

Librarian E-Readiness in the Disruption 4.0 Era

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Article Info

Article history:

Received

May 12th, 2021

Revised

July 19th, 2021

Accepted

July 26th, 2021

Published

July 30th, 2021

Abstract

In the era of disruption of the industrial revolution 4.0 as it is today, there are almost no difficulties in meeting information needs. Both information that is educational or information that is entertainment. A librarian is a profession whose job is to provide and present information to its users. how is the level of readiness of higher education librarians in the era of disruption including what factors affect the readiness of librarians and how librarians adjust to the era of disruption 4.0. In this study using the method Quantitative Research. This method was chosen by the author because the author wanted to know the level of readiness to implement the development of information technology with the basis or tools on the model developed by Mutula and Brakel. E Readiness, shows a value of 3.393. The value can mean "Ready". This average calculation is obtained from the average results for each sub-indicator which then becomes the value for each segment or indicator and then is averaged again to find the value of readiness information for the era of disruption 4.0.

Keywords: e-readiness; disruption; librarian

Abstrak

Pada era disrupsi revolusi industri 4.0 seperti saat ini, hampir tidak ada kesulitan dalam hal pemenuhan kebutuhan informasi. Baik informasi yang bersifat pendidikan ataupun informasi yang bersifat hiburan. Pustakawan salah satu profesi yang bertugas menyediakan dan menyajikan informasi bagi penggunanya. bagaimana tingkat kesiapan pustakawan perguruan tinggi dalam era disrupsi termasuk faktor apa saja yang mempengaruhi kesiapan dari pustakawan dan bagaimana pustakawan dalam menyesuaikan diri dalam era disrupsi 4.0. Dalam penelitian ini menggunakan metode Quantitative Research. Metode ini dipilih penulis karena penulis ingin mengetahui tingkat kesiapan implementasi perkembangan teknologi informasi dengan dasar atau tool pada model yang dikembangkan mutula dan brakel. E Readiness, menunjukkan nilai 3,393. Nilai tersebut dapat berarti "Siap". Perhitungan rata – rata ini didapatkan dari hasil rata – rata pada setiap sub indikator yang kemudian menjadi nilai pada setiap segmen atau indikator dan kemudian di rata – rata kembali untuk menemukan nilai keterangan kesiapan terhadap era disrupsi 4.0.

Kata Kunci: kesiapan elektronik; gangguan; pustakawan

INTRODUCTION

Along with the development of information technology, a globalization is created which is marked by an information explosion. The development of this information was initiated by the development of supporting tools or what we know as “Gadgets”. There are many tools that we can use and access through a network that makes the information spread so much and we receive it quickly. Ease of accessing information without being limited by distance, space, and time is one of the mainstays in the current era. Too easy and the amount of information circulating makes us have to be able to choose, sort, and manage information that can really be accounted for and information that is only a passing wind or temporary reading.

In the era of disruption of the industrial revolution 4.0 as it is today, there are almost no difficulties in meeting information needs. Both information that is educational or information that is entertainment. Information also takes various forms, both in the form of writing to information in the form of videos, we can easily get. In this era of information dissemination, there are many things in life that must change in order to continue to exist and not be eroded by the times. Self-adjustment and capacity building need to be done so as not to be left behind and always efficient. One of the professions engaged in the field of information and must really need to adapt to the conditions of this era of disruption is a librarian.

A librarian is a profession whose job is to provide and present information to its users. This profession is very instrumental in helping the learning process and the process of fulfilling the information needed by users. Librarians must have expertise in selecting useful information for users. Capabilities need to be adjusted along with the development of the era of disruption of the industrial revolution 4.0 as it is today. With busy services in the library, librarians are required to follow the development of the era of disruption of the industrial revolution 4.0 in order to serve users in meeting the information needs of users. Users who use a lot of information in terms of fulfilling information needs that can be accounted for.

