Journal of
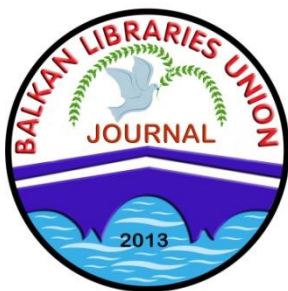# BALKAN LIBRARIES UNION

BALKAN LIBRARIES UNION

Improving library services in the Balkans while preserving cultural heritage.

Abstracted/Indexed in

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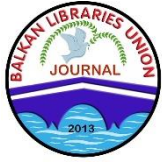
Research Article

Review Article

Short Communication

Covid-19 Pandemic Process Experience of Izmir Kâtip Celebi University Library Through Key Statistics

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Research Article

ARTICLE INFORMATION

ABSTRACT

Information centers aim at meeting the information requirements of the society they serve, while they become active parts of all kinds of experiences within the society in this process. However, it is more important for information centers (which can become social institutions of culture in that way) to show their adaptation skills in extraordinary times. Thus, they contribute to the normalization of life within the identity of a public institution. In their quality as active and integral contributors of formal education provided in our country, the university libraries are among the most important information centers that are expected to turn this responsibility into a priority reflex. The outbreak of the COVID-19 pandemic that continues to cause severe trauma and chaos globally has introduced an atmosphere in which university libraries are expected to show such a reaction. The present study aims to show how the university libraries in our country have been affected by the pandemic and the new conditions, and to what extent their services will adapt to the new normal, as will be exemplified by the case study of Izmir Katip Celebi University (IKCU) Library. To that effect, a comparison has been made between 2019 (the former "normal" for the libraries) and 2020 (when the pandemic broke out in March also in Turkey). As a result, an analysis based on specific keywords and on the comparison of qualitative data related to these keywords was made to understand how the library was affected by COVID-19 outbreak and how this effect reflected on the services of the library and on the users. The findings obtained after the comparison has shown that the pandemic has caused a significant setback both for the IKCU Library, which is still in its infancy, and for its efforts to prove itself. The study was concluded by making suggestions for the IKCU Library with regard to its efficient service delivery during the ongoing pandemic period. At this point, successful practice examples throughout the world provided inspiration. Contributing to the reduction of the negative impact of the pandemic on the library on the hand, and attracting the attention of other university libraries in our country on the other, will be the main successes of this study.

Keywords: COVID-19, Epidemic, University library, Izmir Katip Celebi University, Key statistics, New normal.

I. Introduction

The social life skill of the human being, who adopts a social life form by its nature and creates a living space within this form, is associated with its competence to adapt to the rules of this life. These rules, turning the human being into an individual as well as a crowd of people into a society, and common life skills can only be achieved by communication. Based on accumulation, transferring what has been accumulated and transforming these into experience first and then into new inspirations, communication is the area where culture, which is an essential part of human being, starts. Generally defined as all deeds employed by human being, culture is one of the complementary parts making the value of human mental faculties and social life skills meaningful (Akkaya, 2020, p. 114). These skills transform human being into a social creature.

Human is a social being as well as an individual. An individual is a citizen as well as a human being (Krishnamurti, 2013, p. 22). Being an individual refers to becoming unique in any grief and happiness, and the society exists for individual and for human being to achieve his goals. Being a citizen requires considering other people we live together, acting together with them and becoming an adaptable part of the society. In such a case, our griefs, happiness, concerns, hopes become

common, and this makes a social being. In this case, in the relationship between individual and society, while human being becomes the tool, society and the continuity of society based on welfare becomes the goal. Considering that an individual and a society continues a unique existence, a sharp boundary is drawn between the individual and social elements of human behavior and achievements. In fact, they do not need each other but they are two faces of a single and same phenomenon (Özügül, 2009).

Expressing communication types and developments in today's world without considering the relationship between individual and society is not likely in terms of understanding new phenomena, values and concepts (Aşkaroğlu, 2017, p. 72). The failure to render these incomprehensible innovations valuable in life will result in a society that is not beyond the crowds of people as well as individuals who are alone in the crowds and not to become an active part of the society. The developments especially in the field of information technology have altered the unique dynamics of change, which is one of the main catalysts of the relationship between individual and society, and have opened a new window in the interaction between individual and society (Crawford and Novak, 2018). This new aspect, which results in internalization problems in social harmony due to the speed of change, also undermines the borders of an individual's uniqueness and privacy.

In today's social life, which is considered to facilitate socialization and communication in the society while significantly criticized for isolating the individual, adaptation and togetherness are of paramount importance in terms of continuity. At this point, we see culture, acculturation and the factors creating culture. Information is undoubtedly the most important one of the tools forming culture, ensuring transmission and making it permanent. In this respect, information is one of the most significant tools and facilitators of social life and social partnership (Cassirer, 2005, p. 20). The main characteristic that provides information with the said privilege is its being transferable and its ability to be transformed into the collective memory of the society. Information centers melt information, transfer, culture and memory in the same pot.

Information centers specialized as university libraries in this study are social organizations collecting any and all kinds of information resources, organizing them with certain methods and techniques, aiming to obtain the highest level of benefit from these sources through information access systems and services based on the idea of establishing a link between those who need information and information sources (Akkaya and Odabaş, 2019, p. 8). The role of being social cultural institutions holds information centers responsible for providing social harmony and continuity. These responsibilities are concretized as the protection of common cultural language in the society, transformation of this language into a memory to be transferred to future and ensuring that the individuals forming the society consider themselves a part of the society in which they

live. The only capital of information centers in this responsibility, which aims to unite people around the same feelings, thoughts, expectations and goals that are valuable for the society, is information.

Taking a different responsibility in social harmony and partnership with their active role in formal education in addition to being the means for the transfer of the collective memory and cultural accumulation of the society, university libraries are also one of the information centers that are most known and taken into consideration in the society. Defined as "the bookcases responsible for supporting scientific research and development activities in a university and its immediate surroundings, following latest data of the science world that is enriched by new publications developing every passing day" (Baysal, 1987, p. 12; cited in Rogers;), the university libraries are enrichment spaces of the society with the values they will add to the knowledge world of young university students.

Universities and university libraries are rendered tools for social adaptation and sensitization due to their indirect contribution to the cultural development of society and to the transformation of this development into a common set of values in addition to being an active part of formal education. In both ordinary and extraordinary periods, this function ensures the embodiment of reason for the existence of all information centers and university libraries and provide them with prestige. In extraordinary periods, such as pandemic, natural disaster and war, which interrupt not only many parts of daily life but also education system, universities and university libraries, which can distinguish with the support they can give to education under the conditions, as well as guiding the common behavior of the society, are significant tools of normalization in this regard. The COVID-19 pandemic, which has caused us to experience such an extraordinary period across the world, has led to such an expectation for universities and their libraries.

The COVID-19 pandemic, which has caused a crisis across the world, broke out in China on 31 December 2019 (World Health Organization [WHO], 2020a), and then spread across the world in a short time. "As a kind of protection reflexion, people have isolated themselves or they have been put in quarantine by the sanctions imposed by states. It has become compulsory for all human being to wear a mask, countries have closed their borders, domestic and foreign travel have been cancelled. The pandemic has caused the factories to cease, affected the economy deeply - more in some sectors - disrupted education, and resulted in fatal consequences around the world. In a nutshell, this pandemic with destructive power has resulted in an environment in which social, economic and cultural orders have been disrupted by prioritizing the protection of human health" (Polat and Binici, 2021, p. 92).

One of the areas disrupted by the pandemic to a great extent is formal higher education system carried out across the world. In this study, the effect of the COVID-19 pandemic on university libraries, services, users and staff were discussed by the case study of Izmir Katip Celebi University Library, and it was tried to concretize

what was experienced by a comparison between the pandemic period ongoing for more than one year and the pre-epidemic period. Before the analysis and comparisons performed through selected key parameters/statistics, the effect of the COVID-19 pandemic process on academic libraries was discussed in detail at the global and national level.

II. Academic Libraries and COVID-19

Undoubtedly, 2020 will be remembered as the year of the COVID-19 in the future. Causing millions of people to experience serious health problems across the world, closing the doors of schools and workplaces and making it common to wear masks in public places, the pandemic has also caused an increase in unemployment almost in all countries. According to the data reported by World Health Organization – WHO, 150,110,310 people have been infected with the COVID-19 disease, 3.158.792 people died and a total of 1.011.457.859 doses of vaccine were made as of 30 April 2021 (WHO, 2020b). Only these figures are sufficient to show the extent that the COVID-19 pandemic threatens the world, while the effort shown by the world is insufficient.

The pandemic, which has caused an ongoing global crisis and worldwide extraordinary situation, has affected directly and/or indirectly all areas of human life at the individual and social level and is going on to affect. Formal education systems are one of the areas that have been influenced most by the pandemic process, which has changed the environment of the world in social, political, economic and cultural respects, and resulting isolation. The pandemic, enforcing all levels of this system, leading psychological disruptions for both instructors and students in terms of continuity, quality and commitment, has also influenced higher education systems.

The COVID-19 pandemic has exposed higher education to a difficulty that has not been experienced before. Referring a significant change in conventional higher education system and operation, this process has also taken academic libraries under its control. Because everybody and everything has exposed to a change, whether great or small, and libraries have not been exempted from these (Connell, Wallis and Comeaux, 2021).

In January 2020, when the pandemic cases began to appear outside of China, university libraries continued to function normally (Harmon, 2020). As of late February, colleges and universities started to impose travel restrictions for their students and staff, and to develop potential shut down plans in the USA and Europe (Fischer, 2020a). In early March, the education ministries of Western countries began to develop regulations on the impact of the COVID-19 pandemic on distance education and financial aid (Connell, Wallis Comeaux, 2021). The attitude shown in these regulation studies is also a guide for universities despite their autonomy, and inspired the COVID-19 reflex shown in universities.

In March 2020, when the first COVID-19 action plans in the field of education were implemented, scientific publications, in which the impact of the pandemic on education was discussed and solutions were developed for what can be done, began to be shared with the public. At the end of March, all library types were closed first locally and regionally, then nationally due to the rapid spread of the pandemic especially in the USA and the risk potential of close contact in this spread (ALA, 2020a). The only good news at that time was the fact that libraries could provide online services. Online services covered live book readings, Storytime, educational programs, video games and many other programs (Harmon, 2021).

School libraries were among the first closed library types. After this attitude, which rapidly spread across the world and covering all library types and which was followed by a "wait-and-see" process approximately for the first month, the American Library Association [ALA] developed a survey in which every type of libraries participated in. Survey results reported that lost or expected to lose financing regarding staff, new recruitment, professional development, published collections, programs and services for the next year. Another significant issue in the survey was the participants' insistence on the need for the development of digital content, online learning and virtual programs as well as the emphasis on how important cooperation was at this point (ALA, 2020b). This attitude, which can be interpreted as a prediction for the fact that the pandemic can be taken under control in a long time and it will not be likely for libraries to continue their ordinary operation in the near future, is an indicator for all information centers, including university libraries, for a difficulty year.

Although libraries have not faced any global pandemic in modern times, it is clear that such an extraordinary situation will affect the universities with corporate identities negatively. The widespread experience of the losing connection between the library and its user, even after short-term closures due to compulsory circumstances, is the most important supporter of this interpretation (Connell, Wallis and Comeaux, 2021). Continuity between the library and its user is a more critical issue for university libraries due to their primary goal for direct contribution to education. For this reason, the university libraries in different countries were among the facilities closed last in campuses as they were considered necessary for students (Fischer, 2020b).

Some of the university libraries preferred to provide service in an electronic environment by stopping the circulation of their physical collections in March. This process, which was a very difficult time for libraries and librarians, also put serious pressure on users (Holland, 2021). Some user services that should be provided face-to-face, such as counselling were given in the electronic environment, while some services that could not be provided in the electronic environment were temporarily ceased. Academy libraries were affected less by the pandemic in terms of continuity of services until they were closed completely because of their electronic source utilization ability and competence by their long-established and developed electronic services (Connell, Wallis and Comeaux, 2021). In addition, another issue

that facilitated the process is the preparation of the guides by professional associations active in the USA and Europe on responding to many possible questions such as "what can be done, how to behave, what to consider during the COVID-19 pandemic". A special effort was shown so that all universities, including university libraries, underwent this process with less difficulty by paying ensuring that these guides were adaptable according to the specific features of the libraries. Moreover, many university and public libraries developed library service guides and web pages for the COVID-19 pandemic by considering their own institutions and users. These guides and their web addresses were the most visited addresses in libraries during the pandemic period (Martzoukou, 2020).

Some of the COVID-19 efforts made by the libraries in different geographies across the world during the pandemic and its spread may be exemplified as follows (Harmon, 2021):

- Lubuto Library in Zambia, Lusaka continued its services outdoor after the library building was closed due to pandemic, and training was organized especially for children on the importance of hygiene and distance.
- The Ghana Library Authority [GhLA]) managing 10 regional, 52 public libraries continued its literacy courses, given for the development of literacy skills of youths, on Facebook.
- In Lithuania, public libraries with 3D printers that were normally used for digital skills and creativity, and workshops for children and young people used these printers in fighting against the pandemic, and produced protective face masks. The healthcare professionals treating infected people also participated in this initiative.
- A significant increase was seen in the number of borrowed e-books and audiobooks in the libraries in the United Kingdom. It is estimated that a total of extra 3.5 million e-books were borrowed in this process. This increase corresponded to a 78% growth for the total e-book collections of libraries. 3 thousand new members were registered in libraries during the pandemic period. Moreover, the libraries in London held virtual IT training sessions on the zoom platform to help people at home.

During this process, another step that affected the university types, including university libraries, was taken regarding open-access databases. The International Coalition of Library Consortia [ICOLC] offered that sellers should remove most of the usual license restrictions, should provide 391 million students, affected by school and library closures, with open access by publishing a statement on March 13, 2020 (ICOLC, 2020). The publishers and sellers, who replied positively to this offer, began to quickly remove paywalls between users and their online collections for free or upon library request. Millions of information sources, especially the sources related to the pandemic, were made available to people almost all over the world as open-access. Although there was an increase in online collections, source use of libraries was interrupted. Because no matter how many services were available online, many students and teachers were still using traditional tools such as printed books (Connell, Wallis and Comeaux, 2021). This also applied to university libraries in the same manner. Despite all efforts made during the COVID-19 pandemic, a distance, which is not known to end when and how, occurred among university libraries and their users. This distance, which is tried to be shortened by the opportunities offered by the electronic environment, still continues today.

The reflexion shown by university libraries and what has been experienced in the world during the COVID-19 pandemic may be summarized as above. The primary actor of the experience for our country in this respect and the guide of this process is naturally the Higher Education Institution (YÖK). Because the pandemic, spreading rapidly and having destructive consequences, has inevitably affected the education system in Turkey and has caused to give education distantly for more than one year. One of the most important sufferers of this process are universities and university students. At this point, it is not likely to exclude the university libraries from this process.

After the meeting chaired by the President that was held soon after 11 March 2020, when the first COVID-19 case was seen in Turkey, higher education was ceased for 3 weeks as of 16 March 2020 upon the statement made by the Higher Education Institution (YÖK). In the same statement, the decision on collecting requests and proposals from 120 universities with distance education research and application centers and universities providing distance education so that lessons could be given in digital environment was also included (YÖK, 2020a). This short break in face to face education was replaced by distance education in the following days and periods and, lessons are still provided by distance education.

In the press statement made on 18 March, it was announced that a "Roadmap for Distance Education Applications in Pandemic Period" was developed. It was indicated that the "YÖK-Courses" platform, which is available on the web, would be used to meet the content need of universities. "For this reason, the books in digital media in the course pools of Anadolu University, Ataturk University and Istanbul University were opened to access. In the announcement made on 23 March, it was firstly stated that the distance learning process would start officially at the universities with adequate distance learning capacity" (Polat and Binici, 2021, p. 94). In the same announcement, it was interestingly predicted that there would be much tendency towards asynchronous applications, and to prevent this, the preference of synchronous applications with more interaction was encouraged (YÖK, 2020b).

The short break given to face to face education was extended for the whole period with the statement made on 26 March. It was expressed that face to face education could not be given in spring term, education-training could be provided only by distance education, open education and digital teaching opportunities, and practice-

based lessons would be completed in summer term (YÖK, 2020c). In the announcement held by YÖK on 5 May, an expectation for normalization occurred. In this regard, it was stated that the universities could implement their normal academic calendar as of 15 June 2020 provided that the pandemic would be taken under control by referring to the decision taken in the cabinet meeting held on the day before yesterday (YÖK, 2020d). However, it was announced after a while that a decision was taken on 11 May on the fact that final exams and other exams in the spring term could not be made face to face (YÖK, 2020e). The extension of the pandemic process continued the uncertainty in the face-to-face education and training in the following fall period. Finally, universities were requested to plan their education calendar after 1 October 2020 with the statement on August 13. It was allowed to make different implementations on the basis of faculties and programs (YÖK, 2020f). Yet, as the pandemic continued, education was compulsorily given distantly.

In the pandemic period affecting a great number of areas, although alternative methods were tried by using technological opportunities in order to continue education and training, suffering could not be prevented. After it was acknowledged that many students could/would not continue their education, the university students were entitled to freeze and suspend their education only for spring term on 1 April. Thesis defense and proficiency exams for postgraduate education were also allowed to be made with digital possibilities such as video conferencing (YÖK, 2020g). Education is still provided by distance education, excluding rare exemptions and limited times, in our country today when the pandemic is ongoing for more than one year.

"In Turkish higher education, it is known that the distance education during the pandemic process is mostly carried out by lessons in which students are passive and without much interaction" (Polat and Binici, 2021, p. 97). This also refers to a physical and emotional distance between students and universities. In this regard, in the programs admitted students in the 2020-2021 academic year for the first time, teachers could not see their students physically, and students could not see their teachers and schools. This distance makes libraries, which is defined to be the heart of universities in the related literature, away from all current and potential users, especially students. Causing emotional, psychological and mental alienation in addition to physical distance, this case causes libraries to lose their all kinds of abilities and competencies.

Electronic services and remote access facilities of university libraries, which are undoubtedly considered the most developed and adapted to today's conditions type of librarianship field, provide a better access network for their users that cannot be compared with other library types. However, most of the library users in Turkey, including university libraries, still prefer to benefit from library service by traditional ways and methods. Similarly, the published collections of libraries are still the first remembered information source group. Based on all these issues, the compulsory distance education in

universities, inability of users to come to libraries physically, even sometimes closure of libraries completely caused the COVID-19 process to have more negative effects on the quality and quantity of university libraries.

The dimensions of these effects may differ based on universities, the attention paid to the library by that university, related library's electronic source and service capacity, to what extent related library provided institutional tendency to adapt to the pandemic process, the strength and determination to convey the gains of this adaptation to its users. For example, while the libraries of some universities such as Bilkent University tries not to lose the control by sharing with their users the information, which can mitigate and reduce all negative effects of the pandemic process, under the title "Our Library and Information Services in the COVID-19 Process" (Bilkent University Library, 2021) on their web pages, most of university libraries, unfortunately, limited their sensitivity on this issue only by adding sources that have been made available by database providers and other business companies to open access during the COVID-19 pandemic. This results in different effects as well as difficulties and opportunities, caused by the pandemic, for each library. The difficulties and opportunities that occur/may occur with this approach are detailed in the next section.

III.   The Effects of the COVID-19 Process on Academic Libraries (Difficulties and Opportunities)

The COVID-19 pandemic, which could not be predicted for higher education, has made online learning and learning practice that can be defined as blended or mixed service widespread across the world. It is clear that what we know and have learned so far about physical and virtual learning have been moved to a different point by the pandemic, and nothing will be same in the past as many other things. The most common scenario evoked by this change is that there will be fewer students on university campuses in the near future. It is certainly difficult to think and even to accept an educational institution without its physical students. On the other hand, the pandemic has shown us that every extraordinary time and event brings its own dynamics, order and functioning. This change has also difficulties, opportunities as well as strengths and weaknesses. We do not have the chance to choose what they promised us before, but we may then have the opportunity to change them for the benefit of society. The COVID-19 pandemic has resulted in similar difficulties and opportunities for university libraries. At this point, the important thing is whether we enable right to life for opportunities or difficulties, and the reflection we will show in this respect.

In the first days of the pandemic, the dreadful aspect of pandemic forced university libraries to make changes, which could not be planned completely, which were considered to become rapid and short term. It was considered that it was a temporary circumstance, and old

days would be brought by paying attention to mask, distance and hygiene. This way of thinking resulted in short-term and temporary action plans, which became unsuccessful and/or insufficient as the pandemic went on. All these mean that the difficulties caused by the pandemic are closer than its opportunities and more visible for library stakeholders. Each of the radical changes caused by the present crisis situation has brought some institutional advantages and disadvantages (Harmon, 2021). At this point, the real concern is to decide on which of them may distinguish and what we can do for distinguishing the choice we desire. This decision, which is quite important for university libraries, will also determine the new roles of libraries after the pandemic.

The first significant subject of the world of difficulties and opportunities awaiting university libraries is the electronic environment. Online education environment, which some universities does not have or which has changed for the universities having that, has created a user profile preferring to work remotely, to access sources only electronically and who is accessed only by electronically. This user profile, which may be an opportunity or a threat depending on the library's electronic service and source capabilities, provides a new equation of opportunity and threat for libraries, which may not be used physically in the future. If a complete communication can be established with online sources and services and the commitment of this individual's to the library can be maintained, the time, space and dialogue to be used by this user in the library can be reserved for new library users. This perspective, requiring the competence of the library in electronic media sources and services as a prerequisite, may employ the preferences, imposed by the pandemic process as obligations, as a tool of acceleration in the development of online sources and services (Martzoukou, 2020).

In many academic libraries, the access barriers experienced by librarians, students and even teachers in online education and source use have been identified as a priority area, and online education programs have been organized in this respect. This effort, increasing technical competence and awareness, refers to an advantage in long term regarding library service performance and source utilization prevalence. The university libraries, which have had a developed infrastructure and service philosophy at the beginning of the pandemic, will be able to make both their competitive advantage and their competencies as more distinctive features for the future.

The COVID-19 has also affected the university libraries regarding the fact that internet access opportunities and internet literacy skills of users to benefit from services remotely become more visible. This can ensure that the factors out of the institution, which determine the success of the change effort performed by all university libraries in line with the necessities of the age, are taken into consideration more. Showing the related difficulties and providing new opportunities for libraries by demonstrating the need for action plans to remove these difficulties, the importance of this aspect has become a hot agenda for the libraries during the pandemic process.

Digital competencies are an umbrella concept that is related to the development of a number of competence related fields, including information and data literacy (Martzoukou, 2020). This field is directly associated with communication and cooperation, media literacy, online content creation, online security, and digital well-being, as well as problem solving, critical thinking, and online innovation tools and technologies. It has been paid more attention to this field, which is considered as the future of librarianship, many changes and innovations that were previously postponed have been quickly implemented.

Another issue that has gained importance during the pandemic period relates to acting and taking decision quickly. Radical changes have been observed in the higher education system during the pandemic process ongoing for more than one year. Some institutional actions, which would normally take years due to logistical, operational or bureaucratic barriers or simply managerial or high-level strategic resistance, have been resolved rapidly as a necessity for new normal, new way of thinking (Martzoukou, 2020). Referring to challenging established teaching and learning practices and very long-tested formulas and requiring a special adaptation skill, this change speed means new time management and time schedule applications for university libraries.

The digital competencies, which have become more important during the pandemic period, are directly associated with not only electronic information but also communication tools and technologies as well as their safety, ethical appropriateness and learning practice. This importance and association status have created a climate, in which users are paid attention as much as university libraries and librarians, and by which they have seen more clearly that education life is not only a necessity but also a means of social and communal life. The biggest obstacle before obtaining desired outputs from this climate created is the fact that a significant percent of the world's population does not yet have a complete qualification in terms of digital competencies (UK Department for Education, 2019). It will be an opportunity for university libraries to make service planning by considering the aforementioned climate. On the other hand, the lack of adequate infrastructure and awareness on this issue will refer to difficulties with long and lasting effects for the library, and will become unwanted legacies left to university libraries during the pandemic period.

The libraries that currently have online students and staff may have already a good infrastructure, which is accustomed to operating remotely before the COVID-19 and can provide a service in a proper range (Connell, Wallis and Comeaux, 2021). The pandemic has forced these libraries to have a stronger institutional structure in online services, more advanced service packages and which can adapt to digital transformation more rapidly, and has made this change a necessity with the opportunities and risks it offers. Because this compulsory change will provide the libraries with significant opportunities to become ready if the pandemic extends or

any other extraordinary circumstance occurs.

As the libraries have increased such sources in order to support students and academics in the online environment, and have converted the sources temporarily provided free of charge by commercial companies and providers into sources that are believed to be regularly accessible, the expectations of users will increase in this regard. When considering the general financial structures of the libraries in our country, it is not likely to meet such an expectation after conditions are normalized. At this point, the loss of comfort in accessing information may create a break between the library and its user.

The university libraries may help produce the publications that will provide people with correct information by actively giving additional services to its researchers regarding the selection of sources related to the COVID-19 pandemic during the pandemic process. This contribution, which will be determinant in information pollution regarding the pandemic and in preventing the problems to be caused by this pollution, is an important element of universal protective mechanism to be developed against the pandemic. Some of the practices performed in this respect are as follows: Free access to research guides, clinical care and patient information sources, relevant literature reviews, and the COVID-19 sources developed by University of Vermont Libraries; The guide prepared by Yale University Library staff for those wishing to explore the impact of the COVID-19 on social sciences; Reading lists produced by University College London Library, which includes official guidance, evidence updates, UK Medical organizations and e-learning education courses, open-access research collections, and medical library sources (Martzoukou, 2020). Academic libraries and librarians were in a good position before the COVID-19 pandemic to provide guidance and institutional information for academic researchers publishing via open access. However, as the changing life habits due to the pandemic have altered the approach towards information, this has necessitated a reevaluation even in the fields where libraries have been very powerful. For example, changing education environment with the COVID-19 as well as difficulties and opportunities in online education practice in particular have resulted in a group of people working remotely, accessing sources only electronically and beginning to live online in every respect. These types of users, who are also among the users of the university libraries, are the clients that need to be understood and positioned from the beginning even for the libraries and librarians who are quite ready for change.

Other generalizations that can be urged regarding the impact of the pandemic process on the university libraries are as follows: the pandemic has affected all universities and libraries. This impact has been felt less in relatively big libraries while it has been felt more in relatively small libraries, depending on institutional readiness. The extension of the pandemic process and the increase in the knowledge of people due to the experiences in this regard and the necessity to use digital information have resulted in an irregular temperature map in the use of university libraries' web pages, discovery tools, online catalogs and databases. There has been a quantitative and qualitative increase in the virtual communication performed by university libraries with their users.

Libraries and their users have restarted to know each other under different conditions and experiences. As can be seen in every new introduction, there may sometimes be misunderstandings and prejudices during this period. At this point, the important thing is to turn this new acquaintance into a long-term and interactive communication. In the establishment of this communication referring to the benefits of all stakeholders, all stakeholders will have duties and responsibilities.

IV.   Goal, Scope and Method

In this section, the goal, scope and method of the study are described. The goal of the study, inspired by the dominant role of the COVID-19 pandemic, which has affected all aspects of life, as well as our attitudes and perceptions towards information, is to present the experiences of academic libraries during the COVID-19 process by qualitative data and to make suggestions for increasing their service competences in the ongoing pandemic process by the case study of Izmir Katip Celebi University (IKCU) Library.

The scope of the study covers the Central Library providing service at Balatcik Campus of Izmir Katip Celebi University. In this regard, in order to make a correct analysis of how the library was affected by the pandemic and its change due to statistical data during the COVID-19 process, the ongoing pandemic process was compared with the pre-pandemic period. Considering that the pandemic has been the most important agenda topic in the world for more than one year, it was considered adequate to make a comparison covering one year. The data related to January-December 2019 and January-December 2020 were used in the comparison.

The institutional part of the study was written in descriptive method. In the organization of this section, a special literature review was made in accordance with the goal of the study, and general information was included with regard to the scope of the study. In the selection of the data used in the findings section of the study, the key parameters in library services were taken into consideration, and the data set was created accordingly. The data regarding library were obtained from IKCU Head of University Library and Department of Information Technologies.

V.   Findings

Some keywords were initially specified according to the goal of the study, and the statistical data of the Izmir Katip Celebi University Library were compared through these selected words. Related data were obtained from the Department of Information Technologies, which was making institutional monitoring of some of the selected words, and the Head of University Library, storing and processing original data group, and commercial

companies with which the library cooperates in the use of electronic sources.

The selected keywords were specified as follows: number of members, borrowing process, catalog browsing, library use, mobile applications, number of sources and activities, and a statistical comparison was carried out through these words based on the aforementioned years.

TABLE I
NUMBER OF ACTIVE MEMBERS*

	2019	2020
Total number of users	14.864	19.005
Total number of active users	11.202	15.333
Registered new members	3.944	4.141
Number of active users among new members	3.932	4.132

All students, administrative and academic staff are considered natural users.

All IKCU students, administrative and academic staff were considered natural users. The number of active users refers to those visiting the library physically and electronically, making any information request or coming just for visit purposes. In this respect, Table 1 number of active users is the essential group of people having main information about the number of users. In 2020, the beginning and spreading process of the pandemic in our country, the number of active users of the library increased by 36.9%. The rate of increase in the registered new members, which refers to the users borrowing sources from the library, is 2,5%. When assessing these two statistics together, it can be argued that the library did not show sufficient performance in both making natural members active members and gaining continuity for active members to access information from the library during the pandemic period. Particularly in the periods with increasing pandemic spread, the fact that doors of the library were completely closed to the users may be an excuse for this table to a certain extent. Yet, this finding is a reflection that the library could not, unfortunately, show required reflexion in the pandemic period.

TABLE II
PRINTED AND VISUAL SOURCES IN THE COLLECTION

Publication Type	2019	2020
Book	37.000	37.650
Periodical Publication	148	152
Thesis	533	633
CD/DVD	696	696
Total	38.377	39.131

The library did not quantitatively make a significant increase in the printed and visual sources with regard to pre-pandemic and post-pandemic periods. The library increased the number of books by 1.8%, the number of periodical publications by 2.7% and the number of theses by 18.8%, while the CD/DVD collection and number did not change. When considering all printed and visual sources, this change, referring to an increase of only 2%, is far below the ideal growth rate in source development policies of information centers. The fact that the physical use of the library was restricted in the pandemic process may be a limited excuse for a future trauma to be caused by this growth rate. When considering in terms of the

development of traditional collection, the pandemic was observed with the difficulties in the IKCU library.

