Assessing Archival User Satisfaction at University Archives: a Case Study at Universitas Gadjah Mada

Herman Setyawan
Universitas Gadjah Mada, Yogyakarta, Indonesia
herman.setyawan@ugm.ac.id
Zuli Erma Santi
Universitas Gadjah Mada, Yogyakarta, Indonesia
zuli.ermasanti@ugm.ac.id

Abstract

In academic settings, it is important to understand user satisfaction on university archives to improve the quality of the archival system. This study aims to measure user satisfaction at the University Archives of Universitas Gadjah Mada. This study used a quantitative descriptive research design. The sample of this study was 38 archive users from 2023. Data on user satisfaction was collected using surveys. The result showed that the archive's quality of information, system, service, and reading room were above 91%. This study examines highly satisfied users of university archive services, identifying key factors that promote satisfaction and informing future service development. The results of this study are expected to provide practical guidance for university archive managers in improving their archive services to achieve higher levels of user satisfaction.

Keywords: archival user, user satisfaction, Universitas Gadjah Mada, University Archives

INTRODUCTION

Archives are vital for organizations, serving as both a collective memory and a repository of legal and historical evidence. They provide valuable resources for decision-making and offer insights into the past that inform present scientific developments and future planning.

Archives serve as vital repositories of information assets stored across various media, accessible for use. Academic research in archival studies increasingly emphasizes understanding the importance and utility of these resources. Thus, research on archival information sources has become a focal point in archival science (Zhou et al., 2019). In recent years, Integrating primary sources into teaching has become a central topic in university discussions on archival literacy. University archivists support faculty and staff in using primary source analysis as a teaching strategy, fostering critical thinking among students in historical materials (Garcia et al., 2019). On the other hand, Government archives, especially those in documentary form, are highly valued by historians for their insights into policy decisions and discussions that may be hidden from public view (Loh & Goh, 2022).

Archives also play a significant role in academic research. Archival repositories serve as centers of intellectual exploration that allow students to engage with historical materials actively, ultimately advancing their academic pursuits (Farry, 2022). In addition, as cultural heritage, archives benefit individuals, society and the economy. Some of these benefits fall into the non-market value category because cultural services such as museums, libraries and archives are provided as public goods (Lawton et al., 2022). For universities, archives are crucial for information building, resource management, and using big data to improve information management, fostering functional improvement and progress through computer network-based development. (Zhilin, 2019).

Archives management has evolved from traditional methods to modern approaches due to technological advancements. Traditionally, archives management involves several stages including creation, processing, preservation, and physical access. However, this conventional approach faces growing resource storage, utilization, and security challenges. The advent of new technologies such as scanning, big data, cloud computing, and artificial intelligence has introduced a transformative era in records management. These advancements have enabled the comprehensive integration of archival information, improving the efficiency of resource sharing and fulfilling the information needs of the digital age (Zhang et al., 2023). Advances in information technology have continually transformed archival practices, significantly influencing this context, ideology, and methodology. Consequently, it is important to update the principles, curriculum consistently, and approaches in archival education and training to align with these developments. (Chen & Zhan, 2023).

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Today, archivists must stay up-to-date and improve their skills in ensuring the security, integrity and accessibility of records. However, as electronic technology and the internet become more prevalent, archivists face the dual challenge of capturing their activities digitally while risking the loss of valuable digital assets. Challenges like managing scattered digital assets, valuation, accumulation, and data retrieval from long-term storage platforms are increasingly common. Thus, archivists must design strategies to preserve and exhibit archival holdings and provide awareness, knowledge and archival skills to the public (Huang et al., 2023).

The Universal Declaration on Archives highlights the crucial contributions of archives in improving operational efficiency, promoting accountability and transparency in businesses, protecting citizen rights, preserving personal and collective memories, gaining insights from history, and recording current events to inform future efforts. Moreover, the declaration obligates archivists to collaborate to make archives universally accessible while respecting applicable laws and the rights of individuals, creators, owners, and users. Archiving institutions such as libraries and archives that are often viewed as knowledge-based institutions have the responsibility to ensure that archives are accessible to the public, properly stored and maintained, and useful for various purposes, especially in academic settings (O'Hanlon & Aminian, 2022).

