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## Leadership Challenges Facing the UAE Academic Libraries during COVID-19: A Dyadic Perspective

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## Leadership Challenges Facing the UAE Academic Libraries during COVID-19: A Dyadic Perspective

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### **Abstract**

**Purpose** – The purpose of the research is to explore library patrons' and leaders' perspectives regarding the key challenges facing during COVID-19 and issues to be addressed in managing libraries in the UAE.

**Design/methodology/approach**– The researchers collected 300 patrons' and 50 library leaders' opinions by administering two types of questionnaires that tested its reliability and validity by implementing Cronbach Alpha and Kaiser-Meyer-Olkin (KMO) tests. The collected data were analyzed using the R language in R Studio Software. The selected hypotheses were tested by employing the Kruskal-Wallis (K-W) hypotheses technique.

**Findings** – The researchers identified innumerable challenges the library leaders face during pandemic and stress in managing issues to be addressed because of the decreasing patrons' trend, which led to reduced budgets from higher educational institutions.

**Research limitations/implications** – The study is limited to collect the opinions of only higher educational institution respondents who are randomly selected from only two emirates Dubai and Sharjah. The study also collected a limited number of respondents with just three hundred library users and fifty library admin staff.

**Practical implications** – The study is beneficial to all the types of libraries, its managers, the managerial cadre of higher educational institutions, and partially useful to all types of book publishers.

**Originality/value** – The present research paper is original and provides empirical evidence about the UAE library leadership staff and patrons.

**Keywords** – Academic libraries, Library leadership, Patrons, Kaiser-Meyer-Olkin (KMO) test, Kruskal-Wallis (K-W) hypothesis test, United Arab Emirates (UAE), COVID-19, Information Sources, Information Retrieval, Collaboration.

**Paper type:** Research Paper

## **1. Introduction**

It has been noticed that academic libraries have gone through a rapid transit with a demand for a new set of leadership skills among library professionals. In the 21<sup>st</sup> century, with the digital revolution, technology changed the traditional information forms, digitalization changed the landscape of information access and its use, and information retrieval processes and library services are changed. Prosperous organizations prepare people to develop their skills to meet future challenges (Spies, 2000; Kotter, 2013) by breaking down the old systems, structure, and processes and adopting new methods and competencies. Like other organizations, library professionals also need practical and competitive skills for future leadership. Today, the successful library professional is distinguished by the ability to "manage ahead of the curve," go beyond the boundaries, expect and prepare the students' information needs, faculty, and other stakeholders (Vera and Crossan, 2004). In times of change, library professionals need a new set of skills and competencies to deal with the new trends and change (Kotter, 2013) and keep up the new knowledge and skills (Delaney and Bates, 2015; Leong, 2014). Around the world, libraries are facing many challenges, such as continuous shrinking of the library budget, transition from print collections to electronic collections, the vast digital information or resources freely available on the internet, and skills used to search and retrieve the relevant material from new software and technologies, the shortage of capable library leaders, and roles of library professionals in highly networked educational settings. Library professionals are engaged in exploring new aspects of leadership roles and growing with their leadership abilities.

The COVID-19 pandemic caused academic institutions worldwide to quickly pivot to online teaching, learning, and research as an emergency case. The academic libraries faced many complex issues in serving students, supporting faculty & staff, and ensuring their financial availability. Thousands of institutions and millions of students were impacted, while many educational institutions have modified their academic calendars and modes of instruction. Many academic research enterprises were affected due to the COVID-19 pandemic. From March to mid-October,

many research activities were suspended, and substantial budget reductions from research funders. Academic libraries faced expenditure controls and job cuts, especially with employees whose work relies on physical locations and traditional types.

This study provides a research survey of academic library leadership in the digital age and COVID – 19 pandemic situation. The main goals are to ascertain the library professionals' leadership perspectives concerning the significant challenges during the outbreak of the Corona Virus Disease-19 and the lockdown; the academic library leadership skills needed to meet the challenges; and the best ways to develop the library leadership skills with the new digital resources and services. The significant challenges facing the academic libraries in the digital age are operating the library efficiently under tight or shrinking budgets and accommodating new library digital technologies to facilitate the library resources and services.