TABLE III
ELECTRONIC SOURCES IN THE COLLECTION

Type	2019 Subscription Type		2020 Subscription Type	
	Ekual*	Institutional**	Ekual *	Institutional **
Database	17	18	17	18
E-Journal	25.916	21.926	35.015	12.827
E-Book	…	394.952	…	507004
E-Thesis	above 4,5 million	…	above 4,5 million	…
Other (Software, Program etc.)	5	3	5	3

* provided by national licensing through TUBITAK-EKUAL.
** provided by purchasing

When examining Table 4 giving information about electronic sources in the library with regard to the two years specified before, the first significant detail is that there is no change in the number of databases subscribed to as institutional and consortium. However, the tendency expected in the COVID-19 pandemic-library is placing more importance on databases and access, which are the most active actors of electronic source access and use. When comparing 2019 and 2020, while the number of e-journals accessed by national licensing increased, the number of e-journals with institutional subscription reduced. The basic significant statistics is the 28.4% increase in the number of e-books offered to users with an institutional subscription. This change, which is one of the fields that the library has progressed during the pandemic process, is undoubtedly related to the increasing access of databases that the institution has access to in the information world. In addition, if this achievement can be used for restrengthening individual-institution commitment, damaged by the pandemic, it may be an opportunity to turn the pandemic and its consequences into gains in the long term. The library management has the biggest responsibility in realizing this opportunity.

Another development that is related to almost all university types across the world after the pandemic is providing databases especially related to the COVID-19 with free access by commercial companies. In this regard, some databases have been provided with free access in the IKCU Library. Elsevier COVID-19 Resource Center and OpenAIRE are the databases opened for use by free access.

TABLE IV
BORROWING PROCESSES

General Information		2019	2020
Student	Number of People	2.931	1.580
	Number of Processes	13.093	4.550
Academic and Administrative Staff	Number of People	134	110
	Number of Processes	858	561
Total number of people		3.065	1.690
Total number of processes		13.951	5.111

As seen in Table 4, the number of borrowed sources in the library reduced dramatically in 2020, which passed under the effect of the pandemic. Both the number of borrowing source requests and the number of borrowed sources by students as well as academic and administrative staff were also affected by this negative table. The decrease, which is almost 50% in the number of people and more than 60% in the number of processes in terms of students, is 17.9% and 28.9%, respectively for the academic and administrative staff that constitute a smaller user group of the library. When making an assessment over the general total, the decreases in the number of people and processes between 2019 and 2020 are 44.9% regarding people, 63.4% related to processes. Referring that nearly half of the abilities and competencies were temporarily lost with regard to borrowing processes, this table shows that the difficulties caused by the pandemic in 2020 in the IKCU Library are greater and more effective than the opportunities it caused. The reason for 37% decrease in the number of books borrowed with the Interlibrary Loan System (ILL) may be explained by the ability of users to access the sources they need electronically as well as the reflection of the distance created by the pandemic period in this area.
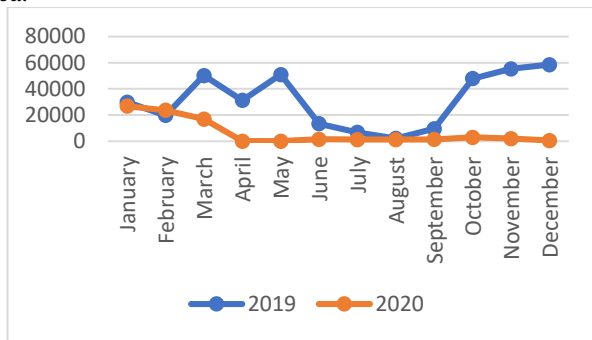
Graphic 1: Annual Number of Visitors

As demonstrated in Graphic 1, the user number of the library is one of the areas affected most negatively by the pandemic process. The most significant dynamic of the graphic is that the library started to serve on a 24/7 basis as of the beginning of 2019, and this service was ended in March 2020 with the beginning of the pandemic period. Another factor increasing the number of visitors that is approximately 400 thousand is the fact that there is a student dormitory on the campus where the library is located. The library with a total of 375.157 thousand visitor number in 2019 has a loss of 83,5% in 2020 with 77.955 thousand visitor number. One of the factors that will determine the extent of the impact caused/to be caused by this loss is the number of catalog browsing made over the library. While 25,168 catalog browsing were made in the library in 2019, this number remained at 14,298 in 2020. It is not likely to explain an approximately 43% decrease in the total number of catalog browsing carried out electronically in 2020 compared to the previous year only by the psycho-social disruption and isolation created by the pandemic process. These figures also clearly indicate that the library management and the services provided are inadequate and unconvincing in overcoming the attitude of the library

users, who did not consider using library among their primary purposes.

168 of a total of 929 "My Mobile Library" applications, which can be monitored through the university's data processing system, were activated in 2019. On the other hand, this number is only 15 in 2020, when the pandemic process deeply affected all works and operations in the university. The insufficient interest shown to this application, which can be highly efficient and effective in monitoring the electronic and online services offered by the library and being informed about these services, may be interpreted as one of the important lacks of both the library and users in the pandemic period.

The number of the activities such as education seminars, conferences, introductory programs, orientation training hosted and/or announced by the library in 2019 is indicated to be 6, and the number of participants of these programs is demonstrated as 412 in the activity reports. However, only 5 activities, all of which were online, were carried out in 2020 in most of which pandemic was effective, and no participant number was reported. These figures indicate to what extent the IKCU Library was influenced regarding the activities performed and/or contributed, and its performance decreased.
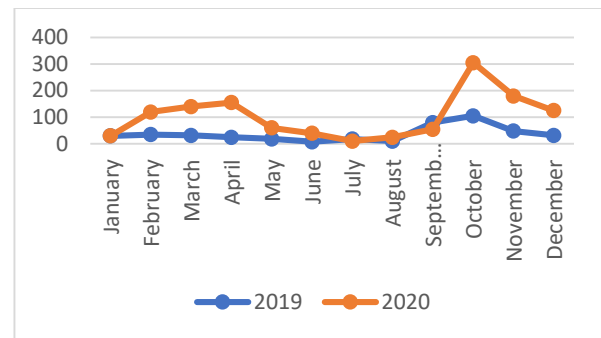
Graphic 2: Monthly Total Records of Remote Access

When examining the visual on library's remote access records for the relevant years (Graphic 2), the number of people accessing the library remotely in 2020 is higher than in 2019 in all months except July and September. The low figures in both years between June-August, which is considered a holiday period and traditionally library use decreases, is understandable. The high increase in the figures since October 2020 is undoubtedly associated with the distance education decision taken for universities. Whereas a total of 416 active members used distance education in 2019, this increased to 1.228 in 2020, which was affected by providing education distantly in universities and the association of distance education for academics and students with remote access to the library.
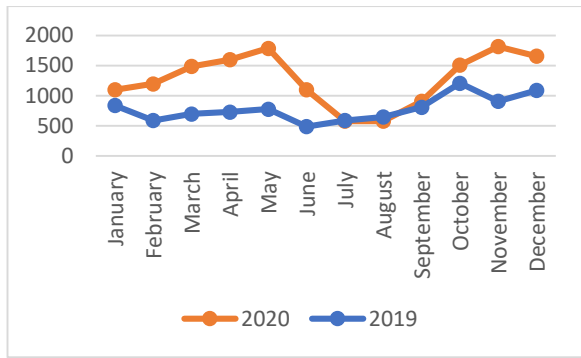
Graphic 3: Total user logins

When examining the distribution of the number of logins of the library users (successful login at IKCU e-library portal) by years regarding the years covered by the study (Graphic 3), it is seen that 2020 March-May are the months with most logins, when the pandemic started in Turkey and put on the agenda. It would not be wrong to predict that the searches regarding the pandemic were effective at this intensity. The user login increase seen in October-December period in the same year was undoubtedly affected by the distance education started again. When making a comparison between years, it is seen that the numbers in July and August 2019 are higher than the statistics of 2020, with more user logins in 2020 on the basis of all other months. According to general total number distribution of this table, total successful login number in 2019 is 9.266, while this number is 15.270 in 2020. This refers to an increase of 39.3% on a yearly basis.
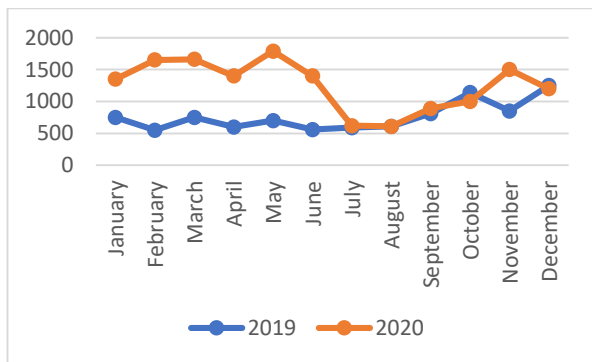
Graphic 4: Monthly View Number with Remote Access

In Graphic 4, monthly view number of the library with remote access is provided. The increase in the view number in the first half of 2020 is remarkable. Because the statistics in this period are quite high when compared to the same months of 2019 and the second half of 2020. It is difficult to associate this process, starting just before the pandemic is seen in our country and then continuing with the first respond period, with the COVID-19. On the basis of months, the 2020 figures are lower than the 2019 figures only in October and December months. The total number of collection views by years is reported to be 9,095 for 2019 and 14,947 for 2020. This change rate, which refers to a 39.2% increase, is very close to the change rate in the number of user logins (39.3%) and the total numbers.
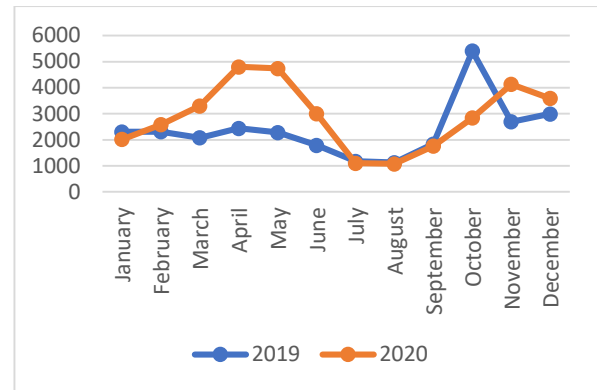
Graphic 5: EBSCO Discovery Service (EDS) Total View (full paper and abstract) Number

According to the data of "EBSCO Discovery Service (EDS)", which is the most important electronic source utilization tool of the IKCU Library, the number of full paper and abstract sources viewed over the library is shown in Graphic 5. Accordingly, more viewing was made in 2019 October, when the education and training started, when compared to the rest of the year, and this is significant in itself. In 2020, the months in which most source viewing made are March through June, when the pandemic was put on the country's agenda and certain measures were taken. Unfortunately, we could not obtain any detail on to what extent pandemic related views and source access efforts were effective in this period, when education was started to be given by distant education. However, it will not be wrong to state that the efforts to access the COVID-19 themed sources are determinative in these statistics, with the effect of emotions such as curiosity, fear and anxiety. February-June and November and December periods are the months, when total electronic source view numbers are higher in 2020 compared to 2019. In annual general total, while 28,429 views were specified in 2019, this number was 34,939 in 2020. These data refer to 18,6% increase.
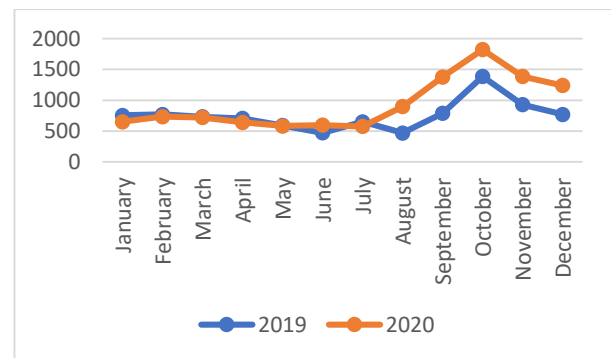
Graphic 6: Number of Entries to the Library Web Page

One of the key statistics selected in this study is the web page visits. The related data is shown in Graphic 6. The period of September-December 2020, in which a new period was initiated with new rules during the pandemic process and the distance education decision for the 2020-2021 academic year was implemented, are the months in which entries were made to the university library. In the same statistics, the number of entries in 2020 June and August were higher than the same months in 2019. In other words, more entries were made to the library

website in the first half of 2019 and in the second half of 2020. In general total, while a total of 9.021 web page entries were reported in 2019, this number was 11.226 in 2020. It is not likely to predict to what extent the conditions caused by the pandemic are effective on this change, referring to a 19,6% increase. Another detail in the graphic is that the number of web page entries is less than the number of remote access to the library. This evokes that some users prefer different platforms and shortcuts in remote access to the library.

VI. Conclusion and Evaluation

Remaining as the most important agenda topic in the world today and bringing many questions and problems along regarding this process, the COVID-19 pandemic has not only affected the works and operations of individuals but also institutions, organizations and even states. The pandemic, which has broken the taboos with its disruptive effect which cannot be fought off let alone be taken under control for a long time, forces the world for a new world order. In addition to its damaging effects in economical, political, social and communal areas, the COVID-19 has deeply influenced the cultural climate of the world and the channels nurturing the continuity of common culture. One of the areas in which this effect manifests itself the most is the formal education systems of almost all countries, which have been forced to use "distance education", a different teaching-learning method. Another factor that renders this obligation all the more difficult is the compulsion to use distance education at all education levels. And one such levels is the higher education.

Distance education, which has been compulsorily used in our country as it has been across the world with minor differences (such as limited face-to-face education in some applied sciences, lessons with diluted participants, etc.), has affected not only students and teachers but also all university units, each of which plays a highly important role for the continuity and success of the education system. One of these units is the university libraries, which are described as the "heart of a university" in a developed university culture. The libraries, which are the best prepared units thanks to their remote service experience and competencies for the "distance" obligation caused by the pandemic period, have nevertheless been exposed to the negative effects and difficulties of the process for the most part.

In this study, the aim was to gain a national insight into the interaction between the COVID-19 and university libraries by analyzing the effect of the pandemic on the library and services through the selected key statistics by the case study of Izmir Katip Celebi University Library. The data obtained have been put into use to compare the pandemic period that created its "new normal" with the pre-pandemic period, thus, it has been tried to interpret the effects of the process accurately. Based on the data and the comparisons made, it has been concluded that the IKCU Library, which is still in its formative period and in need of further development in many respects, has been affected negatively in this process from every aspect, has attempted to mitigate this impact by trying to increase remote access service competence and adequacy.

However, this effort has not met the expectations. It is not correct to interpret this conclusion only by referring to the facilities of the library and the insufficiency of these facilities. Other factors causing the pandemic-university library integration to remain incomplete are that all university staff, including students, and academics, are not ready for the requirements and conditions of the concept of "distance" imposed by the pandemic. Furthermore, the relationship between "distance education" system and library could not be identified adequately, while the confusion caused by the "new normal" on people could still not be overcome, either. Despite these, libraries should become the most promising units of universities because it is only possible to control the pandemic and the process it caused by information. And the information specialists are information centers, including university libraries, and information professionals.

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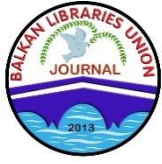
One Person Library from Law and Morality to Social Policy: Muallimi-i Evvel İbni Kemâlpaşazâde

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ABSTRACT

While the history of humanity writes that some intellectuals only have an effect on the age they lived, on the time they lived, even on the main effect they lived, some intellectuals also wrote that they also affected the age they lived in and later ages. While the first is a general situation, it is possible to state that those in the second position are exceptional. One of these exceptional names is Ibni Kemâlpaşazâde.

Ibni Kemâlpaşazâde, during his 65-year life, produced many works in Arabic, Persian and Turkish, from literature to law, from history to economics and social policy, from ethics to fiqh (Islamic law), theology and religion. Worker-employer relations, social order and order issues, which social policy deals within the context of environment and human, were also among the subjects Ibni Kemâlpaşazâde worked on. What makes IbniKemâlpaşazâde different and exceptional is not his work in multi-languages and multi-disciplines, but that he brings the past to the period he lived in and sheds light on the future with his works.

While the Renaissance and pre-Reform periods were taking place in Europe, Ibni Kemâlpaşazâde worked on social policy issues, handled moral issues, wrote poetry, and put forward provisions on many difficult issues of Islamic law and its treatment. Ibni Kemâlpaşazâde is a scientist in one aspect, a man of literature and art in one aspect, a law writer in one aspect and a successful state administrator in one aspect.

His works outnumber books that can be read in an average lifetime. In this respect, İbni Kemâlpaşazâde is a one-person library.The reason he is called the "First Master" is that he is extremely meticulous and extraordinary in reading and writing.

Keywords:Law, Human, Environment, Social Policy, İbni Kemâlpaşazâde

I.   Introduction

For people who have done a lot of work or have a lot of knowledge, concepts such as "Allame", "One-man Library" or "Walking Library" are generally used. The ancients prefer using the concept of "Hezarfen" (Polymath) for people who did works in more than one field. Besides Ibni Kemâlpaşazâde, who was discussed in this article, is a scholar who had so much knowledge as to create works in many fields of science from law to social policy, he had so many works that can establish a mini-library, a bookcase alone. İbni Kemâlpaşazâde is an extremely successful statesman as well as his scholar qualification. He served in many state levels from Kadi to Sheikhulislam and got succeeded.

Kemâlpaşazâde has a profoundness too great to be described as if either in one or another. Therefore, it is more accurate to define him as both one and another. Kemâlpaşazâde is both a fiqh scholar, a social politician, a man of letters and a lawyer.

Ibni Kemâlpaşazâde is a person who broke new ground in many subjects on the Ottoman society in the period he lived. The most important feature that distinguishes him from his contemporaries and those after him is that he examined almost all of the previous works in all his works and studies. In a sense, he is a scholar and a successful statesman who brings the past to the present day and sheds light on the future from the day he lived.

Ibni Kemâlpaşazâde, while expressing his views on legal and Islamic fiqh issues without mincing matters, also put forward very radical ideas and views for her period, especially on labor relations. The fact that the ideas he expressed about laborforce were written in a period when there was no labor relations in Europe and that they remained valid for the Ottoman Empire even

centuries after him, is an indication of his accuracy and leadership in his ideas and views.

In this study, İbni Kemâlpaşazâde's life has been introduced by considering his works and labor relations, and his views in the fields of Kelam, Akaid, History, Logic and Literature. In the study, archival sources and the works written about him were used. The main axis of the study is the thoughts and views put forward by Ibni Kemâlpaşazâde in his book named "Pendname", in his epistle "Fi'l Fakr" and "Fi'l Hassi 'ala's'ay ve'l-men' 'ani'l-batâle".What makes these studies particular is; they contain information that will shed light on today's people on morality, wealth and labor and work.

II. The Brief Life Story and Educational Adventure of Ibni Kemâlpaşazâde

Shaykh al-Islam Ibni Kemâlpaşazâde, who was born in 1468 or 1469 and whose real name is Şemseddin Ahmed bin Süleyman, is from Edirne according to some sources but, for others Amasya. According to Danişment (1948: 430), although it is possible that he was born in Tokat, he was originally from Edirne. Most of his life was spent in Edirne.

a. The Life of Ibni Kemâlpaşazâde

In addition to being a good jurist, historian, commentator, and theologian, İbni Kemâlpaşazâde is also a good writer and poet. His father is Süleyman Bey, a soldier of the period of Fatih Sultan Mehmet, and his mother is the daughter of İbni Küpeli, from ulema, (Uğur, 19879) and the granddaughter of Kemal Pasha (Süreyya, 1997: 93).

İbni Kemâlpaşazâde died on April 16, 1534, at the age of 65, while he was performing his duty as Şeyhülislam. While his tomb was in the Mahmud Çelebi zawiya next to Emir Buhari Mosque in Edirnekapı, it was transferred to Edirnekapı Cemetery where it was located during the construction of the Golden Horn ring roads in 1971 (Öztuna, 1965: 180; Alpgüvenç, 2004).

b. The Transition to the İlmiye Class of Ibni Kemâlpaşazâde

The adventure of Ibni Kemâlpaşazâde, who worked to be a member of the İlmiye class, which he started as a madrasa student while he was a member of the Seyfiye (millitary) class and become the sheikh al-Islam is very interesting and also exemplary. After taking a qualified education from his family, he chose seyfiye (military) like his father and became a good soldier. He participated in many campaigns during his military service (Çelikkanat, 2004).

During the reign of Bayezid II, İbni Kemâlpaşazâde left the military due to an incident he experienced during a campaign and went to the İlmiye class. The incident took place in 1492, in Plovdiv, during a campaign to the Albania side. The incident he lived while he was still a young cavalry took place as follows: In the War Court of Vizier İbrahim Pasha gathered in Plovdiv, everyone sat in

a place suitable for their position. In this session, Evrenoszâde Ahmed Bey, one of the raider lords, is present and speaking next to the vizier. Meanwhile, a person known to be a scholar from the profession comes to the assembly in modest clothes. Everyone who were there, gives that person a place with respect. That person sits between Evrenoszâde and the vizier. The person who has just come to the assembly talks about scholary issues and everyone there listens to him reverently. Kemâlpaşazâde is very surprised by this situation before his eyes. Curiously, he later learns that the person who came to that assembly, to whom everyone gave place and listened respectfully was Mullah Lütfi from Tokat, who was a mudarris (professor)in Plovdiv.

Kemâlpaşazâde can not hide his astonishment at the "great respect shown to a scholar" experienced before his eyes. At that moment, he decides to leave the military and move to the ilmiye class and become a new Mullah Lütfi. In order to make real his decision, he waits for the campaign to end. As soon as the campaign was over, he returned to Edirne and getting involved in Mullah Lütfi's scholar circle and become a member of the ilmiye class (Pala, 1996: 158).

III. The Duties of Ibni Kemâlpaşazâde

Kemâlpaşazâde not only joined this circle of scholar, but in a short time as six months, with great effort, he covered a great distance in science in a short time. Mullah Lütfi, from whom he took his cue, died in 1498. However, he continued his work continuously. İbni Kemâlpaşazâde did extensive book studies besides being a mudarris. In addition, it is seen that he participated in the campaigns of the ar that he participated in the campaigns of the army.

a. Mudarris, Kadi, Kazasker and Sheikhulisla

Ibni Kemâlpaşazâde aimed at the rank of mudarris in his difficult journey. He received knowledge from Muslihiddin Mustafa Kestelli, Muhyiddin Mehmed Hatipzade and Sinaneddin Yusuf Muarrilzade, who were known as the great scholars of the period, and became a mudarris (Çelikkanat, 2004).

Kemâlpaşazâde's first mudarris (professorship) began in 1505 (or 1506) in Edirne Taşlık Ali Bey Madrasa. İbni Kemâlpaşazâde receives 30 (akçe) coins per day for this duty. After being a mudarris (professor), He was commissioned as a historiographer by Sultan II. Bayezid. For this task, 30,000 coins was granted to him. This is how "Tevârih-i Âl-i Osman", the famous history book he wrote, emerged.

Ibni Kemâlpaşazâde, who did not break away from being a mudarris, was later appointed to the İshak Pasha Madrasa in Skopje as a mudarris (in 1511-1512). This madrasa is worth 40 coins (Çelikkanat, 2004). While here, he wrote an annotation for Seyyid Şerif Cürcani's work called Şerhu'l-Miftah.

After being a mudarris in Skopje, İbni Kemâlpaşazâde was appointed to Edirne Halebiyye Madrasa, from there to Üç Şerefeli Madrasa and then to Sahn-ı Seman Madrasa in İstanbul (Dalkıran, 1994: 42).

Kemâlpaşazâde, while advancing in the teaching profession, also got promotion in government positions. After Sultan II. Bayezid, he was appointed to important duties during the reign of Yavuz Sultan Selim also. The good thing was; in his every new mission, his way somehow crossing in Edirne. He was appointed to The Kadi of Edirne in 1516 and later became Anatolian Kazasker in the same year (Çelikkanat, 2004).

Ibni Kemâlpaşazâde became the ninth sheikh al-Islam of the Ottoman Empire after the death of Zenbilli Ali Cemali Efendi in May-June 1526. İbni Kemâlpaşazâde continued this duty until his death in May 1536. In İbni Kemâlpaşazâde's sheikh al-Islamism, there was presented solutions to many difficult issues.

b. The Experiences During Yavuz Sultan Selim Egypt Campaign

At first, Ibni Kemâlpaşazâde went to the class of seyfiye, then he participated in the campaigns of Sultan II. Bayezid and in the Egypt Campaign with Yavuz Sultan Selim. During this expedition, there were some events that will go down in history in terms of the greatness of his scientific rank. Moreover, regarding this campaign of Yavuz, he revealed that the conquest of Egypt, how it would be and what would be the time (separately the day and place) of Yavuz, based on the 105th verse of Surah Anbiya, according to the rules of cifr science before the campaign. (Dalkıran, 1994: 46).

Upon Yavuz Sultan Selim's question of the wisdom of the severe storm seen in Karaman during the Egypt Campaign, Kemâlpaşazâde said: "As the capital of the land of Karaman is Mevlana's "mehbit-ı envar" (the place where the light descends), the mountain, stone and soil of that land is whirling." (Dalkıran, 1994: 46), so he revealed that he is both a scholar and a person of refinement.

During the campaign, he had scientific conversations with the Sultan and benefited from him on some scholar issues. Kemâlpaşazâde translated the Egyptian history titled En-Nucumu'z-Zahire Fi Mülüki'l-Misir Ve'l-Kahire, written by Ebu'l-Mehasin Yusuf Cemaluddin (death: 1469), upon the order of the sultan in this period. He made this translation fast enough to translate one juz every night (Uzunçarşılı, 1983: 670).

On the way back from the campaign, a piece of mud splashed from the feet of his horse and smeared on Yavuz Sultan Selim's caftan. Since Yavuz is a famous sultan for his anger, he gets worried and embarrassed like everyone else. Realizing this, Yavuz Sultan Selim says, "Please don't worry," and right after: "The mud jumping from the feet of the ulema's horse is an ornament for us. And he adds: It is my will, that you lay this muddy caftan on me when I die." (Dalkıran, 1994: 43). At the death of Yavuz Sultan Selim, that caftan was draped over his tomb.

IV. Science, Thought, Art and Literature in Ibni Kemâlpaşazâde

While İbni Kemâlpaşazâde was reaching the rank of sheikh al-Islam in the ilmiye class, he climbed the stairs as a great scholar. In addition to the science of fiqh, he was also interested in philosophy and medicine and produced works in these fields. He is a real "hezarfen".

It can be said that Kemâlpaşazâde was influenced by names such as İbni'nin Fahreddin Razi school with Hakim es-Semerkandi, Bakıllani, Abdülkahir ei-Bağdadi, Gazzali, Şehristani, Fahreddin er-Razi, Seyfeddin el-Amidi, Şemseddin el-İsfahani, Adudüddin el-İci, Taftazani ve Seyyid Şerif el-Cürcani.

Sarıkaya (2013: 539-558) writes about Kemâlpaşazâde's literary life as follows: "Kemâlpaşazâde is a poet who sang poems in Turkish, Persian and Arabic. In addition to Turkish verses such as Divan, Âh Âh nâme, verse translation of Kasîde-i Bürde and Kaside-i Tantaraniyye, his elegy written to Yavuz Sultan Selim, and Yusuf and Zelîha mesnevi, he has a 7777 couplet Nigaristân in Persian. He used three languages successfully in his prose works. Contrary to what is claimed in his translations of Tevârîh-i Âl-i Osman, Kasîde-i Bürde and Kasîde-i Tantarâniye and other Turkish works, he used a very plain, fluent and understandable language according to the copyright characteristics of the century he wrote"

a. Law and Thought in Ibni Kemâlpaşazâde

Kemâlpaşazâde became famous in the Islamic world through the fatwas he gave. He earned the title of "Muftiü's-Sekaleyn", that is, "Mufti of Men and Jinns", because of the fact that he had good morals, manners, clear and concise expression, gave information about both the world and the hereafter, and also gave fatwas to jinns on an event he lived in Edirne Darul-Hadis Madrasa.

Kemâlpaşazâde, whom Kefevî defined as the favored person in the Hanafi sect, was equated with Imam-i Suyûtî in Egypt and declared as the ornament of his century(URL 1).

While he was rising in the ilmiye class, he also worked as a professor, judge, qadi'asker and sheikh al-Islam. The positive fatwa given by Kemâlpaşazâde about Muhyiddin Arabî, on the return of Yavuz Sultan Selim's Egypt Campaign, was conduce to have a tomb and an imaret built for Muhyiddin Arabî's grave in Damascus.

Kemâlpaşazâde wrote various works on , in particular, the principles and procedures of Islamic law and made important changes in many areas that seemed problematic in Ottoman social life. He was an active role in the preparation of Ottoman Kanunnames(Özen, 2002: 238-240).

Kemâlpaşazâde divided fiqh scholars into seven groups as mujtahid in sharia, mujtahid in madhhab, mujtahid in mesâil, ashâbü't-tahric, ashâbü't-tercîh, ashâbü't-temyiz and mukallid (Özen, 2002: 238-240).

Among the scholars that Kemâlpaşazâde raised are Muhyiddin Mehmed bin Pîr Mehmed, Sa'dî Sâdullah Efendi, Muslihuddin Mustafa, Celalzâde Salih Çelebi and Shaykh al-Islam Ebussuûd Efendi (Özen, 2002: 238-240).

Ibni Kemâlpaşazâde and the Mullah Kabız Issue

One of the events that reveal the scholar degree and acumen of Kemâlpaşazâde is the "Mullah Kabız Issue". The essence of the Mullah Kabız Question is this: As it is known, Mullah Kabız is a person who argued that the Prophet Jesus (AS) was superior to our Prophet (SAS). Upon the complaints about him, he was asked to prove his ideas in the presence of the grand vizier of the time and in the presence of Rumeli Qadi'asker Muhyiddin Çelebi and

Anatolian Qadi'asker Kadiri Çelebi, and Mullah Kabız advocated his ideas.

When Sultan Süleyman the Magnificent was not satisfied with this situation, Sheikh al-Islam Kemâlpaşazâde and Istanbul Kadi Sadi Çelebi were appointed. Kemâlpaşazâde, after listening to Mullah Kabız's claims, tried to explain that he had misunderstood the issues, by using scholar methods (Uğur,1987).

