ISSN 2085-4579

Quality Analysis of Scheduling System Using COBIT 2019 at Ministry of Religious Affairs Pasuruan

Latifa Riska Aulia[1], Yusuf Amrozi[2], M. Khusnu Milad[3], Andhy Permadi[4]
[1] Information System Department, Faculty of Science and Technology, Universitas Islam Negeri Sunan Ampel Surabaya, Indonesia
riskaaulia2304@gmail.com
[2] Information System Department, Faculty of Science and Technology, Universitas Islam Negeri Sunan Ampel Surabaya, Indonesia
yusuf.amrozi@uinsa.ac.id
[3] Information System Department, Faculty of Science and Technology, Universitas Islam Negeri Sunan Ampel Surabaya, Indonesia
m.milad@uinsby.ac.id
[4] Economics, Faculty of Economics and Islamic Business, Universitas Islam Negeri Sunan Ampel Surabaya, Indonesia
andhy@uinsa.ac.id

Accepted on September 28th, 2024
Approved on December 19th, 2024

***Abstract*— This study aims to measure the quality scheduling information system (SIP KEMENAG) of Ministry of Religious Affairs (MORA) in Pasuruan Regency. In this study, the author used a combination or mixed methods research with a sequential explanatory model. The combination research method with a sequential explanatory model is characterized by the collection and analysis of quantitative data in the initial stage, followed by qualitative data explanation in the next stage. The website quality analysis process using COBIT 2019 produced an average maturity score: BAI3 (4.14), BAI4 (4.34), and DSS5 (4.32). After averaging, the SIP KEMENAG application is at level 4 (quantitatively managed) in the capability maturity model integration. This shows that the application has adopted an approach based on data and numbers to plan, measure, and control the performance of the application process. The desired value is level 5 (optimizing), with a gap of 0.73. After the quantitative data is found, in-depth information mining or interviews will be carried out using qualitative methods.**

Index Terms*— *Quality; Information Systems; COBIT 2019; Website; Maturity.

I. INTRODUCTION

Technological developments are increasingly rapid today. This progress makes information technology a necessity that can no longer be ignored. This phenomenon has driven an increase in the number and complexity of software, along with the evolution of technology and supporting tools used. On a large or small scale, information technology has become a key element in various fields of study. With its abundant benefits, information technology has become inseparable from human life. The application of information technology in various organizations has a significant impact, especially in performance management. One of them is in scheduling services, both within and outside the city, as happened at the Ministry of Religious Affairs (MORA) in Pasuruan Regency [1].

Along with its development, several analysis models have been developed to help measure the quality of a website. Evaluating the quality of a website is very important to ensure that the site meets the expectations and needs of the intended users [2]. However, not all websites are able to achieve a high level of satisfaction in meeting user requirements and needs [3].

The use of a website as a means of managing activities [4] at the Pasuruan Regency Ministry of Religion is an innovative step that aims to increase efficiency and effectiveness in organizing activities [5]. Previously, the MORA in Pasuruan Regency relied on traditional methods such as Google Form and direct submission to the general section, which often resulted in difficulties in accessing information and communication between the parties involved. This method is also prone to errors in scheduling, because the manual process does not have an adequate verification system.

With the presence of the Ministry of Religious Affairs Scheduling Information System (SIP KEMENAG), it is hoped that it can integrate various functions, such as automatic notifications, activity data management, and statistical analysis, making it easier for management to make decisions. In addition, this system will ensure data security and confidentiality of activity information, which has been a challenge in

traditional management. However, the success of implementing this website also depends on the readiness of human resources, which require training and adaptation to new technologies.

Therefore, socialization regarding the benefits and how to use this new system is very important to change the mindset of employees and stakeholders, so that the MORA can move towards a more modern and efficient era in managing activities. To ensure that the system built meets the expected quality standards, the application of the COBIT (Control Objectives for Information and Related Technologies) framework becomes very relevant.

COBIT provides comprehensive guidance and tools for evaluating and managing the quality of information systems, including aspects such as effectiveness, efficiency, and security. By using COBIT, the Ministry of Religious Affairs can conduct audits and assessments of the Ministry of Religious Affairs' SIP, ensuring that the system is not only functioning properly, but also in line with the organization's strategic objectives, so that it can provide maximum benefits for all parties involved.