## **2. Literature review**

Today's organizations are looking for transformational leaders who enhance all academic library operations, including diversity, teamwork, and innovation. The process of acquiring new knowledge and skills using new learning methods can be thought-provoking and confronting. It means that library professionals need to experiment with new software, investigate innovations, and use critical thinking and problem-solving skills to assess new technologies' applicability (Mierke, 2014). Important attributes needed for library leadership in the digital age are vision, integrity and honesty, collaboration, management skills, and communication skills where vision and integrity are often mentioned (Bennis, 1989; Nanus, 1992; Riggs, 1998). A visionary library leader can constantly scan the environment, analyze it, and set a clear direction for the library. Proficient library leaders can also look for opportunities by taking up leadership roles such as committee chair, task force chair, section chair, and division chair in professional organizations such as ALA, ACRL, and LLAMA. (Le, 2015). Yang et al. (2016) identified that a collaborative mindset skill is essential for library leadership and can be established through formal gatherings, group discussions, team-based learning approaches, and activities across regions. Gwyer (2015) stated that collaboration among libraries increases access to digital resources and the sharing of resources as inter-library loan systems and enhances research output. Effective negotiation skills are also recommended for library leaders to deal with publishers on licensing electronic resources (Achua and Lussier, 2010) and consortium models for collection development in electronic

resources (Novak and Day, 2015). Today, the structure of education is altering, and especially during the COVID pandemic situation, users require more online services, and their expectations are beyond the limitations with limited and inadequate library budget (Neufeld, 2014). Dewey (2005) discussed that academic libraries should provide extensive resources for teaching and research, and the library professionals must be trained to retrieve and disseminate appropriate and valuable resources. Therefore library leaders need skills with the latest technological trend and software to search and retrieve and possess strong communication skills to work with faculty and students. Financial management skills are critical and essential for library leaders to show and prove the organization's actual benefit of library investments. The basic purpose of a budget is to ensure that money is spent appropriately and to provide input for making intelligent purchasing decisions in the future (Moyer, 1990) and enables management to understand the real cost of items purchased. It is also important to find cost-effective ways to achieve the library's goals through efficient budgeting skills (Warner, 1993). Shrinking library budget is a great challenge for future libraries due to which the collection development process also gets scrutinized, and libraries are forced to select and limit acquisitions. At the same time, financial support and donations are ongoing libraries' issues (Riggs, 2001; Neufeld, 2014). Library professionals must possess deep knowledge, competencies, and regular practice with a positive approach, self-assurance, positive attitude, and an open mind for successful leadership. Besides traditional skills and qualities, an academic library requires a talented, self-motivated, effective communicator, strategic planner, and visionary leader to survive shortly (Aslam, 2018). Library leaders must have a clear understanding of the university, curriculum, and courses offered each semester, be active in research activities, and get feedback about library resources, facilities, and services from the faculty and students. Although measuring the impact of services and resources is not easy, assessing the impact helps prepare the leaders and professionals for future challenges (Carter, 2014). The library needs close association with faculty and students, and researchers and ensures that they know library resources and services. Library leaders should be actively involved in digital information literacy initiatives and improve information delivery through outreach programs and approaches. Such activities increase the relationship between users and library leaders (Delaney and Bates, 2015). Library leaders should be capable of taking up digitized projects with close relationships between faculty and researchers using their technological skills and sharpening their skills in collaboration with information technology department staff to work on and off-campus.

Library leaders need to connect with patrons to achieve organizational goals and reach out to them to advise scholarly information and open access resources (Wynne *et al.*, 2016; Weiner *et al.*, 2009). The new library trend supports research needs and defines research data's scope and requirements for researchers and faculty. Therefore, library professionals expect informal training and networking support to lead and collaborate by developing new skills and managing the change. Managing change is the most important leadership skill (Brown *et al.*, 2015), especially during the pandemic and future. Active collaboration in an academic library includes interaction with faculty members, staff, and students to extend support in teaching materials, student projects, and research papers. This collaboration helps the library develop the collections, serve better, and add more facilities as per user needs. Friendly library leaders often share between colleagues about their experience and how they would improve for their communities. Libraries act as a catalyst for networking within communities that they serve, and library leaders need to rethink to create extraordinary opportunities for library users, students, faculty, and researchers to connect in energetic, future-focused ways. A successful leadership needs a continuing process of skills development to work in this digital age, with a balance of traditional and modern skills, self-assessment, and evaluation of the outcomes (Gill, 2006). Library staff must-attend local and regional leadership programs every year; library leaders should organize training and workshops at their institutions and collaborate with other libraries in the region to provide an opportunity for networking and sharing. Leaders should motivate their employees to participate in workshops and training programs and promote sharing their experiences with others to develop new skills. (Feldmann *et al.*, 2013). Social gatherings, social networking, and workshops offer leadership development opportunities and enhance skills towards achieving the organization's goals and mission (Martin, 2016). Many libraries are now being encouraged to network with peers at the local and international level to enhance their skills and competencies (Mierke, 2014). Sears (2014) suggested that mentoring is an essential element for maintaining strong leadership and professional development. All leaders who realize and accept the challenges enhance their skills and inspire others to develop leadership skills.