Higher education is one level of education that requires *updated*, valid, and accountable information. Information used by the academic community is used to deepen academic theory and knowledge or in terms of implementing the tri dharma of higher education. This librarian profession must be able to serve the needs of users, namely the heterogeneous academic community. The librarian profession at universities is very much required to have readiness for various

rapid developments in information technology. This is because university librarians are the focus in finding information for the academic community.

In the last decade, the development of information is extraordinary, so much information is all around us. However, only information that comes from trusted sources can be used by the academic community. The information provided by the librarian is not only printed but also digital, considering that in this era of disruption, a person can easily and quickly meet the information needs they need. It is hoped that distance higher education librarians will be able to follow the development of the era of disruption of the industrial revolution 4.0 in providing information to users. Therefore, it is necessary to prepare and familiarize librarians with the use of technology so that librarians can continue to serve users even though it is a variety of information.

We need to pay attention to the readiness of librarians in facing the era of disruption 4.0. So that librarians can continue to serve the information needs of library users. According to the book from Prof. Renald Kasali (2017) entitled “Disruption”, one of the professions that will be lost in the future is librarian. This is because it is easier to find information. To anticipate this, we need to know the extent of the readiness of librarians in facing the era of disruption 4.0. Many factors support the readiness of librarians to face this disruption. The extent to which the readiness of librarians in facing this era of disruption.

In this paper, it will be explained how the level of readiness of higher education librarians in the era of disruption includes what factors affect the readiness of librarians and how librarians adjust to the era of disruption 4.0.

METHOD

In this study using the method of *Quantitative Research*. In a book entitled *Research Design: Qualitative, Quantitative, and Mix Methods Approach* written by Creswell (2009), explains that quantitative research is a method of investigation to identify problems based on testing a theory that can be measured by numbers and analysis using statistical techniques. . This method was chosen by the author because the author wanted to know the level of readiness to implement the development of information technology with the basis or *tools* on the model developed by Mutula and Brakel. This quantitative method is considered suitable for research because it uses numerical data.

The population and samples that the writer uses are several university librarians in Yogyakarta.

Yogyakarta was chosen because it is known as the City of Students, so it has many public and private universities. Test the validity and reliability of the questionnaire instrument used using *Product Moment* and *Cronbach Alpha* which was calculated using the SPSS program. Assessment of the level of readiness of the indicators is calculated through the value *Mean* (average) of the questionnaire scores. The calculation of the *Range Score* is as follows:

Table 1. Range Score E Readiness

Score	Category	Explanation
3,41 – 4,00	Level 5	Very Ready
2,81 – 3,40	Level 4	Ready
2,21 – 2,80	Level 3	Less Ready
1,61 – 2,20	Level 2	Not Siap
1,00 – 1,60	Level 1	Very Not Ready

RESULTS AND DISCUSSION

The College Library is a library that is used to support the activities of the academic community which aims to implement the Tri Dharma of Higher Education. With the development of information technology, which is characterized by the ease of finding information using modern tools, there will be a lot of information or what is called an information explosion. It also requires libraries to also apply adequate equipment in accordance with the times. Libraries that apply the development of information technology must also have readiness in their operations. *E Readiness* in the library can be interpreted as a readiness of library institutions in utilizing information technology to provide maximum information services to library users. If the library

applies information technology in service, needed *E Readiness* is from the librarian as the library manager.

The model for implementing *E Readiness* is based on *E Readiness* for librarians in terms of following the direction of development in the Disruption 4.0 era which is used in services as a form of organizing libraries. The model used by the author is “*An Integration Information Rich E Readiness Assessment Tools*” which is the development of several concepts *E Readiness* developed by Mutula and Braker in 2006 by adding an indicator of information access components in this model. This model is used because it assesses the readiness of an institution in terms of progress towards access to information. There are 5 segments or indicators in this model, namely: *Enterprise Readiness*, *Human Resources Readiness*, *Infrastructure Readiness*, *Information Readiness*, *External Invorenment Readiness*. Each segment or indicator has several sub-indicators that are used as assessment material. Each segment or indicator has a different number of sub-indicators that have been developed by the author.