The objective of this study is to evaluate and enhance the quality of the Scheduling Information System (SIP KEMENAG) at MORA in Pasuruan Regency using the COBIT 2019 framework. This involves assessing the system's effectiveness, efficiency, and security, identifying gaps in performance, and improving activity management through technology. The study also aims to ensure data security, provide training recommendations for human resources, and support the modernization of activity management within MORA.

II. THEORITICAL BASIS

A. *Software Quality*

The word “quality” is often used to express a relative assessment of something in phrases such as “good quality”, “bad quality”, and “quality of life” – which have different meanings for different individuals. To effectively manage quality, it is important for us to define quality as “conformance to requirements”. With this approach, when a nonconformity is detected, we can conclude that quality is not met.

Thus, the quality problem becomes related to nonconformity, and ultimately quality can be described as the extent to which something meets specified requirements. The system that causes the creation of quality is through prevention, not just assessment. This means that the quality of the system for software in meeting customer needs is by doing the right process from the start.

Software quality is a critical aspect in software development that reflects the extent to which the software meets the specified functional and non-functional requirements. Aspects of software quality include reliability, performance, security, ease of use, scalability, and so on. To achieve good quality, it is important for software developers to ensure that each stage in the development cycle, from planning to maintenance, is carried out properly and in accordance with established standards.

B. *Information Systems*

In the basic concept of the system, the definition of “system” refers to an entity consisting of interrelated parts or components that interact continuously with their environment. The purpose of this system is to achieve a bound and integrated goal, which takes place continuously. Each component in the system has its own function and way of working, but still operates in an integrated manner in a single unit that has a specific function or purpose.

Etymologically, the word “information” comes from the Latin “informationem” which means inspiration, outline, or signal. Information can be expressed in various forms, such as notes, pictures, graphs, diagrams, audio, films, and so on. In the Big Indonesian Dictionary (KBBI), information is defined as something that supports a message, as seen in the parts of the message itself. Information is a collection of facts or events that are processed in a certain way so that they have value or purpose for the recipient of the information. Information that is presented well and is useful for the recipient provides an opportunity to share explanations or Insights [6].

An Information system Is a structure consisting of Interrelated components, such as hardware, software, communication networks, and human resources, that work together to collect, store, process, transmit, and manage information in an organization or a particular environment. The main objective of an information system is to provide relevant, accurate, and useful information to users or stakeholders who need it. By using the right technology and processes, information systems help in processing business transactions, decision making, resource management, collaboration support, and data analysis. Thus, information systems play an important role in improving operational efficiency, better decision making, and overall organizational performance.

C. *Scheduling Information System*

The Ministry of Religious Affairs Scheduling Information System (SIP KEMENAG) is a government agency website-based application created by the MBKM UINSA internship group of the Information Systems study program. This application is intended for the general section as a section that handles correspondence and is also intended for each section head in the Ministry of Religious Affairs to input work schedule data. This application has a dashboard feature to monitor the number of schedules and the number of work schedules, work trips that can be added, edited, and deleted as well as personal data for officers or each section head. While the dashboard feature monitors the number of officers and the number

of services, scheduling and officer data that can be edited and deleted is intended for the Admin or general section. The registration, login, and logout features are mandatory features for officers and Admins.

D. COBIT 2019 Framework

COBIT stands for Control Objectives for Information and Related Technologies. In general, COBIT is an IT governance framework for businesses that want to implement, monitor, and improve IT management. The COBIT framework was created by ISACA to bridge the gap of interests between technical issues, business risks, and controls. COBIT itself can be applied in any organization from any industry to ensure the quality, control, and reliability of information systems.

Governance objectives and management objectives in COBIT are grouped into five domains. Domains have names with verbs that express the main intent and field of activity of the objectives contained therein. Governance objectives are grouped in the Evaluate, Direct and Monitor (EDM) domain. In this domain, the governing body evaluates strategic options, directs senior management on the selected strategic options and monitors the achievement of the strategy. Management objectives are grouped into four domains, namely Align, Plan and Organize (APO) which discusses the overall organization, strategy, and I&T supporting activities. Build, Acquire and Implement (BAI) discusses the definition, acquisition, and implementation of I&T solutions and their integration into business processes. Deliver, Service and Support (DSS) addresses the operational delivery and support of I&T services, including security. Monitor, Evaluation, and Assessment (MEA) addresses the monitoring of I&T performance and conformance to internal performance targets, internal control objectives, and external requirements.