From Ibni Kemâlpaşazâde's atlas of thought

Alper (2010) describes him as "the thinker who created Ottoman thought" and writes that, based on his philosophy, mysticism and kalam perspective, man has a central position and this central position of man can be explained by the understanding of body.

The basis of Kemâlpaşazâde's understanding, who explained his thoughts with a treatise called Fi'l Fakr, is the hierarchy between necessary existence and those who gain existence, and this hierarchy has been revealed in his different works with some analogies used in meşrûh, israkî and sufi traditions (Alper, 2010).

Kemâlpaşazâde explains the connection between the Vâcibu'l vücûd and the existing, by centered on the attribute of God as a cûd, and the connection between the Vacibu'l vücûd and the existing is similar to the relationship between the rich and the poor. Kemâlpaşazâde, who accepts poverty as an opportunity to get a share of wealth and expresses that poverty is a virtue, writes by mentioning that the rich have responsibilities towards the poor, and that the rich should protect and watch over the poor, and give from their wealth to the poor as much as necessary on the purpose that they must deal with the poor's work, without expecting any reward or benefit.

Kemâlpaşazâde, the transition to existence, explained with nine different concepts; sun', halk, îcâd, ihdâs, ihtirâ, ibdâ', tekvîn, ca'l ve fiil (Alper, 2010). Expressing that the universe was created, he states that time begins when the spheres take shape and begin to rotate.

According to İbni Kemâlpaşazâde, "The meaning and value of the world is hidden in human existence" (Alper, 2010: 105). Therefore, to know man is to know God. Therefore, the human spirit is the first thing that God's power is concerned with. He writes that man has three dimensions: body, spirit and soul (pure ore) (Alper, 2010).

Ibni Kemâlpaşazâde discussed the concept of "existence" under two headings in Sufi thought, the first being the absolute being, which we call the body, and the second being the shadow being (Öçal, 2017). He does not present the universe as a pure, naked, clean being; defines it as an object that comes and goes between existence and non-existence. (Öçal, 2017).

Ibni Kemâlpaşazâde, who wrote that all beings, including human beings, are the accidents of the essence of Allah, which she describes as the "Genuine Being", expressed this situation as follows:

Men ve to 'arız-ı zât-ı vücûdîm
Meşkhây-ı müşk-i vücûdîm
Tâ bâğ-ı dilem ez feyz-i hakk gülşen şod
Mâhiyet-i mâ ez rûy-i o rûşen şod
Ân rûz ki hurşîd-i rahş cilve nemûd

Ayân-ı cihân tamâm rûzen şod. "[1]

Ibni Kemâlpaşazâde is the thinker of a period when the search for analysis and synthesis on philosophical and theological debates peaked. On the other hand, it is possible to say that he was in line with the thinkers before him, such as Ghazali.

Alper (2010) writes that while dealing with a subject in most of İbni Kemâlpaşazâde's works, he directly gives place to the views and determinations of scholars who had expressed their opinions and views on that subject before him, and that he prioritizes the truth above everything else.

The period when İbni Kemâlpaşazâde was the sheikh of Islam was a very turbulent period of Ottoman social life.For this reason, he struggled with many esoteric beliefs. So, he had struggles with many people who claimed to be sheikhs even though they were not actually sheikhs. He materialized the qualities that a real sheikh should have. According to that; the qualifications of the person/s who claim to be sheikhs as follows;

- To have enough knowledge to eliminate the religious and worldly doubts of his disciple, to be a scholar,

- Being fond of the world, staying away from inclination and love and not being captured of ambition,

- Being self-sufficient, not full of the possibilities available to other people and followers,

- To be all his actions and words are right with religion.

Ibni Kemâlpaşazâde said that those who claim to be a sheikh, although he does not have these qualities, are not sheikhs but müteşeyyih. According to him, the first duty of the sheikh and the disciple is to know the religion of Allah, which consists of the orders and prohibitions of Allah and His Messenger.

b. *Ibni Kemâlpaşazâde and Labor Relations with Social Policy*

The work of İbni Kemâlpaşazâde, in which he reveals his views on labor and work, is his epistle called Fi'l-Hassi 'ala's'ay ve'l-men' 'ani'l-batâle' (Kemâlpaşazâde, n.d.). About 4 centuries after the epistle was published, İbrahim Edhem Pertev Pasha (1824-1873; will be known later as Ethem Pertev Pasha) in 1864 (1281 Hijri) in the 32nd issue of the journal Mecmua-ı Fünun talked about "Medh-i Sa'y ve Zemm-i Betalet" was published under the title of "Translation from Meşahir-i Ulema Islam Kemal Pashazade's Arabic Epistle".

This article published by İbrahim Edhem Pertev Pasha (Ethem Pertev Pasha, 1281) is the translation of the epistle, which was originally in Arabic, into Turkish of that day. The following information and inferences are from Ethem Pertev Pasha's article (this translation) in 1864 (1281 Hijri).

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[1] In Turkish meaning:
Her ikimiz de varlığın zatının arazlarıyız
Varlık sarayının kokularıyız.
Gönül bağım Hakk'ın feyzinden güllerle doldu
Mahiyetlerimiz onun yüzünden aydınlandı.
Güneşin parlak yüzünü gösterdiği bir günde
Cihanın ayanı küçük birer pencere hâline geldi.

Ibni Kemâlpaşazâde put forward a new approach in his epistle, the basis of which was the concepts of earnings, sustenance, and labor, in that the purpose of man is to serve God and be responsible for being accountable to God (Pertev Pasha, 1281). It is possible to state that in this approach, he is based on the Qur'an, the Sunnah and the views of some scholars.

In Kemâlpaşazâde's epistle, for human beings, said that "And for man only his labor is rewarded" (Necm Suresi: 36-54.) (URL 2). He mentioned that he only works, sa'y (work), kesb and 'working on livelihood are for the sake of Allah and this is not against Allah by basing on this idea the telling story of Hz. Mary in Kuran. The fine detail here is his view that the work to be done in obtaining sustenance is not contrary to the will of Allah, but is a means to obtain the sustenance that is divided in destiny.

Kemâlpaşazâde also states that the understanding of trust in God, which is put forward in return for working to earn, is superstitious, and that reliance cannot be an excuse for laziness in the religion of Islam. In this sense, his most different and unique approach; It is at the point that the relationship established between inertia (laziness) and virtue is superstitious, and presenting inertia (laziness) as a shape of virtue as trust in God has nothing to do with it. The thought put forward by this tough statement is that approaches and behaviors such as "a bite and a cardigan" or "poverty is a destiny, accept your destiny, not work" are not accepted by the religion of Islam. It is very valuable and meaningful that this is revealed by him. One of the striking views in Kemâlpaşazâde's aforementioned epistle is the "Principle of Reciprocity". The principle of Reciprocity, which is expressed as the responsibilities that each individual living in the society must fulfill towards each other, should be considered as an extremely advanced view when the period in which he lived is considered. It is possible to express the principle of reciprocity as the person living in the society should benefit from the fruits of other people's labor in order to both maintain his life and achieve his main goal, and therefore, he should offer a response to the society at the rate of this benefit. According to him, it is a social duty, which is expressed depending on the principle of reciprocity, and at the same time, the source of this social duty is man's responsibility towards God.

Another striking view of Kemâlpaşazâde in the same epistle is that food, drink, clothing and shelter come first among the needs of a person, even if they are to be able to perform the duty of servitude. He writes that one's labor is necessary to meet these basic needs. The study: "…whatever the completeness of a wajibat is due to, even that is wâjib." According to Kemâlpaşazâde, who states the following: "faithful" in this expression means the legitimacy of work, and that legitimacy means for providing benefit to oneself or another. He accepts the earnings obtained by labor as legitimate only as long as it benefits oneself or someone else, and says: "What legislates sa'u kasb is the need for oneness for oneself and for others." explains the principle.

This epistle of Kemâlpaşazâde is opposed to today's economic understanding, in which "despite everything" and "earning no matter what, being rich by earning" and "being rich and consuming" are accepted as the only valid rule and valid lifestyle, with the arguments of working, labor and earnings, put forward an alternative way.

Another difference in his approach; The fact is that he dealt with the issue of labor in the context of faith and judgment. Kemâlpaşazâde's criticism of inertia is also shaped by this point of view, and he argues that a lazy/non-working person will commit a crime because he cannot fulfill his duty to himself, society and God. The point that should not be overlooked; The labor (say and kesb) he put forward in his view is not an end in itself, but only for a purpose to meet the needs of man himself and other people. This approach can also be seen as a solution to the inequality of income distribution, which is the biggest problem of the last century.

Another and most important difference in Kemâlpaşazâde's epistle is that he subordinates his economic actions to moral values, not to the "homo economicus" understanding. This approach means that work and labor are the source of social welfare and the welfare state, as well as being the preventer of social problems caused by economic developments. This approach is the cure for hedonistic consumption, which is the biggest depression of today's people.

c. The Historian Side of Ibni Kemâlpaşazâde

Ibni Kemâlpaşazâde is also a historian. The most important feature of his historiography; Due to his knowledge in theology and logic, he deals with events in a cause-effect chain. His best-known work in the field of history is Tevârîh-i Âl-i Osman. Regarding this work, İbni Kemâlpaşazâde said: "I was deemed the helpless worthy of this task and was ordered to me to write it like this." (Uğur, 1987). What the Sultan ordered was that, he wrote a good history book, recorded the events and wrote it in understandable Turkish (Uğur, 1987). Turan (2002: 239) wrote the following about his writing of this work: "Kemâlpaşazâde's main work in the field of history is Tevarih-i Al-i Osman, which II. Beyazid wrote with his desire. While II. Beyazid gave İdris-i Bitlisî the task of writing an Ottoman history in Persian, he asked Kemâlpaşazâde also to write a history book in Turkish that everyone could understand, and granted him 30,000 coins".

According to Uğur (1987): "Kemâlpaşazâde's works were neither a collection of literature like İdrisî's, nor a geographical atlas like Şükri's, nor a religious work like some Ottoman histories. Kemâlpaşazâde, as a historian, both officially laid the foundation of this science and, by bringing a unique style, gave the lead for historians after him in many ways. His narration of events Hodja Efendi, Ali, Matrakçı, Celal-zâde etc, cause-effect bond, decoration with poetry, verse, hadith, parables and wise words, certain and strict decisions that were included, and putting his scientific and religious weight on it are special features."

As a historian, Kemâlpaşazâde is a scientist who has a unique style, does not resemble anyone else, and uses nicknames instead of names (Uğur, 1987).

d. Art and Literature Aspects of Ibni Kemâlpaşazâde

Ibni Kemâlpaşazâde is a great literary man. While doing prose studies, he also produced verse works. Saraç (2002) finds his literary aspect weak and writes that there are no deep dreams and literary arts with abundant associations in his poems (Saraç, 2002: 244-245).

About Ibni Kemâlpaşazâde's poem

Kocatürk (1970: 317) writes that he has a solid expression for his poetry, although it is lacking in rhythm and emotion. Saraç (1999: 38), writes about his poetry: "Kemâlpaşazâde regards poetry as a wise word. According to him, the word should have the quality of being effective and should be based on a virtue." Kaçar (2010: 408), on the other hand, writes that besides his religious and mystical subjects, there are many details of social life, some terms belonging to different branches of science, and dreams about the ideal type of lover shaped within the tradition of mythology and Divan poetry. While Saraç (1995: 51), writing for his poem: "Kemâlpaşazâde's poetic and artistic side has been overshadowed by his deep and wide scholar power, but he is one of the successful poets of his time." Uğur (1987: 25) writes that Kemâlpaşazâde's distinctive feature is his love for Turkish.

Among the most beautiful poetry works of Kemâlpaşazâde is the ghazal with Redif "Gelür Gider". He is one of the most important poets of his time, even though his poetry and artistry were overshadowed by his science. He wrote poems in Turkish, Arabic and Persian (Çelikkanat, 2004). His Turkish Divan, the 10,000 couplet Yusuf-u Zeliha Masnavi, and his Mersiye, written on the death of Yavuz Sultan Selim, a small part of which has been taken below, are some of his outstanding works (Öztuna, 1965: 180).

The most striking of Kemâlpaşazâde's poems is the couplet he wrote just before his death as follows:

Gitmesi var gelmegi bildük tamam,
Gitti gelmek, geldi gitmek vesselâm!

The poem of Ibni Kemâlpaşazâde mentioned below is one of the well-known ones:

Kısmetindir gezdiren yer yer seni,
Arşa çıksan âkıbet: Yer, yer seni!
Ânın için, ânın adı yer oldu,
Önce besler, sonra kendi yer seni.

In addition, the following words were used very often:

Tiz olma teemmül kıl
Her hâle tahammül kıl
Allah'a tevekkül kıl
Tedbiri bozar takdir.

The followings of Ibni Kemâlpaşazâde are his most striking verses about life.

Mansıbda bir olsa dahi ger âlim ü câhil,
Zâhirde müsâviyse hakîkatte bir olmaz.
Altun ile faraza ki berâber çekile seng,
Vezn içre bir olmak ile kıymette bir olmaz.

Ibni Kemâlpaşazâde's Pendname and his Prose Studies

Ibni Kemâlpaşazâde gave works to the literary world with his prose studies rather than poetry. In this sense, one of the most important works of İbni Kemâlpaşazâde is Pendname. Pendname is both prose and verse. This work of İbni Kemâlpaşazâde consists of 15 chapters. These chapters are:

1. Wisdom,
2. Knowledge,
3. Ignorance,
4. Manners of speech,
5. Wisdom and advice,
6. Friendship,
7. Harms of hypocrisy and enmity,
8. Child education,
9. Ruling,
10. The method of serving the rulers,
11. The benefits of good and the harms of evil,
12. Patience and haste,
13. The results of good and bad habits,
14. Keeping a secret,
15. The world and the harms of greed towards it (Kaya, 2010: 65-79).

As it can be understood from the chapters, Ibni Kemâlpaşazâde wrote a book of advice that covers every segment of society from the sultan to the lowest part of the society. Another feature of Pendname is that it includes Kemâlpaşazâde's Turkish poems and his beautiful words that are still in the language today. Turkish poems with 160 couplets in Pendname; hikemi is shown as a successful example of poetry (Kaya, 2010: 65-79). Most of the poems in Penâname were written in masnavi style. The prose in Pendname is also full of advice and recommendations beyond being a moral book. In addition, these advices and recommendations were enriched with 38 stories. The language of the prose was written in a fluent and selective style, mainly in the form of a mimicry. Kaya (2009: 29-37) writes that Turkish words are frequently seen in Pendname.

e. Accessible Works of Ibni Kemâlpaşazâde

Kemâlpaşazâde wrote works in Turkish, Arabic and Persian in many fields, especially on subjects such as history, theology, akaid, literature, philosophy, medicine, and Islamic Law (fiqh). The issue of the number of his works is disputed. Çelebi (2002) writes that the number of works is 214 according to Cemîl Azm, 179 according to Brockelmann, 209 according to Nihal Atsız, and 226 according to Şamil Öçal. Dakâyıku'l-Hakâyık, Yûsuf u Züleyha, Mersiye, İdrîs-i Bitlisî'nin Heşt-Behişt Tercümesi, Ta'yir and Tenkîh, Islâh-ı Mefatih, Keşşâf'a Na-tamâm Bir Haşiye, Nigâristân, which Sâ'd'în's wrote as a nazire to Gülistân, Şerhu Mefatih, Mühimmat, Makîtu'l-Luga and Ottoman History, Risale-i Mümeyyize, Müerric-ül-Kulûb, Telvih annotation, Risâle-i Münîre ve Hidâye Şerhi are the most well-known among them (Çelikkanat, 2004). Most of these works are manuscripts and 36 of them were published by Ahmed Cevdet Pasha.

Kemâlpaşazâde, apart from the above-mentioned sciences, also worked on language. Regarding this, he wrote a work called Galatât based on Arabic. Kemâlpaşazâde's work, Tevârîh-i Âl-i Osman, is a work in which political events take place predominantly and events are told in chronological order (Turan, 2002: 238-240).

It is possible to discuss Ibni Kemâlpaşazâde's important works under 6 titles: History, Language and Literature, Akaid and Kalam, Philosophy, Fiqh and Fiqh Method, Sufism and Tafsir (Çelebi, 2002: 245-247):

1. His works in the field of History, Language and Literature:

-Tevârîh-i Âl-i Osmân,

-Divan (It consists of more than four hundred ghazals and many muqatta' and müfred),

-Yûsuf ile Züleyhâ (It was written in Mesnevi style and consisted of 7777 couplets.),

-Busiri'nin Kasîde-i Bürde Tercümesi,

-El-Felâḥ şerḥu'l-Merâḥ,

-Resâʾilü İbn Kemâlbâşâ el-luġaviyye,

-Risâletü meziyyeti'l-lisâni'l-Fârisî ʿalâ sâʾiri'l-elsine mâ ḫala'l-ʿArabiyye

-Risâle fî taḥḳīḳi taʿrîbi'l-kelimâti'l-Aʿcemiyye

-Et-Tenbîh ʿalâ ġalaṭi'l-câhil ve'n-nebîh

-Risâle-i Kāfiye,

-Dekāiku'l-hakāik (It is a work written in Turkish on the differences between some synonyms and homophones in Persian.),

-Nigâristân (Written as a nazire to Sa'dî-i Şîrâzî's Gülistân).

2. His works in the field of Akaid and Kalam:

-Risâletü'l-münîre (Münîretü'l-İslâm),

-Aḳāʾid-i İslâm,

-Risâle fi'l-îmâni'ş-şerʿî,

-Risâle fî taḥḳīḳi'l-îmân,

-Risâle fî vücûdi'l-vâcib,

-Risâle fî ḳıdemi'l-Ḳurʾân,

-Risâle fî elfâẓi'l-küfr,

-Risâle fi's-seb,

-Risâle fîmâ yeteʿallaḳu bi-lafẓi'z-zındîḳ,

-Efḍaliyyetü Muḥammed ʿaleyhi's-selâm (nebiyyinâ) ʿalâ sâʾiri'l-enbiyâ,

-Risâle fî tafżîli'l-enbiyâʾ ʿale'l-melâʾike,

-Risâle fî haḳḳı ebeveyi'n-nebî,

-Risâle fî taḥḳīḳi'l-muʿcize ve delâletihâ ʿalâ ṣıdḳı men iddeʿa'n-nübüvve,

-Risâle fi'l-cebr ve'l-ḳader,

-Risâle fî beyâni'l-ḥikme li-ʿademi nisbeti'ş-şer ila'llâhi teʿâlâ,

-Ḥaḳīḳatü'r-rûḥ ve'n-nefs,

-İḫtilâfü'l-Mâtürîdiyye ve'l-Eşʿariyye,

-Risâle fî taḥḳīḳi enne esmâʾe'llâhi tevḳīfiyye,

-Risâle fî taḥḳīḳi lafẓı Çelebî,

-Risâle fîmâ yeteʿallaḳu bi-ḫalḳi'l-Ḳurʾân,

-Risâle fî taḥḳīḳi'l-ḳavli'l-ḳāʾilîn bi'l-ḥâl,

-Risâle fî taḥḳīḳi ennemâ yaṣdüru bi'l-ḳudreti ve'l-iḫtiyâr lâ bi'l-kerhi ve'l-iżṭırâr,

-Risâle fî tekfîri'r-Revâfıż,

-Risâle fî beyâni küfri Firʿavn,

-Risâle fî ḥaḳīḳati'l-meʿâd,

-Risâle fî ḥaḳīḳati'l-mîzân,

-Ḥâşiye ʿalâ evveli'l-ilâhiyyât min Şerḥi'l-Mevâḳıf,

-Ḥâşiye ʿalâ Ḥâşiyeti'l-Celâl ʿale't-Tecrîd.

3. His works in Philosophy and Social Policy:

-Ḥâşiye ʿalâ Tehâfüti'l-felâsife li-Ḫocazâde,

-Risâle fî beyâni'l-vücûd (Resâʾilü İbn Kemâl),

-Risâle fî taḥḳīḳi lüzûmi'l-imkân li-mâhiyyeti'l-mümkin,

-Taʿrîfü'l-ʿaḳl,

-Risâle fî beyâni'l-ʿaḳl,

-Nesâyih (Pendname olarak da bilinmektedir),

-Fî Taḥḳīḳi murâdi'l-ḳāʾilîn bi-enne'l-vâcib teʿâlâ mûcib bi'ẕ-ẕât,

-Risale fi'l-Hassi 'ala's'ay ve'l-men' 'ani'l-batâle"

-Risâle fî ḥaḳīḳati'l-cism,

-Risâle fî maʿne'l-caʿl ve mecʿûliyyeti'l-mâhiyye,

-Risâle fî taḥḳīḳi maʿne'l-eys ve'l-leys,

-Risâle fî beyâni enne'l-vücûd ʿaynü mâhiyyetih ev ġayruhâ,

-Risâle fi'l-faḳr,

-Risâle fî ziyâdeti'l-vücûd ʿale'l-mâhiyye,

-Risâle fî enne'l-mümkin lâ yekûnü aḥade'ṭ-ṭarafeyn,

-Risâle fî iḥtiyâci'l-mümkin,

-Risâle fî ʿulûmi'l-ḥaḳāʾiḳ ve ḥikmeti'd-deḳāʾiḳ,

-Risâle fî hel yecûz en yestenide'l-ḳadîm ile'l-müʾeṡṡir em lâ,

-Risâle fî teḳaddümi'lilleti't-tâmme ʿale'l-maʿlûl,

-Risâle fî şübûti'l-mâhiyye,

4. Kemâlpaşazâde's works in the field of Fiqh and Fiqh Method:

-Taġyîrü't-Tenḳīḥ,

-Ḥâşiye ʿale't-Telvîḥ,

-Iṣlâḥu'l-Viḳāye,

-Ḥâşiye ʿale'l-Hidâye,

-Fetâvâ (Kemâlpaşazâde'nin Türkçe fetvalarını içeren eserdir),

-Mühimmâtü'l-müftî,

-Eşḳâlü'l-ferâʾiż,

-Resâʾilü İbn Kemâl. (bir mecmua şeklindedir).

5. Kemâlpaşazâde's works in the field of Sufism:

-Tasavvuf. Risâle fî fetva'r-raḳs,

- Fetvâ fî ḥaḳḳı İbn ʿArabî.

6. His works in the field of Interpretation:

-Risâle fî tefsîri Fâtiḥati'l-kitâb,

-Risâle fî tefsîri sûreti'l-Fecr,

-Risâle fî istiṡnâʾi'llâhi teʿâlâ mimmen fi's-semâvâti ve'l-arż ve taḥḳīḳihi,

-Risâle fî tefsîri sûreti'l-Mülk,

-Risâle fî sûreti'n-Nebeʾ,

-Ḳıssatü Hârût ve Mârût min Tefsîri Ebi's-Suʿûd.

V. Conclusion

Undoubtedly, Ibn Kemâlpaşazâde was first and foremost a man of law. However, he was not limited to law, he added sciences such as history, literature, language and medicine to the law. He even included important areas of the Islamic religion such as akaid and kalam.

He had the knowledge and insight to compete with and even surpass scholars such as Suyuti, Taftazani, Sayyid Sharif Cürcânî and Ebu Saud Efendi, who have a unique rank among Islamic scholars. As it was written above, he has produced nearly 300 works in various branches of science. This number is so great that a lifetime of reading is not enough today.

His works have been taught for a long time in many areas of social life, from madrasahs to lodges. It has solved many difficult problems related to the religion of Islam. His determinations on the sheikh are the ones that

remain valid today. In terms of his scientific level, he was accepted as "Muallim-i Evvel" among Ottoman scholars.

The laws, fatwas, opinions on fiqh issues, history books, advice and morals books, literary works written by Kemâlpaşazâde also showed their influence in the following centuries and continued to exist in the Ottoman social order. Especially his thoughts on labor are valuable and valuable to shed light on today's human and economic relations.

Information about his birthplace date is not very clear. For such a genius, that doesn't matter. But yet, it is likely to be Edirne.

In short, it is not known how possible it is to briefly describe Kemâlpaşazâde, a person of state, science and art. Especially if this person is someone who continues to illuminate today from centuries ago, this is almost impossible. This article was written with the desire to make impossible issue been possible, in spite of the fact that he sank into oblivion.

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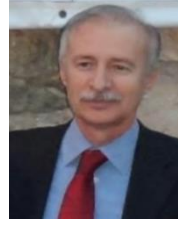
Mustafa Hatipler was born on 24.11.1959 in Edirne. He completed his primary and secondary education in Edirne, higher education. He completed his education in Bursa. He completed his master's degree at Trakya University and his doctorate at Namık Kemal University. Associate Professor in 2018 took the title. Published works of art by Hatipler: "Love Is Not Enough of Flowers", "Separation is Another Name of Death", "My Karagöz Flower", "Dreamwhite", "The Captive", "The Moon Has Fallen From the Night", "Let The Winds Tell You", "Edirne Is My City", "Bosnia Is Not New", "Daffodil Flower", "Remaining After the Days", "We Draw the Rose to Our Eyeballs" is called "A Long Thin Road". Mustafa Hatipler, who has over five hundred book chapters, national-international articles and national-international congress papers: "Human Waste", "In the World and in Turkey" The Original Structure of Poverty and Fight Against Poverty", "Changing World and Unchanging Relationships" and "Visual Culture and Culture Industry with its Economic Dimension" works have been published. Speaking English, Mustafa Hatipler is married and has two children.

Learning Analytics and an Evaluation Specific to University Libraries

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Research Article

ARTICLE INFORMATION

ABSTRACT

Learning analytics aims to evaluate the data obtained from learning environments with various methods and to improve the learner experience on educational platforms. Thus, educational institutions will be able to develop their strategies and policies regarding the improvement and development of the learning process. In addition, it will help strengthen learner-oriented systems too. In practice, learning analytics especially based on the analysis of data on learning management systems. However, ignoring the data sets on the systems used by education and training complementary units such as libraries causes the results of the implementation to be questioned. The framework and library-specific evaluation of learning analytics applications performed in universities was discussed in this study. In addition, it was aimed to determine the place of libraries in learning analytics. The documentary research method was used in this study. Studies on learning analytics and educational data mining have been identified by this method and library-learning analytics relationship has been evaluated. According to the research results, university libraries have many data sets of their users on their websites, electronic systems and social media tools. One-way learning analytics applications that these data sets are not included will lead to deficiencies in planning the future. In addition, libraries should consider ethical issues related to learning analytics, such as user privacy, data privacy and security.

Keywords: Learning analytics, University library, Educational data mining.

I. Introduction

Especially in the last thirty years, people can communicate and share information on the web continuously and simultaneously because of excessive growth of information and communication technologies. This situation leads to the emergence of a large amount of usable / unusable data on the web in raw form. Factors such as data being in an irregular and scattered form, on different platforms and in different formats makes this large amount of data very difficult to organize and analyze. However, technological developments have also pioneered the emergence of various tools and methods for obtaining, analizing and presenting this data. These new techniques, which allow especially commercial organiations to make service and production planning by examining customer behavior, play an important role in shaping the strategies and policies of the enterprises.

Education is one of the areas most affected by technology. Analysis of incremental teacher and learner experiences provides unique data for planning education.

Learning analytics, which emerged with the aim of improving learning processes and enviroments, is based on obtaining data from learning enviroments using these techniques and analyzing this large amount of data. The presentation of these analyzed data will enable both institutions and students to take precautions against predicted problems that they may experience in the future. In addition, it will allow data-based decisions to be made in order to use economic and pedagogical resources in the most convenient way (Alkan, 2017).

Today's education system where independent and lifelong learning is aimed personalized training platforms and learner focused systems are at the forefront. The use of larning analytics to reveal learning experiences in their development is encouraged. Siemens (2011) defines learning analytics as a method that express the measurement, analysis and sharing of outputs by collecting the data emerging in the enviroment and processes in which learning takes places. The goal of learning analytics is to improve the learning enviroment and process by evaluating the findings.

As with the entire educational community, universities

have a wealth of data on educational activities too. Especially during pandemic process, that most universities switch to distance education lead to produce too much data to be analyzed on behalf of being improved the latter process. Learning analytics practices will enable that these data discovering are through analyzed and reported improvement and policy making based on learning experiences of individuals.

Learning analytics is a new field of study for the e-learning field. Purpose is that the experiences of e learning stakeholders analyzing are used in solve the problems and planning. Although the ethical debates in literature about learning analytics continue, it is possible to list like that the learning analytics' advantages on stakeholders:

Instructors: They help to been detected the current situation by monitoring learner performance and to plan teaching activities.

Learners (Students): According to their peers, helps to increase in learning efficiency, can achieve their goals and increase their motivations.

Managers: Contributes to the effective using of resources, to stand out in global competition and to increasing the quality of the learning process (Akçapınar, 2021; Çiloğlugil, 2017, p.135)

In analyzing stakeholder experiences, it is important to evaluate all the elements that interact. Analysis of the experiences with libraries which are the effective elements of university education is valuable in the context of the construction of an independent and continuous learning-aimed teaching environment. Evaluation of learning analytics that are subject to this study for university libraries, It will enable library administrators and decision makers on the library to benefit from learning analytics techniques and methods to plan work and operations. Thus, in order to make the learning processes of students more qualified both in the library and in university, it is predicted that been created awareness for necessary studies.

University libraries, which are an indispensable part of education and learning, have a wealth of data on the information acquisition and learning behavior of their users. Altay (2019, p. 287), with mining techniques, express that analyzing the data emerged as a result of transactions on library information systems will guide library services and policies. Processing by acquiering these data, which are waiting to be discovered on information access and automation systems will enable to analyz the learning behavior of researchers and students who benefit from frequently university libraries. At the same time it will open up an opportunity for libraries to see their missing or problematic sides and to fix their errors. In this context, aim of the study is to determine what kind of results can be achieved by analyzing data in information systems used in university libraries using learning analytics techniques and methods. In this way, libraries will be able to perform the requested and required jobs and transactions by planning their service and resource management in this direction. In addition, learners (student, researcher, etc.) will be able to have a more efficient learning experience by using personalized learning activities, thanks to suitable applications for their own learning style. For this purpose, research questions

can be list as follows:

What kind of relationship between the university library and learning analytics are available?

What kind of research can be done on university libraries with educational data mining techniques?

What is the supporting role of libraries in learning analytics processes implemented at universities?

What are the attitudes of university libraries towards learning analytics?

Documentary scanning and description methods will be used in order to evaluate the learning analytics applications that are the subject of this study in the context of university libraries.

Before learning analytics are evaluated specific to university libraries, it would be beneficial to mention the concepts, applications, business process, method and techniques related to this field in order to understand the subject clearly.