### **Issues and trends in libraries:**

The shifting model of teaching and learning has created pressure on the academic libraries and library leaders to develop their skills in order to achieve the goals and mission of the organization

and to meet the challenges in the reforming of the educational setup (Weiner *et al.*, 2009; Gwyer, 2015). Library professionals have to adopt the new guidelines in resource sharing, information technology, communication, disseminate scholarly information, and innovate new skills to work in the libraries' reformed structure (Schreiber and Shannon, 2008). Rooney (2010) reported that library leaders need to become more flexible and endorse staff's leadership capability at all levels. Furthermore, leaders must open conversations at all stages, solve problems, find solutions, generate innovative ideas, and face the risks and challenges with confidence (O'Conner, 2014). Librarians face a tremendous challenge in the selection of appropriate and relevant literature from the vast digital collection as it requires search skills and cognitive competencies (Johnson and Potluri, 2020). At the same time, maintaining institutional repositories, and including research papers, teaching materials, and related items into the databases of different subjects is another challenge to library leaders (Wayne, *et.al.*, 2016). Increasing demands of digital scholarly information need maintainability of digitized content at all levels, and library professionals require a new set of skills for successful leadership. Educational institutions have increasingly diverse populations worldwide, and libraries need diverse leaders to work according to the patrons' desires in the digital age. (Turock, 2003). Patrons looking for courses on campus or distance mode, expect online resources 24 hours a day and seven days a week, and library leaders should be skilled and competent to support their informational needs from massive open-access resources at all times. The information-seeking behavior of library users and digital searching resources have been immensely impacted due to the transition from traditional to digital information resources. Simultaneously, digital information retrieval and dissemination have been a challenge to libraries and library leaders (Brown *et al.*, 2015). Academic libraries and library leaders faced challenges due to the decline in Online Public Catalog usage as Amazon and Google were the competent information providers, and users reached out to these sites for more convenience and ease (Law, 2009) but a move to webOPAC has helped users to explore the bibliographic details by following links to connected entities.

### **Libraries in the pandemic situation:**

Regarding library collection development philosophy, digital initiatives became progressive with virtual resources. (Bacon, 2020). Libraries faced continuous reforms in library patrons' information-seeking behavior because of shifting resources and information technology (Novak

and Day, 2015). Budget cuts have most impacted much staff whose jobs rely on the physical library location. (Fredrick, 2020). During the COVID-19 pandemic situation, the universities worldwide adopted new teaching methods, and libraries changed how they operated. Most libraries have limited access to their buildings to establish health and safety protocols for staff, social distancing requirements for patrons, and processes for sanitizing materials. The COVID-19 pandemic reinforced and accelerated library investments towards digital resources and online services.

University libraries moved online as there was a considerable demand for e-books since millions of print copies shelved inside libraries were not accessible. New collection development policies were drafted to reflect the new situation and support e- teaching, e-learning, and research. Book borrowing and browsing access inside libraries were suspended. For already borrowed library items, all loans were automatically renewed. All face-to-face library services were closed and migrated to online services strengthening the remote access facilities. Staff skills were developed with digital tools and environments, and online training from the library increased with e-reference tools. Most libraries have experienced budget cuts in the current academic year, and there is significant uncertainty about longer-term financial recovery. During the lockdown period, National Emergency Library (NEL), developed by Internet Archive blogs, USA, temporarily hosted 1.4 million books that supported emergency remote teaching, research activities, independent scholarship, and intellectual stimulation, which helped the faculty to prepare for classes, and allowed research students to access to authoritative books for their research papers at the time when other resources were not available. Publishers such as Elsevier arranged links to 27 how-to video tutorials that could be shared with Scopus users; Library Connect: where articles and resources from Elsevier and library organizations updated regularly; Digital Commons to address academic needs hosting conferences, tutorials, podcasts, slideshows, and portfolios.