E. COBIT and CMMI integration

CMMI stands for Capability Maturity Model Integration. It is a framework used to develop and improve business processes within an organization. CMMI helps organizations improve the quality of their products and services by providing guidance to measure and improve process maturity. COBIT 2019 supports the Capability Maturity Model Integration (CMMI) process capability scheme ranging from 0 to 5, maturity level 0 is described as an unmanaged organization or no managed process; maturity level 1 as initial; maturity level 2 as managed; maturity level 3 as defined; maturity level 4 as quantitatively managed; maturity level 5 as optimizing [7]. The capability level is a measure of how well a process is implemented and executed.

Figure 1. Capability Maturity Model Integration

F. Usability Testing

The International Standard Organization or ISO 9241-11 (2018) defines usability as the extent to which a product can be used by a specific user to achieve a specific goal with effectiveness, efficiency and satisfaction in a specific context of use. This approach has the advantage of being directly related to user needs, effectiveness means success in achieving goals, efficiency means not wasting time and satisfaction means willingness to use the system.

III. Research Methodologies

In this study, the author used a combination or mixed methods research with a sequential explanatory model. The combination research method with a sequential explanatory model is characterized by the collection and analysis of quantitative data in the initial stage, followed by qualitative data explanation in the next stage [8]. This step aims to strengthen the results of quantitative research that has been carried out previously [9]. With a mixed methods approach, the author can produce more complete and valid findings, as well as provide more informative and contextual recommendations. The subjects of this study used the BAI3, BAI4, and DSS5 domains as benchmarks for creating research instruments.

A. Data Collection

Data collection conducted in this study used literature study, interviews, usability testing and questionnaires. The following are the results of data collection from each method used:

1. Literature study involves collecting information from various sources, including articles, journals, books, and other documents relevant to the objectives of this study [10]. This method aims to collect and analyze existing data in order to provide a strong theoretical basis and broader context for the study.
2. Interviews are question and answer activities with related parties related to the development of the SIP KEMENAG application, such as Computer Pranata (Prakom) and users. Interviews are part of the activity of digging up information to be used to strengthen quantitative results.

3. Usability testing is defined by the International Standard Organization or ISO 9241-11 (2018) as the extent to which a product can be used by certain users to achieve certain goals with effectiveness, efficiency, and satisfaction in a certain context of use. This approach has advantages because it is directly related to user needs, effectiveness means success in achieving goals, efficiency means not wasting time, and satisfaction means willingness to use the system [11].
4. A questionnaire is a research instrument that contains a series of questions that aim to collect information from targeted participants. Questionnaires are often considered a form of written interview.
5. Respondents for this study consisted of 3 people from the general division, and the others consisted of 1 person from each division, such as the madrasah education division, Islamic religious education, finance, zakat and waqf, personnel, hajj and umrah organizers, community guidance, Islamic boarding schools, and Hindu community guidance. The reason for choosing respondents in this study was to ensure diverse representation from various divisions in the Ministry of Religion. With 3 people from the general division as admins and the roles of other divisions as officers, this study can capture different perspectives and needs related to the use of the KEMENAG SIP. Each division has specific expertise and experience that is relevant to the function and purpose of the system, so that the feedback obtained is more accurate and in-depth.

B. Data Analysis

After obtaining the required data from the data collection process, the next step is the data analysis stage. This stage is carried out to interpret and describe in the form of findings as a reference for providing recommendations.

1. Domain analysis aims to determine the average response given by participants to the SIP KEMENAG application. Data collection and assessment are carried out in accordance with the COBIT standard management guidelines. In this study, an assessment of the maturity level was carried out on the Build, Acquire, and Implement Domain (BAI3 and BAI4) and the Deliver, Service, Support Domain (DSS5) applied to the SIP KEMENAG application. Based on the results of the questionnaire, answers were obtained which, if analyzed, would describe the maturity level of the IT process [12].
2. Gap analysis was carried out to find the difference between the domain results obtained through the questionnaire, with the expected desired value.