II. Learning Analytics

It is known every action taken on electronic systems leaves mark. These tracks express the record of all data from users'logging in and out to the actions they perform on them. Given there are traces of learners, trainers, system administrators and senior managers on electronic learning systems, it is possible to talk about a large amount of data waiting to be discovered and analyzed on system in order to improve the learning envirements.

Learning analytics started to develop with the adaptation of data analytical methods, which emerged as a product of developments in information technologies in the early 2000s, to learning environments and processes. In particular, parallel to the frequent use of e-learning platforms, it aims to measure and improve the quality of education as a result of revealing and analyzing data. The origins of learning analytics are based on business analytics, which depends on the desire of determining customer trends by analyzing data, on the web, of enterprises that have commercial aim. These applications, which aim to improve the products and services of the enterprises paralelly increase the profit rates with the analysis of unique datasets which emerge, have been adapted to different disciplines over time (Bozkurt, 2016). Learning analytics, which is designed to increase the quality of learning process and to determine the learner performance, is defined as a field that covers the processes that large amounts educational datasets are processed, reported and attained from the servers information systems operate on, as well as displayed in order to improve supportive individual learning envirements for the learner (Fırat, 2015). In this way, it will been enabled that trainers, e-learning systems designers and policy developers evaluate the education envirement and make prediction about possible situations. Restructured strategies, policies, systems and practices will be able to contribute to orient process and improve educational elements.

All these learning analytics jobs and processes take place with many techniques and tools currently in use. Çiloglugil (2017); says that learning analytics is a field

that emerges by benefiting from data mining, machine learning, artificial intelligence and statistics applications. However Dyckhoff (et al. 2012, p. 58) expresses learning analytics as a field that emerges and developes as a result of that techniques are gathered used in different fields such as educational data mining, social network analysis and academic analytics. Therefore, it can be said that the further development of this new field over time depends on the development and diversification of pratices, tools and methods in different disciplines. Additionally, it is useful to refer to the origin of learning analytics, which is affected by many areas, techniques and methods, and to look at the events that it is affected by in the process.
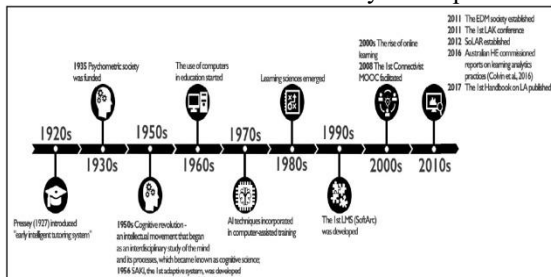

Fig. 1. Development of learning analytics (Source: Joksimovic and Kovanovic, 2019, p. 42).

In Figure 1, it is clearly seen that the development of learning analytics is shaped depending on education, psychometry and technological developments. Accordingly, the factors on the emergence and development of learning analytics as a field can be listed as follows:

- The emergence of intelligent learning systems and the development of computer-aided applications,
- Funding the psychometric community and developing mathematical models for the explanation and interpretation of human behavior with the adaptation of statistical methods to psychology ("Psikometri", 2020).
- The realization of the Cognitive Revolution based on the idea of interdisciplinary examination of the mind and its processes,
- The widespread use of computers in education and the transition to computer-aided education,
- The emergence of the science of learning,
- Development of learning management systems,
- The spread of online learning,
- Establishing the Educational Data Mining Society, organizing meetings on educational data mining and conducting scientific studies,
- Learning analytics studies started,
- Establishment of SoLar (Society for Learning Analytics Research),
- The publication of a learning analytics handbook, journal and other scientific studies on the subject.

Given above expressions that are listed about improvement of learning analytics and stages in figure 1, that education and many related fields have pave the way for the emergence of learning analytics is seen. However, considering that learning analytics are dependent on both technological infrastructure and techniques and methods in different disciplines, it can be predicted that they may

reach different dimensions in time in parallel with the technological developments and diversifying new techniques in the future. In this case, it is predicted that learning analytics methods and techniques will diversify and more intelligent learning platforms will emerge by taking advantage of the developments in different fields and branches of science.

Over the years, scientists have been researching on learning and teaching, tracking students' progress and improvement, analyzing data obtained from schools or universities, and applying various methods to enhance teaching-learning processes. Using this application as base, learning analytics analyzes using data that attained from learning activities in electronic enviroments, data science instruments and artificial intelligence tools (SoLAR, 2021) In this direction, the learning analytics process can be expressed as folllows at the basic level.
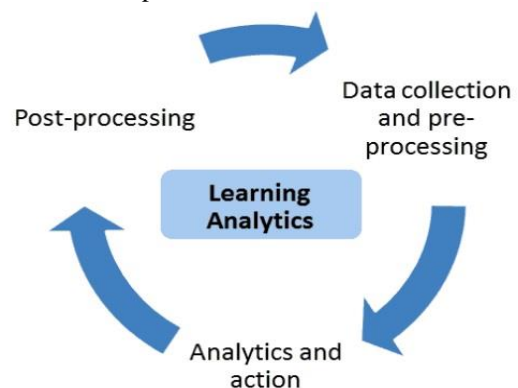
Fig. 2. Learning analytics process (Source: Chatti, Dyckhof, Schroeder, Thüs, 2012).

Figure 2 shows that the learning analytics business process consists of 3 main processes.

- Data collection and preprocessing process: For the purpose of collecting educational data it express the process of obtaining data and revealing useful data. These data can be easily accessible in an orderly fashion, depending on the design of learning enviroment but they can be in an irregular or scattered too. In such cases, these data should be made available by subjecting to preprocessing with educational data mining techniques. In this process, it is appealed to data cleaning, data integration, data transformation, data reduction, data modelling, user and session identification and path completion techniques.
- Analyzes and actions: It is a process that covers that data is demonstrated by analyzing and reading obtained reports are used for actions such as monitoring, analysis, prediction, intervention, assessment, adaptation, personalization, recommendation, and reflection.
- Post-process: It express the process in which feedbacks and improvements are made according to the success of the taken place implementation. This step includes the processes of compiling new data from additional data sources, refining the dataset, defining new indicators and criteira, changing analysis variables or selecting a new analytical

method (Bahçeci, 2015, p. 44-45; Chatti, Dyckhof, Schroeder, Thüs, 2012).

In addition to displaying the learning analytics simply, it is also necessary to examine the micro transactions in the process. Thus, the work flow in the process will be understood more clearly. Siemens describes a comprehensive work flow related to learning analytics as follows:
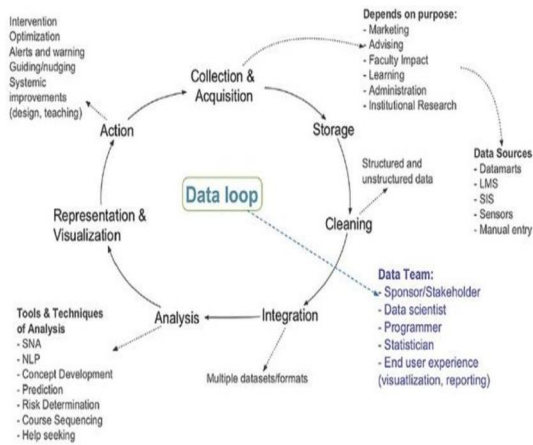
Fig. 3. Learning analytics workflow model (Source: Siemens, 2013, p. 1392).

As seen in the figure, this model developed by Siemens consists of 7 components.

Collection & Acquisition: Revealing the data to be analyzed.

Storage: Storage of the obtained data.

Cleaning: Removal of abnormal and inconsistent data.

Integration: Adaptation of data to existing data sets or a common vocabulary.

Analyzes: Analyzing the data so that they can be explained and predicted for the future.

Presentation & Visualization: Creating reports and diagrams in order to show the results.

Alerting: Real-time implementation of models to alert relevant stakeholders (Classroom Aid, 2014; Siemens, 2013).

Kop, Fournier and Durand (2017, p. 320) say that learning analytics is closely related to educational data mining. Because, it is possible to discover patterns that belongs to datasets on e-learning systems by using educational data mining methods and techniques. By using these techniques and various analysis methods, understanding of data, determining patterns, revealing trends, forecasting and early intervention practices and development of suggestion systems can be achieved. Learning analytics, on the other hand, includes the applications of using the discovered data sets and patterns in improving, developing and teaching design related to the learning process (Keskin, Aydın and Yurdugül, 2019, p. 295). Therefore, that it is necessary to address the issue of educational data mining, which has a strong connection with learning analytics is obvious.

III. Educational Data Mining

In the Dictionaries of the Turkish Language Society (Türk Dil Kurumu, 2019) data is defined as convenient

formed demonstration of fact, concept or commands for communication, interpretation and operation. In definition, the display of the data in a usable form comes to the forefront. This situation brings to mind that data mining techniques are implemented. The data mining can be described as a set of applications that include all of the tools, techniques and methods developed fort he purpose of analyzing large amounts of data. Hand (et al., 2000, p. 111) mentions that data mining is a discipline which develops in relation to many disciplines along with the emergence of big databases. Hand, Manila and Smyth indicate that the purpose of data mining is that large datasets are analyzed by using new methods to summarize the data which is thought to be understandable and beneficial and to determine the relationships between the data (as cited in Aydın ve Özkul, 2015, p. 37). In some sources, it is stated that data mining is regarded as an important part of information discovery process and joins in this process.
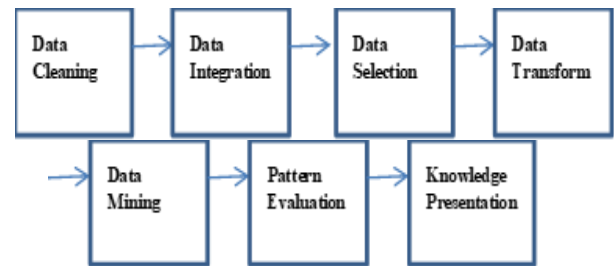
Fig. 4. Information discovery process (Source: Han, Kamber & Pei, 2011, p. 6-8).

In figure 4, the process from clearing the data obtained in the information discovery process to the emergence and presentation of meaningful information is expressed. The figure explains that some preliminary process need to be performed on the data as the data mining application is carried out. Afterwards, information can be displayed thanks to data mining applications. At the same time, data mining application, which is an important element of information discovery, has a process in itself. Wirth and Hipp express this process as follows.
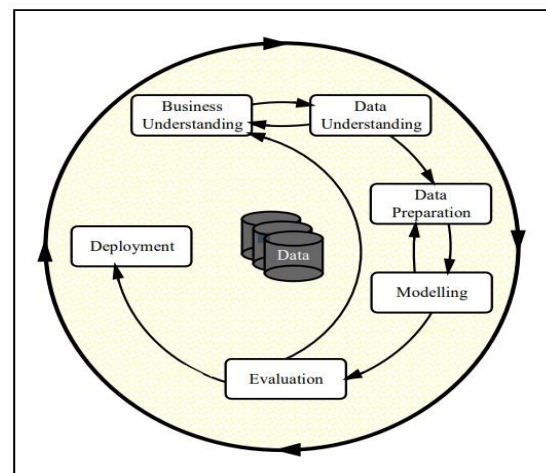
Fig. 5. Data Mining Process (Source: Wirth, R., Hipp, J. 2000, p. 5).

Business understanding: At this stage, the actions of understanding and planning in order to obtain the targeted and required information are carried out.

Data understanding: At this stage, the suitability, usefulness and quality of the collected data are determined.

Data preparation: This stage includes the process of revealing the final data sets by processing the raw data determined to be fit for purpose. The process includes table, record and feature selection, data cleaning, creating new attributes and transforming data for modeling tools.

Modelling: This stage covers the selection and application of various modeling techniques.

Evaluation: This stage includes the process of evaluating the models created for data analysis in a more comprehensive way and understanding whether they are designed in accordance with business goals. After this stage, a decision is made regarding the use of the results obtained by data mining application.

Deployment: The final stage of data mining implementation is not the creation of the model. This step covers the process of organizing and presenting the information obtained so that it can be understood and used by users.

Vahaplar and İnceoğlu (n.d.) mentioned that the data mining discipline brought new applications and listed them as follows:

- Business and electronic commerce data: Data that emerges organically in business processes within institutions and organizations and can be used effectively in decision-making.
- Scientific, engineering and healthcare data: It deals with applications on data that can be used and analyzed in the field today, when scientific data is becoming more complex than data emerging in the business world.
- Web data: It includes digital data as well as text, images, videos and other formats on the web.

It is possible to add datasets which will be able to derive from education enviroments into data mining applications, which is a interdisciplinary workspace. Therefore, educational data mining applications are not much different from traditional data mining applications. Data on educational enviroments (especially e learning enviroments) consist of the scope of educational data mining. Hirata and Cansu (n.d.) state that data mining in the field of education is entitled as educational data mining in the literature.

Öztürk (2018) mentions that systems where learning processes and navigation behaviors can be followed through digital tracks that belong to learners on open and distance learning enviroments are widely used. Educational data mining is a discipline that aims to develop methods to detect unique data types in educational enviroments and to make learners and learning enviroments more understandable through these methods. It benefits from different fields such as psychometry, machine learning, artificial intelligence, learning analytics, psychology and statistics to achieve this goal (Türel and Engin, 2016, p. 56).

Akgün and Bulut Özek (2020, p. 201) describe the usage purposes of educational data mining as follows:

TABLE I
USAGE PURPOSES OF EDUCATIONAL DATA MINING

|	
Provide information to educators	Analysis and visualization of data Giving feedback to support educators
Provide information to students	Suggestions for students
Determining student characteristics	Determining student performance Student modeling Detecting unwanted student behavior Grouping students
To reveal the relationships between students and concepts	Social network analysis Concept map development
Help with planning and creating lessons	Setting up educational software Planning and scheduling

It is clearly seen in Table 1 that the usage purposes of educational data mining are shaped within the framework of educators, students, concepts and lesson planning.

In brief, the purpose of applying educational data mining and learning analytics can be refers to as that e learning enviroments are improved; training strategies, policies and programs are developed; learner-oriented individual learning systems are designed; educational evaluations are carried out for educators and decision makers. For this purpose, it can be possible to carry out a smooth and complete process with an integrated systems in which all elements and units belonging to the educational enviroment are together. So, excluding libraries with many data sets on learners in universities will cause erroneous and incomplete results.

IV. Learning Analytics and University Library

Greller and Drachsler (2012, p. 52) state that evaluating a students' performance only with data obtained through learning management systems is like looking at a single piece of the puzzle. Therefore, it is clear that university libraries, which constitute a very important part of contemporary education, are the primary implementation area of learning analytics.

It is known that university libraries serve their users electronically through websites, automation systems and information retrieval systems. Additionally, libraries, which also benefits from frequently social media applications, have numerous datasets which are attained from various systems and platforms. In parallel with the services provided by university libraries, explaining the elements that will form input to learning analytics is important in terms of determining the contributions of libraries to learning analytics. These elements are:

Web sites: Various services are offered to users on the websites of university libraries. Libraries have exceeded traditional websites and started to serve through advanced systems. These services can be listed as follows:

- Information about the library and its services,
- Sharing announcements, news and events,
- Units, personnel and contact information,
- Structured forms for user-library interaction,
- Search field integrated into the interface for information discovery and catalog browsing,
- Navigator for discovery of subscribed and purchased resources,
- Online reference services for user assistance.

Automation system: Systems that provide the information source and the user-library relationship are automation systems. The processes of defining information resources (cataloging, classification, etc.) by librarians are carried out through automation. In addition, OPACs used by users for resource search and devices used for book borrowing & circulation work in integration with the automation system.

Discovery tools: Although both library websites and automation systems provide a window to access the information resource, Discovery tools developed for easy discovery and access of all resources the library subscribes to or owns are widely used.

Social media applications: It is obvious that university libraries, which frequently make use of social media applications, have a large amount of data on these platforms. There is interaction data waiting to be discovered on these tools where users interact with each other and with libraries. Analyzing the data on these tools used by libraries with various methods will help libraries and their affiliated institutions to decide and develop strategies.

In addition, it can be predicted about students' learning experiences by analyzing the processes (notes, highlights etc.) that readers carry out on electronic information sources, which they use, and these analysises can be used for improvement of personalized learning enviroments.

Libraries are important units for universities and librarians are committted to enhancing student learning and success. However, most university libraries have opted out of learning analytics initiatives in institutional level. Nevertheless, it seems possible that librarians will involve in corporate analytics practices by guiding the ethical use of learning analytics to increase students' success (Oakleaf, 2018, p. 6).

Nicholson, Pagowsky and Seale (2019) state that researchers and practitioners have been working on library learning analytics in recent years. Additionally, he says that professional associations such as the Association of College and Researc Libraries (ACRL) are also involved in the process. The authors state that it is possible to obtain real results with scientific methods, based on the desire to know and control the future in the face of uncertainties thanks to library learning analytics. Therefore, it is emphasized that it will be important for libraries to utilize learning analytics to make risk planning, determine vision and create strategies.

Since the activation of learning analytics and educational data mining applications on the library systems and it is possible to determine the information seeking behavior of users and services they need most, libraries can be made to see their missing or problematic aspects and to do the necessary works to increase the service quality. In addition, in design of individual learning systems, establishing a library relationship, presenting the potentially needed source of information to readers through personalized systems by examining learner behaviors (especially information seeking behavior) is an important issue. In other words, providing library integration to e-learning platforms to create personalized learning enviroments and evaluating the use of learning analytics in this context is important in terms of the integrity of application.

Jantti and Heath (2016, pp. 208-209), highlight the importance of utilizing library usage and interaction data in new learning analytics models and state that a new perspective will be gained in increaing the learning experience and academic performance of students with the inclusion of libraries in learning analytics. Researcher, who claim that library data is an important component among learning analytics datasets, expresses that data obtained from learning analytics are used to improve the students experience.

Greller and Drachsler (2012) constructed the framework of learning analytics as in Figure 6. Accordingly, learning analytics consists of 6 main elements. These elements can be evaluated in the context of the university library as follows:
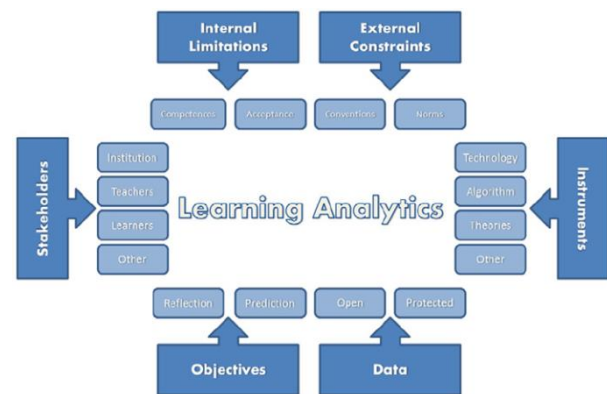
Fig. 6. Learning Analytics Framework (Source: Greller and Drachsler, 2012, p. 44).

1. **Stakeholders:** Institutions, educators, learners and their families constitute stakeholders of learning analytics. As a result of the actions taking place on the library electronic systems (website, automation and information retrieval systems), digital traces of students, researchers, instructors or staff of the institution are encountered.

2. **Objectives:** Learning analytics, aims that hidden informations are revealed by discovering traning data. Analysis of system and interaction data on library websites and information retrieval systems can help libraries and their affiliated institutions to develop reflexes, predict and make desicions. Watching the flow of information, information sharing and social interactions can provide understanding of new insights.

3. **Data:** Learning analytics take advantage of educational data on learning enviroments. Libraries are institutions that support learning. Therefore, datasets that emerge while learners use the library are very important. If the learning analytics discipline, which promotes individual learning and flexible learning enviroments, ignores the importance of libraries' role in this regard, the analytics performed may not give accurate results. Including datasets from libraries, joining together existing datasets will contribute to student-focused services and the development of personalized educational mixed applications.

4. **Instruments:** In the line with the purpose of learning analytics, different disciplines and technologies are

used in the development of educational services and applications. Educational data mining, machine learning, statistical analysis techniques, social network analysis can be regarded as the instruments of natural language processing learning analytics. These techniques can be beneficial for discovery, analysis, presentation and use of data on library systems and social networks.

5. External constraints: Learning analytics face with many different constraints. We can list these constraints as legal, ethical and social constraints. University libraries have fallen behind their institutions in implementing learning analytics applications. Partly institutional barriers and that data can not been used owing to insufficient infrastructure, university policies, privacy and privacy concerns can be given reason to this situation (Robertshaw and Asher, 2019). There are serious debates about privacy, data privacy, ethical problems, data security and sharing datasets on library learning analytics in literature. The libraries which are responsible for protecting the privacy of user data at the highest level face ethical and moral debates about use of data attained from leraning analytics and minning applications. Briney (2019), mentions that user privacy may be weakened and completely eliminated in library learning analytics applications unless the data which attain from university libraries are used correctly. Jones and Salo (2017) cite from ethical problems cope with learning analytics and that data mining applications are at odds with American Library Association's "Code of Ethics ". Because, protecting the privacy and confidentiality of user data on library systems is important to adhere to ethical principles. In addition to this, protection of intellectual property rights and observance of copyright among library users, institutions, content creators and vendors (commercial companies) is among the issues that need to be considered.

6. Internal Limitations: It is obvious that new high level competencies are required in order to implement learning analytics and gain efficiency in the learning -teaching process. Interpretation, critical evaluation and some high level competencies are required in order to make learning analytics an effective tool for education applications and to use learning analytics data in the most appropriate way. Additionally, the limitation of learning analytics applications with learning management systems, ignoring elements which are useful and support education such as libraries limits the gains that can be obtained from this discipline and reduces the quality of the application.

Learning analytics, which are used to improve the learning process in universities, are interested in learning management system, student information system and other systems related to education and focus on increasing the quality of learning process. That personalized training platforms and learner-oriented systems by evaluating the data obtained are developed is possible. However, ignoring the data sets on the library electronic systems, both within the framework of learning analytics business process and in the implementation of learner-oriented systems, may cause that applications to be implemented and the systems to be developed to be incomplete and reveal erroneous results.

V. Conclusion

Universities have large amounts of data on electronic systems they have. The most important of these systems for learning analytics is undoubtedly the learning management system. Nevertheless, learning management systems alone are not enough to examine, avaluate and predict learner behavior. Including useful data sets that can be obtained from other systems that support education into the learning analytics business process will contribute to the better planning and improvement activities targeted by learning process analysis.

Data mining, which is an interdiscipllinary tool, that emerges with technological developments, is a discipline based on discovery, analysis, display, reporting of data and taking measures and making improvements depending on the purpose. The purpose of educational data mining, which is particularly concerned with data in learning enviroments, includes analysis towards improving learning enviroments, developing policies and strategies on education and improving learner situation. Educational data mining, which constitutes important part of learning analytics application processes, can be used on both learning management systems and other learning enviroments.

There are a large number of datasets waiting to be discovered and evaluated on websites, information retrieval systems and social media tools where university libraries, which are a complementary and supportive unit education, can interact with their users. In addition, the notes taken by readers on the electronic information resources they utilize, places they see important and emphasize, the sections they read and benefit from can be used to improve the learner experience for personalized learning systems.

In the long run, that learning management systems and systems which are used by other university units carry on their tasks by gathering under a single roof will pave the way for the emergence of an integrated and easy to understand ecosystem. This situation will increase the importance of learning analytics and learning analytics will become easily applicable without the need for additional applications and tools. Thus, the quality of education and connected services provided at universities will automatically increase.

On learning analytics applications, there are privacy, confidentiality concerns, protection of personal data and such concerns. Despite all these ethical concerns, it has become possible to maintain learning analytics by protecting and guaranteeing the privacy of users and data privacy with today's technological possiblilities. Creating systems that allow to be evaluated general reports by educators, administrators or policy developers and to be presented the users by interpreting personal data by machines in individual reporting can enable to protect

user privacy.

As a result, learning analytics is an evolving discipline. Factors such as difficulties especially encountered in applications, concerns over the privacy of personal data, whether datasets to be obtained by the techniques and methods to be used are useful, the difficulty of evaluating the data obtained from different learning anviroments as a whole, reveal that the discipline of lerning analytics needs to be improved. In this process, there is a necessity to analyze the learner data on library information systems and their e-resources in order to improve the level of learner education and increase individual learning success in universities. However, being enabled many sources of information owned and subscribed by libraries from external makes it difficult to obtain data. Therefore, being gotten absolute result from learning analytics applications oblige that the issue is analysed by discussing with all stakeholders across the global.

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Librarians' Innovation in the Federal Universities in Nigeria

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Research Article

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ABSTRACT

The demand for new types of services from the users, change in technology application in university libraries, and inadequate budgetary provision faced by libraries has made innovation a necessity rather than a mere consideration by librarians in Nigerian universities. Innovation has become a veritable means of survival in the face of challenges facing library and librarians across the globe. The quest to channel information to library patrons spurred the creation of several innovative services that has facilitated the link between traditional library information services and emerging technological application. Therefore this paper investigated the innovation by librarians in federal universities in Nigeria.The respondents' age was 40.58 ± 2.30 years and 59.1% were males. Respondents' qualification were Master's degree (62.7%), Bachelor's degree (18.1%), Ph.D's degree (13.5%), and M.Phil degree (5.6%). 654 librarians from the 40 federal universities in Nigeria formed the population of study and were enumerated. Data were analysed using descriptive statistics. 79.2% respondents filled and returned the questionnaire. The result shows that the level of innovation by the librarians in the federal universities is high (=86.60).Different innovation strategies were employed by the librarians to market library products and services of their work place.Significant difference exists in the innovation of the librarians based on the universities. Therefore, library administrators should create conducive atmosphere where innovative ideas can be promoted and rewarded among the librarians.

Keywords: Product innovation, Service innovation, Marketing library services, Librarians, University libraries, Nigeria..

I. Introduction

The enormity of challenges confronting libraries, especially the university libraries in the developing nations of the world have changed innovation from the stage of contemplation to necessity. Libraries globally, are operating under a climate of budget cuts and rising costs under a scarce resources situation. University library managers are inevitably bound to make astute decisions in relation to how innovations will be adopted and executed in their libraries. Brundy (2015) emphasised that the two fundamental factors critical for adopting innovation in academic libraries, especially university libraries, are changes in technology and declining budget. The Association of Research Libraries (2014) reports that forty members of their libraries experienced declined university expenditure. Lowry (2011) buttressed the fact that the trend of reduction of university library budgets is expected as a

result of economic challenges such as financial crisis and economic recession that have resulted in budget cuts for several libraries. Islam, Agarwal and Ikeda (2015) maintained that university libraries across the globe are experiencing challenges of service maintenance and use and must expand amid indefensible costs, declining use of library collection, increased demand for new services and change into digital services. To adequately combat these arrays of challenges, innovation is inevitable.

The sudden information explosion on the web has posed a major threat to the survival libraries across the globe. Although, much of the information on the Internet appears to be irrelevant as much as serious academic work is concerned. Majority of these array of information are not censored, and the resume of most of these authors' knowledge in their field of endeavors can be quarried. Despite these demerit on the credentials and certification of the authors of most of information resources on the internet, the fact that people can Google out some search

term has already provided a very strong alternative for library economy. To weather the storm of these challenges, innovation is the answer, especially on the part of the librarians who doubled as gate keeper of relevant information.

Innovation is a process whereby the ideas generated are, filtered, captured, modified, funded, developed, clarified and eventually implemented or commercialised.Innovation is a process of implementing a change in the way library operations are done. Though, libraries are overwhelmed in routines and regulations essential for protecting fair use. Innovation is embedded in the use of technology and in the way librarian interacts. Therefore, innovation in university libraries is also exemplifies in functioning routines for library effectiveness.

Innovation application in libraries has revolutionalised the method of operation by librarians. Library services that hitherto domiciled in the university libraries are now being accessed and enjoyed remotely by the users. The development of information technology and information explosion has made library users in the university environment to be more prone to select various information sources such as the Internet, CD-ROM, and different platform of social media, besides the library. Though this may be considered as a major factor that can erode the functionality of librarians, experience has proved that library users do not find most of the information sought through the internet relevant and adequate to meet their information need. Therefore, the demand for services like selective dissemination of information and answering users queries provided by the librarians is increasing day by day. Librarians are now providing online reference services on literature search and access, telephone reference services and e-mail reference service to their users (Chunli and Jinmin, 2011).

Other services provided by librarians in the digital age include the use of library blog that has become communication links between the library and her users for the reason that it is an interactive platform. Chunli and Jinmin (2011) reported that information services provision by librarians are traditionally passive oriented. This is because most of the library users access the library resources from their websites. Therefore, university libraries should innovate traditional reference services and transit into knowledge services where librarians will directly participate in solving library problems. However, it is to be noted that the library clients need in the digital age transcends documents and information but the changing information into products. Therefore, librarians must innovate so as to meet up with the users' changing needs.

Another area in which librarians can provide service innovation is in users' participation in the collection development, building partnership with other librarians and building partnership with vendor and commercial communities (Yeh and Watter, 2016). There are several ways which services innovation can be applied in the library. These include innovation in the entire library services that allows shift from general services to personalised services; innovation in funding through new partnership and seeking donation, etc. Library can organise e-day events where information literacy can be taught. Digital lending service can as well be done as it is the practice in United Kingdom (UK) where many libraries now offer e-book lending (More, 2017). Similarly, Mori (2017) averred that academic librarians are using digital format to preserve their specialised collections and make them more accessible. For example, the foundation project at Cambridge University Library has digitised their early important collection in the field of religion and science which are now available and accessible to users

Furthermore, university library can innovate in the areas of marketing library products and services. Konya (2013) defines marketing as the process of planning and execution of development, pricing and promotion and distribution of products/services and ideas to make interactions that satisfy organisational objectives. Marketing of library product and services aims at shaping the wants, demands and needs of the target patrons though designing and delivering of suitable products/services effectively for achieving organisational objectives. Pantage (2013) maintains that marketing of library services and product is a novel area presently attracting the attention of researchers, market and the business scholars. Marketing library services was also defined by different authors in a variety of ways. Therefore, when a library markets its product and services, it will promote the partnership between the library and their host community.

The fact that library services are embedded in routines make the matter worse. Routines is a major enemy of innovation. Routines does not allow an employee to think outside the box. Routines lock the door of idea generation and it closes up implementation of idea generated if any. From the fore-going, it is imperative to unravel the level of innovation among librarians and to know if significant difference exist among these group of professionals in federal universities in Nigeria.

II. Objective of the Study

The following specific objectives of the study areraised. To:

1. Determine the level of innovation of librarians in the federal universities in Nigeria;
2. Find out the innovation's strategies employed by librarians in the federal universities in Nigeria;
3. Determine the significance difference in the innovation of librarians based on the universities, that is, place of work.

