200 recent research publications related to the use of electronic library resources published between 1995 and 2003. The result has proven the point for electronic reports as the main used medium in undergraduate research if the selected sources are perceived as convenient, relevant and time-saving. Hence from these findings, electronic resources provide faster accession to written journals by the researchers to the patrons.

Another influence of electronic resources in research is the discovery of new fields. As discussed previously, research projects that are completed with the aid of resources retrieved through digital means are found to provide significant findings in the new area of fields in line with the emerging trend. As supported in previous study (L, Natarajan & Swaroop, 2010), the research scholars are forced to produce innovative ideas and things using electronic resources. In the era of technology from the perspective of King, Donald W, Montgomery and Carol Hansen (2002), research scholars have identified the need of electronic journals for primary

research, teaching, writing and updating the knowledge. As the result of new research journals published for the patron, future studies can be developed with the current knowledge and information, reliving the loop of the current research's importance as electronic resources in the hereafter.

Another impact to consider is how information is regarded as part of commercial products. Many electronic journals are published in reputable scholarly publishing websites such as ResearchGate and Emerald Insight with loyalties received are based on page counts and the total of patrons reading the works. Research journals not only are written to provide extensive knowledge between scholars of similar fields but also become profitable goods for the authors. With electronic format, the published research journals can be immediately purchased and accessed by the users. As a source of income, electronic resources provide significant influence on enhancing the output research and increase the sales generated by the published research paper.

On the other hand, the way output research is delivered to the patrons is extremely important to ensure the reach and influence of the authors to the patrons accessing scholarly publishing websites. In the past, the finished research is distributed through printed means and accessible in facilities and libraries with the option of both free and paid resources in the time when electronic resources are yet to be popularized, the preferences regarding scholarly works are mainly as psychical materials. Along with the time of digital trends, scholarly works published in electronic format begin to take their place in the publishing world. Qiana Johnson (2004) argues of several articles written on using electronic versions of printed journals. The study was done through a survey on users' preferences between printed materials or electronic journals in universities located within Chicago. While the availability of both formats is possible, the study done by the author has proven the significant increase of preferences on electronic journals, thus further supporting the shifting trends in retrieving information. To keep up with the digital trends, authors are opting on publishing their works in electronic format to satisfy the patrons' needs of digital format and sharing their findings with larger scholarly communities, further increasing their stability in scholarly works among their known patrons.

Further study also suggests that the influence of electronic resources has enabled the cost reduction in publishing the output research. In the past when the idea of digital publishing is a strange concept, publishing scientific research can be costly depending on the journals intended to be physically published. While the overall cost of journal publishing was not

disclosed to the public, the rough estimation was made from the distribution costs, printing fees, page counts and staff involved in the publication. For scholars earning low wages or depend heavily on research publishing, the total cost can be heart-wrenching. Previous research has described the scholarly publishing industry as “displaying the characteristics of a monopolistic competition, with the presence of many firms with differentiated products” (Oppenheim, Greenhalgh & Rowland, 2000, p. 362). The accessibility of publishing research output through electronic format in scholarly publishing websites has significantly reduced the cost with intranet and extranet publishing is regarded as an opportunity, despite this promising area is a largely new and unexplored area.

5.0 CONCLUSION

In a nutshell, it can conclude that this study showed that the uses of electronic resources or e-resources are very common among researchers. The findings of this research have revealed that the use of electronic resources give a positive impact on various research activities and milestones such as research proposal submission, findings, report writing and also journal article publishing. The results, therefore, provide empirical support for the hypotheses that the increased flow of information because of increased access to and use of electronic resources is related to increase the research output and enhancement of the quality of research.

Moreover, several conclusions are drawn from this study. First, the use of these electronic resources helps to identify the key importance of their study through the previous research done by the previous authors, providing in-depth information regarding selectable topics. Second, the use of scholarly databases is limited although the core group of researchers using the resources is growing. However, the use of free Internet resources is significantly high and the frequency of use is almost daily. Third, electronic resources provide significant influence on enhancing the output research and increase the sales generated by the published research paper. Lastly, the use of electronic resources has enabled the cost reduction in publishing the output research.

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