Moreover, free resource centers for teachers and faculty providing information and support for teaching remotely during COVID-19. National Digital Library of India (NDLI), the most prominent digital library in India, works as a powerhouse of information for Indian students, researchers, and faculty providing access to e-books, e-journals, video lectures, question papers, and other resources necessary for entrance exams like National Eligibility cum Entrance Test (NEET), Joint Entrance Examination (JEE). Many academic libraries enhanced access to online materials by organizing temporary databases and other electronic resource trials. In addition to

this, publishers responded to the COVID-19 crisis by easing license restrictions or making research collections available temporarily (Carbery *et al.*, 2020). In a study IFLA 2020 reported that in academic libraries, there are efforts to provide remote access through "online article request service" at the East-West University in Bangladesh; while Danish libraries have set up online "Ask-a-Librarian reference service"; the Nahrain University in Iraq expanded subscriptions to the national virtual library to ensure students access to published theses; The Anatolian University Libraries Consortium (ANKOS) intensified resource sharing for researchers and the King Abdullah University of Science and Technology in Saudi Arabia produced a series of tutorials on how best to use library materials. There have been significant efforts in the Netherlands, Denmark to increase e-books (for borrowing) by creating a new app and adjusting the budgets to pay for the electronic contents. British Council Library has opened free membership across the world during the pandemic and offered free login to digital resources such as e-books, e-journals at all levels by downloading the British Council apps.

### **Library challenges and issues in UAE academic libraries:**

Library professionals' role is converted from Conservator of data to Facilitator of knowledge in an effective manner. During the COVID -19 pandemic situation, library professionals face tremendous challenges to serve the community by introducing open access systems and offering customer service, community outreach, cataloging, and administration. American University in Sharjah (AUS) uses the DSpace repository as a digital service that collects, preserves, and distributes digital material for the community where all registered students, faculty, and students are benefitted. Additionally, the library provides access to databases, journal finders, course guides, and subject guides. The AUS library hosts a "Chat with Librarian" facility to serve the patrons by live chat service and assist them with any problems and guiding with queries. Library provides borrowing privileges during COVID-19 pandemic situation by offering 'Click and Post Service,' 'Click and Collect Service', and 'Scan and Send service.' The 'Click and Post Service' offers a postal delivery service to all registered AUS students, faculty, and staff residing in the UAE. After confirming the library staff's postal address, the requested items (maximum ten items per semester) are posted via Empost postal service. This service is offered for print books, DVDs, and music CDs. Another service offered is the 'Click and Collect Service' for students and faculty living on campus, where they can request and borrow up to 30 items per semester, with specific

days and time slots reserved for collection. All the borrowed items are to be returned in the 'Return Bin' near the Service gates. Another service, namely, 'Scan and Send,' is available for faculty and research students who can request copies of chapters or articles owned by the library. If items are electronically available, links are sent to access the online version. Library also serves the students with e-coursepacks in PDF format and posted on iLearn, the University's online instruction platform. The coursepacks are a collection of materials photocopied and grouped in a book format for students with publishers' permission. The print coursepacks are sold in the campus bookstore and purchased by students as it saves their time searching and photocopying course readings, and the materials are obtained legally without infringing copyright. The e-reserves system is made available where faculty prepare and reserve the materials for students, making it easier to use following the copyright restrictions. AUS library also provides streaming video reserves for students, and they can access via iLearn. The faculty prepare courses available and provide them to the Panopto portal before the library publishes the video for students.

The American University in Dubai (AUD) offers web tutorials, subject guides, and course guides to support research in specific subject areas. Information Literacy sessions are conducted online via a university online instruction platform. In Dubai, Zayed University (ZU) introduced "LibCal" for library appointments to allow patrons to schedule and screen share meetings with the librarian. The British University in Dubai (BUiD) offers access to e-books, journals, documents, and movies through the Sway.office. Al Ghurair University (AGU) provided access to e-textbooks to all faculty and registered students through textbooks portal integrated into the university's Learning Management System, 'BlackBoard Learn,' where students choose to purchase the e-textbooks online according to their courses, discuss and interact with the faculty. The library staff provided scanned copies of book chapters and journal articles to faculty requests as emergency service. Library also introduced the "Chat with Librarian" service through the library webpage to answer students and faculty queries, besides email, telephone, and social media service. AGU library updated its online resources by adding open educational resources on the library webpage to enable open access to books and journals during the closure of library. American University in the Emirates (AUE), Manipal University, Birla Institute of Technology & Science (BITS) served their patrons with e-books through VitalSource service provider portal, Amity University, Dubai adopted offered students and faculty with digital access to books, journals, and other electronic resources through Liberty portal.