TABLE I. MATURITY LEVEL

No.	Maturity Level	Describe
1.	Level 0 as an unmanaged organization or no managed process	There is a lack of capability foundation, an incomplete approach to addressing governance and management objectives, or processes that do not meet the objectives of the process practices.
2.	Level 1 as initial	The process achieves its purpose through the application of a set of activities that are not very well organized.
3.	Level 2 as managed	The process achieves its purpose through managed activities (planned, monitored and adjusted) and appropriate work products.
4.	Level 3 as defined	The process is performed using a more organized manner using appropriate organizational assets.
5.	Level 4 as quantitatively managed	The process achieves its purpose in a well-defined manner, and its performance is quantitatively measured to understand the process performance and identify ways to improve it.
6.	Level 5 as optimizing	The process achieves its established objectives, its performance is measured to improve performance continuously, and ongoing process improvement is pursued.

3. Researchers also conducted in-depth interviews with parties who had filled out the questionnaire to strengthen the quantitative findings.
4. After conducting in-depth domain, gap, and interview analysis, there are several recommendations that can be implemented to improve the performance of the Ministry of Religion's scheduling information system application according to the expected level.

IV. RESULT AND DISCUSSION

A. Domain Analysis

After data collection using a questionnaire, the next stage is domain analysis to determine the average response given by participants to the SIP KEMENAG

application. Data collection and assessment are carried out in accordance with the COBIT standard management guidelines. In this study, a maturity level assessment was carried out on the Build, Acquire, and Implement Domain (BAI3 and BAI4) will play an important role in managing the development, implementation of features, application workload, compatibility, and design of the SIP KEMENAG [13] and the Deliver, Service, Support Domain (DSS5) because it is related to IT risk management, including security testing [14] or non-functional testing to identify and mitigate risks associated with the SIP KEMENAG application. Based on the respondent interview documents, answers were obtained, which if analyzed would describe the maturity level of the IT process [12].

TABLE II. DOMAIN ANALYSIS RESULTS

Sub	Description	Value
BAI3.1	Does this application have a colour design that matches the organization (MORA)?	3,75
BAI3.2	Has this application been designed with an intuitive user interface so that it is easy to use?	4,16
BAI3.2	Is the application equipped with a search feature to make it easier for users to search for data?	4,08
BAI3.4	Is the app compatible with other devices?	4,33
BAI3.9	Does this app come with activity management features that allow users to easily input, edit, and delete data?	4,41
Average		4,14
BAI4.1	Do you agree that managing system availability and capacity is an important step in the process of building or acquiring a new system?	4,25
BAI4.2	Do you agree that this application can be accessed online or does it require an internet connection?	4,33
BAI4.3	How important do you think it is to ensure that the system being built or acquired is capable of managing the anticipated workload well?	4,25
BAI4.4	Does an IT professional need to perform regular application monitoring and reporting as part of capacity management activities?	4,41
BAI4.5	How important do you think it is to involve end users in the availability and capacity evaluation process to understand their needs and expectations?	4,5
Average		4,34
DS5.1	Does the app have a file download mechanism?	4,16
DS5.2	Does the application have access permission to enter the application?	4,66
DS5.4	Can the application manage access rights?	4,08
DS5.5	Can the app see details of a user?	4,58
DS5.6	Does this application implement robust access mechanisms to input and manage data?	4,16
Average		4,32

From the score calculation in table 1, it shows that for Domain BAI3, BAI4, and DSS5 it has a maturity score of 4. In CMMI, it is included in level 4 (quantitatively managed) which means that the process has succeeded in achieving its goals, the process has been well defined, and its performance is measured (quantitatively).

B. Gap Analysis

Gap analysis is conducted to determine the difference between the domain results obtained through the questionnaire with the desired value expectations. The desired values are obtained from interviews with respondents. The following is a table of average results using the integration of capability maturity models.

TABLE III. GAP ANALYSIS

Sub	Description	Value	Desired Value	*Gap*
BAI3	*Managed Solutions Identification and Build.*	4,14	5	0,86
BAI4	*Managed Availability and Capacity.*	4,34	5	0,66
DSS5	*Managed Security Services.*	4,32	5	0,68
Average		**4,26**	**5**	**0,73**

The assessment results show that the SIP KEMENAG application is at a good level of maturity, with an average score of 4.26. However, there is a gap between the current score and the expected value, which is level 5 (optimizing), with a total difference of 0.73.

There are 4 user expectations from 12 users who have tried the SIP Kemenag application.