Currently, archives have also appeared at universities in Indonesia. Even though they have different names and structures, their function is basically the same: managing university archives in the context of national life and supporting government efforts. In the era of digitalization and advances in e-Government, various movements such as big data, open government data, and Public Sector Information (PSI) have emerged. Records management plays a critical role in advancing e-Government initiatives in this landscape. Archives accessibility is an important instrument in assessing the transparency of public organizations based on the rules of freedom (Kautto & Henttonen, 2020).

Service activities influence improving the quality and smooth running of organizational activities, influencing the impression and achievements of the organization itself (Aryanto & Suratman, 2021). University archival institutions are also tasked with disseminating their holdings so the public can see them. Without these efforts, the public would likely be unaware of this valuable collection available in the university archives. One effective approach to expanding the reach of archives is to digitize archival holdings, utilizing the expertise of archivists to assemble a collection of primary sources. These holdings are carefully curated collections of primary sources centered on specific historical subjects and can be accessed in digital format (Garcia et al., 2019). The main goal of archival institutions is to preserve archival materials. However, in addition to this basic goal, there is also the aim of offering information and services related to archiving (Senturk, 2011). Furthermore, information institutions, including archives, can use public programming events to interact with audiences. These efforts serve to increase awareness of their resources and services, strengthen existing relationships with stakeholders, and forge new relationships within their communities. Archival institutions carry out several participatory activities by inviting the public to add their personal documents to the archive collection (Roeschley, 2023).

Archives institutions are tasked with serving users so that archives can be utilized. It needs to be a main concern that user satisfaction with archive access services is important so that they return to access archives in the future (Rhee, 2015). Recently, there has been a growing trend in literature discussing archiving practices in archeology or cultural heritage. In addition, there is an increasing discourse regarding digital collections and archives, focusing on aspects such as the accessibility of digital data, finding assistance for collections, and the availability of data that researchers can reuse.

Several studies on archive user satisfaction stated that satisfaction represents the culmination of mental processes and is an assessment that a product or service characteristic provides a satisfactory level of satisfaction (Hsu et al., 2015). Determinants of user satisfaction include material quality, easy accessibility, speed, affordable costs, and environmental quality (Senturk, 2011). User satisfaction can be influenced by improving service quality. User satisfaction is an important factor in efforts to improve service quality in archival institutions (Senturk, 2011). Because user satisfaction indicates effective management, government agencies that oversee records administration are interested in increasing user satisfaction with records. Providing informative services is very important to ensure user satisfaction with the use of archives (Hsu et al., 2015).

Meanwhile, system quality is another variable, including the beneficial attributes of an information system. Ease of system use is one indicator of system quality, namely the extent to which

users feel that using the information system requires little effort. In addition, a high-quality information system must have the capacity to adapt to various internal and external conditions and changes. System flexibility significantly impacts user satisfaction and engagement. Moreover, reliability indicators, intuitiveness, sophistication, and response time are important measures of information system quality. (Al-Mamary et al., 2014).

Although many archival institutions in Indonesia have provided archival access, most of the existence of archival holdings remains unexplored (Opgenhaffen, 2022). This problem may be caused by archival institutions that have not reached the public or tend to provide services that ignore the perceptions of archive users. While several archival institutions in Indonesia have distributed questionnaires to general users to assess their satisfaction, there has been no research on the quality of archive services from the perspective of archivists and archive service officers.

There is a research gap in user satisfaction with university archives, primarily because existing studies often focus solely on specific user groups such as students or administrative staff, neglecting the needs and perspectives of stakeholders like lecturers, researchers, or alumni. The methods used to measure user satisfaction typically do not use a tiered perception survey that allows users to rate their experience on a five-point scale. Moreover, research comparing user satisfaction across different institutions or examining changes over time at a single institution is limited. This study aims to fill these gaps, providing a more holistic and in-depth understanding of user satisfaction with university archives and developing improved strategies to improve.. Therefore, it is necessary to investigate archive users' satisfaction levels. This research aims to assess the quality of archival services at the Universitas Gadjah Mada (UGM) archival institution, known as the UGM Archives