## **2.1 Theoretical framework**

Academic libraries face several social, financial, and technical issues. An academic library's budget and expenditures demonstrate its accountability, effectiveness, efficiency, and sustainability to its institution; therefore, library leaders must possess excellent budgeting skills to plan, report, and conduct audits. Library leaders must also be familiar with metrics and can analyze the data for performance improvement (Warner, 1993), effective communicator (Aslam, 2018), and modern skills (Gill 2006, Schreiber and Shannon, 2008), leadership development skills, and change management skills (Brown *et al.*, 2015). The theoretical framework includes independent variables, like budgeting and financial management skills, practical communication skills, digital skills & technical skills, and library development skills, which have a relationship with collection development, learning facilities, collaboration & networking, and library development. Facilitating factors are university policies, financial aid, and donations.

## **2.2 Hypotheses selected**

- 1) The users' age group has a significant impact on library leadership effectiveness during COVID-19.
- 2) Education of the user has a substantial influence on the effectiveness of library leadership during COVID-19.
- 3) Research support availability as a resource to the user has a considerable impact on library leadership effectiveness during COVID-19.
- 4) Answering email queries from the user has a significant effect on library leadership effectiveness during COVID-19.
- 5) Availability of online learning references to the user has a meaningful influence on library leadership effectiveness during COVID-19.

## **3. Research Methodology**

The researchers originated this research to determine library patrons' and leaders' perspectives regarding the key challenges facing COVID-19 and managing libraries. The researchers collected more than thirty research and review articles based on extensive literature review and theoretical framework. Following a detailed pertinent literature review and conceptual framework, the researchers selected five hypotheses and prepared a comprehensive questionnaire with three parts.

The first part of the survey highlights respondents' demographic profile, whereas the second provides information about the list of library services, and the third part provides comprehensive factors influencing the library development. The researchers directed convenience and stratified random sampling methods to gather the opinion of three hundred patrons and fifty library staff, mostly from the Dubai and Sharjah emirates of the United Arab Emirates higher educational institutions. Before circulating the questionnaire, the researchers tested the instrument's internal consistency and validity by administering both Cronbach's alpha and the Kaiser-Meyer-Olkin (KMO) tests. The researchers received all the circulated 350 questionnaires with proper responses to all the columns with special care taken in getting them in advance time of the respondents with frequent reminders and clearing the doubts in filling the circulated questionnaires. The collected data carefully summarized and controlled by Microsoft Excel and coded using the R language in R Studio. The unbiased variables were analyzed and tested for their significant impact on the dependent variable, library leadership development. The selected hypotheses tested by applying the Kruskal-Wallis (K-W) hypothesis testing technique was used to analyze the data. Alongside the survey, the researchers also organized personal interviews based on the respondents' time to know more about services provided and library leaders' challenges for library development.

### 3.1 Demographic profile of the respondents

Table I shows demographic variables like age, gender, education, profession, discipline, and Emirate of studying/working/living.

**Table I** Demographic profile of the respondents including both Library Users and Admin Staff

S. No.	Demographic Variable	Users N=300	Library Staff N=50
1.	Age		
	a) Less than 20	04	00
	b) 20-29	202	05
	c) 30-39	65	30
	d) 40 More than	29	15
2.	Gender		
	a) Male	192	40
	b) Female	108	10
3.	Education		
	a) Bachelors	168	17
	b) Masters	65	33

	c) PhD	67	
4.	Profession		
	a) Faculty	67	
	b) Lab Assist	06	
	c) Student	222	
	d) Teaching Asst	05	
	e) Librarian		33
	f) Assistant Librarian		17
5	Discipline		
	a) Engg	107	
	b) Arch	62	
	c) Buss	112	
	d) Gen Stud	19	
6.	Emirate of studying/working/living		
	a) Dubai	201	43
	b) Sharjah	99	07

Source: Research findings (N=300+50)

### 3.2 Reliability and validity tests

The researchers conducted the pilot study with a sample of fifty library users and fifteen staff to know the reliability and validity of the instrument by employing both Cronbach alpha and KMO tests. The selected two tests were the most extensively employed statistical tools to examine the questionnaires' validity and reliability in different contexts and situations. Table II highlighted the Cronbach's alpha reliability coefficient of 0.73, which is higher than the general rule of thumb value. The Cronbach alpha is the most widely administered measure of internal consistency and reliability (Litwin, 1995). The reliability coefficient ( $\alpha$ ) can range from 0–1, with 0 representing a questionnaire that is not reliable and 1 representing a reliable questionnaire.