III. Research Questions

Arising from the objectives of the study, research questions are:

1. What is the level of innovation by librarians in the federal universities in Nigeria?
2. What are innovation's strategies employed by librarians in the federal universities in Nigeria?
Hypothesis
Ho1. There is no significant difference in the innovation of librarians based on the universities.

IV.   Literature Review

The desire of librarians to meet up with the speed of development and growth calls for creative and innovative expertise. The continued growth of academic libraries, especially university libraries is largely depends on how much innovative services they can offer (Islam et al, 2015). Innovation in librarianship is all about looking for new ways to improve library services (Onuoha, Anyawu, Ossai-Onah and Amaechi, 2015). The need for innovation and creativity among librarians as asserted by Njoku (2008) was based on the fact that the library environment in which professional have to perform or discharge their duties is significantly changing due to economic, demographic, educational, political, technological and social development. The uprising in computers, communication and contents in the last few decades has had dramatic effect on the information management career and as the information world is becoming more paperless, changing from the paper-based to electronic information, innovation is inevitable.

Innovation, according to Onuoha, Anyawu, Ossai-Onah and Amaechi (2015) is the introduction of new things and adjustment of what has been. Innovation in libraries can be new ideas that is introduced in the learning process, it is all about presenting new ideas, practices and knowledge that are capable of effecting positive changes to libraries. These ideas could be the method of charging and discharging information resources, management of traditional and online resources, digitising information resources and management of local content in libraries, etc. Anyawu (2010), admitted that innovation is the capability to apply new concepts that will enable you to carry out activities in a different ways. In her view, through personal initiatives, thoughts, perception and insight, things can be turned around. On the other hand, librarianship is all about discovering of new ways of carrying out library and information services (Onuoha, et al. 2015). This assertion is true when comparing the traditional way of cataloguing and classification and the way it is being done today. Innovation in libraries has granted access to knowledge domain of other libraries and librarians, copy cataloguing is now part of librarians' professional practice. This has reduced drastically the amount of time that could have been wasted in the professional practice of individual cataloguing.

Trott (2005) asserted that innovation manages different tasks involved in the course of idea creation, technology development, manufacturing and marketing of a new products and manufacturing process. If innovation is understood as a course of idea production, it is therefore knowledge application and the successful exploitation of a new knowledge is the whole reason for innovation (Laeeque, 2014).Anyawu (2010) argued that innovation has to do with application of new ideas, a new idea is not meant to be dormant, but rather, there should be an opportunity for it to produce more fruits.

Njoku (2008) contended that innovation implies change, but not mere change which can occur on its own, or change brought about by man for the sake of it, without benefits.

In other words, any change associated with innovation must be linked with either economic or social benefits to the organisation or the society at large. Rugman, Collinson and Hodgets (2006) broadly divided innovation into product, service and process development. The former to them refers to activities that influence the creation of a new product and services that customer wants or improvement to existing products/services for customer than those of rival forms. Ferguson (2012) on the other hand, categorised innovation that is applicable in library environment into product, process, marketing and organisational innovation. Product innovation has to do with a service or product that is new or significantly improved e.g. improving virtual enquiry service through the introduction of an instant messenger to propel enquiries. Process innovation can manifest in delivering a service that is cost effective. This can manifest in automating routine library work to save time and intensify quality.

However, Onuoha, et al (2015) stated that creativity and innovation recreates chances for librarians and reposition them to gain competitive benefits only if these opportunities are discovered. Chunli and Jinmen (2011) posited that librarians must innovate in information and reference services provision to meet the client changing needs, the reason is because information demand of library clientele in the digital era has gone beyond documents delivery services but processing of information into products.

Innovation policy, though fashionable is often taken the wrong way; it is a supplement to technology and science policy, as frequently presented. Innovation - the application of all types of knowledgeto attain anticipated economic and socialoutcomes is more extensive than science and technology, often merging technical, organisational, and other types of changes (Swain, 2011). The innovation system plays a vital role in obtaining, generating, espousing, and distributing knowledge, which is essential for success in the knowledge economy. The innovation system in any country consists of the system of rules, institutions and processes that distinguishes how the country obtains, generates, distributes, and uses knowledge (Dahlman and Utzs, 2005).

Lajoie and Bridges (2014) stressed that the terms innovation and change are frequently made use as synonyms. An innovation, or change, is usually explained as any object, practice or idea, that is perceived to be new by an individual or the organisation either accepting or refusing it. Even though the idea has been around for a while is known to other organisations, it is still considered a change or innovation if it is new to the organisation considering it. Therefore, change or innovation in libraries and information centres has become imperious due to the technological upheaval and creative growth of electronic information recently (Swain, 2011).

Valentini and Triantafyllou (2015) and Ibegbulam and Jacintha(2016) averred that there are different ways through which librarians can adequately be exposed to innovative and creative skills in library and information science profession. Onuoha et al (2015) maintain that in this era of information communication technologies

(ICTs), librarians through various conferences, workshops and seminars organised by arms of the association such as Cataloguing and Classification Section and Library and Information Technology (IT) can learn new ways of improving library services to their patrons due to the availability of Internet facilities.

The Internet, which has caused remarkable change in librarianship, can similarly be used as opportunity for realising innovative and imaginative skills. An x-ray of library practices in Nigeria reveals that many innovations have been introduced. Zaid and Oyelude (2012), in their study using University of Lagos library and Kenneth Dike library, University of Ibadan, posited that the subsequent forms of creativity and innovation can be adopted: laptop loan services, incorporating web 2.0 tools for library operations, e-resources management services, electronic reservation services, provision of research tools, introduction of virtual library environment and making available 24 hours library services. All these innovations and creativities are owing to the Internet provision which has noticeably improved the phase of library professional work. The current economic recession that is confronting the Nation coupled with the incessant cut in library budget as being experienced in most of Nigerian Universities may not allow all the submission of Zaid and Oyelude to be fully implemented in Nigerian university libraries, for example, the issue of laptop loan services. However, some of their parameters suggested can be put in place, most especially, the application of web 2.0.

Swain (2011) argued that owing to dramatic improvements in the information society and the ICT sector, managers of libraries are interested not only in adapting to these extensive adjustment, but, more essentially in triggering innovative concepts from their personnel with a view to remain at the leading edge of knowledge other than ordinary passive spectators. Technology can be used creatively in the delivery of service through means of the mobile phone, for example, some libraries have accepted this device to send late reminders to customers for the late return of library materials (Ramjaun, 2008). Librarians have convincingly proven their capability to chief, manage and make use of innovative technologies by the introduction of CD-ROM databases, OPACs and Internet access into their libraries in the last few years (Malimconico, 2012). Thus, it has become trendy to say of a new librarianship and of a new image of been first users of new technologies. Librarians therefore, are adapting to the use of the newest information handling and communication technologies.

The range and difficulty of challenges facing librarians and libraries today are unprecedented. Undoubtedly, the propagation of information technologies has made a major effect on libraries in the way they deliver their services and content as well as the arrangement of that very content, especially in the advanced nations where most libraries are moving towards digital collections or at the very slightest hybrid print and digital collections. In this society, there is also growing expectations of operators for quality, accurateness and instant reaction to their own needs. Ramjaun (2008) remarked that innovation in libraries is unavoidable owing to the subsequent causes: redefining procedures that boost the process of finding better and new means to make library collections and services more beneficial; applying new technologies to extend and improve library facilities to meet the needs of the user; creative association among libraries or between libraries and other institutions exploration of the libraries' future; the introduction of new services or the retooling of traditional services leading to improved user experience; the discovery of unmet user needs;and incorporating the unsurpassed practices from foreign libraries wherever possible.

Tambwe (2016) averred that university libraries in Uganda are digitising books and issuing library resources in electronic format to the library patrons. Buwule and Mutula (2017) recommends that as part of innovation in the university libraries, librarians should take advantage of social networks to spur collaborative entrepreneurial and innovative services. Similarly, Johnson, Adams, Estrada and Freeman (2015) concluded that university libraries should no longer endeavor for market share but should endeavor to create new produces and services for the market. Vaughan (2013) examined innovation of technology in academic libraries. The result was founded on a study which was concluded by twenty-four directors of member libraries of the Association of Research Libraries. The result revealed that the impact of innovation on customers and its linking with the library's mission ought to be deliberated before effecting it.

Furthermore, Swain (2011) maintained that for libraries to survive in these environments, librarians must be innovative. Innovation adventures change and offers libraries the means to handle the unstructured complications arising from changing environments. It is apparent that owing to the overflow of electronic information harmonising with the introduction of contemporary ICT devices, the information professionals frantically strive to revamp and re-engineer their techniques of services delivery to the users' society by changing over traditional practices to electronic information systems and services through an innovative approach (Swain, 2011). Innovation therefore is knowledge application.

The need for innovation begins with idea conception. Speaking in the same direction, Ananiadou and Claro (2009), on the need for innovation and creativity, revealed that the improvements in the economy and society require that the educational system prepares young people with expertise, that allows them to benefit from the developing new form of socialisation and to actively influence to economic development of the nation. Innovation is creativity application that lead to the broad adoption of product, service or strategy (Kaya, Turan, and Aydin, 2015). If innovation is the application of creativity, the application of both creativity and innovation to library operations will help librarians in their quest to create knowledge.

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V.   Methodology

Descriptive survey of correlational type was used as research design. This is because it is wide in scope and permits data collection from large population that are spread over geographical area. The study was carried out in the 40 federal universities in Nigeria, which are located across all the six (6) geo-political zones in Nigeria. 654 librarians with at least a bachelor degree in library and information science formed the population of study and were enumerated. The instrument of data collection was questionnaire with the reliability coefficient of 0.75 based on Cronbach-alpha method. The Statistical Package for Social Sciences (SPSS) was used for the data analysis. Descriptive statistics presented in frequency count, mean and standard deviation was used to analyse research questions 1and 2. One-way Analysis of Variance (Anova) was used to test the hypothesis postulated in this study at 0.05 level of significance.

Presentation of result

Demographic profile of the respondents

Demographic characteristics of the respondents is presented in Table 1.

TABLE I
DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

Job Status	Frequency	Percentage
Assistant Librarian	109	21.0
Librarian II	134	25.9
Librarian I	111	21.4
Senior Librarian	85	16.4
Principal Librarian	51	9.8
Deputy Librarian	23	4.4
University Librarian	5	1.0
Gender	**Frequency**	**Percentage**
Male	306	59.1
Female	212	40.9
Marital Status	**Frequency**	**Percentage**
Single	81	15.6
Married	432	83.4
Divorced	1	0.2
Separated	1	0.2
Widowed	3	0.6
Age	**Frequency**	**Percentage**
20-29 years	22	4.2
30-39 years	225	43.4
40-49 years	153	29.5
50-59 years	97	18.7
60-69 years	21	4.1
Highest Academic Qualification	**Frequency**	**Percentage**
Ph.D.	70	13.5
M.Phil	29	5.6
Master	325	62.7
Bachelor	94	18.1
How long have you been working in this library	**Frequency**	**Percentage**
1-9 years	320	61.8
10-19 years	117	22.6
20-29 years	44	8.5
30-39 years	36	6.9
40-49 years	1	0.2
Section	**Frequency**	**Percentage**
Management Unit	55	10.6
Cataloguing/Classification Unit	104	20.1
Acquisition Unit	70	13.5
Circulation Unit	85	16.4
Reference Unit	62	12.0
Virtual Unit	13	2.5
Reprographic Unit	31	6.0
IT & Computer Section Unit	41	7.9
Serial Unit	43	8.3
Audio-Visual	14	2.7

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Years of work experience	Frequency	Percentage
1-9 years	243	46.9
10-19 years	157	30.3
20-29 years	72	13.9
30-39 years	40	7.7
40-49 years	4	0.8
50 + years	2	0.4
Total	**518**	**100.0**

Table 1 shows the demographic characteristics of the respondents. The job status showed that 134(25.9%) were Librarian II while 5(1.0%) were University Librarian. On gender, 306(59.1%) were males while 212(40.9%) were females. On marital status, 432(83.4%) were married, while 81(15.6%) were single. Age distribution of the respondents revealed that 225(43.4%) were 30-39 years were the majority while 21(4.1%) were 60-69 years were the minority. On academic qualification, 325(62.7%) had Master degree certificates while 29(5.6%) had M.Phil degree certificates respectively.

Research Questions

The following research questions are raised in the study.

RQ1: What is the level of innovation by the librarians in federal universities in Nigeria?

The level of innovation of librarians is as presented in Table 3

TABLE II
LEVEL OF INNOVATION BY THE LIBRARIANS IN FEDERAL UNIVERSITIES IN NIGERIA

S N	Innovative behaviour of librarians	SD	D	A	SA	$\bar{x}$	S.D
1	I enjoy trying new ideas	19 (3.7%)	26 (5.0%)	302 (58.3%)	171 (33.0%)	3.21	0.70
2	I seek out new ways to do things	13 (2.5%)	35 (6.8%)	309 (59.7%)	16 (31.1%)	3.19	0.67
3	The creation of new product/services in my library is based on the combined effort of librarians	13 (2.5%)	36 (6.9%)	310 (59.8%)	159 (30.7%)	3.19	0.67
4	Library management promotes implementing new ideas	25 (4.8%)	36 (6.9%)	301 (58.1%)	156 (30.1%)	3.14	0.74
5	When an answer is not apparent, I often invent means for solving a problem	20 (3.9%)	39 (7.5%)	323 (62.4%)	136 (26.3%)	3.11	0.69
6	Implementing new proposals are welcome in my library	24 (4.6%)	53 (10.2%)	302 (58.3%)	139 (26.8%)	3.07	0.74
7	I always inject new services to my work schedule each day	15 (2.9%)	69 (13.3%)	315 (60.8%)	119 (23.0%)	3.04	0.69
8	I am an innovative kind of person	32 (6.2%)	58 (11.2%)	285 (55.0%)	143 (27.6%)	3.04	0.80
9	I frequently find myself doubtful of new ideas	32 (6.2%)	101 (19.5%)	201 (38.8%)	184 (35.5%)	3.04	0.89
10	I like taking part in the leadership duties of the group I belong to	31 (6.0%)	84 (16.2%)	263 (50.8%)	140 (27.0%)	2.99	0.82
11	I adjuge myself to be inventive and original in my thinking and performance	28 (5.4%)	79 (15.3%)	285 (55.0%)	126 (24.3%)	2.98	0.78
12	I am open to new ideas	29 (5.6%)	77 (14.9%)	289 (55.8%)	123 (23.7%)	2.98	0.78

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		SD	D	A	SA	$\bar{x}$	S.D
13	I am challenged by unanswered questions	25 (4.8%)	96 (18.5%)	262 (50.6%)	135 (26.1%)	2.98	0.80
14	I am an influential member of any group I belong	22 (4.2%)	87 (16.8%)	301 (58.1%)	108 (20.8%)	2.96	0.74
15	I find it exciting to be original in my thought and action	36 (6.9%)	100 (19.3%)	265 (51.2%)	117 (22.6%)	2.89	0.83
16	I am generally careful about accommodating new ideas	27 (5.2%)	108 (20.8%)	290 (56.0%)	93 (18.0%)	2.87	0.76
17	I spent more time on daily basis thinking about how new services can be implemented in my library	32 (6.2%)	97 (18.7%)	297 (57.3%)	92 (17.8%)	2.87	0.77
18	I almost made new product/services myself although I had to use some kinds of assistance or help	26 (5.0%)	122 (23.6%)	273 (52.7%)	97 (18.7%)	2.85	0.78
19	I hardly trust new ideas until vast majority of people around me accept them	41 (7.9%)	139 (26.8%)	243 (46.9%)	95 (18.3%)	2.76	0.84
20	I am challenged by uncertainties and unsolved hitches	34 (6.6%)	142 (27.4%)	254 (49.0%)	88 (17.0%)	2.76	0.81
21	I must see other people using new skills before considering them	46 (8.9%)	143 (27.6%)	225 (43.4%)	104 (20.1%)	2.75	0.88
22	I spend all my time on implementing new services	36 (6.9%)	173 (33.4%)	205 (39.6%)	104 (20.1%)	2.73	0.86
23	I am apprehensive of new ways of doing things	32 (6.2%)	165 (31.9%)	234 (45.2%)	87 (16.8%)	2.73	0.81
24	I am hesitant about accepting new ways of doing things until I see them put to use other people	41 (7.9%)	159 (30.7%)	220 (42.5%)	98 (18.9%)	2.72	0.86
25	I incline to feel that the old way of doing things is the best	52 (10.0%)	139 (26.8%)	230 (44.4%)	97 (18.7%)	2.72	0.88
26	I am usually one of the last people in my group to accept something new	55 (10.6%)	153 (29.5%)	220 (42.5%)	90 (17.4%)	2.67	0.89
27	Coordinating of tasks and people is taking too much of my time	49 (9.5%)	210 (40.5%)	181 (34.9%)	78 (15.1%)	2.56	0.86
28	Implementing new skills is perceived as too risky for me in the library and is resisted	72 (13.9%)	233 (45.0%)	152 (29.3%)	61 (11.8%)	2.39	0.87
29	Other priorities prevent me from focusing my attention on implementing new ideas	74 (14.3%)	240 (46.3%)	142 (7.4%)	62 (12.0%)	2.37	0.87
	Weighted Mean = 2.89						

Table 2 presents the level of innovation by the librarians in federal universities in Nigeria. Going by the test norm of innovation scale in Table 4 (See Appendix I), a score of 1-40, indicating low innovation, 41-80, moderate innovation and 81-120, high innovation of the respondents. Since the overall mean score ($\bar{x}$ = 86.60. SD =12.53) of the respondents falls within the interval 81-120, one can deduce that the innovation of the respondents is high. This was buttressed by the respondents claimed that: they like trying new ideas; look for new ways to do things; creation of new product/services in their library is based on the combined effort of librarians; library management promotes implementing new ideas; they frequently improvise methods for solving a problem when an answer is not apparent; implementing new proposals are welcome in my library; always inject new services to work schedule each day; they are inventive kind of person; and that they considered themselves to be creative and original in their thinking and behaviour among others.

RQ2: What are the marketing strategies employed by librarians to promote library products and services in the federal universities in Nigeria.

TABLE III
INNOVATION STRATEGIES USED IN MARKETING LIBRARY PRODUCTS AND SERVICES IN FEDERAL UNIVERSITIES IN NIGERIA

SN	Techniques used in marketing	SD	D	A	SA	$\bar{x}$	S.D
1	Librarians should be properly dressed	7 (1.4%)	23 (4.4%)	239 (46.1%)	249 (48.1%)	3.41	0.64
2	Organising user education	10 (1.9%)	17 (3.3%)	243 (46.9%)	248 (47.9%)	3.41	0.65
3	Provision of electronic access to information	8 (1.5%)	18 (3.5%)	253 (48.8%)	239 (46.1%)	3.40	0.63
4	Use of leaflet and posters	8 (1.5%)	35 (6.8%)	262 (50.6%)	213 (41.1%)	3.40	0.62
5	Having representative in institutional functions	10 (1.9%)	20 (3.9%)	248 (47.9%)	240 (46.3%)	3.39	0.66
6	Advertising in print and electronic media	8 (1.5%)	17 (3.3%)	259 (50.0%)	234 (45.2%)	3.39	0.63
7	Increase interpersonal relationship between staff and users	14 (2.7%)	33 (6.4%)	215 (41.5%)	256 (49.4%)	3.38	0.72
8	One on one discussion with the users	7 (1.4%)	23 (4.4%)	253 (48.8%)	235 (45.4%)	3.38	0.64
9	Provision of suggestion boxes	9 (1.7%)	15 (2.9%)	263 (50.8%)	231 (44.6%)	3.38	0.63
10	Organising library week	7 (1.4%)	23 (4.4%)	263 (50.8%)	225 (43.4%)	3.36	0.63
11	Creating a library web page	7 (1.4%)	18 (3.5%)	256 (49.4%)	237 (45.8%)	3.36	0.63
12	Exhibitions and display of new arrivals	13 (2.5%)	39 (7.5%)	232 (44.8%)	234 (45.2%)	3.33	0.72
13	Requesting for contribution from users while making acquisitions	16 (3.1%)	34 (6.6%)	243 (46.9%)	225 (43.4%)	3.31	0.73
14	Sending personal letters to users through e-mail and text messages	14 (2.7%)	29 (5.6%)	274 (52.9%)	201 (38.8%)	3.28	0.69
15	Sending out brochure or flyers	10 (1.9%)	32 (6.2%)	286 (55.2%)	190 (36.7%)	3.27	0.66
	Weighted Mean = 3.36						

Rating of the responses on the innovation strategies used in marketing library products and services to users in federal universities in Nigeria are as shown below:

Librarians should be properly dressed ($\bar{x}$ =3.41, SD = .64) ranked highest by the mean score rating and was followed by organising user education ($\bar{x}$ =3.41, SD = .65), provision of electronic access to information ($\bar{x}$ =3.40, SD = .63), use of leaflet and posters ($\bar{x}$ =3.40, SD = .62), having representative in institutional functions ($\bar{x}$ =3.39, SD = .66), advertising in print and electronic media ($\bar{x}$ =3.39, SD = .63), increase interpersonal relationship between staff and users ($\bar{x}$ = 3.38, SD = .72), one on one discussion with the users ($\bar{x}$ =3.38, SD = .64), provision of suggestion boxes ($\bar{x}$ =3.38, SD = .63), organising library week ($\bar{x}$ =3.36, SD = .63), creating a library web page ($\bar{x}$ =3.36, SD = .63), exhibitions and display of new arrivals ($\bar{x}$ =3.33, SD = .72), requesting for contribution from users while making acquisitions ($\bar{x}$ =3.31, SD = .73), sending personal letters to users through e-mail and text messages ($\bar{x}$ =3.28, SD = .69) and sending out brochure or flyers ($\bar{x}$ =3.27, SD = .66) respectively.

Hypothesis one: There is no significant difference in the innovation of librarians based on their Universities

TABLE IV

ONE-WAY ANALYSIS OF VARIANCE SHOWING THE DIFFERENCE IN THE INNOVATION OF LIBRARIANS BY UNIVERSITIES

Source of variation	Sum of square	DF	Mean square	F	P
Universities	12599.485	39	323.064	2.250	.000
Error	68621.380	478	143.559		
Total	81220.865	517			

Table 4 shows that there is a significant difference in the innovation of librarians by Universities (F = 2.250, P(.000)<.05). Hence, there is a difference in the innovation of librarians by Universities i.e. the innovation of librarians varies from university to university in the study. The hypothesis is therefore rejected.

Furthermore, the significant difference of the innovation of library in federal universities was further tested with the use of pariwise multiple comparisons See Appendix 11. Table 6 in the appendix II. It was revealed through the post hoc analysis that there was a significant difference in the innovation of librarians from ModibbboAdama University of Technology,Yola and Usman Dan Fodio University, Sokoto (mean difference -12.19608). Similarly, significant difference exists between the innovation of librarians from the following universities; Federal University, Ndufu-Alike, Federal University of Technology, Owerri, Federal University, Kashire, Nigerian Police Academy , Federal University of Technology, Minna, Federal University, Lokoja, University of Jos, University of Ibadan, University of Lagos, AbubakarTafawaBalewa University, Bauchi, Amadu Bello University, Zaria, University of Abuja and The National Open University of Nigeria.

Furthermore, there is significant difference in the innovation of librarians from MichealOkpara University of Agriculture and Nigerian Police Academy, Federal University, Lokoja as well as Federal University Wukari. The comparison of the significant difference of the innovation of the librarians in the following federal universities was evident; Federal University Ndufu-Alike and University of Calabar, University of Benin, University of Agriculture, Markurdi, University of Nigeria Nsukka, Federal University Birin-Kebbi, Federal University Dutsin-Ma, Federal University of Petroleum Resources,

Effurun, Usman Dan Fodio University,Sokoto and NnamdiAzikwe University, Akwa.

In summary, the pariwise multiple comparison of innovation shows that 39 out of 40 federal universities in Nigeria established a significant difference in the way librarians displayed their innovation. Therefore, the table established a significant difference in the innovation of librarians in the Federal University in Nigeria.

VI.   Discussion of Findings

The result on the level of innovation by the librarians indicate that greater percentage of them exhibits good innovation behaviours. The study found that librarians enjoy trying new ideas. Only few librarians declined this assertion. 90.7% of the respondents always seek out new ways to do thing in their library. The result corroborated the findings of a study in Nigeria by Onuoha, Anyawu, Ossai-Onah and Amaechi (2015) who remarked that innovation in librarianship is all about looking for new ways to improve library services. The study also found that innovation in library involved the combined effort of librarians to create new products and services. When new products and services are created, either by individual or through the combined effort of the librarians, the library management promotes the implementation of such ideas.

This is in support of the finding of Rowley (2011b) when he developed a model for innovation strategy in UK, he found innovative and creative team, leadership, effective design and management of innovation processes as part of strategies that enhanced the innovation of the librarians. Consistent with the finding of this study is the study by Leong and Anderson (2012) who studied how academic libraries in Australia attempted to enhance its pace of innovation. Their result showed that strategies implemented to achieve their goals are leadership development, cross unit work, specific purpose working group and the promotion of involvement in professional associations. Although the significant contribution of leadership development to the level of innovation by librarians was not reported. The level of innovation by librarians was further expanciated when 88.6% of the respondents claimed that they frequently improvice methods for solving problems even when the answer is not apparent; 85.1% averred that implementing new proposals are welcome in their library. The result further showed that majority of the respondent possessed skills and expertise to create new products and services.

The result obtained in this study showed that out of the 518 librarians in the 40 federal universities in Nigeria, 360 (69.5%) had high level of innovation, 155(29.9%) had moderate level of innovation while 3(0.6%) had low level of innovation behaviours. The high level of innovation by librarians was revealed in the techniques they use in marketing library products and services. To make libraries especially academic libraries attractive to users, librarians have adopted proper dressing as part of the techniques. Librarians use tools of user education to promote the image of the library to the member of the faculty and students, and high premium is placed on provision of access to electronic information. Librarians now ensured that they

fully participated in institutional functions and they have increased their interpersonal relationship between staff and users. This finding is in agreement with the findings of Zaid and Oyelude(2012) when they surveyed the creativity and innovation in two Nigerian Academic libraries, they found that electronic resources management services and incorporation of web 2.0 tools in library, introduction of virtual environment and making available 24hours library services are parts of innovation introduced to the library. The study further corroborated the finding of Salami (2014) who maintained that marketing library services is a major innovation that have been introduced into the library in the recent years.

VII. Conclusion

The study concludes that the level of innovation oflibrarians inthe federal universities in Nigeria is high. The strategies used in marketing library products and services by the librarians in federal universities in Nigeria include proper dressing by the librarians, organising user education, provision of electronic access to information, requesting for contribution from users while making acquisitions, sending personal letters to users through e-mail and text messages and sending out brochures or flyers.Although the study established a significant difference in the innovation of librarians, the study could not fully show the significant difference on the basis of the years of their establishment. Therefore, further study to unravel this is highly demanded.

VIII. Recommendations

Based on the findings of the study, the following recommendations are hereby made:

Research findings revealed a high level of innovation by the librarians in federal universities in Nigeria. Therefore, the Library Management of universities should increase the level of advocacy for fund from corporate organisations and philanthropists through which creative and innovative expertise by the librarians can be rewarded handsomely to encourage further creative and innovative performance among librarians in Nigeria.

Library managers of various universities should provide periodic in-house training programme on the importance of innovation in library environment so that more creative and innovative practices can be exhibited by the librarians.

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Transformation of Academic Library Services in Coronavirus Pandemic Era: The New Normal Approach

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Research Article

ARTICLE INFORMATION

ABSTRACT

The world social frameworks have been trembled with Coronavirus Disease (COVID-19) pandemic, irrespective of organization. The Covid-19 has fueled technology trends that continue to dominate daily life activities in various organisations and library services inclusive. Covid-19 has become a driving force that accelerates of technological adoption and usage in academic libraries. The adoption and use of ICTs for quality services delivery to clientele in academic libraries is germane especially in Covid-19 era. Libraries are saddled with responsibility to provide unrestricted access to information and resources at all times but libraries all over the world closed services to users due to Covid-19 pandemic. This paper examines transformation of academic library services towards information users' satisfaction in Covid-19 era. The paper discusses the history of Covid-19 and activities of sections in the academic library in terms of collections, services, spaces and operations in pandemic period. The paper explores the emerging role of social media in academic libraries in Covid-19 era. In addition, the paper covers new normal approaches to personnel security, social distancing, and sanitation of collections. Among recommendations are: creating a perfect environment where humans and robots can work together, and upgrading of library websites to serve as a primary path of interaction for library users.

Keywords: Academic library, Coronavirus, Library services, Social media, Transformation.

I.   Introduction

In early March 2020, Coronavirus Disease (COVID-19) pandemic blindsided all sectors and libraries inclusive. The Federal Government of Nigeria closed all institutions in early March in 2020 as a result of the spread of Covid-19 like their counterparts in advanced and developing countries. Series of efforts were put in place to ameliorate the spreading of the diseases among are human movements restrictions, inter-state movement restriction, banned social gathering and closure of hotels and tourism activities and other organisations. All these were targeted against the spreading of Covid-19.With little time to plan, managements closed libraries with their facilities to protect the safety of our patrons and employees. Thereafter, library managements decided to use online services only with the advice and restriction to work from home. Coronavirus is an ongoing pandemic of coronavirus disease that emerged and caused by the transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Covid was first identified in December 2019 in Wuhan, China. The name was chosen to avoid stigmatizing the virus's origins in terms of populations, geography, or animal associations (WHO, 2020; The New York Times, 2020).

The Covid-19 affects all aspects of society and all dimensions of sustainable development. This paradigm shift exposes systemic inter-connectedness for everyone to see and that breaks boundaries (sectorial, institutional or even national) in terms of shortage in amenities. Covid-19 may be unique and unprecedented, but a global pandemic is not unanticipated. According to Tenu and Otto (2019) resistance to antibiotics is growing and human-wildlife crossovers are expanding. The melting of glaciers at the North Pole is likely to release millions of new bacteria that we have never been exposed to. It is obvious that library management and other stakeholders must be on their toes and be proactive in their efforts towards provision of quality library services during and

after the pandemic era. Library services provided by librarians must meet the demands of information users in the pre and post Covid-19 pandemic era. Now, the demand for reopening of institutions is alarming, various libraries are now facing a paradigm shift to meet up with the challenges brought by Covid-19. Instead of returning to usual library activities, librarians will be returning to a "new normal".