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

This research examines the performance of archivists as archive service officers who provide access services for users to holdings. Access is the ability to consult records/archives subject to legal permission and the availability of retrieval tools. An archivist is a trained professional responsible for preserving and facilitating access to original records (National Archives, 2022). In the United States, NARA employees include archivists, records technicians, conservators, and records managers, working collectively to preserve and provide public access. Archivists are particularly skilled at preserving many materials, including paper documents, photographs, maps, films, and digital recordings. Meanwhile, the ICA states that the goals of an archivist, whatever their qualifications or official position, include: 1) compiling an integrated collection through informed and proactive selection and acquisition; 2) implementing effective collection management, ensuring the long-term physical preservation of the collection, create accurate and comprehensive information about its contents, and provide ongoing care for the continued continuity of the collection; 3) establishing a systematic access program, allowing anyone interested in the archive's contents to easily study the collection and access its materials in a way that meets their specific needs; 4) Fostering collaboration with other organizations to improve the use and preservation of archival holdings; 5) access services are important in the use of archives (ICA).

User satisfaction is characterized by effective interaction between the information system and its users, as stated by DeLone & McLean (2016). User satisfaction is an individual's response to use the output of an information system. It is a user's emotional reaction from their interaction with a supplier organization or consumption of a product (Dokhanian et al., 2022).

The grand theory of this research is based on the research of Burçak Şentürk (2011). Archival user satisfaction is vital in archival institutions. Strategies and methods are important to achieve and maintain user satisfaction, focusing on new services and satisfaction criteria (Senturk, 2011). This study assesses archive user satisfaction through a survey conducted by the UGM Archives among archive users. The survey provides 12 questions with five-point Likert scale answer choices with a range of strongly agree - strongly disagree. This study identifies these questions and then group them into four categories. According to observations, this categorization is similar to the satisfaction model from DeLone & McLean: information quality, system quality, and service quality. This study found one additional category, namely the quality of the reading room. The questions and groupings are as presented in Table 1.

Table 1. Question Items and Their Categorization

Questions	Category
1. The archives I accessed provide useful information 2. The archives I access provide accurate information 3. The archives I access provide reliable information	Information quality (DeLone & McLean)
1. The Archives Information System (SIKS) is easy to use 2. SIKS helps me to find archives quickly 3. The keywords I entered into SIKS provide information about related archives	System quality (DeLone & McLean)
1. Archive users are served in a friendly manner by officers 2. Officers provide good assistance in searching archives 3. The officer retrieves and presents the files I need within a measurable and reasonable time period	Service quality (DeLone & McLean)
1. The archive reading room feels comfortable and calm 2. Access equipment such as computers, tablets and archives are in good condition and neat 3. Safely store user belongings such as bags, books, etc	Reading room quality (survey development)

Source: The results of the archive user satisfaction survey at UGM, 2023

The information quality refers to the level of accuracy, relevance, and reliability of data or information provided to meet user needs. It represents consumers' perceived value with the information (Lee & Min, 2021). Information quality involves a comprehensive evaluation of the information received by individual consumers, determining whether the information received is persuasive (Wang & Li, 2022). Information quality relates to specific attributes that influence how individuals use information resources and services (Elahi & Ahmed, 2023).

System quality refers to the degree to which a computer system meets certain standards to meet user needs and expectations. System quality is the level of support provided to users by an information system (Dokhanian et al., 2022). System quality relates to the information system characteristics that are sought, such as usability and adaptability (DeLone & McLean, 2016). System quality factors indicate the quality of system features, which are operationalized through aspects such as ease of use and learning of the system, features, accuracy, flexibility, and integrity (Albelbisi et al., 2021).

Meanwhile, service quality refers to the extent to which a service meets or exceeds user expectations. Service quality is an overall assessment made by consumers regarding the superiority of the services offered by an organization (Biscaia et al., 2023). Service quality involves the way consumers are handled in a certain way. Many factors directly influence service quality, resulting in high levels of customer satisfaction (Mary S et al., 2023).

In this research, an archival reading room is a special room or facility for accessing and studying archival materials, such as documents, manuscripts, notes, audiovisuals, and other holdings provided for archive users. This archival reading room provides a safe, supervised environment for individuals to examine and gather information from the archival holdings. Archive reading rooms are usually specially designed with a level of comfort and security to minimize damage to archival materials and provide services to archive users.