Enterprise Readiness

This segment or indicator measures the readiness of library institutions in implementing information technology as service access to library users.

Based on the results of the questionnaire calculation, that institutional readiness for the application of information technology in the era of disruption is included in the “Ready” category. This enterprise readiness is strongly influenced by the readiness of library institutions to advances in technology and developments in the era of disruption

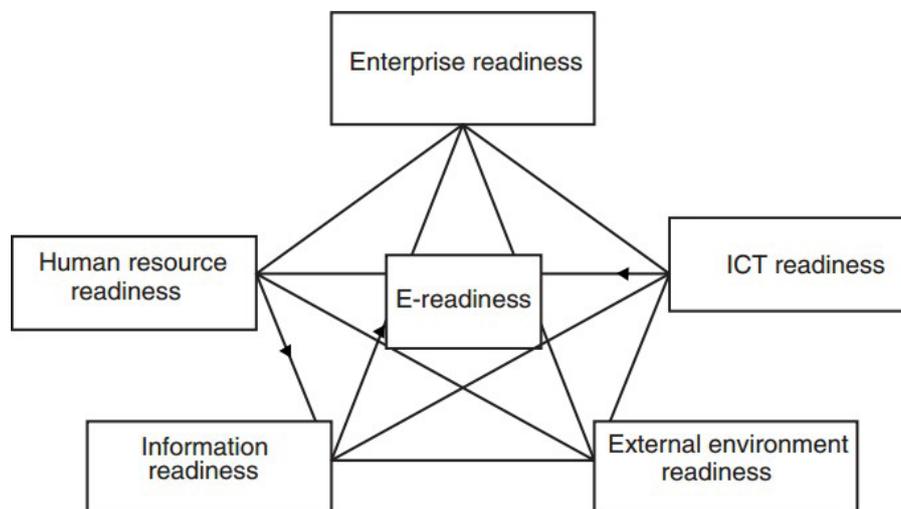


Figure 1. Assessment Pictures Readiness Mutula and Brakel

Table 2. Enterprise Readiness

Indicator	Sub Indicator	Indicator Value
Enterprise Readiness	Your library has a good information technology implementation procedure	3,351
	Your library has an information management department	3,072
	Your library has a strategic plan in the field of information technology	3,522
	All information technology in the library is of international standard	3,441
	Your library has sufficient budget for the development of information technology in the library	3,392
	Your Library Leader always gives initiation to use information technology in library services	3,118
Average		3,316

4.0. This requires the awareness of all library managers and librarians in terms of improving the quality of services that adapt to the rapid progress of information technology development. The role of all parties in the library is very decisive in the progress of the library adapting to the era of disruption 4.0.

The awareness of all library managers and librarians will determine whether the library is ready or not in adjusting or adapting to the rapid development of information technology. The strength and common vision and mission of managers and librarians will lead to the direction of library development. Of course all of this requires awareness and support from the leadership and the strength of the library budget. The policy direction of the library leadership is very decisive in the readiness of the library in adapting to the era of information technology development. The availability of an adequate budget is also a dominant factor in the development of libraries. The need for an adequate budget will also determine how much institutional readiness to adapt to the development of the 4.0 disruption era

Human Resources Readiness

This segment or indicator measures the readiness of human resources in the library. The

readiness of human resources is important because it is the driving force for library operations. Based on the results of the analysis on the indicators of the readiness of human resources for the application of information technology in the era of disruption, it falls into the "Very Ready" category. Readiness of the librarian is indispensable in readiness welcome the era of disruption 4.0. Librarians are required to always improve their abilities to keep up with the rapid development of information technology. Librarians must be at the forefront of understanding advances in information technology that will be useful in terms of information services to users. Improving self-ability must always be done by librarians so that librarians always serve users by providing services that are adapted to the development of information technology.