The new normal library services involve one where in-person classes and service interactions may be impossible or no longer preferred where collections in physical format may be a barrier to access, and where collaborative study is shunned in favour of social distancing in buildings that can only safely house half the people they used to. Covid-19 pandemic has brought an immediate, direct and personal sense of urgency to everyone. These situations call for the need to engage in intellectual brainstorming activities on how to leverage this crisis to create innovative collections and services to all stakeholders in academic library settings. Library could be defined as collection, organisation and processing of books, serial and non-book materials to meet various information needs of users. Library could be referred to as an information centre because it contains information bearing materials organized, stored and disseminated in different formats. There are different types of libraries such as academic library, school library, national library, special library and public library. Provision of access to information for all categories of library users is germane regardless of the type of library. The present study would focus on academic libraries.

Academic libraries are libraries attached to post-secondary institutions (colleges of education, polytechnics and universities). Academic libraries are varied and distinctive as the institutions which they are meant to serve. Academic libraries could be referred to as university libraries that support and perform functions directly related to the mission of the parent body. Academic libraries support university activities in learning, teaching, and research. There are three main divisions in academic libraries such as technical services, reader services, and electronic support services. These divisions provide different library services towards achieving the main objective of the establishment of the library to provide equal information access to library users at comfortable place, convenient time, and in right formats. Library services are offered by academic libraries to satisfy the information needs of students, lecturers, researchers, and immediate community members.

The Covid-19 pandemic has brought changes with the manner and approach of offering library services to information users during and after coronavirus age. Post-coronavirus era is the period after the fading of the coronavirus pandemic that serves as a threat to human life in the world. Several efforts have been put in place for the survival of coronavirus invasion by the various organisations and libraries inclusive. This is to ensure that spread of coronavirus is minimized while searching and researching vaccines that could cure the ailment. In

Nigeria, the Federal Government of Nigeria has started reopening all the locked down facilities closed for 6 months and tertiary institutions inclusive. The committee saddled with responsibility of controlling and monitoring the spreading of Covid-19 comes up with guidelines that must be followed by various organisations and individuals. These guidelines could be adopted in library operations, space, personnel security, social distancing and sanitation of collections, face-mask production and other initiatives. The present study has huge significance to all stakeholders. Therefore, this paper examines the transformation of academic library services in the post-coronavirus pandemic era using a new normal approach.

II. Academic Libraries Activities

The academic libraries host various departments that are collaboratively working to achieve library target collectively. There are two major divisions in the academic library. They are:

Technical Services Division: The primary role of the technical services division is to acquire and process library materials ready for the use by information users. The activities taking place here are behind the screen because activities are not visible to library patrons but benefit them. This division is made up of four (4) sections namely:

1. Acquisition section: The section is saddled with responsibility to acquire materials for the library. It performs its responsibility by four major approach; purchase, gifts, donations, and bequests (endowments).

2. Cataloguing and Classification section: This section receives books and other library materials that have been accessioned by the acquisition unit for further processing. This section provides bibliographic information of the library books. This unit assigns subject headings and location (class) marks to the books before sent to the reader services division for shelving and library patrons' usage.

3. Serial section: This section handles journals and related serials materials that come into the library. The unit catalogues, classifies and makes the serial material available to library users.

4. Bindery section: This section responsible for binding or mending library materials that are torn for the purpose of reclaiming the originality of the materials, in terms of shape.

Readers Service Division: The second division is refers to as readers' service division which offers direct services to library users. The division comprises of the following sections with their specific functions and routine:

1. Circulation Section: This section is referred to as a public image maker of the library because it involves activities of publication relations. The library users register to become bona-fide library patrons. The major activities here are charging and discharging (borrowing and returning of borrowed library materials. According Nishad, Anjali and Mohamed (2020) circulation of print collection was

given up as users were not able to access the library and regular renewal and overdue policies were stress-free and due dates were prolonged. In addition, large print collections were suspended and digital collections replaced.

2. Reference Section: This section performs public relations functions. Also, the section houses reference materials which can only be consulted for the specific information within the library. This unit is being managed by an expert called Reference Librarian. This section is saddled with responsibility to provide both directional and non-directional queries from library users.

3. Audio-visual Section: This section handles non-print library materials. It processes the materials and makes them available to end users on request.

4. Document Section: The documents, government and corporate publications on varied interest are kept in this section. The section is saddled with responsibility to acquire collections, processes and makes the materials available to library users.

III. Electronic Support Service Division

This division is responsible for the provision of services in electronic format to library patrons. The division comprises three (3) sections namely: Electronic library section, Digital library section and Automation section. All the divisions need to key-in to coronavirus compliance guidelines.

IV. Literature Review

The pandemic crisis has propelled many tools and new technological gadgets that started to fill what has been paused since the start of the lockdowns in many countries (Buheji & Ahmed, 2020). Many old aspects of life or how we deal with life have started changing as, if the world was waiting for this pause to happen. Cheval et al. (2020) mentioned the variety of opportunities that devastating pandemic as Covid-19 could bring along. One of these opportunities is that the pandemic enhances the individual and the community capacity for being more creative towards challenging and complex problems. It is pertinent to know that all activities under the two divisions (technical and reader services) mentioned above involve human interactions. Human interaction has to be done with caution especially in the era of Covid-19. Also, Nishad et al. (2020) stressed that the library staff has a vital inquiry that has been about the hazard of the infection through contact with materials conveying coronavirus. Since the examination on this is still at creating stage. Hence, the activities in academic libraries can be achieved by the compliance with Nigeria Centre for Disease Control (NCDC) guidelines and directive on human interaction to prevent spread of Covid-19 pandemic. World Health Organisations (WHO) introduced the rules on washing hands and keeping up social removal. What needs to be done will be discussed under Covid-19 Compliance.

Methodology: This is a desktop review (conceptual paper) and literatures were reviewed using core keywords for the literature search. To ensure that all concepts were included within academic library, the following general related terms were used as core keywords for all literature searches libraries combined with any of the following terms; academic, services, coronavirus, pandemic, social media, and New normal approach. For example academic libraries, library services, Coronavirus pandemic, history of coronavirus diseases etc. The literature searches were conducted using online databases (Library and Information Science Abstracts (LISA), Medline, Emerald, World libraries, SAGE journals, and Springer link) available at university libraries to retrieve journal articles in academic libraries. LISA database provides access to various related abstracts. The abstract accessed assist to identify relevant articles; thus, an intuitive analysis is possible. LISA provides authority controls firmly for subject terminology that can boost precision or recall in searching. The searches were limited to publications in English. In addition, a variety of search engines (altavista, yahoo, google etc) were used to identify relevant works on academic libraries and the effect of Coronavirus. Different relevant materials like articles, books and conferences proceedings addressing academic libraries were used. Few journal articles on education, health sciences and others were consulted because the area has not been well researched.

V. History of Coronavirus

On December 31, 2019, Chinese authorities alerted the World Health Organization (WHO) of pneumonia cases in Wuhan City, within the Hubei province in China. The cause, they initially said, was unknown, and the disease was first referred to as 2019-nCoV and then named Covid-19. The following day, Huanan seafood market was closed, because it was suspected to be the source of the unknown disease, as some of the patients presenting with the pneumonia-like illness were dealers or vendors at that market. On January 9, 2020, Chinese state media reported that a team of researchers led by Xu Jianguo had identified the pathogen behind a mysterious outbreak of pneumonia in Wuhan as a novel coronavirus. Since then, the disease has spread quickly throughout China, and from there to the rest of the world. SARS-CoV-2 is the name of the virus responsible for this coronavirus pandemic (Wicke & Bolognesi, 2020; Riddell et al., 2020).

Experts say coronavirus originated in bats and later jumped to humans at Wuhan's open–air wet market in China. However, the Wuhan market didn't sell bats at the time of the outbreak. The crowded conditions in the market facilitate spreading of viruses from different animals to swap genes fast. Coronaviruses take their name from the distinctive spikes with rounded tips that decorate their surface, which reminded virologists of the appearance of the sun's atmosphere, known as its corona. The viruses cause typical cold symptoms such as a sore throat, cough, and stuffy nose, and they seemed to be very common. The coronaviruses behind Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) got started. Sometimes the corona virus changes so much that it starts to infect and spread among people. The virus is transmitted from one human to another at a faster rate. The rest is part of

terrible history still in the making, with Covid-19 spreading from that first cluster in the capital of China's Hubei province to a pandemic that has killed about 2,456,699 people world over. It's now spreading in the U.S. and around the globe, meaning that people are accidentally catching and fleeting on Covid-19 plague. The coronavirus can survive at various hours on the different materials.

As supported by Hammett (2020) and Kampf et al. (2020) who established that coronavirus stays active on surfaces of materials at different lengths of time. Therefore, library management, librarians and other stakeholders need to be aware of this feature to guide against the spread of coronavirus in the library. The Covid-19 virus can persist for varying lengths of time on different types of materials as shown in Table 1.

TABLE I
DURATION FOR SURVIVAL OF COVID-19 ON MATERIALS SURFACES

Surface	Length of Time
Metals	5days
Wood	4days
Paper	4-5days
Glass	4-5days
Plastics	6-9days
Ceramics	5days

Source: (Kampf et al., 2020)

The feature of coronavirus of stay active on surfaces of materials at various lengths of time calls for urgent attention to tackle the wide spread of Covid-19 especially in academic libraries where facilities and various collections (books and non-books) are kept for the use by library users. This situation has urgently called for an acceptable approach to be applied to eradicate the spread of Covid-19 pandemic. The adoption of a new normal approach could serve as a way forward.

VI. The New Normal Approach

COVID-19 has changed our lives and our way of working. The library operations must be accommodating of the new developments as a result of Covid-19 pandemic. Overnight, most libraries abandoned access due to concerns of Covid-19 pandemic spread. The present situation demands for flexibility in library operations and the needs to monitor the movement of people, resources, ideas, and equipment. The current situation calls for the serious need to change over the methods of rendering library services to our clienteles especially now when the emergence of Covid-19 pandemic is yet to be over. These challenges have led to moving away from traditional means of rendering library services and resources to digital approach. These would facilitate quality services and improve the satisfactory level of library users without any pandemic issue such as Covid-19.

The current situation has made it compulsory for the speedy adoption of ICTs related tools after many years of undertaking transformation from analogy to automated-driven services. Libraries have integrated the automated retrieval collection into service delivery, changed service model and implemented new technology to support seamless service provision. The arrival of Covid-19 has compulsorily compelled hasty adoption of ICT into various services obtained in the libraries. Therefore, libraries are moving rapidly to adopt technology and the service model to the point where our new mode of operation has become the 'new normal'. This is just the way we do things now in post coronavirus. This 'new normal' means teams working together, with patrons and library staff at the library using ICTs with strict compliance to Covid-19 rules and promoting information access at a low risk among stakeholders. According to European Bureau of Library Information and Documentation Associations-EBLIDA (2020), the new normal in library practices concerns access policies, personnel security, social distancing and sanitation of collections. Rules and regulations have been, and will be, driven by three factors: a) national health regulations; b) risk perception, which varies from one country to another; c) the size and the arrangement of library spaces. Library and its services must change to embrace Covid-19 rules and regulations. The persistent and continually reviewing of library activities is germane to do things differently. Also, to improve the library user access to information and update technological skills for the enhancement of library services and provide more choice for patrons.

With the current situation, libraries in advanced countries are able to shift from services to production, from analogue/extensive to digital/ intensive use of technologies, and matching the needs of the diverse community a library aims to serve. According to Ton (2020) library services are being continuously re-designed during the Covid19 phase and they may continue to be re-oriented in the next three-four months with new ways of working. For example, circulation of print collections was given up as patrons were not able to access the library. Also, regular renewal and overdue policies were relaxed and due-dates were extended. Large print collections were suspended and left with a digital collections substitute. The following practices are encouraged to meet demands of library users in the Covid-19 age.

Automated door opening: The adoption and usage of automated door opening in the library will reduce the direct contacts of users. This is necessary as to answer the clarion call emanated from Covid-19 pandemic. Few academic libraries have key-in to the use of automated door opening while others must see the urgent need to embrace and use the automated door.

Voice commands in elevators: The use of voice command in elevators should be encouraged to reduce human interactions, so as to curb the spread of Covid-19 pandemic. Academic libraries should accept the usage of voice commands in the elevator, in the opening of the catalog cabinet and other suitable places where it is applicable. In addition, searching the catalogue for information could be done by voice command.

Homeworking model: Working from home will minimise having direct contacts with library users and other staff of the library. The academic library management should encourage their librarians and para-professional cadre to work from their various homes provided such services rendered at distant. The required supports such as Internet facilities should be provided to the assigned staff and provision of free access to e-books

and e-databases should be given a priority. It is critical for libraries to provide digital literacy training to their users and train them on the effective utilisation of digital information sources provided by libraries.

Tele-libraries: Library services that could be offered via the telephone application. For instant, queries from library users can be attended to via a phone call. Reference Librarian could render services to library users with the use of telephone by making phone contact across to their patrons.

Online help desks: Online services will guide against body contact with library users and other staff because most of the services would be rendered via online. These services to library users would discourage face-to-face interactions with the librarian or any staff in-charge of such service. This can be achieved via Whatsatps, SMS via phone, electronic message (E-mail), and other related ICT devices.

Improve digital contents services: Resources in the library need to be converted to digital format. This would provide an opportunity to library card holders to have adequate access to digital contents of the library especially electronic books. According to Ashwort (2020) while physical branches may have shut down, many libraries still offer a wealth of digital content for those who have internet access elsewhere.

Library automation system: Libraries are expected to intensify more efforts towards frequent application of library automation systems to fast-track the library services and promote social distancing among the library staff. Many of these adjustments would lead to accelerations of library service and safety of both library users and library staff. According to Nishard et al. (2020) artificial intelligence applications for library services and resources in Covid-19 pandemic are germane.

Mask production: Recently, many libraries in the world have stepped forward in their obligation for the comfort of their library staff and patrons. This is done by embarking on production of face-mask for their staff usage as parts of Covid-19 compliance guidelines. This is a good development as one of the items of new normal. According to Bozkurt et al. (2020) these initiatives will not be forgotten; they will be considered the historical legacy of the Covid-19 crisis for future library emergencies. Academic library can extend such gestures to students and the host community. This shows library flexibility and their ability to sharply meet demand for empathy expressed by library users and the host community in case of need. Cover your mouth and nose with face a mask.

Sanitation of library collections: The nearby physical contact is viewed as one of the key methods of coming down with the contamination and the social separation is the center reaction to weaken the threats of the infection spreading. In view of this reality, the libraries could adopt the use of Robots to sanitize books and non-books resources in the library. Robots should be applied to sanitize books on delivery. Public computers may become a thing of the past in post-Covid-19 world. Libraries need to encourage students to bring their own devices and

provide student work environments that are not prone to Covid-19 pandemic. In addition, the World Health Organisation-WHO (2020) stipulated that washing hands, keeping up social distance and not touching your mouth or, nose, eyes should be observed. Ton (2020) reported that library services are being continuously re-designed during the Covid19 phase and they may continue to be re-oriented in the next three-four months with new ways of working.

Library staff safety: The library needs to obtain personal protective equipment for employees on the front lines to be safe. This would make them comfortable to interact with patrons. Librarians need to be masked and masked librarians are expected to wear plexiglass shields. Wash your hand frequently for 20 seconds each time, with water, soap and rub hand with alcohol based. Library staff members are expected to abide by WHO rules that they should avoid close contacts with anyone else and keep a safe distancing at least 1 metre of 3 feet at each other.

Monitor staff and library users' movement: The staff members and library users are expected to be monitored in their various functional domains to ensure compliance of WHO guidelines on Covid-19 especially the social distancing. Artificial Intelligence (AI) surveillance technologies applications could be utilised to monitor access of services by patrons, which are operating with remotely by tracing with Internet Protocol (IP) addresses. This will also be useful on both sides, and will get complete information about the user data. If the user gets affected with Covid-19, it is easy to tract and to avoid the spread of coronavirus. Avoid close contacts with anyone else and keep a safe distance at least 1 metre of 3 feet from each other.

Space management: The library management would need to rearrange the seating arrangement to accommodate 2metres apart from user to user as a request for the social distancing between library users. This will avert easy spread of coronavirus among patrons and library staff. Library users need to be provided with individualized study spaces like carrel.

Access Policies: There is a need to change access policy and academic libraries should increase access to digital services and resources to provide for the information needs of their users. The coronavirus crisis has come to establish the irrelevant circulation unit to meet the needs of the patrons. Hence, the libraries' current move towards electronic resources and delivery will become normalized within a short period.

Social distancing: This is a new dimension to reduce or ameliorate body to body contacts. According to European Bureau of Library Information and Documentation Associations -EBLIDA (2020), social distancing is not only a practice; it is also a symbolic concept and a good metaphor to assess the relationship between libraries and their users: the more people are distant from each other, the more a library is distant from its users. However, to solve this problem academic library must provide a suitable approach that would improve access to information by library users. For example, in

Martynas Mažvydas National Library of Lithuania, this did not happen. An impressive and well-targeted library service was triggered during the Covid-19 crisis in cooperation with over 50 public libraries of Lithuania and the involvement of the Robotics School (Ton, 2020). The National Library of Lithuania helped produce 3D printed face masks for healthcare workers in response to the growing demand for protective equipment. 3D printed face masks were supplied to healthcare workers, but also to volunteers and representatives of other pr ofessions working in high-risk areas. The face masks were supplied to promote health conditions and it was not meant for Covid-19 but now it is used in the fight against Covid-19. The National Library of Lithuania purchased Fifty-eight 3D devices masks for the major public libraries of Lithuania in 2019. It also, offered new library computers to school children and teachers during the quarantine.

Role of national library: The national library should be saddled with responsibility to provide new computers to school children and teachers during the quarantine and post-coronavirus-19. For example, the national library provided 35,000 tablets and allocated portable computers to libraries and transferred temporarily to children of socially sensitive families and then returned to libraries at the end of the quarantine. In addition, academic libraries should encourage a practice tagged "Library at Home" programme by providing electronic book titles for free to every registered patron of the library to access from their various homes.

VII. Application of Social Media in Covid-19 Era

Coronavirus pandemic has demonstrated to us, how inappropriate our circulating print collections have become. Unexpectedly, most libraries jettisoned access due to concerns of virus spread. Unusually, requests for library materials were minimal for the unknown fear of coronavirus infection. To make the content in print collections more accessible and relevant in Covid-19 world, the use of ICTs and social media in academic libraries is the solution.

Social media is typically Internet-and mobile-based tools for discussing and sharing information by users (Telg & Irani, 2012). Social media is the application of web-based and mobile technologies that turn the communication into an interactive dialogue. These social media tools would reduce human contacts. Academic libraries being libraries established by tertiary institutions to support and cater for information that would be needed to succeed in teaching, learning and research in tertiary institutions. Academic libraries are expected to eradicate physical access to library collections and adopt an approach to improve library services to users. This can be achieved by using social media to reduce human interactions and guide against the spread of Covid-19 epidemic.

There are various social media tools that could be applied in the library, especially academic libraries for the delivery of information at the right format, right place, and in the right time without having contact with providers and users. The application of social media tools would bring transformation in the library services. Table 2 shows various social media tools that can be used in the library especially in academic libraries in the post Covid-19 era.

TABLE II
SOCIAL MEDIA TOOLS AS CATALYST TO PROMOTE LIBRARY SERVICES IN COVID-19 AND POST-COVID-19 ERA

Social Media Tools	Launched Date	Functions in Covid Era
Facebook	February, 2004	Frequently used by students and it can be used for marketing library services and information services in various ways(Potter, 2011)
Linked in	May, 2003	It can be used to get library users connected with people that can help them find required information.
Skype	August, 2003	It is instant message service, which can prop up the instant communication across national borders.
Google Docs	February,2007	It can be used for sharing the documents without transfer them via e-mails, but only sharing the link of the document.
Weblog	2002	A pr ofessional blog and informational site that can be used to post and share information by librarians. It can be used to facilitate library services like new acquisitions, opening hours, library events and programmes (Ekoja, 2011).
You Tube	2005	It can be used by library to share audio-visual collections. Also, libraries can disseminate their important video, conferences and workshops.
Google-plus	28th June, 2011	Library can use this powerful tool to host video. It allows conversation with library users.
Twitter	15th July, 2006	A micro-blogging application used for updating collections, new arrival, and current content services. Its enables users to read and send short messages of (140character). It can be used to create library service alerts(Ezeani & Igwesi, 2012)
Pinterest	2011	Libraries build up their digital collections
Flickr	February, 2004	This image distribution tool can be used as a great means of sharing new image collections to users by librarians.
Instagram	October, 2010	It allows librarians to edit, upload, and share photos to information users.
Tumblr	February, 2007	It helps users to discover new people to chat with on mobile devices. This can be used to share information about libraries and librarianship with users.
Vine	May, 2014	It can be applied for short form video sharing service where video can be shared on other services such as Facebook and twitter.
Meet-me(formerly my Yearbook)	2005	It can be used as a mobile device tool for chatting with different people.
Meet up	12th June, 2002	It can be used as offline for group meetings in various localities.
Tagged	October, 2004	It allows members to browse the pr ofile of any other members.
Wikipedias		A discussion or informational site

"blogger'		published on www used to make connections with library patrons
WhatsApp	2009	It can be used as user-friendly service for library users. Recent and a cross-platform messaging application which allows users to exchange message and voice recording without having to pay for SMS (WhatsApp, 2012).
MySpace	2004	It permits users to make friend, talk online and share resources.

Source: (Bashorun, Fagboola & Kehinde, 2018)

The emergence of Covid-19 has brought unexpected changes in all sectors and academic libraries inclusive. The changes have compelled eradication of physical access to library materials and reduce human face-to-face interaction. The dynamic situations constrained library staff to prepare themselves in this era of ICTs that aids social networks (Rahman, Khatun & Mezbah, 2011). Table 2 shows social media tools and their usefulness in the library settings. This development has put libraries in the present position of answering questions using a variety of social tools (social network): such as telephone, e-mail, instant message, Whatsapp, Facebook, Blogs, Twitter and YouTube without face-to-face human interaction. Social networking tools that solely depend on ICTs have brought transformations to both format sources and services in libraries especially academic libraries. The adoption of social media in library services is germane in the Covid era and all hands must be on desks to ensure adequate access to information and advance library user's satisfactions.

VIII. Conclusion

COVID-19 has no border and altered our lives and our way of working and minimized face to face interactions. The change has predicted the substantial ways academic libraries have shifted in terms of physical access to the print collections, facilities, collections, services, spaces and operations as a result of the Covid-19 pandemic. The traditional approaches used by libraries were given up, and new tactics were identified to be executed in response to the current situation as a new normal with aids of Information and Communication Technologies (ICTs). Currently, the new normal approach has emerged to tackle issues brought with Covid-19, the online delivery services and applications of ICTs are the way forward. Covid-19 compelled librarians and information users to improve the adoption and use of technologies to enhance information access and eradicate physical access. Technologies are changing and shaping libraries in new techniques. Both librarians and library users in Covid-19 era must be interested in utilizing digital tools for their quest for information.

IX. Recommendations

To stay relevant, libraries should consider how talent requirements need to evolve, to meet the skills and workforce challenges created by Covid-19. The following steps must be taken:
1. Attract, retain and develop capacity in the field of

librarianship through development in rapid digitalization. Management should create a workforce with digital skills and adopt regular training on digital skills for students, lecturers, and librarians.
2. Library websites should be upgraded to serve as a primary path of interaction for library patrons. This should be done by following the usability principle of user friendly, customizable, and responsive.
3. University management should bring leadership into the digital age by hiring people with digital mindsets and foster a digital culture from top through communication, visible changes and regular change monitoring.
4. Adapt to different ways of working by creating a perfect environment where humans and robots can work together. Library management should adopt an approach where the automation will form the core of their library services to library users. Prepare the rise of on- demand virtual library services.
5. More efforts should be channeled by stakeholders towards the application of social media tools to various operations in the academic library.

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Nature Library: the Establishment and Analysis of the First Nature Library in Turkey

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Review Article

ARTICLE INFORMATION

ABSTRACT

One of the basic provisions of any kind of scientific survey and study is to have a specialization library as well as adopting the principle of obtaining a complete documentation, which, today, attaches more and more importance to the special libraries. In accordance with this increasing importance, it has been observed that new generation special libraries have been established with the aim of meeting the knowledge requirements of researchers studying in specific fields. Within the scope of this study, the foundation studies of Nature Library, the establishment of which started in 2018 and which began to render service in March 2020, have been discussed in order to provide the knowledge and documentation for subjects including particularly birds, endangered species, Key Biodiversity Areas /KBA, Important Bird Areas / IBA and Indigenous Production Landscapes /IPL as well as protection of the biodiversity, the culture of nature, the law of nature, the philosophy of nature, nature literacy and natural arts both in Anatolia and in different parts of the world. Besides, the actions to be improved and recommendations have been specified in detail with the intention of carrying out services better as a result of the evaluations.

Keywords: Special libraries, Library services, Role of special libraries, Nature library, Nature.

I. Introduction

One of the basic principles of any scientific research and study is to have a well-organized specialized library and a complete documentation (Karayalçın, 1952, p. 2). Such libraries, which are called "special library" or "specialized library" in Turkish, "bibliotheque specialisee" in French, "spezialbibliothek" or "fachbibliothek" in German, "special library" in English (Çakın, 1991, p. 49) have been included to the scope of the study as special libraries.

It is impossible to give a common definition about special libraries because researchers who are interested in special libraries generally give their own definition about it. Considering the main reasons of this situation, it can be said that the expectations have changed depending on the characteristics of the main structure of the library since they are established by different organizations. Even if the libraries that serve the private sector and public institutions in terms of commercial, economic, cultural, professional, industrial, technological and scientific purposes are considered as special libraries, libraries established by central and local governments are considered as special libraries (Çakın, 1991, p. 49). However, not only the above-mentioned genres, but also art, music and nature libraries maintain to serve within the scope of special libraries together with the changing paradigm.

Together with the variations in the definitions of special libraries, it is possible to list some definitions about the libraries in the literature as follows. While the definition of traditional library in the Oxford English Dictionary (2020) is "it is a place where some collections of books, newspapers, films and recorded music collections are included for people who want to read, study or borrow", The American Library Association (ALA) Library and Information Science Dictionary is defined as it is a place that is established, supported and managed by a commercial firm, private company, association, government agency, or other special interest group to meet the needs of knowledge (Levine-Clark and Carter, 2013).

Except for the classical definition, the author Michael H. Harris (1995) defines the special library as a content-oriented and private unit that have special users in terms

of information needs, but he has detailed that one of the main differences between traditional libraries and special libraries is to adapt the new technologies and services easier than classical libraries.

It is noteworthy that some prominent scientists and writers have made some definitions about special libraries since the foundation of the Special Libraries Association in 1906. John Cotton Dana who is known as the founder of the Special Libraries Association, has said that special libraries are special collections that include different materials and collections and he has added that no definition would be satisfactory anymore. It is clear to see that there are attempts to make the definition more specific than before. While some suggestions have been made to increase the knowledge and skills of special librarians and libraries in this process, an effective service is expressed as an important key for special libraries by Herman H. Henke in the 1950s (Choudhury, 2002).

Nowadays, it is possible to define special libraries from different standpoints. When the special libraries are examined in terms of the resources they have; it is possible to say that they are libraries that complement, guide and support each other on the related issues. Since they specialize in a certain area, their collections are expanded to meet the needs of information of the researcher group that they serve in the field they specialize in (Atılgan, 2010, p. 18-19). For instance, a special library includes music collections like musical notes, academic and current publications related to music, while the nature library includes nature-oriented materials.

Considering the special libraries on the basis of user groups, they are considered as libraries that meet the needs of researchers for a specific field, and they provide services to the users who cannot find materials or access these materials in other libraries (Atılgan, 2010, p. 19).

II. Paradigm Change in Special Libraries

Special libraries are faced with at least three major paradigm that are occurred as a result of global competition, new computing and communication technologies, and the desired need to measure the productivity of information and service workers. It is possible to list these paradigms as follows (Singh, 2006, p. 521; Bender, 1988, p.199):

- The first change is the transition from paper to electronic media as the most desired form of information storage and access. Together with this transition; the using of text, graphic and multimedia resources continues increasingly.
- The second change is about shrinking financial resources and increasing demand for accountability, focusing on the users, performance measurement, benchmarking and continuous improvement.
- The third change is about the new work areas such as teamwork, job sharing, telework, outsourcing, destaffing and big data which their existence increases day by day.

Taking into consideration these paradigm changes, it is possible to state the purposes and functions of special libraries as follows (Special library Association, 1964, p.

672-680; Choudhury, p. 173; Çakın, 1991, p. 49-50; Ashikuzzaman, 2013):

- Special libraries are thought as main information centers of both the institution they serve and researchers who are interested in the related field.
- Special libraries should provide and submit materials which are suitable for the characteristics of the institutions and arrange them within the framework of universal librarianship principles.
- The classification and cataloging procedures should be carried out within the framework of universal principles so as to access the printed materials in the library easily.
- It must provide both printed and electronic magazine subscriptions related to the field that it serves.
- It should try to provide indexing and summarizing services to save users' time.
- It should provide reference service to users by phone, e-mail or online.
- It should provide awareness to the users about past and present services.
- It should provide Selective Dissemination of Information services to users in accordance with their interests and needs.
- It should make an effort to issue a weekly / bi-weekly / monthly library bulletin to keep up to date the latest information for the users.
- It should provide accurate information regarding the relevant field on time.
- It should try to keep all information about the field that it serves.
- It should give new ideas and inspiration for new projects to the users.
- It should communicate and cooperate with the relevant special libraries in other countries so as to access the literature on the latest developments around the world.
- It should allow users to borrow something between libraries.
- Translation services should be provided to present the requested information to the users in the appropriate language.
- It should also provide an opportunity for internet access to access the library collection and catalog from the users' desktop.

III. The Role of Special Libraries and Their Requirements

The role of a special library can vary depending on the structure of the main organization in where the library is located. However, such libraries should actively participate in developing special collections to provide different types of personalized services, such as current awareness services, selective dissemination of information, indexing and summarizing, document distribution, online search services, except for other services. However, the library professionals need to improve their hybrid skills to perform their work on the basis of changing environment, and the increasing

expectations (Singh, 2006, p.522). These skills can be listed as follows:

- Evaluating the users' information needs.
- Determining the need-based information resources.
- Working as a content manager in order to analyze, evaluate and organize the information content of various resource categories.
- Adapting new information products and services to "custom style " by combining and bringing the information together.
- Developing the skills to obtain, distribute and maintain the useful information via intranet.
- Training the users about using of information resources, products and services, including the Internet and Intranet.
- Negotiating agreements by using information providers with adequate information on licensing and other legal regulations for access to digital resources and their implementation.

