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**ANALYSIS OF THE NEED FOR DEVELOPMENT OF DIGITAL LIBRARY DURING THE COVID-19 PANDEMIC BASED ON THE LECTURER'S PERSPECTIVE**

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**Abstract**

*Since the outbreak of the COVID-19 pandemic, the Indonesian government has issued several policies to reduce the rate of its spread. The policy of carrying out physical distancing and social distancing has a major impact on the education sector. The learning process from kindergarten to university level must be done fully online. Therefore it is necessary to develop a digital library that provides digital collections needed in the learning process. This study aims to analyze the needs of digital library development based on the lecturer's perspective. The research method is a survey with 32 participants representing all majors at the university. Data analysis using Miles and Huberman model which consists of; verification, reduction, and data display. The results of the study state that there is a need for the development of digital library applications, the addition of digital collections as reading material that can be accessed by anyone, anytime, anywhere and about anything in four components, namely; digital collections, facilities and infrastructure, services, and reinforcing components which in this case are related to library innovation and creativity.*

**Keywords**

**Needs analysis, digital library development, covid 19 pandemic, digital teaching materials**

**1. Introduction**

At the end of 2019 was the beginning of the coronavirus pandemic 19 which then changed the order of human life almost all over the world. Changes occur in all sectors, including social, political, economic, cultural, to education. The face of the world of education has changed drastically, both at the kindergarten to university level (Dewanti et al., 2021). The learning process, which was originally carried out face-to-face in the classroom, turned into a virtual face-to-face in a virtual classroom. Social interactions between students and lecturers and students with students also turned into virtual interactions. This is done in order to break the rope of the spread of the corona virus and reduce the number of deaths due to infection with this virus. WHO stated that the spread of this virus occurred one of them through interaction between humans, and urges not to make direct contact with other people and carry out activities that involve many people. Because this has the potential for a massive and uncontrolled spread of the virus.

Government policies that require social distancing and physical distancing have an impact on the cessation of face-to-face learning processes in schools and universities (Syaefudin, nd). So since the beginning of 2020 all educational institutions are closed and the learning process is carried out online. Indonesia is one of the countries with a dense population and wide area, of course this policy has been responded to with various reactions. The government, in this case the ministry of education and culture, has made various efforts to minimize the impact (Nugroho, 2020). Starting from training programs, mentoring, to providing study quotas for teaching staff and students.

The most common obstacles include; not all educational institutions have adequate facilities in online learning, not all education personnel have good competence in the IT field, not all students have devices that support online learning, some educational institutions are in remote areas so it is difficult to access the internet network, motivation to learn decreasing, learning outcomes do not meet the target of learning objectives, to digital learning resources that are difficult to obtain easily. Ability in the IT field is a 21st century competency that must be mastered by lecturers and students (Frydenberg & Andone, 2011). Regarding the low availability of digital learning resources, it is necessary to conduct initial research as a basis for meeting the needs of learning resources. The purpose of this study was to obtain data on library development as a learning resource based on the lecturer's perspective.

**2. Research Methods**

**2.1 Research Design**

The research was conducted at the University of Djuanda with survey research methods (Riener & Willingham, 2010). survey research is quantitative in nature that examines the behavior of either individuals or groups. In general, survey research uses a questionnaire as a data collection tool. Some characteristics of survey research are that respondents represent the population, respond directly to respondents, and are carried out in natural conditions.

**2.2 Participants**

Participants in qualitative research are someone who has the ability to provide information related to the research topic (Sargeant, 2012). The participants in this study were 32 lecturers who were randomly selected and represented from all majors. Participants are also members of the library and have used the library in the pre-pandemic period.

**2.3 Data Collection**

The research data is categorized into four library components, namely; collections, facilities and infrastructure, services, innovation and creativity of the library. These four library components are components that are directly related to lecturers when using library facilities. Data collection is done by providing online questionnaires to all lecturers.