Improving the ability of librarians can be done through various ways. Even in this era of disruption 4.0, librarians can improve their own abilities. Improving the ability of librarians can be through training, training, workshops, or through activities held by existing professional organizations. In addition, librarians can improve themselves through videos that are spread through social media. Librarians can also improve themselves by reading

Table 3. Human Resources Readiness

Indicator	Sub Indicator	Indicator Value R
Human Resources Readiness	You are aware of the importance of information technology in libraries	3,782
	Your library has information technology staff with diverse educational backgrounds	2,941
	You have good skills in using information technology in library service	3,815
	Your library has reliable information technology staff	3,550
	You have the ability in managing information well	3,477
	You have the ability to analyze information well	3,861
Average		3,571

more. Although the librarian is tasked with serving information to the users, the librarian also needs to read, try, and practice a lot, which aims to improve his or her abilities so that they can adapt to the rapid development of information technology.

Infrastructure Readiness

In this indicator of infrastructure readiness, the readiness of libraries in the field of implementing or implementing information technology will be assessed as a measure of the progress of services based on information technology. In this Infrastructure Readiness, it has a readiness value of 3,356 which means it has a “Ready” category. Readiness of infrastructure also affects the readiness of libraries in general in the face of the disruption of information technology 4.0. The use of tools in library services such as computers and several other tools is very influential in the quality of library services that adapt to the development of information technology. How can a library adjust or adapt to the development of information technology if the equipment used is still classified as conventional or out of date equipment. The use of tools that are in accordance with the development of the era of information technology development can be a benchmark whether or not the library is ready to serve users in accordance with the development of the era of disruption 4.0.

Internet connection has also become one of the factors in the infrastructure supporting the library’s readiness to face future developments in information technology disruption 4.0. Although currently an internet connection is not a rare item in the world of education, there are some libraries that are not yet optimal in providing internet connections as service access for users. Internet connection speed is sometimes still an obstacle in the administration of the library. It can be a low value of infrastructure readiness in the library. The speed of internet service connection in the library can be a support that the library is ready to follow the direction of the development of disruption 4.0

Information Readiness

In this section will be assessed on the readiness of libraries in providing information to users. Based on the results of the analysis on the indicators of readiness of information in the library on the application of information technology in the era of disruption, it falls into the category of “Very Ready”. Many libraries that have not implemented security procedures in accessing information. This is because at least there are libraries that have standard operational procedures on security of access to information and standard operational procedures on backing up data managed by libraries. In the era of information

Table 4. Infrastructure Readiness

Indicator	Sub Indicator	Value Indicator
Infrastructure Readiness	Internet connection in your library is very fast	3,509
	All work units in the library already use information technology	3,171
	computer you use for work can be connected to other computers (sharing)	3,412
	Your library has a good website as a means of publication	3,031
	Online access your library is very secure	3,528
	The network connection in your library is very good	3,483
Average		3,356

Table 5. Information Readiness

Indicator	Sub Indicator	Value Indicator
Information Readiness	Your library provides all the information that users need	3,627
	library has a good information storage infrastructure (server)	3,108
	library has a good backup procedure	3,027
	Information Accessing in the library is very easy	3,614
	library has a good mechanism for collecting, storing and retrieval of good information	3,591
	Libraries can provide information from inside and outside the library	3,738
Average		3,451

technology development, everything seems easy, but security access and procedures for backing up data are needed. This is done so that when an unexpected problem or accident occurs, the library does not lose existing information data.

Adapting to the development of information technology, libraries should have implemented standard operational procedures in terms of backing up data security. Besides that, the most important thing is how the library prepares risk management from the application of information technology in information services to users. The application of risk management in library operations can anticipate risks that will arise due to system errors or loss of information data. The application of risk management needs to be applied in the library as a data protection information in the library. This risk management needs to exist because in the implementation of the development of information technology there will always be obstacles, therefore it is necessary to anticipate from the start with the application of risk management.