All these processes require that library professionals should have skills / competencies in order to adapt to this new environment. It is required to arrange how the information is used, how the employees of the organization manage their business, and how value-added information is produced. The librarian is responsible for contributing to the success of the main institution together with task-oriented information distribution. That's why; he/she must know and perceive both mission and vision of the organization, so the library can be an integral part of the main institution.

IV. Special Library Services

Special libraries need to make some different practices in terms of material, user and service in order to separate themselves from other libraries on the basis of their nature. These practices (Ashikuzzaman, 2018) are detailed as follows.

- Material: The printed, electronic, audio-visual materials are one of the most important resources of these libraries. The distinctive feature of a special library is to have small, compact, comprehensive and current collection. It should have a smaller collection in terms of extension, but have larger collection in terms of intention so they can be more selective than others.
- User: A special library has specialized users who have common interests. It means that all interests and needs turn around achieving the goals and objectives which are set under the written policy statements by the organization.
- Service: The special library provides two types of information services. The first one includes responding to the information request, reference and research services. The second is the information service which is provided on the basis of the needs. It includes the services conducted to inform users of the library for new and current information as existing awareness services.

Special libraries serve their users in terms of various services such as activities and services performed by a special library in the form of information storage and access. Considering the documentation activities; these libraries include summary services, indexing services, bibliography service, examination preparation, latest publications, translation, current awareness services, selective publication services; on the other hand, they include literature analysis, preparation of reading lists, and licensing the process of the status of the document, the provision of documents, and the access of electronic resources on the basis of literature analysis activities. The tendency to develop libraries and documentation centers has now increased because the information sources in any country are now considered as important as other sources. The provision, organization and dissemination of these information sources provide a fundamental basis for the socio-economic development of a nation as a whole (Choudhury, 2002, p. 175). Special libraries play a key role in the information system, so they should provide the following services to their readers (Choudhury, 2002, p.175-780; Ashikuzzaman, 2018; Current Awareness Service, 2013; Ferguson and Hebels, 2003; White, 1973; Ahrensfeld, Christianson and King, 1986).

Summary service: The summary is a basic and accurate representation of a document. Summaries are thought as a vital guide in document selection and information gathering. Moreover, they are important to avoid the repetition and delay of ongoing work.

Indexing service: The index is a systematic list of documents which are prepared by an author. It provides systematic arrangement for the information so as to access them easily and fast. It is a regular guide to the intellectual context and physical status of information records. It is just a pointer and therefore it generally does not provide the requested information itself. However, it uses a set of certain identifiers, subtopics and their modification or derived words which separate the information. The user is directed to the ideas and topics that are expressed by the authors in the information records via indexing service. Except for the printed indexes, indexes that serve online not only provide guidance, but also have become an important tool within the scope of license agreements in order to reach full-text publication.

Bibliography Service: Bibliographies are the most important information source for both special and research libraries because they provide information about the topic, author and period. They contain any published material, regardless of its availability in a certain library. Therefore, the bibliography that is arranged by special libraries will be beneficial for academics and any other users who are interested in certain information.

Current Awareness Services: The current awareness service is defined as the dissemination of resources that will keep up to date the information on related issues and interests of the users. It is a system for getting information about the latest developments and special interest of the individual. Special libraries develop many different activities to give new and current developments to their users. Organizing current publications is one of the most common functions of the special library. The library regularly researches which publications should be seen by

the users and then the issue is conveyed to the researcher when the publications are reached to the library. Purchasing journals are another common service. The journal can be a simple list of new material and it can contain annotations or summaries. The subject-based abstract journal, which brings the different information together from various sources such as books, articles, brochures, reports, news and abstracts, are some of the Current Awareness Services used by the special library.

Selective Publication Services: The selective dissemination of information is considered as an important value-added service because it is a tool that enables librarians to give some information about the latest literature on specific areas to the users by helping them stay on top of the information explosion. In fact, it is a service that librarians can keep up-to-date themselves. Selective dissemination service has been greatly facilitated by computerization. It is based on user profiles consisting of data such as topics, related keywords, and some sample citations for literature, and search strategies of users are recorded in order to receive updates. When new publications are entered into the system, they are automatically transmitted to the relevant people via registered e-mail. These are conducted together with the lists created in accordance with the interests of the users within the framework of classical librarianship. Brief information about the new publications is arranged and delivered to the relevant user.

Translation Service: Services such as summary, indexing and selective publication have drawn the attention of many scientists who have written many publications in different languages. The production of information in both electronic and physical media continues to increase day by day. It is estimated that the volume of this information reduplicates every two years. It is required to access fully so as to provide comprehensive information on any subject. In this context, translation services have an importance. Therefore, many special libraries find this service inevitable to help their expert readers in order to help them accessing to necessary information (regardless of language).

Resource Sharing: Our libraries aim to obtain all the resources that are necessary to meet the needs of their users. Despite rising costs, the decreasing of library budgets has caused the librarians to seek new solutions. Therefore, resource sharing has become inevitable necessity and the only realistic way to provide a complete library and information services. For this reason, it is necessary to give importance to the special libraries in terms of logical and regional.

Qualified personnel are needed to undertake the above-mentioned services performed by a special library. The personnel must be qualified and efficient to manage the library and must have the basic knowledge on related issues. S/he must have knowledge about the nature of the work and be competent in providing an effective reference service. The personnel must be fully equipped with sufficient materials to perform the different types of documentation services. The effectiveness and efficiency of the documentation service base on the knowledge of documentation specialist about reader's interest.

Even if the functions of Special Libraries are similar to other libraries, their importance increases day by day because of the mass and the related works. On the basis of this, Nature Library, which is unique in our country, is essential so as to create the awareness for increasing environmental consciousness. In this part of the study, some evaluations about the Nature Library, which is the first and only in our country, have been discussed.

V.   The Studies on the Establishment of Nature Library

Doga Association was established in 2002 as an understanding based on the integrity and diversity of natural life by perceiving the principle of producing constructive and appropriate solutions for the issues on nature. The association maintains its activities in order to understand and protect the unique diversity of life since the day it was established (Hikayemiz, 2020).

Doga Association, which conducts some studies such as nature culture, natural law, natural philosophy, nature literacy, natural arts, and protection of biological diversity that is included birds, endangered species, Key Biodiversity Areas, Important Bird Areas, and Indigenous Production Landscapes in both Anatolia and different areas of the World, has created an archive by determining some information sources. The private collections of Tansu Gürpınar, Güven Eken and Özcan Yüksek have been also included in the archive over time.

On the basis of the increasing collections and demands from stakeholders, it was decided to establish a library within Doga School research building of Doga Association in Seferihisar in 2018, in order to organize information sources such as books, magazines, reports, articles, brochures, gray publications, posters, maps, photographs, videos, documentaries that are emerged as a result of the activities of Doga Association and material from private donations and to carry out studies on nature protection and nature culture and to meet the information needs of all segments in their works. The main aim of this library is to meet the information needs of researchers working on nature protection and nature culture, and the studies have been arranged in this direction.

Although the idea which has been created by considering the needs of in-house employees and limited some researchers has strong influence, it has been evaluated that the current collection has had a rare but diversity content during the classification of the collection. Together with this evaluation, the idea that establishing a thematic library in accordance with international standards shall be more effective method in creating awareness towards nature has come to the fore.

As a first step, it has been decided to employ a librarian who is leading expert so as to establish a thematic library, and then such a librarian has been appointed to manage the process. Following the employment of the librarian, it has been decided to establish the Koha automation program because it is open source and has a technical infrastructure suitable for development after evaluating different automation programs.

After the establishment of the automation program, intensive classification and cataloging studies have been conducted. In this process, 5,250 books and periodical copyright pages have been transferred to the system. The printed forms of publications, reports etc. produced by the institution during its studies have been transferred to the automation system. Moreover, the open access to the resources that their copyright belongs to the institution in the electronic base has been provided via links through library automation.

Necessary correspondence has been done with ULAKBIM in order to access the catalog records by all researchers and TO-KAT National Collective Catalog integration of Nature Library has been ensured. In accordance with the copyright law, the access to the resources such as photos and videos has been closed even if they have been uploaded to the virtual server.

Nature Library is located in the research building of the Nature School, in Orhanlı, Seferihisar. Researchers who want to benefit from the Nature Library do not have to be a member of the library. The Nature Library is open to all researchers who have some studies on preserving biological diversity, defending the nature rights and keeping the nature culture alive. While researchers cannot borrow printed sources (books, magazines, reports, etc.), they can make photocopies or use information sources digitally. The users in Nature Library are asked to use all information and information resources under the intellectual property rights and to respect the rights of the owners.

Doga Association, conduct its activities with imece culture together with its employees, members and volunteers (İmece, 2021). The establishment studies of Nature Library have been carried out with limited possibilities until today. Nowadays, both collection development studies and transferring the existing digital collection to the system continue in the line with available possibilities.

VI. Result and Recommendations

Nature Library fills an essential gap and is the first thematic subject library specialized on nature conservation in our country because it aims to arrange the information resources within the scope of nature conservation studies in the world and in Turkey. Its unique collections attract the attention of researchers. The access and meeting the needs for resource have been provided by classification and cataloging of resources and their transfer to the system. Considering the above-mentioned principles, it will be useful for the following points in order to provide better services of Nature Library.

- The process of developing the Nature Library collection requires a special effort in terms of the nature of the resources. That's why, the employment of librarians should be ensured in order to maintain library collection development and librarianship activities regularly.
- The continuous communication should be created between nature protectors, researchers and other users so as to develop the collection, and the

required permission should be obtained for the materials donated to the library, especially for those who are sensitive to copyright.
- Training programs should be created at regular intervals to increase the awareness of children and young people for the protection of nature, and some studies should be conducted to develop the collection on the basis of this purpose.
- Considering the core values of Doga Association, both material and moral support should be ensured for the development of the Nature Library.

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Library and Information Science (LIS) Education in Nigeria: Emerging Trends, Challenges and Expectations in the Digital Age

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ABSTRACT

In Nigeria, formal university-based Library and Information Science (LIS) educational programme began in 1959 at the Institute of Librarianship,University College, Ibadan (as it was then called) now University of Ibadan Library School. Since then, LIS education in Nigeria has passed through certain developmental trends in its chequered history and has seen steady progression, notably in terms of expansion. Considering the recent transformations in all sectors which have resulted in globalization that is accompanied with massive radical changes in all spheres of human endeavor, LIS educational programmes globally are expected to be amenable to such radical changes. Therefore, changes in curriculum, teaching and learning methods as well as assessment systems are inevitable and desirable. This paper, based on relevant literature, examines LIS education in Nigeria, its emerging trends, challenges and expectations in the digital age. It provides a historical antecedent of LIS education in the country. The paper also discusses contemporary global trends and developments in LIS education and the responses of LIS education towards these changes. It examines the present Nigerian perspective in LIS education and stresses that total reformation is desirable through ensuring that curricula and teaching facilities are always up to date for meaningful training. The paper further explores the major challenges/constraints confronting LIS education in Nigeria that include among others; perennial failure of the government to fund education properly, and LIS education in particular, paucity of infrastructure and learning resources as well as the general deficit of faculty members especially those with PhD degrees. It then explores the expectations of LIS education in the digital age, and as well offers suggestions on how to mitigate the identified challenges, notably through developing impact-oriented operational strategies by the LIS schools and galvanizing support to attract more funds. The paper concludes by emphasizing that LIS education in Nigeria can be more significant in this digital age if curricula and relevant teaching aids/infrastructure are in line with the current emerging global trends and perspectives.

Keywords: Library and information science education, Emerging trends, Challenges, Expectations, Digital age, Nigeria.

I. Introduction

It is no longer debatable that advancements in our society, technological or otherwise, have brought about significant and tremendous changes to the Library and Information Science (LIS) education globally. In other words, the LIS education has been experiencing a radical change especially in the last couple of decades which results to fundamental changes in all its structures. Such changes are pervasive, global and profound in nature. Additionally, with the recent trend in globalization and its seeping impact on LIS education, the LIS field is now seen as an interdisciplinary field of study that has integrated many new and related areas of such as information science, computer science, information system, knowledge management, information architecture, digitization, content management and archives related areas. This fundamental revolution has implications for the profession and has led to the offering of diverse/joint degrees by LIS schools, especially in the advanced countries, employment of new faculty, new curricular offerings, mode of delivery as well as changes in the market place for LIS graduates who now require new skills and competencies.

According to Assefa and Wang (2018), the LIS field is increasingly becoming inter-disciplinary and diverse with many new areas being offered. Similarly, curricular

offerings such as data science, research data management, digital humanities, to mention just a few are being offered to expand the frontiers of educational programs in LIS (Assefa & Wang, (2018). Moreover, it is critical to note that advancements in Information and Communication Technologies (ICTs) have been the driven force for all these developments. ICTs have transformed LIS education and libraries in general, and its introduction to the LIS field demands that LIS education must be technologically-based and market driven at the same time.

The above state of affairs requires LIS programmes to develop and overhaul their curricular in order to meet the requirements of the new information age which circles around technology. Furthermore, the changing needs of employers have led to many changes in the LIS profession. Consequently, the names of LIS education programmes, LIS education awards and LIS education courses have all changed (Okello-Obura and Kigongo-Bukenya, 2011).

For that reason, it is important to state that amendments and expansion of LIS programmes to suit the new changing environment, especially in the area of ICTs, has become unavoidable. This, therefore, calls for an in-depth and structured education programmes for the LIS professionals (Lawal, 2009). However, it is worth stating that the pattern of change in respect of the LIS education in both the developed and developing countries has been varied. For instance, it has been on comparative terms very slow in the developing nations where LIS schools still largely remain traditional in both their curricula and pedagogical approach, which could largely be due to their low level of infrastructural development as well as inappropriate manpower compared to what is happening in the developed countries (Abubakar & Farouk, 2018).

Lately, one of the major challenges facing LIS education revolves around the need to have appropriate, robust and vibrant curriculum that will meet the requirements of the changing setting, even though, changing or modifying the curriculum of LIS education particularly in the area of ICTs, is not an easy task. This is because curriculum development requires proper participation of all critical key actors. Karisiddappa (2004) noted that this has been a consistent concern of LIS schools the world over.

In view of the foregoing, the purpose of this paper is to examine the emerging trends in LIS education in Nigeria with particular reference to LIS education and training in Nigerian universities. It also explores the current global best practices in LIS education. The paper finally examines the historical root, the present status and the challenges bedeviling LIS education in the country and globally within the realm of the current global best practices with a view to highlighting their implications to LIS education in Nigeria. The article will be useful to LIS educators, LIS schools' administrators and LIS professionals in Nigeria as well as in other developing countries.

II. Development of Lis Education in Nigeria

In Nigeria, the history of LIS education dates back to the 1953 UNESCO-organized seminar on the "Development of Public Libraries in Africa" held at the University of Ibadan in Nigeria. The seminar recommended that a limited number of high caliber library schools be established in Africa to provide full-scale professional training at the leadership level (Lawal, 2000). Before that time, education in librarianship was only offered abroad mainly in the U.K and U.S. and the certificates acquired were mostly non-graduate type like the British ALA Examinations. Moreover, most of the librarians working in libraries in the country during that period were expatriates.

The commencement of genuine education for LIS in Nigeria started with the establishment of the first Library School in 1959 at the University College Ibadan, (as it was then known). The LIS School was established with the financial assistance of the Carnegie Corporation of New York who took interest in the development of the profession, and accordingly sent Harold Lancour in 1957 to survey the library situation and give advice on how the Corporation can assist in the area of library development. Following his two months survey, Lancour recommended that a postgraduate-level type LIS education be founded, which was eventually established at the Institute of Librarianship (now known as the Department of Library, Archival and Information Studies). The school began with a Diploma in librarianship which was solely meant for graduate students.

The next school of librarianship in Nigeria was opened at the Ahmadu Bello University, Zaria which commenced with an undergraduate programme. According to Abubakar (2015), the 1963 F.A. Sharr's report on library needs in Northern Nigeria led to the establishment of the second LIS School in Nigeria in 1965 with the aim of educating and training librarians at the undergraduate level against that of Ibadan's postgraduate Diploma programme.

Over a period of time, other LIS schools were subsequently established at different universities. Presently, there are 37 LIS schools in Nigerian universities comprising federal, state and private (Nigerian Association of Library and Information Science Educators (NALISE), 2020). Besides, a number of federal and state polytechnics as well as colleges are now offering LIS programmes at different levels. With this brief overview of LIS education in Nigeria, it is crucial to examine certain recent global trends in LIS education.

III. Contemporary Global Trends in Lis Education

Nowadays, there is a total and widespread radical change in LIS education. In other words, the rapid development in ICT and social networks that have been taking place swiftly from the 1990s onwards has changed not only the way information is used but also the pattern of library services and LIS education in general. Indeed, researchers have argued that we are now in a global

village. Globalization has also brought to the forefront the advancement in digital technology, collaborative efforts among countries, institutions, organizations which results in massive increase in virtual and online information resources and retrieval systems. Besides, evolution in LIS education is also another encouraging trend which clearly manifests itself in the establishment of LIS courses globally.

Based on the aforementioned, one can say that LIS education universally has taken a new dimension as a result of the important changes and advances brought about by globalization. Therefore, in the contemporary era, the LIS environment is being confronted with a number of challenges that emerge from the changing nature of the discipline. LIS education, being an important segment of the profession is radically and unavoidably affected by this important development. The challenges presented by those forces demand that LIS schools worldwide should review and change the contents of their curricula with the aim of equipping their graduates with the knowledge and skills that would enable them succeed in the ever changing LIS marketplace. Thus, available literature indicates that LIS education has been primarily and frequently changing in many countries.

Furthermore, a ground-breaking study carried out by KALIPER (2000) has identified six key areas that have advanced new trends in the LIS education. The six trends show that LIS schools were gradually:

1. Addressing broad array of information environments and information problems, even though the library settings remain the heart of many LIS programmes;
2. Witnessing the emergence of user-centered courses and has also continued to incorporate different perspectives from other fields of study i.e. multidisciplinary issues;
3. Increasing the infusion of IT into the LIS curricula i.e. information technology has underlined all aspects of the curriculum. As such, it was expected that the LIS programmes would bear the responsibility of keeping their students on the cutting edge of the existing and new technologies as they become available;
4. Experimenting with flexible programming to provide specialization within the curriculum;
5. Offering instruction in diverse formats (e.g. course length, day and time of course offering, and on-or off-campus meetings, as well as distance education via the World Wide Web) to provide students with more flexibility; and
6. Expanding their curricula by means of offering related degrees at the undergraduate, master's and doctorate levels.

Another key trend in the United States and indeed the rest of the world is the 'Information Schools' (iSchools) movement. According to Chakrabarti and Mandal (2017), the iSchools organization strives mainly to advance the field of information in the 21st century. According to them, the functions of the iSchools revolve around three areas i.e. education, research and professional development.

According to Weech (2019), the iSchools membership directory lists 101 institutions worldwide. Moreover, some members of iSchools changed their names to simply "Information School" (iSchool), while others continue to keep their original names (e.g., Information Science, Information Studies, Information Systems and Management, and LIS). A few schools of Computer Science and Informatics (along with Schools of Mathematics and Information Sciences, Media and Information, Convergence Science and Technology, among others) are also members of iSchools. (Tonta, 2016).

On the other hand, the inter-disciplinary nature of the LIS has now made LIS schools to change the names of their programmes, degree titles and programme offerings and in some instances even offering joint degrees with other faculties, particularly in the advanced nations like the United States, which, according to Salawu and Igwe (2018), reflects the breadth, depth and diversity of careers requiring information and knowledge management. According to Wiggins and Sawyer (2012), the composition of the iSchools faculty members represents, to a large extent, the inter-disciplinarity of the iField. The authors further stated that nearly one third (30%) of a total of 769 faculty members working full-time at 21 iSchools in 2009 obtained their Ph.D. degrees in computer science, 11% in information, 10% in librarianship, 10% in social and behavioral sciences, 9% in management and politics, 9% in science and engineering, 8% in education, 7% in humanities, while only 5% in communication.

The next trend noted is in Europe where epic transformation is also taking place through the formation of EUCLID (the European Association for Library and Information Education and Research) which serves as a joint forum for European LIS schools. In addition, according to the same author, "EUCLID' is solely concerned with the convergence of LIS educational programmes and the contents of LIS curricula in European countries which led to the completion in 2005 of the European LIS curriculum project". Moreover, the association establishes interactive forums through which they support and advance LIS in the area of curricula development, quality assurance, collaborative and networking structures, staff/students mobility and exchanges, course structures, conceptual/theoretical issues, internationalization of LIS education etc. (Diso, 2009). Besides, interest is growing globally on the internationalization of LIS education. According to Virkus (2015), internationalization of higher education has been an important priority for many international organizations, governments and higher education institutions for many years and is a trend that is expected to continue in higher education.

In particular, the changing landscape has encouraged LIS schools worldwide to invent new approaches in order to be receptive to the new environment. In line with this, Virkus (2015) studied change and innovation in European LIS education. The survey which concentrated on five (5)

LIS institutions in Europe established that there were structural changes in the LIS programmes, inclusion of ICT into the curriculum as well as in the teaching and learning process.

Another trend in the LIS landscape is that, presently, many LIS schools offer different programmes of studies which comprise archive administration, archival imaging technology, digital curation, digital information services, health informatics, knowledge management, to mention just a few. In fact, according to Weech (2019), perhaps the increasing number of specializations within ALA-accredited programmes is likely as a result of the expanded definition of what constitutes the information professions.

A number of studies have been conducted on various aspects of LIS education. For instance, Malik and Ameen (2020) used interview technique and surveyed the current and future employment opportunities for LIS graduates in Pakistan through qualitative approach. The study found that the job market for LIS graduates was still traditional in nature. However, it was also found that non-traditional job markets existed in the country. Mole, Dim and Horsfall (2017) examined the concept and characteristics of LIS vis-à-vis knowledge societies through conceptual framework and critical examination. The study emphasized that LIS education must equip LIS professionals with the relevant ICT skills and competencies. Hence, according to the authors, there is always the need for the re-engineering of LIS education in the area of content and methods of training for the LIS profession so as to meet industrial needs for knowledge societies.

Wei, Chumg, Li and Li (2020) studied trends in LIS education in China through bibliometrics approach and found that China has increasingly paid more attention to LIS education in recent years. Also, the addition of practical courses to the teaching system was another trend reported by the study. In another study, Bronstein (2009) analyzed the curricula of 30 LIS departments in 21 countries in different parts of the world using websites in order to determine current trends. The study used Wilson's typology (2001) for coding data and found out that the largest percentage of courses examined relates to information content. Furthermore, technology courses were the second major category present in the curriculum. The study concluded that, in the dynamic job market, LIS programmes should aim at providing the widest range of skills and competencies necessary in educating their students for all positions in the information environment.

Saladyanant (2014) compared the courses offered in the curriculum of nine LIS master degree programmes in Thai universities with IFLA guidelines for Professional Library/Information programmes. The study established that there were 43 courses on Application ICT to all facets of Library and Information Products and Services; 28 courses on Information Resources Management and 12 courses on Assessing Information and Designing Responsive Services. Similarly, Hu (2013) examined 14 LIS schools in the United States through a quantitative analysis. The study found that seven of the fourteen

(50%) LIS schools offer IT related degrees from LIS school programs. Some schools have merged with Computer Science Programs or Information Technology Programs. The study further reported that the School of Library and Information Science, Indiana University has merged with their Computer Science and Informatics program and the School of Information, University of Michigan at Ann Arbor has changed to offer Master of Science in Information as a substitute of the traditional Master of Library and Information Science; while the University of Illinois at Urbana-Champaign was offering multiple IT based degree programs such as Specialization in Data Curation, Socio-technical Data Analytics, Certificate of Advanced Study in Digital Libraries etc.

Xue, Wu, Zhu and Chu (2019) examined the challenges of LIS education in China and the United States through quantitative and qualitative content analysis method. The study found that LIS education in China and the United States have been facing multiple challenges mainly in the areas of accreditation and identity, survival and thriving, curriculum enhancement and course delivery format.

IV. The Nigerian Perspective

Presently, any meaningful discussion on LIS education in Nigeria needs to consider the fact that LIS education has come a long way since the formation of the first university-based LIS School in the country at the University of Ibadan as previously reported. The most recent development is the proliferation of LIS schools in universities, polytechnics and colleges across the country. Hence, one can conveniently say that LIS education in Nigeria is at the moment witnessing a turning point. It is therefore significant to know that expansion in LIS education has become obvious in the country, mostly in recent years. Moreover, many new institutions are founded fueling the need for more LIS schools that will train LIS professionals that will manage the libraries attached to those institutions.

Given the growing development, LIS education in Nigeria has reached its peak with many universities (both public and private) offering different programmes at bachelors, masters, and PhD levels in LIS, although operating under different faculties. At the moment, some LIS schools in Nigerian universities are housed under faculties of education, some in social sciences, some in management sciences, while few are under faculties of information and communication etc. (Abubakar, 2019; NALISE, 2020). Generally, the goal of library and information science education is to produce qualified library and information science professionals.

In view of the above, it is pertinent to note that information about university-based LIS institutions was collected from published sources (LRCN, 2014; Abubakar, 2019; NALISE, 2020) as well as through discussions with colleagues and telephone calls. Also, the information obtained shows that nearly all the universities are offering regular courses, while only few are providing LIS education through the distance learning mode (ABU,

BUK, UNICAL, ATBU etc.). Furthermore, the names and nomenclature of the programmes vary. In the beginning, most departments were simply named Departments of Library Science or Library Studies. Lately, however, many of the departments have changed their names to Department of Library and Information Science/Sciences. At the moment, some of the prominent names for LIS departments in Nigerian universities include: Library and Information Science, Library and Information Sciences, Library, Archival and Information Studies, Library and information Studies Information Resources Management etc.

In terms of nomenclature, different bachelor's degree courses are provided by LIS departments in Nigerian universities which include among others: Bachelor of Library and Information Science (BLIS), Bachelor of Arts (Library and Information Science) (B.A. LIS), Bachelor of Science (Library and Information Science) (B.Sc. LIS) where LIS is offered together with other academic subjects in the Sciences, Social Sciences or Arts (commonly found at University of Nigeria Nsukka and Bayero University, Kano). Another one is B. Tech (Library and Information Science/Technology). While at the postgraduate level, LIS schools offer variety of Post-graduate programmes. For instance, the Bayero University, LIS School has Post-Graduate Diploma in Information Management (PGDIM), Master of Library and Information Science (MLIS), Masters in Information Management (MIM) and PhD in Library and Information Science. Similarly, according to Saka (2015), the University of Ibadan (UI) LIS School runs post-graduate programmes such as Masters in Library and Information Studies (MLIS), Masters in Archives, Records and Information Management (MARIM), Masters in Health Information Management (MHIM), Masters in Publishing and Copyright Studies and PhD with specialization in diverse areas. Other university-based LIS schools have post-graduate programmes in different areas

With regards to the curriculum, for a student to earn a BLIS, B.Sc. or B.A LIS degree, they must pass at least 120 credit units in a four-year programme or at least 90 credit units in a three-year programme (NUC, 2014; Abubakar & Auyo, 2019). It is worth stating that the system uses both external and internal examination patterns to finally grade the students. There are little variations in terms of curricula offerings, although the contents are more or less the same. However, this is normally dictated by the NUC Benchmark for Minimum Academic Standards (BMAS). For the post-graduate programmes, there is also a difference in the curriculum of the LIS schools in Nigerian universities. Nonetheless, some of the LIS schools have updated the content of their post-graduate curricular to reflect the changing paradigm and societal needs and some are in the process of doing so. Masters and PhD degree programmes are offered on full-time or part-time in most of the universities.

The undergraduate course content from the NUC Benchmark for Minimum Academic Standards (2014) includes some of the following courses: Introduction to Library and Information Studies, Introduction to Information Science, Information in Libraries and Society, Introduction to Library and Information Resources, History of Libraries and Information Centres, Library and Information Centre Visit, Introduction to Bibliography, Organization of Knowledge I, Library and Information Service to the Rural Community, Management of Library and Information Centre, Libraries and Information Services for Children and Adolescents, Serials Management, The Information User, Information Literacy, Indigenous Knowledge System etc.

In an effort to address squarely and decisively the curricular issues in Nigerian LIS education, the Librarians' Registration Council of Nigeria (LRCN) has made a gigantic effort by organizing a summit on Library School Curriculum Review and Development of Benchmarks which was held at Lokoja, Kogi State, from 14th-18th June, 2015 with the main aim of enriching the curriculum of library schools in Nigeria in line with the recent global best practices. In that summit, lingering matters concerning course contents for LIS schools in Nigeria, facilities, nomenclature, staffing, location of LIS programmes, process of implementation of benchmark, establishment of LIS programmes and accreditation were painstakingly deliberated by stakeholders. Incidentally, the author of this article was a participant at the summit. As a result of the summit, the LRCN is currently developing a unified curriculum for LIS schools in Nigeria which has passed through some stages.

A situational analysis of students' enrolment shows that LIS as a course of study is gradually becoming popular in Nigeria. However, it is important to note that regardless of the increase in its popularity, some students are not interested or passionate about studying or choosing LIS as their first choice course. This situation raises serious concern about the need for attracting quality students into the various LIS programmes. Despite the negative trend, thousands of students are yearly enrolled into LIS departments in Nigerian universities, although no definitive statistics is available about the students' enrolment. This situation additionally means that thousands of LIS professionals are being produced every year by universities. In terms of job prospects for LIS graduates, the job market continues to be brighter. With the increasing demand for higher education, more tertiary institutions are being established, which means more potential jobs available for LIS graduates. Recently, the Federal Government granted operational license to 56 newly approved tertiary institutions in the country (PM News, 2019). Similarly, some LIS graduates are employed in other sectors of the economy since the modern day LIS training encourages the training of LIS professionals to think outside the box. That is why the acquisition of 'critical thinking' skills by LIS graduates is emphasized; others are on their own courtesy of the entrepreneurship education they received during their study years. The entry point into the profession remains a bachelor's degree.