TABLE IV. USER EXPECTATION

No.	Division	User Expectation
1.	General Affair	The application is good, there are a few obstacles during registration because the password is the same.
2.	Personnel	More detailed is the signature on the system, such as the community guidance division must sign to the head of the community guidance section. And the typical colors of MORA are not too prominent.
3.	Hajj and Umrah Organizers	There should be feedback on the assignment letter in the application, so as not to ask the admin continuously.
4.	General Affair	The application is okay, unused accounts should be deleted.

In table 4 above has the following conclusions:

1. General Affairs Division: Users reported that while the application is functional, there are issues during registration, particularly with duplicate passwords causing confusion. Suggestions include a notification system to alert users about password duplication.
2. Personnel Division: This division highlighted the need for more detailed signature processes within the system. For example, documents requiring approval from the head of the Community Guidance Division should be facilitated more effectively. Additionally, they noted that the distinctive colors of MORA should be more prominent in the application design to reflect organizational identity.
3. Hajj and Umrah Organizers: Users emphasized the importance of feedback mechanisms. For instance, the ability to view and download assignment letters directly within the application would reduce dependency on admin staff.
4. General Affairs Division: Another suggestion from this division was to implement a feature for deleting unused accounts, which would help optimize system capacity and reduce clutter.

These expectations underline the need for continuous refinement of the system to meet user needs and enhance overall usability.

Next is phase two after finding quantitative data obtained from the data analysis process shows the level of quality of the SIP KEMENAG application that has not reached the desired value. To understand more deeply about this finding, the researcher continued with in-depth interviews with employees and division heads who had become respondents. This interview revealed that there were several employees who had problems when registering and logging into the application and the distinctive color of MORA which was not very prominent, lacked detail in the signature section of each division head, and had to be given feedback in the form of a pdf on the officer's page. This finding provides additional context and helps explain the survey results, so that researchers can provide recommendations for improving the application.

This study refers to previous research conducted by Albert Riyandi et al. in 2020 [12] entitled Library Information System Audit Analysis Using the COBIT Framework, where they used the COBIT 4.1 framework to evaluate information technology governance in the library system at MTSN 1 Tangerang. Based on these findings, this study uses the COBIT 2019 framework to improve the efficiency and quality of information technology services in the Ministry of Religion's Scheduling Information System (SIP). With a mixed methods approach, this study is strengthened by in-depth interviews to provide a comprehensive understanding of system performance and user experience. In addition, this study involved 12 respondents from various divisions, so that it can cover a broader and more diverse perspective on system usage.

C. Recommendation

The gap resulting from the analysis process is less than 1, which is 0.73. Based on the purpose of creating the website that has been explained in the introduction, it is hoped that the MORA can be more advanced and modern, so the gap does not have a significant effect on the MORA in Pasuruan Regency. Therefore, the main focus can be directed at improving the quality and

functionality of the website on an ongoing basis. The following are the recommendations needed to reach level 5:

Recommendations for BAI3 lie in the application features and design, such as the registration feature. When the password or username filled in by the new user is the same as the password or username that has been saved, a warning should be given that the password is already available so that the user knows that the password or username is already in the database. The design or color of the application must be adjusted to the provisions of the organization (MORA). The print report feature should be integrated with the signature of each section head to be more efficient.

Recommendations for BAI4 lie in the availability and capacity of the application. The internet network needs to be considered so that the application remains available and used online, feedback in the form of a travel letter should appear in the officer section, so that officers can download it again if the letter is lost. The capacity of the application needs to be considered again, such as the work schedule that has been entered requires a filtering process to archive the work schedule that is no longer needed.

Recommendations for DSS5 lie in managing access rights. Many of the accounts that register but forget their passwords, end up creating new accounts and unused accounts will fill the application capacity, so account filtering is needed to remove unnecessary ones.

D. Discussion

The Ministry of Religious Affairs Scheduling Information System (SIP KEMENAG) application aims to improve the efficiency of schedule management at the MORA in Pasuruan Regency. Analysis using COBIT 2019 shows that the system is at maturity level 4 (quantitatively managed), with several areas that require improvement.

Domain BAI3 obtained an average score of 4.14, indicating good application design but needs color adjustment and integration of signature features. Domain BAI4, with an average score of 4.34, shows good capacity and availability management, but requires network infrastructure improvements and additional capacity monitoring. Domain DSS5, with an average score of 4.32, shows good data protection and access rights management, but needs the addition of inactive account filtering features.