**2.4 Data Analysis**

Data analysis in this study used the data analysis model of Milles and Huberman with 3 stages, namely the data reduction stage, the data display stage, and the data verification stage (Miles & Huberman, 1994). Data analysis of the four components of the library is then categorized into two parts, namely factors that support library development and factors that inhibit library development. The data obtained will go through the stage of data reduction and display based on suggestions from participants on the four components of the library. At the end of the discussion, all data will be verified to obtain appropriate recommendations in developing a digital library based on the lecturer's perspective.

**Figure 1:** Data Analysis of The Need For Development of Digital Library

**3. Results and Discussion**

Regulation of the National Library of the Republic of Indonesia number 10 of 2018 concerning Higher Education Library Accreditation Instruments, in Article 2 contains components of university library accreditation instruments These components are; library collections, library facilities and infrastructure, library services, library staff, library administration and management, and reinforcing components (Sharifabadi, 2006).

 In accordance with the research objectives to be achieved, the data needed in the development of the library as a learning resource based on the lecturer's perspective, selected components that are in accordance with the research objectives. These components are; collections, facilities and infrastructure, services, and reinforcement.

The reinforcing component is focused on the sub-components of innovation and library creativity that can support the availability of learning resources (Fenner, 2005). Based on data analysis of the four library components, the results of this study are divided into three parts, namely: supporting factors for library development, inhibiting factors for library development, and suggestions for library development based on the lecturer's perspective.

**3.1 Supporting Factors for Library Development**

Based on the data analysis of the library collection components, the supporting factor in developing the library is the addition of the number of book collections per year (Lucky & Harkema, 2018). Although this addition is still considered less when compared to the number of students and lecturers. Another supporting factor is the addition of a study program journal collection per year. Both the addition of books and journals are related to the obligations of final year students. The need for reading materials that can support the completion of students' final assignments is inventoried by the study program, then submitted to the library unit for procurement. Students who will take the final exam of graduation, are required to write a journal article as one of the requirements to be able to take the exam.

The supporting factor for the development of the library is based on the components of library facilities and infrastructure, namely there is a reading room that is quite spacious and neatly arranged. The reading room in the library is quite spacious, this can facilitate students and lecturers to read well.

The supporting factors of the library service component are: there are library rules that are placed in several locations that are easy to read. Standard operating procedures (SOP) documents for borrowing and returning library collections can be found in the circulation room. While visits by both lecturers and students are well documented, this data is used as a library performance report.

The reinforcing component is related to the innovation and creativity of the library unit. Factors that support the development of the library on this component is the head of the library has a background in accordance with the field. Planning for library development, both physical and digital services in this research, cannot be separated from the direction of the head of the library. The library unit is also a research partner who will then take advantage of the results of this research. Another supporting factor is that the library staff have good IT skills. The digital library that will be developed will be very dominant using network-based applications, so personnel who are skilled in the IT field are needed.

**3.2 Inhibiting Factors for Library Development**

Inhibiting factors in library development based on library collection components include: the number of books and journals is still lacking, collections of old printed books and journals, and incomplete ebook collections. Reading sources in digital form are currently very much needed by both lecturers and students, considering that since the start of the COVID-19 pandemic, learning has still been done online (Aliyyah et al., 2020).

Based on the components of library facilities and infrastructure, the factors that can hinder the development of the library include: the layout of the room is less attractive, not in accordance with the times, the number of tables and chairs is less, the available tables and chairs are not comfortable, the lighting is not enough, the condition of the room is humid. There is no special room for discussion, and the location of the library is far away.

Components of library services that are inhibiting factors are: the library does not serve online book sales, does not serve book publishing, and there is no online library service. Meanwhile, the absence of innovation and creativity carried out by the library unit is an inhibiting factor for the reinforcing component.

**3.3 Suggestions for Digital Library Development Based on Lecturer Perspective.**

Based on the data obtained, both supporting and inhibiting factors in the development of digital libraries, the participants then gave recommendations. The following are the results of the analysis and verification of data provided by participants on the four components of library development, namely library collections, library facilities and infrastructure, library services, and reinforcement components (Witten et al., 2009).