In addition, it is worth reporting that some LIS departments in Nigerian universities have computer laboratories, while others utilize the central computer

laboratories of their mother institutions for practical and hands-on training, thereby emphasizing practical training on the use of ICTs. This is with the aim of making their students proficient to work efficiently and professionally in the rapidly changing electronic information environment that is evolving by the day, although many of the computer laboratories in the LIS schools have inadequate facilities.

Accreditation and quality assurance in LIS is also another precarious area of attention. In other words, as is common with other disciplines, LIS programmes tend to be subjected to thorough check by established bodies. According to Rehman (2016), accreditation adds value to the efforts of LIS programmes, because it keeps them current and relevant. As a result, LIS schools, whether university or non-university based, are expected to be regularly scrutinized by the various regulatory bodies, or perhaps the quality assurance agencies in the country i.e. the National Universities Commission (NUC) for university based programmes, the National Board for Technical Education (NBTE), and the National Commission for Colleges of Education (NCCE) for polytechnics and colleges respectively. With reference to the university based LIS schools, the NUC has minimum academic standards (MAS) for all undergraduate LIS education in Nigeria (NUC, MAS, 2014). As such, there is the need for regular and continuous assessment process to ensure compliance with the set standards.

As it is with other professional courses like Law, Engineering, and Medicine, to mention just a few, LIS schools are expected to be additionally subjected to occasional assessment by the several professional bodies in the country e.g. the Librarians' Registration Council of Nigeria (LRCN), the Nigerian Library Association (NLA) and other professional bodies. Though, currently, that process is yet to be inaugurated in the Nigerian LIS environment.

The success of any educational programme is solely dependent upon the quality of the educators', i.e. in terms of quantity and quality. In other words, educators are the pillar of the LIS programmes as well as the principal stakeholders in the entire education process. According to In the Nigerian scene, LIS schools in Nigerian universities have faculty members. However, in reality, there are some differences and hurdles. Some LIS schools are more advanced than others in terms of the number of lecturers particularly PhD holders. Despite that, there is a general deficit of faculty members. The shortage of faculty members with PhDs is even more prevalent in the northern part of the country. Furthermore, the general dearth of faculty members has forced many LIS schools in the Nigerian university system to rely heavily on the services of visiting lecturers and part-time lecturers. This situation is also applicable to LIS schools in polytechnics and colleges across the country. The NUC's recommended staff/student ratio of 1:30 for faculties of Education and Social and Management Sciences, where most LIS departments in Nigerian universities are based, is grossly violated with over-admission of students into the programmes. In fact, many LIS schools admit more

than what they can possibly handle, or perhaps, more students than they can cater for in order to withstand pressures from different angles. This, in turn, impacts negatively on teaching and learning in the LIS schools.

Opara (2007) examined the archival component in the undergraduate curricula of LIS departments in Nigeria to determine their adequacy or otherwise. The study found that the archival component in the core and elective areas were inadequate in terms of course content. The study recommended that the curricula be expanded to include more archival related courses. Likewise, Kacunguzi and Samuel (2016) assessed the curricula of four LIS programs in East and West African countries to determine whether they were in synergy with professional demands in the digital market. The study found that the four programs based in Nigeria and Uganda were not adequately digital compliant. Moreover, the two LIS schools in Nigeria were even far from achieving digitally attractive LIS curricula. Diso and Njoku (2007) examined four university-based LIS programmes through identifying the challenges affecting them. The study found that there was poor funding for LIS programmes, inadequate teaching facilities as well as the existence of inadequate curricula.

V. Challenges Confronting Lis Education in Nigeria

The previous section aptly describes the real picture in the Nigerian LIS educational system. LIS education anywhere is expected to be in conformity with global best practices. This means that if substantial advancement is to be made, global best practices and requirements cannot be handled with flippancy. Additionally, the predominant local condition should also be given utmost priority in any significant LIS education. Although there have been momentous increase in the number of LIS schools in the country, it is imperative to mention that LIS education in Nigeria is seriously bedeviled by some challenges that affect its quality and some of which have been discussed in the preceding sections of this article. However, the principal challenge faced, according to Salawu and Igwe (2018), is that of attracting students that are interested in studying the course. This issue has persisted and has been adversely affecting LIS education in Nigeria since its inception. This makes many LIS schools to continuously remain sluggish. Other prominent challenges as discussed by various writers (Abubakar, 2019; Saka, Garba & Zarmai, 2018; Abubakar & Harande, 2016; Abubakar & Farouk, 2018; Diso, 2009) include the following:

a. Inadequate funding of education and LIS programmes in general. According to Paulley (2019), among all the challenges facing Nigerian education, especially at the university level, the challenge of funding appears to be the most critical. Also, according to the author, in spite of the bulk of revenue at the country's disposal, the country has not met the 26% benchmark of annual allocation of funds to education as recommended for developing countries by UNESCO. Thus, it is very clear that the perennial failure of the government to fund

education at all levels has fundamentally undermined LIS education in Nigerian universities and other tertiary institutions. This situation has led to deterioration of physical facilities, learning environment and overall degeneration in standards.

b. Insufficient infrastructure/teaching and quality learning resources which emanates as a result of prolonged underfunding.

c. Lack of participation of critical stakeholders in LIS education matters. Many at times, stakeholders are not fully engaged in curriculum development. This is a long-standing problem since the commencement of LIS education in the country.

d. Proliferation of LIS schools devoid of respect to established standards, i.e. there is no check and balance regarding the mushrooming of LIS schools in the country. According to Ochogwu and Nwokocha, (2014), the rate at which LIS schools proliferate without due regards to standards in the areas of curriculum development and resources is not a healthy development.

e. Contradiction in nomenclature and organizational placement for LIS departments in the country. Some LIS schools in Nigerian universities are housed under faculties of education, some in social sciences, while few are under faculties of information and communication etc. Such scenario has created confusion in the nature of the LIS programmes being offered in Nigerian universities as there have been debates regarding their exact status.

f. Shortage of information technology facilities as a result of the poor funding situation. Additionally, it is sad to note that the acquisition and use of technology resources in most LIS schools have been a mirage rather than a reality.

g. Improper development, implementation and review of LIS curricula as well as non-involvement of LIS professional bodies in accreditation of LIS programmes in Nigeria.

h. Inadequate cooperative efforts in form of collaboration among LIS schools, exchange and linkages programme both locally and internationally.

i. Paucity of LIS lecturers specifically those with PhD. Majority of newly established LIS schools always tend to rely seriously on their institution's librarians and in some cases the use of visiting and part-time lectures.

j. Finally, another lingering issue is poor ICT literacy among LIS lecturers in Nigeria which tends to affect negatively the trainings provided.

VI.   Expectations in the Digital Age

If LIS education is to flourish and continue with its main mission of educating and training of LIS professionals in Nigeria and even beyond, and to join the modern-day trend of globalization of LIS education, LIS schools must re-examine their philosophical foundation and apply necessary proactive measures aimed at dealing with the challenges in the digital age so as to meet the demands of the society and to also be in line with the global dictates.   LIS education is significantly and fundamentally changing over the past decade as pointed above. Hence, emphasis to new perspectives in LIS education especially in developing countries and Nigeria in particular has become paramount. Hashim and Wan Mokhtar (2005) have observed that we live in an information society where the development of ICTs and telecommunication networks is accompanied by a corresponding increase in knowledge, with a rapidly growing flow of information. This new information environment, according to them, requires new skills in seeking, processing and using information which requires the LIS curriculum to respond accordingly. In the first instance, training in LIS should be technologically compliant if graduates are to fit into the digitally changing environment. In addition, acquisition of digital skills has become necessary. Moreover, the following aspects should be given priority:

a. The adjustment of LIS courses to include new areas such as ICT skills (Internet searching skills, database management, website design and management and networking). Others are publishing, multi-media applications, electronic resources management and information literacy etc. Tella, Olufemi and Sunday (2018) investigated the ICT skills required for recruitment of LIS professionals in the digital age through survey approach. The results shows that ICT skills such as word processing, spread sheets/excel, power point presentation, knowledge of databases, email/internet skills, hardware/software, web design, mobile technology and social media skills are the most basic ICT skills needed in the digital age. Similarly, Nonthacumjane (2011) presented the key skills and competencies of a new generation LIS professionals to include among others: personal skills (analytical, creative and flexibility), generic skills (communication, critical thinking, and information literacy) and discipline-specific (metadata, digital archiving, content management and database management). While, Narasappa and Kumar (2016) categorized the skills required by LIS professionals in the digital age into four categories: professional competencies, personal competencies, soft skills and ICT skills and networking. Given the importance of ICT skills to the modern day training in librarianship, LIS schools in Nigeria should take up this challenge so that they can go in line with the requirements of the digital age. By doing this, LIS training can be more meaningful because employers in this digital age expect LIS professionals to be conversant with emerging technologies.

b. The aspect of management is also another essential or critical knowledge that LIS professionals should have in the digital age. To manage libraries and other related agencies successfully, LIS professionals should have basic knowledge of

management. Yadav and Gohain (2016) examined the perception of LIS graduates in India regarding the skills needed for employment in the digital age through survey method. The study established among others: budgeting skills, motivational skills, public relations skills and supervisory skills were the most recommended skills. Hence, such skills are the important managerial skills that LIS education in Nigeria should give priority to in order to ensure effective management of information organizations in the digital age.

c. The fact that LIS professionals will no longer be employed in the library only in this digital age demands for the injection of entrepreneurial skills to would be graduates by the LIS schools. This would make LIS graduates to be enterprising and also have the ability to be self- reliant whenever the need arise According to Georgy (2009) some new fields must be incorporated in the LIS curricula e.g. Knowledge Management, competitive intelligence, change and innovation management and project management. Consequently according to the author, LIS curricula can no longer be attached to the potential employers (i.e. libraries), but have to orientate on the different fields of work and the required working qualifications. Similarly, according to Agim (2020) the library profession has gone beyond the acquisition, organization and dissemination of information resources, but has shifted to ICT-based profession which demands entrepreneurial knowledge in the digital age. Therefore, courses in business skills, information brokering, contingency skills, as well as policy, critical, reflective and creative thinking as well as strategic planning are desirable in Nigerian LIS education. Besides, they are critical issues that cannot be handled with levity in this digital age.

d. The acquisition of research skills is also another aspect that should be given prominence by LIS education in Nigeria. According to Yadav and Gohain (2016), the acquisition of research skills not only helps in improvement in researches to be conducted, but also assists in improving technical writing and presentation skills. Therefore, imparting of research skills should be upheld by LIS schools in Nigeria.

e. Another critical area to be giving priority in the digital age is the inclusion of courses with digital library background. Nonthacumjane (2011) stressed that in order to work conveniently in the digital library environment, the new generation of LIS professionals should have basic knowledge of database development and database management systems that are connected to Functional Requirements for Bibliographic Records (FRBR), Resource Description Framework (RDF) as well as related technologies. According to Okeji and Mayowa-Adebara (2020), there is the dire need for digital library education in LIS schools in developing countries that will help equip graduate

librarians with competencies and skills for developing and managing digital libraries in this digital era. This means that LIS education in Nigeria should give priority to this aspect so as to comply with the dictates of the digital age.

f. Other essential areas of consideration include Indexing and abstracting services, information policy and information architecture which are all critical areas in the digital age.

Taking into consideration the global trend in LIS education and perhaps the LIS profession, the challenges appear to be enormous. This consequently has serious implications for the education and training provided. The situation can change through aggressive approach by the LIS educators, professional associations and the heads of the LIS schools. This demands keeping abreast of the current global changes and perspectives. Hence, emphasis should be placed on improvement in teaching and learning resources, recruitment of quality academic staff particularly those with PhD degrees and requisite ICT skills, research and innovation and the total restructuring of the curriculum among others to meet the yearnings and aspirations of the digital age especially in the area of injecting more ICT-related courses. Diso and Njoku (2007) emphasized that the quality of LIS educators is of primary importance, not just in terms of academic or professional qualification, but also in terms of their philosophical outlook, their vision and their ability to deliver. Furthermore, according to Varalakshmi (2010), LIS education has to embrace ICTs as part of course contents with the aim of complying with the requirements of the digital environment. There is also the need for a change in attitude by the government towards funding of education and LIS education in particular. Harmonizations of the nomenclature as well as proper housing of LIS programmes are also desirable.

There is also the need to decrease the number of students' enrolment so as to provide quality education and reduce the overstretching of faculty and facilities. Improvement on national policies for the LIS profession would further boost the image of the profession and ensure its compliance with the requirements of the digital age. Similarly, there is the need for partnership and networking at different stages among LIS schools in Nigeria and even beyond. This would ensure cross-fertilization of ideas for improved LIS education. All these would assist in the design of LIS education in accordance with the changing landscape and the requirements of the digital age and would also enable the LIS schools to know about their current status in the constantly changing global LIS marketplace. It would additionally help in creating awareness about the present status of LIS education in Nigeria. Appropriate handling of such issues is a challenge for LIS educators.

VII.   Conclusion

In the last two decades, LIS education globally has experienced an unprecedented development due to technological advancements and penetration. The discussion above has examined the emerging trends in

LIS education in Nigeria. It traces the historical backgrounds of LIS education in Nigeria. It is important to state that education for the LIS profession has advanced speedily, particularly in the last couple of decades and this has resulted in structural changes in all the aspects of the profession. In addition, changes in the LIS marketplace also require new competencies. Hence, LIS schools in Nigeria need to accept the changes taking place in the profession worldwide and to also upgrade the quality of their programmes so that they can produce skilled graduates that are relevant to this digital age. Moreover, digitalized LIS education in Nigeria will speedily advance and even flourish when LIS schools make judicious use of ICTs to train their students. But the bottom-line lies in their availability. This digital age, devoid of sentiment and overemphasis, has brought about exceptional opportunities to LIS education more than ever before, with many activities evolving by the day. The paper concludes by stressing that all hands must be on deck in Nigeria to ensure compliance with the dictates of the digital age.

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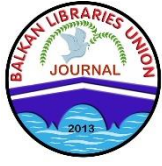
Use of Two Screens at Academic Library Reference Desk for Improved Information Services

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Short Communication

ARTICLE INFORMATION

ABSTRACT

This article describes the positive interaction achieved with the use of two screens by the librarian and the user in an academic library reference service. Besides the ergonomic benefits provided for both the librarian and the user, the advantages of the system will be shown in terms of information transmission. This will involve an explanation of how the librarian's screen display is shared with the user and simultaneously allows the librarian to present additional information and announcements.

Keywords: Face to face reference services, Raspberry Pi, User-staff interaction, Academic library, Dual monitor, Engineering information literacy, Undergraduates, Library phobia.

I. Introduction

The aim of this study is to promote the use of two screens developed to improve the reference service, one of the main services offered by the central library. In other words, to increase the usefulness of the service for the librarian and the user. "Understanding usability is a combination of understanding the user's needs, desires, and abilities, combined with the goals, functions, and limitations of the product or service"(Lease, 1999, p.52) In the reference service, use of two screens considerably enhances the communication between the user and the librarian in the research process, and has a very positive impact on the role of the Reference Desk.

Although there has not been much research done in this area, there are a few studies on the use of multiple screens for academic library reference services. These studies focus on the standard borrowing service of the libraries in question. It would therefore not be wrong to say that the current study, involving the use of two screens for the reference service of a university library, is a first of its kind.

The Mustafa Inan Library of Istanbul Technical University (ITU) offers a library service to an engineering school with a population of 40,000 in the central campus. The two-screen reference service, which is the subject of the study, is presented to the user from a single point in

the library entrance hall. Mustafa Inan Library is open for 24 hours a day 7 days a week. Universities in Turkey are configured within two separate financial structures, as foundations and as state universities. For this reason, the conditions / budget / services / facilities they have vary. The budget of most state university libraries is below the budget of those run by foundations (Çetinkaya, 2014). Another constraint that has a direct impact on library services in public universities is that library budgets can only be used for purchases of publications. This type of budget organisation adversely affects the reference service of the library which should ideally be constantly upgraded and developed. On the other hand, the fact that the library of this prestigious state university is open 24/7 increases the importance of the reference desk as a primary and continual service.

II. Mustafa İnan Library Reference Desk Short History and Development

ITU Central Library have an independent library building with a single Reference Desk. Short questions, closed-ended questions, location-direction, working hours, service points queries, help in document copying and computer use, reference questions about service policy, reference service over the phone, reference service by email, database usage, catalogue scanning, use of databases, providing access from outside campus, research techniques, solution of access problems, forming

bibliographies and other questions requiring considerable research are now answered from a single point.

ITU Library collection has nearly 500 thousand volumes, 50 thousand emagazines, 5 thousand rare works, 3 thousand maps, and more than 200 electronic databases. Due to the fact that it is an engineering school, academic publications (electronic books, journals, standards, theses, statistics) are widely used in the syllabus.

Such a large and diverse collection of source material requires a good level of information literacy and research skills to be successfully explored in finding the specific resource needed at any given time in the library. Information literacy training sessions are not compulsory at ITU as part of the curriculum. In an informal system, when users (academicians / students) request such a service from the library, information literacy training is given by the reference librarians in the classroom / library. Because training is not mandatory, participation is relatively low, and as a natural consequence the vast majority of users' knowledge literacy skills are not at the required level. However, for a university member this skill is essential and indispensable, and should not really therefore be optional.

Based on a single member of staff and the computerized Reference Desk the intensive service is as follows. The user comes to the Reference Desk. They direct a question to the librarian. The question is whether a particular textbook resource is in the library or not, for example, and the librarian connects to the catalogue from their own computer, queries the publication, and verbally passes the result to the user. In the case of printed source queries, the process ends quickly if the source is accessed from the collection. In this process, because the computer screen is only facing the librarian, the user cannot see the whole research process on the computer.

If the user has applied to the Reference Desk to investigate an academic article, standard or thesis in the electronic environment, this process requires a more detailed and time-consuming questioning. The librarian expects this process to be carried out while the user is inactive and sometimes bored. The librarian then shares the result with the user. In all of these processes, the user plays a passive role and the librarian plays an active role. This process contributes little to the user's information literacy skills.

III.   From the Librarian's Perspective

"Reference transactions are opportunities to engage patrons in informal teaching and learning activities in which librarians help users to develop information literacy and critical thinking skills."(Folk,2015,p.13) Providing reference services to a large group of people some parts who do not have sufficient information literacy skills with a single pc has become a tiring and time-consuming task for a single member of staff. Trying to successfully answer the questions of users who have little knowledge of the library and its services, and more importantly, providing an efficient reference service, requires much more than verbal communication. The single-person computer at the reference desk has been

quite inadequate in the face of the sheer volume of user enquiries.

In order to facilitate this process, to make the service more efficient, and to improve the user's information literacy skills, the reference librarian presented a double screen proposal for the Reference Desk to the library management. A positive response was received and the project was soon implemented. Since 2014, two screens have been utilized at the Reference Desk.

The two-screen Reference Desk project was designed to provide a quality service to our users, who mostly have low level knowledge literacy skills, in the research process and also to help them develop relevant skills.

As the author of this study is also a reference librarian at Istanbul Technical University, it is clear that this application of technology is particularly useful and important for services like university libraries with heavy usage. For this reason, it is worth bearing in mind that the system should always be kept up to date. As well as reducing the workload of the librarian, the system also greatly facilitates the transmission of information between librarian and user. (Manjoo, 2014) Being a support for the information literacy level of the user, it is important that the two-screen system is always developing and keeps up to date. The fact that the devices needed for the installation of this system require very little in the way of financial outlay is another major advantage.

As university libraries utilize technology in a wide variety of applications, many recent studies in the literature envisage the disappearance of the Reference Desk altogether in the not too distant future. On the other hand, while big data increases every day there is a growing need to facilitate access to information; a problem only compounded by the proliferation of types of source material. The ability to access data and navigate information sources is therefore crucial, which is why the reference service of academic libraries continues to be vitally important. It follows that the quality of this service has a similar significance. According to Phillips, Van Epps, Johnson & Zwicky "the preponderance of traditional, face-to-face lecture style teaching, which is not surprising since many librarians who are teaching are accustomed to this model and likely, it is still the most comfortable for many librarians. This could lead to thinking that the face-to-face lecture is the most effective"(2018, p.709)
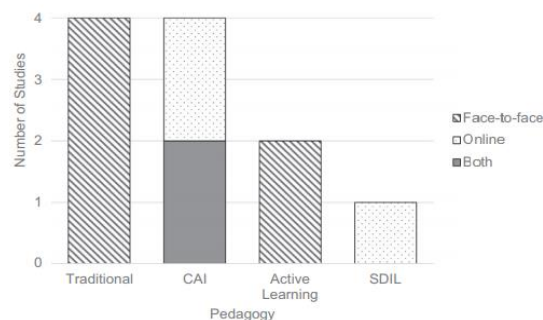

Fig. 1: students' preferred modes of information literacy (Phillips,Van Epps, Johnson, Zwicky,2018,p.709)

From the point of view of service delivery, the two-screen system would seem to be an indispensable element

of a reference library in the digital age. The application of a two-screen system for the library Reference Desk is not a new concept. However, the modified system outlined in this study, involving a more efficient use of the extra screen as a library notice display, represents a new approach.

IV. The Interactive Two-Screen Reference Desk

The study carried out in Mustafa İnan Library involving an interactive two-screen Reference Desk consisted of the following hardware elements:

- 1 PC
- 2 monitors
- 2 keybords and mouse
- VGA switch for the screen pass
- 1 Rasperry pi
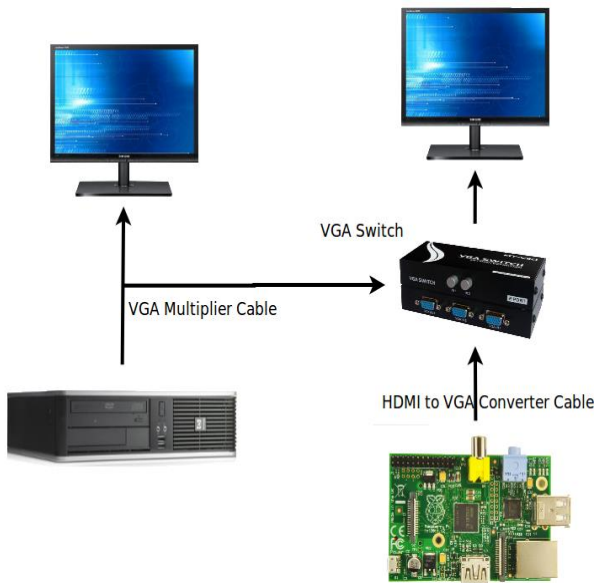
The operating principle of the system is as follows:

When necessary, the librarian displays her monitor view on the second screen by pressing a key on the VGA Switch. In this case, the user will see the same screen as the librarian. A keyboard-mouse is available both to the librarian and the user. Both can input and output information on the screen. In cases where the user is not present and the librarians are working alone or privately, the librarian uses the VGA Switch button on the back to retrieve the screen and the user screen is fed with the image from Rasperry Pi. In Raspberry Pi, there is an application called Screenly, which is customized for information / announcements. This application can publish video, images and web pages in a specific order.

Raspberry Pi Configuration:

Raspberry Pi outputs are via HDMI. Today, HDMI input / output systems are common and can be configured accordingly; but the system we use is VGA-based, so we had to use an HDMI / VGA converter. The following configuration changes were made in Raspberry Pi in order to run the configuration.

- Config.txt file must be edited for these processes
- The config.txt file is kept in a separate partition. However, when the device starts up, it is mounted on the partition / boot directory. The /boot/config.txt file must be opened to edit this

file while the device is running

- The following settings are changed. First, the comments in the lines hdmi_force_hotplug and hdmi_drive are removed.
  - hdmi_force_hotplug=1
  - hdmi_drive=2
- The hdmi_group and hdmi_mode comments are removed, and the parameters are set to the following new values.
  - hdmi_group=2
  - hdmi_mode= 16
- the file is saved and exit.

V. Security

The management of the Screenly system in Raspberry Pi is done over the network. This means that announcements are added, updated and removed via a remote-connected web browser. However, an authorization system has not yet been developed. As a solution to this problem, links to the Screenly system must be configured with a firewall. Below are the installation and setup commands required for this purpose:

```
sudo                apt             install            ufw
sudo ufw enable
# ssh ile bağlantılara tamamen izin ver
sudo ufw allow ssh
# yönetim paneline yalnızca belirlenen IP'den bağlantıya izin ver:
sudo ufw allow from 192.168.0.100 to any port 80 proto tcp
```

Following these commands, security settings should appear as follows:

```
sudo ufw status
Status: active
To                      Action    From
--          ------      ----
22/tcp                  ALLOW         Anywhere

80/tcp                  ALLOW         192.168.0.100
22/tcp (v6)             ALLOW         Anywhere (v6)
```

VI. Simulation of Employee System

The user comes to the Reference Desk. The librarian tries to determine the need for information by questioning the user. With a few initial questions asked, a quick situation determination is made for the need of general information.

The librarian asks whether any research has been carried out before arriving at the Reference Desk. If the answer to this question is positive, then the librarian requests that the user repeat the research activities already performed on the library resources or website. The user repeats their previous research activities on the screen with the help of a one-to-one keyboard or shares the user research question with the librarian. The librarian supports this research process by navigating the library website and its resources live on the keyboard while the user participates.
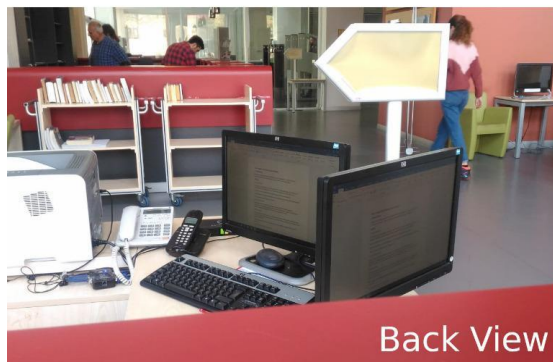
The way the system works with Images

General View

Front View

Back View

Fig. 2: With Two Screen Reference Desk

VII. Contributions of Two-Screen use for User / Librarian and Services

- Enables the librarian to see the user's information literacy level
- Allows easy, fast detection of the research question as the user can participate actively or passively in the queries on the shared screen
- Facilitates and speeds up determination of the amount of information the user needs
- Helps the efficient use and promotion of the library collection through interactive communication with the user
- Introduces the types of academic resources and usage forms in the collection through interactive communication with the user
- Helps the promotion and efficient use of the library website thanks to the interactive communication it provides
- Facilitates, accelerates and increases the efficiency of the service as it saves time and effort for both the user and the librarian

- Increases communication efficiency
- Makes the service attractive, motivates the researcher and significantly reduces the phobia of library use and resource discovery, especially for new researchers
- Decreases librarian's workload while increasing productivity
- Provides ergonomic two-screen system for the user and the librarian
- Allows user to see detailed information about the collection, services and research tools offered by the library
- Enables user to show the research / information question to the librarian using the keyboard and develops user's information literacy skills permanently as the direct involvement of the user in the research process also means learning by experience
- Adds visuality and high speed to the service
- Displays library announcements and collection presentations when the computer is out of use, continuing to contribute to library services even when no user is at the desk
- Increases usability of the reference service for both librarian and user
- Reference librarian can be always stay current on students research needs. (Miles, 2013, p.326.)

With the application of a two-screen system at the library Reference Desk a considerable rise in the quality of interaction between librarian and service user was experienced. This effect was most obvious among new library users with low information literacy, such as new students, academics and personnel, whose response to the service was strongly positive. In particular, these types of users can be said to have largely overcome their initial phobia of the library system, as borne out by their spontaneous feedback at the point of delivery of the service.

"By Van Epps and Sapp Nelson (2013), that showed a just-in-time model of information delivery, with the library information tied closely with the timing of then related assignment, produced student work with more references that are scholarly and a greater variety of resources, rather than relying solely on websites."(Phillips, Van Epps, Johnson & Zwicky, 2018, p.710) So we can offer as a helper just-in-time model of information delivery as the system operates with two keyboards, the user is able to access the computer system with a wireless keyboard, allowing their information literacy and information retrieval strategies to be observed by the librarian, one to one and in real time. The author of this study is of the opinion that the quickest and most permanent type of learning is through direct experience, as in the case of infant learning, and a significant element of the guidance provided by the two-screen Reference Desk is of this most effective kind. At the moment of receiving the service, the user is far more active than the librarian: the user is well to the fore, while the librarian has a secondary, assisting role.

VIII. Conclusion and Recommendations

According to the comments on a recent forum discussing and some latest literature researchs, in the near future libraries will no longer need a catalogue or reference librarian (Banks, & C. Pracht, 2008). Because library users will increasingly make use of technology, particularly search engines on the internet such as Google for their research needs. But the literature of engineering information is growing and diversifying.

The development of information and communication technologies has dramatically changed the size the quantity form of information and the ways in which it is used. Today especially engineering academic library collections consist of variety of academic resources which is not easy to use like standards, reports, statistics, ebooks. So quantity of reference desk question seems to decline besides the quality of question has totally changed. Mostly library users ask to reference desk non-directional questions like "How do I access JSTOR from off-campus?" rather than directional or close ended questions.(Folk,2015) Reference Services, which are maintained by face-to-face communication, are gaining more importance and still remains a key component (Nolen,2010,p.9;Bowron &Weber,2019). Feeding the quality of face-to-face communications with technology is essential for the efficiency of the reference services. Increased service efficiency is an important factor that nourishes success in education and training activities. The Reference Desk two-screen application is a useful resource for users of all levels with or without information literacy skills, while also facilitating the librarian.

It is still the case today that the "personal touch is expected and desired by students, and the Reference Desk is the best place for this." (Miles, 2013, pp.326,328) Whether the library in question is presenting a service to a large or small population of users, the majority operate with just a single librarian at the reference desk and so an extra monitor will increase efficiency (Banks, & Pracht, 2008; Russel & Wong, 2005). These developments all point in the direction of more ergonomic and efficient computer use for the library user. Having second screen at the reference desk promotes students questions.

One possible criticism of the present study might be that it lacks proper discussion of the disadvantages related to dual monitor use. The kind of negative factors encountered in other sectors where dual monitor use has been introduced, such as increased cost, greater need for physical space in the workstation, and user distraction, were not found to a degree worth commenting on in the present study. The library reference desk is usually designed in such a way that there is plenty of room to accommodate an extra screen and the hardware requirements for such an information point are generally low cost in relative terms.

Reference desk will be important for the casual real positive relationship between user and reference librarian in the academic library environment near future. Considering the service provided by the reference desk and the ongoing developments in information technology, it seems obvious that a two-screen application for the library reference desk will be increasingly utilized and developed into the future.

Limitations of the Study:

Weakness of the study is the lack of written face to face feedbacks from library users.

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