**Table II** Reliability and Validity of the Questionnaire

Number of Variables	Cronbach's Alpha	Kaiser-Meyer-Olkin (KMO)
24	0.73	0.69

Source: Research findings

Table II also depicts the KMO value of 0.69 for the overall model, proving that the questionnaire is an eligible one for continuing research. The Kaiser-Meyer-Olkin (KMO) test is a measure of

how suited your data is for factor analysis, and the test measures sampling adequacy for each variable in the model and the complete model. The KMO statistic is a measure of the proportion of variance among variables that might be common variance. The lower the proportion, the more suited your data is to factor analysis (Stephanie Glen, 2016). The collected data was prepared to test and determine the driven five assumptions using the Kruskal-Wallis (K-W) hypothesis testing technique in the research. The K-W test, also termed a one-way Analysis of Variance (ANOVA), tests whether samples derive from the same distribution in the data.

### 3.3 Hypotheses testing

Eventually, the collected data is planned to test and establish the focused assumptions by employing the research's K-W hypothesis testing technique. The K-W test also called one-way analysis of variance (ANOVA), tests whether samples originate from the same distribution in the data (Kruskal and Wallis, 1952). The K-W technique was used to compare two or more independent or unbiased samples of equal or sample sizes. The researchers administered the K-W test to study the chosen five hypotheses, indicating the relationship between a dependent variable, the final decision of managing the library system, and the remaining independent variables stated in the premises, such as age and education. The K-W hypothesis testing technique was executed in the research to ascertain whether the selected demographic factors like age and education and the challenges faced impacting the management of UAE higher educational institutions' library system. If this p-value, ensuing from the K-W hypotheses testing, has a greater than or equal value to 0.05, the null-hypotheses (H0) are approved. In the other case, if the p-value is less than 0.05, the alternative hypothesis (H1) is accepted.

**Table III** Results of hypotheses testing

Hypotheses S. No	Null & Alternative Hypothesis (H0 & H1)	Proportionality Test Result	Interpretation
1	H0: The users' age group does not significantly impact the effectiveness of library leadership during COVID-19.	K-W Chi-Squared value: 0.0086 P-Value: 0.9261	Since the P-value is not statistically significant (>0.05), the null hypothesis (H0) is failed to get rejected.
	H1: The users' age group has a significant impact on library leadership		Thus, the users' age group does not significantly impact the effectiveness of library

	effectiveness during COVID-19.		leadership during COVID-19.
2	<b>H0:</b> Education of the user does not substantially influence the effectiveness of library leadership during COVID-19.	K–W Chi-Squared value: 0.1687 P-Value: 0.6813	Since the P-value is not statistically significant (>0.05), the null hypothesis (H0) failed to get rejected.  Thus, the user's education does not substantially influence the effectiveness of library leadership during COVID-19.
	<b>H1:</b> Education of the user has a substantial influence on the effectiveness of library leadership during COVID-19.		
3	<b>H0:</b> Research support availability as a resource to the user does not significantly impact library leadership effectiveness during COVID-19.	K–W Chi-Squared value: 4.9724 P-Value: 0.0257	Since the P-value is statistically significant (<0.05), the null hypothesis (H0) is rejected.  Thus, Research support availability as a resource to the user has a considerable impact on library leadership effectiveness during COVID-19.
	<b>H1:</b> Research support availability as a resource to the user has a considerable impact on library leadership effectiveness during COVID-19.		
4	<b>H0:</b> Answering email queries from the user does not significantly affect library leadership's effectiveness during COVID-19.	K–W Chi-Squared value: 5.493 P-Value: 0.0036	Since the P-value is statistically significant (<0.5), the null hypothesis (H0) is rejected.  Thus, answering email queries from the user has a significant effect on library leadership effectiveness during COVID-19.
	<b>H1:</b> Answering email queries from the user has a significant effect on library leadership effectiveness during COVID-19.		
5	<b>H0:</b> Availability of Online Learning References to the user does not have a meaningful influence on the Effectiveness of Library Leadership during COVID-19	K–W Chi-Squared value: 6.3465 P-Value: 6.72*e <sup>-4</sup>	Since the P-value is statistically significant (<0.5), the null hypothesis (H0) is rejected.  Thus, the availability of online learning references to the user has a meaningful influence on library leadership effectiveness during COVID-19.
	<b>H1:</b> Availability of Online Learning References to the user has a meaningful influence on the		