In the library collection component, recommendations are obtained that: the literature owned by the library must be completed, add digital collections, add reading materials for national and international journals, increase the number of book and journal collections every year, and add audio-visual collections. Completeness of digital collections during the current covid 19 pandemic is an urgent matter. Libraries are expected to be able to respond to the needs of both lecturers and students in the availability of learning resources, so that the learning process can run effectively and efficiently. In addition, the existence of learning resources in digital form owned by the library can help final year students do research. Even if we have gone through this pandemic together, the number of digital library collections is expected to increase. This is in line with the characteristics of 21st century learning where every student must have 4C abilities, namely: *critical thinking, creativity, collaboration, and communication*(Toheri et al., 2019).

Recommendations on the facilities and infrastructure components are: more attractive room arrangement, comfortable and quiet library atmosphere, supporting internet connection, adding indoor rooms including discussion rooms, audio-visual rooms, and also outdoor spaces such as library gardens, increasing the number of networked computers, atmosphere relaxed with seating on the floor, instagramable and provided with library photospot, display of motivational words, modern cafe design concept, and strategic location of the library.

The components of facilities and infrastructure are one of the main attractions for visitors. The concept of a library full of books, long shelves and looks stiff gives an uncomfortable impression for some users. Library managers should understand that everyone's learning style is different, so the room in the library should facilitate all learning styles, both audio, visual, and kinesthetic (Riener & Willingham, 2010). Open space designs also need to be provided to increase interest in library visits. The atmosphere is fun, relaxed, feels at home, making the library one of the favorite places to visit. Modern concept, istagramable, to the existence of a photospot booth and placed in several library locations. Regarding the recommendation to make a library cafe, it has become part of the planning for the physical development of the library in this study. Not just following the ongoing trend, but as an effort to maintain post-research sustainability. Therefore, the strategic location of the library is the key to increasing interest in visiting the library.

The service component consists of: collections that are easily accessible online, friendly service, and collaboration with several publishers. The thing that becomes the basis for this research is the existence of a digital library application that provides online library collections. The need for digital collections as a learning resource is one of the supports for online learning during the COVID-19 pandemic as it is today. Djuanda University is one of the universities with productive teaching staff who conduct research every year. The outputs of research in the form of learning modules, books, and other scientific papers need to be managed properly. Therefore, it is necessary to have a publishing unit in the university library, which helps lecturers publish the results of their research.

Some suggestions for strengthening components in this research are: conducting regular dissemination of research results for students and lecturers, providing an integrated information system, book review program, clinical scientific writing program for students, and facilitating university and national level literacy competitions. The library is one of the places where the development of ideas or ideas produces innovation. Libraries can also assist users in carrying out their activities, by providing the necessary learning resources (Greenstein & Thorin, 2002).

Collections of reading materials that are not updated and are not available in large quantities can hinder the fulfillment of the needs of the users. Therefore, to meet the needs of the latest reading materials, it is necessary to have a book sales unit in collaboration with several publishers and lecturers. One of the recommendations from the lecturer's perspective in this study is the need for a bookstore that is managed through a digital library application in the form of a marketplace, which can sell books both online and offline.

**4. Conclusions**

  The function of the library as one of the units providing learning resources for students and lecturers in higher education plays an important role. Advances in information technology require libraries to adapt by providing reading materials in digital form and online services. During the COVID-19 pandemic, all activities must be limited with the aim of breaking the rope of the spread, because the learning process is carried out from each other's homes. The availability of digital reading materials through online library services plays an important role.

Therefore, it is necessary to develop digital library applications, add digital collections as reading material that can be accessed by anyone, anytime, anywhere and about anything. Based on the lecturer's perspective, there are four components in developing a digital library, namely; digital collections, facilities and infrastructure, services, and reinforcing components which in this case are related to library innovation and creativity. Some suggestions for development are the arrangement of an attractive, comfortable and quiet space. Adding indoor and outdoor reading rooms that can cater to the various learning styles of users, both audio, visual, and kinesthetic learning styles. Availability of library business units, namely: library café, publishing unit, and sales unit or market place.

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