This study does not measure the influence between variables because satisfaction is not a variable with indicators measured in the survey. Therefore, this study formulates a descriptive hypothesis to determine the achievements of each variable. Through preliminary studies, the achievement of each variable is estimated to be at least 75%. The 75% figure is a hypothesized target for user satisfaction set by archive service officers at Gadjah Mada University Archives at the beginning of the year, while statistical calculations prove the hypothesis at the end of the year. The following is a descriptive hypothesis formulation:

H1. The quality of information on access services at the UGM Archives is at least 75%
H2. The quality of the system for access services at the UGM Archives is at least 75%
H3. The quality of service in access services at the UGM Archives is at least 75%
H4. The quality of the reading room services at the UGM Archives is at least 75%

METHOD

This study used a quantitative descriptive design to explain or describe in detail the characteristics or phenomena being investigated. The researchers collected numbers or numerical data analyzed to provide a comprehensive picture of the variables being examined. The main purpose of this research is not to establish cause-and-effect relationships between variables but to provide an accurate description of the situation or phenomenon under study.

Data were collected from a total sample of 38 users at the UGM Archives. The descriptive data in this study was analyzed using a one-sample t-test to determine the level of each variable. The one-sample t-test is a statistical technique used to test whether the mean of a sample from one group shows a significant difference with the population's known or expected mean value. In a one-sample t-test, a comparison is made of the sample mean with the expected or known mean value of the population. The objective is to determine whether the difference between the sample mean and the population mean is statistically significant or may be due to random variation in the sample.

RESULT AND DISCUSSION

This study assesses the satisfaction of archive users at the Gadjah Mada University Archives through information, system, service, and reading room quality. This study presents novel research on user satisfaction at the UGM Archives. Previous findings, such as the community satisfaction index infographic released by the Yogyakarta Special Region Library and Archives Office in 2023, achieved a satisfaction level of 90.66, while this study used different indicators. However, this finding can generally be used to compare this research. The results may be due to differences in indicators, number of users, and their perceptions.

To discuss the findings and answer the hypothesis, this research uses the one-sample t-test statistical technique. This one-sample t-test determines whether the sample mean significantly differs from a certain value (expected mean value or null hypothesis). The one sample t-test formula is as follows:

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}}$$

Information:
t is the t test value
$\bar{x}$ is the sample mean
μ is the expected average value
s is the sample standard deviation
n is the sample size

Proving Hypothesis

The hypothesis formulates that all variables are at a level of at least 75%. This study formulates all hypotheses as follows:
Ho: $\mu \geq 75\%$ (at least 75 of 100% criteria score)
Ha: $\mu < 75\%$ (lower than 75 out of 100 criteria score)
The hypothesis test is if t-count > t-table then Ho is accepted and Ha is rejected.
The $\bar{x}$ value is determined from the average score for each variable.
The μ value is determined by 75% x maximum Likert value x number of questions for each variable. The s value is determined from the standard deviation of each variable. The n value is determined from the sample size: 38 respondents. Data analysis in this study used a one-sample t-test. The one-sample t-test is a statistical method used to evaluate whether the mean of one sample is significantly different from a known or assumed population mean. This test can detect systematic and non-systematic errors in a statistical measurement (Francis & Jakicic, 2022); (Gerald, 2018).

Table 2. Hypothesis Test

	Information quality	System quality	Service quality	Reading room quality
x̄	14,28205	13,87179	14,41026	14,30769
μ	11,25	11,25	11,25	11,25
s	1,168641	1,435994	1,069135	1,103913
n	38	38	38	38
t-count	15,99364	11,2548	18,22139	17,07461
t table 1 tail α 5%	1.68709	1.68709	1.68709	1.68709
Hypothesis testing	Ho is accepted and Ha is rejected	Ho is accepted and Ha is rejected	Ho is accepted and Ha is rejected	Ho is accepted and Ha is rejected

Source: Data were processed by the researcher

Hypothesis test results show that all t observed > t table, meaning all hypotheses are accepted. The level of all variables, namely information quality, system quality, service quality, and reading room quality, is higher than 75% of 100% of the expected value. The results showed that all hypotheses were accepted, indicating the level of user satisfaction of all variables studied, including information quality, systems, services, and reading room quality. The respondents' level of confidence in the quality of these variables obtained more than 75%, indicating high satisfaction with the environment under study. This confirms the importance of quality in information, systems, services, and reading spaces, providing a basis for strategic development and improvement. The findings have practical implications for managing or designing such environments, focusing on improving standards to meet user expectations.