	Effectiveness of Library Leadership during COVID-19		
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#### 4. Results and Discussion

The article's findings portion contains the highlighted information derived from an extensive discussion and the statistical analysis by testing the selected hypotheses.

The above Table III illustrates the Kruskal-Wallis hypothesis testing implementation, which strengthens the data collected both statistically and meaningfully. The P-Value from this statistical test result will decide to either approve or disprove the stated hypotheses. The implementation of the hypotheses testing has illustrated fascinating findings from the considered variables. The library users' age group does not significantly impact the rating of the library leadership's effectiveness during Covid-19. On the same side, the library users' education also does not considerably affect the library leadership's effectiveness during this pandemic. Conversely, library staff's research support and online learning references availability noticeably influence the library users' rating on library leadership effectiveness during Covid-19. Similarly, the responsiveness of the library staff in resolving the email queries from the users drastically controls the leadership effectiveness during this epidemic situation.

Managing change requires a different set of leadership skills (Shoaf, 2004), and change is the basis for development. Due to libraries' closure, the library leaders had no choice but to change the book circulation system's traditional system into the digital model in the pivotal pandemic circumstance. Off-campus document delivery services, theses and book repositories, open access educational resources were provided through the web portal and emails. Library professionals actively used communication channels such as Google Meet, Zoom, Microsoft Teams, and social media tools to deliver instant messages and documents, answer queries; reference services such as "Ask a Librarian," information literacy plagiarism guidelines were timely rendered. To support the online classes, academic libraries were striving hard to provide digital collections such as e-books and e-journals through publishers and developing portals to access the resources from homes. Library leaders reached out to the publishers, local service providers, and IT department staff members to collaborate and integrate the digital resources into the university webpages and portals. The librarians were also putting their efforts into updating websites, uploading tutorials, and other

informative materials. Libraries changed their working practices such as working from home', added new web resources, redesigned the web portals with additional information and resources, enlisted Open Access Educational Resources, included pop-up messages and contact details of staff delivered online services through social media and emails (Rafiq *et al.*, 2020).

Barriers in physical to digital shift:

Working schedule and timing increased from 8 hours to 24 hours due to technical errors or lack of official laptops, desks, and an uncomfortable working environment. Many library staff had difficulty as they were not equipped with technologies at home to effectively and efficiently work from there. It disconnected challenges because working remotely was never foreseen, and no provisions were readily available because of the locked-down that regrettably made the library not effective with service delivery.

## **5. Managerial implications**

Technological changes, shrinking budgets, extensive user demands, and lack of digitally skilled library professionals have challenged the library professionals to develop their leadership skills and compete with the new digital age to deliver valuable services and continuous improvement. Librarians must look outside their professional boundaries for insight that will encourage staff communications, collaborations, and consensus decision-making. The challenge for librarians is to operate libraries effectively despite the budget constraint. Collaborative agreements with other libraries such as co-operative purchasing, shared collection, and resource sharing enable favorable terms from vendors and publishers, especially in electronic resources. Leadership skills can be developed by attending workshops, conferences, online courses, and regular networking and collaboration among the library professionals. There is also a need for mentorship (Ross, 2013), regular practice, and constant exercise to enhance leadership skills (Fallon *et al.*).

## **6. Conclusion and directions for further research**

The COVID-19 pandemic compelled and challenged the academic library leaders to re-select resources, refurbish their websites, and adopt different approaches to meet the users' demands. Technological change, budgetary constraints and shortage of skilled staff is a concern and challenge for library leaders. At times, different sets of leadership skills are required to manage the libraries and facilitate organizational learning. The study is beneficial to all the types of

libraries, library leaders, and the managerial cadre of higher educational institutions and partially useful to all types of book publishers.

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