External Environmental Readiness

In parts of these indicators will be assessed to external factors facing the era of readiness disruptsi 4.0 . Based on the analysis on indicators of readiness External Environment in the library of the application of information technology in the era of disruption into the category of “Ready”. Readiness from external parties will also affect the readiness of libraries to face the era of disruption 4.0. The external party is like the highest leader in an institution that is the shade of the library. In this case, it is the highest leadership in the campus or government. Policy support from the leadership of the institution or government will also determine the direction of library development. The need for awareness from external parties to develop libraries in accordance with the development of information technology so that libraries are not left behind by the era that is growing rapidly.

Some of the data described above is an analysis of each - each segment or indicator of *E Readiness* taken the average - average or *mean the* of sub indicator. The following are the results of themodel analysis *E Readiness* overall:

Table 6. External Environmental Readiness

Indicator	Sub Indicator	Value
External Invorenment Readiness	The providers used are of very good quality.	3,458
	The government or leadership is very supportive of the development of information technology in the library	3,016
	All information technology infrastructure is in accordance with national standards	3,327
	There is a policy in every work unit in the library	3,081
	The electricity supply in the library is very adequate	3,502
	Has software or applications that run smoothly and rarely have errors	3,238
Average		3,270

Table 7. E Readiness Score

Indicator	Value
Enterprise Readiness	3,316
Human Resources Readiness	3,571
Infrastructure Readiness	3,356
Information Readiness	3,451
External Environmental Readiness	3,270
Average	3,393

Based on the information from Table 7 about the score *E Readiness*, it shows a value of 3.393. The value can mean “Ready”. This average calculation is obtained from the average results for each sub-indicator which then becomes the value for each segment or indicator and then is averaged again to find the value of readiness information for the era of disruption 4.0.

In accordance with the calculation of the average *E Readiness* globally, it can be concluded that broadly speaking, librarians at universities are ready to implement information technology-based services in libraries in the Disruption 4.0 era. Although the indicator value refers to the ready level, the librarian should try more to improve the indicator level and the librarian must always be ready to face the rapid development or advancement of information technology. Librarians must be ready and alert to become information gates for the academic community or library users. This is so that the library is not left behind with advances in information technology used in finding information.

In order for librarians to be more prepared or feel very prepared in the face of increasingly rapid technological developments, training or *workshops*

are needed that aim to improve the capabilities of librarians. So that librarians are not left behind by the development of existing information technology. This is also related to the existence of a library budget that is used for library service operations and to improve services and improve the capabilities of librarians.

In addition to budget support, the most important thing for the readiness of librarians and libraries in serving information is support from leaders. The policy direction taken by the leader must be in line with the progress of the quality and readiness of libraries and librarians. If the policy direction from the leader does not support librarians and libraries to develop, it is certain that the library will not last long due to the rapid development of information eroded. In addition to the policy direction, how a leader can manage the library well, change a conventional library into a digital library by following the direction of the times.

In the era of Disruption 4.0, library leaders and librarians are indeed needed who are reliable in managing libraries so that libraries are not lost to the development of the times. There needs to be an update in the library and in the world of librarianship so that the library still exists and can serve the information needs of its users.

Placement of personnel or employees in the library also needs to be considered. To maximize services in the library, it is necessary to have people who are experts in the field of information technology or people who are experts in librarianship. The library is not a place for outcasts or people with special training for violating discipline. However, the library is an information center whose information content can be accounted for.

CONCLUSION

In improving the readiness of librarians and libraries in providing information to users, special attention from the leadership is needed. There needs to be a different policy and management or management so that the library can still exist and serve its users. Increased capability in librarians is needed so that librarians in managing libraries can

be optimal and always follow the times. Even though according to the data currently available, university librarians are considered ready in terms of facing the era of disruption 4.0, but if they do not increase their abilities or capabilities, they will gradually be eroded by the development of information technology which will make it easier for people to access information.

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