Furthermore, this study also measures the achievements of each variable by comparing each calculated score with the criterion score. The calculated score is the total score obtained for each variable, the criterion score is the maximum number that can be obtained for each variable (number of questions x number of respondents x maximum Likert score of 5), and the achievement is the calculated score divided by the criterion score (in percent). Table 3 presents the achievements of each variable.

Table 3. Achievements of Each Variable

	Information quality	System quality	Service quality	Reading room quality
Count score	557	541	562	558
Criterion score	570	570	570	570
Achievements	98%	95%	99%	98%

Source: Data were processed by the researcher

Table 3 shows the high achievement for each variable: Information quality at 98%, System quality at 95%, Service quality at 99%, and Reading room quality at 98%. These high percentages indicate excellent ratings across all analyzed aspects. For instance, the service satisfaction level reached 99%, signifying respondents' high satisfaction with the service provided. Similarly, information and reading room quality both scored 98%, while system quality scored 95%. This indicates that the analyzed environment or system meets and possibly exceeds respondents' expectations based on established standards. These results show that archive service managers have managed to meet very high-quality standards by meeting the needs or expectations of users. Such findings serve as a basis for maintaining and improving these standards. Despite limitations like sample or population size that may affect result interpretation, the overall findings show a positive view of user perceptions regarding the quality of access services at Universitas Gadjah Mada Archives. This study uses statistical analysis to measure user satisfaction with university archival services. This is similar to a previous study (Kong et al., 2023) which concluded that overall archive user satisfaction with archive services is high, but there is still room for improvement.

Visitors and users of archives comprise a wide range of individuals who interact with archival materials in a variety of ways (Lester, 2022), so satisfaction is paramount in archival services. Archival user satisfaction has various significant implications. Satisfactory archive services foster strong relationships between users and Universitas Gadjah Mada Archives as a service provider to improve users' trust in the institution. Moreover, user satisfaction promotes the optimal utilization of available

records and information, improves the effectiveness of information use, and maximizes the benefits of archival services. Furthermore, satisfactory archive services can result in user recognition and potentially open up opportunities for additional archive holdings. Hence, ensuring archive user satisfaction is crucial for strengthening relationships, improving information use, and getting support for the development of better archive services

Conversely, archive services that fail to meet users' expectations can have detrimental effects, diminishing their trust in Universitas Gadjah Mada Archives and potentially decreasing their future engagement with archive services. Moreover, dissatisfaction may dampen users' motivation to utilize the archives and available information, hindering access to important or valuable data. Unsatisfactory archive services can also damage reputation and negatively impact the public image and perception of Universitas Gadjah Mada Archives. Therefore, the Universitas Gadjah Mada Archives must ensure that their services meet and exceed user expectations, strengthen relationships, enhance information utilization, and bolster the institution's reputation in archives management

CONCLUSION

This study measures the perceptions of archive users at UGM Archives. The findings of this study explain that information quality, system quality, service quality, and reading room quality are important aspects of user satisfaction. The results show that all aspects are rated very well by users with a score of more than 91% for each aspect, much higher than the expected 75%. This research suggests several improvements to archive services, including improving archive service officers' skills and the service system's quality. Recommendations include regular employee training, clear policy drafting, ensuring archive service system accessibility, gathering user feedback regularly, and conducting routine maintenance and technology updates. Collaboration among university departments involved in archive management is important for better service integration. Therefore, This study also recommends adding other variables as formulated by DeLone and McLean, namely measuring usage intention, user satisfaction, and net benefit with each indicator so that the influence between variables can be known. Furthermore, disseminating the results of all aspects to the broader public is recommended.

The research implies the need for a more effective archive service enhancement program, a user-friendly archive information system, and close collaboration with stakeholders. Institutions can utilize the findings to develop employee training initiatives to improve interpersonal skills and archive system understanding. Ensuring accessibility and user-friendliness of the archive information system is important for easy user access. Collaboration with stakeholders is needed to ensure good integration between the archive system and the services provided and to increase user awareness about the importance of archives. Thus, the results of this study can provide a solid basis for designing and implementing archive service improvement programs that are responsive to user needs and technological developments

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