Gap analysis shows the difference between the achieved value and the ideal value of 5 is 0.73. Recommendations include improving the registration feature and application design in BAI3, improving infrastructure and capacity monitoring features in BAI4, and managing access rights in DSS5. Continuous improvement is needed to meet user expectations and improve application quality standards.

V. CONCLUSION

This study highlights the strengths and areas for improvement in the Scheduling Information System (SIP KEMENAG) at the Ministry of Religious Affairs in Pasuruan Regency. The system has achieved a maturity level of 4 (quantitatively managed), reflecting its capability to support organizational processes with a data-driven approach. However, a gap of 0.73 from the desired level 5 (optimizing) underscores the need for enhancements.

Key recommendations include improving system usability, aligning features with user needs, and strengthening infrastructure. These efforts align with the research objectives to evaluate and enhance the quality and functionality of SIP KEMENAG, supporting MORA's transition toward a more efficient and modern activity management system.

REFERENCES

[1] M. R. Pratama, L. R. Rahmatulloh, and ..., "Perancangan Analisis Kualitas Pelayanan Website Yayasan Beasiswa Jakarta Menggunakan Kerangka Kerja COBIT 5.0 dengan Domain APO dan BAI," *... Ilmu Komput. dan ...*, no. April, pp. 58–65, 2022, [Online]. Available: https://conference.upnvj.ac.id/index.php/senamika/article/view/1998%0Ahttps://conference.upnvj.ac.id/index.php/senamika/article/download/1998/1564

[2] Minarwati and I. Hidayah, "Penerapan Metode Webqual 4.0 Untuk Analisis Kualitas Website STMIK El Rahma Terhadap Kepuasan Pengguna," *J. Inform. Komputer, Bisnis dan Manaj.*, vol. 20, no. 2, pp. 87–99, 2023, doi: 10.61805/fahma.v20i2.36.

[3] V. A. K. Siren, N. Y. Setiawan, and R. I. Rokhmawati, "Evaluasi kualitas perangkat lunak menggunakan ISO / IEC 9126-4 quality in use (Studi kasus : FILKOM Apps)," *J. Pengemb. Teknol. Inf. dan Ilmu Komput.*, vol. 3, no. 2, pp. 1625–1632, 2019, [Online]. Available: http://j-ptiik.ub.ac.id/index.php/j-ptiik/article/view/4537

[4] L. S. STT and E. D. Hapsari, "Perancangan dan Pelatihan Pemanfaatan Website Sekolah Sebagai Media Informasi di MA Kare Madiun," *Semin. Nas. Pengabdi. Kpd. Masy. 2021*, vol. 1, no. 1, pp. 590–596, 2022, doi: 10.33086/snpm.v1i1.911.

[5] Rachmat Subarkah, Bigar R. Siswa, Sri Rahayu, and Yulia Ita A., "Pengelolaan Kegiatan Ekstrakurikuler Di Sd Muhammadiyah Kaliabu Kecamatan Salaman," *J. Manaj. Bisnis dan Terap.*, vol. 1, no. 1, pp. 52–63, 2023, doi: 10.20961/meister.v1i1.413.

[6] I. F. Agustina, *Buku Ajar Pengantar Sistem Ekonomi Indonesia*, no. January. 2024. doi: 10.21070/2024/978-623-464-086-1.

[7] (SACA, *Governance and Management Objectives*. 2018. [Online]. Available: https://www.isaca.org/resources/cobit

[8] M. A. S. Toyon, "Explanatory sequential design of mixed methods research: Phases and challenges," *Int. J. Res. Bus. Soc. Sci. (2147- 4478)*, vol. 10, no. 5, pp. 253–260, 2021, doi: 10.20525/ijrbs.v10i5.1262.

[9] V. A. Hadju and U. Aulia, *DESAIN PENELITIAN MIXED METHOD Editor: Nanda Saputra*, no. November. 2022.

[10] M. Khadafi, "Audit Teknologi Informasi Perpustakaan Pada Stmik Dharma Wacana Metro Menggunakan Framework Cobit 2019 Dengan Domain Dss," *JIKO*

(Jurnal Inform. dan Komputer), vol. 5, no. 3, pp. 254–262, 2022, doi: 10.33387/jiko.v5i3.5556.

[11] N. Bevan, J. Carter, and S. Harker, "Iso 9241-11 revised: What have we learnt about usability since 1998?," *Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics)*, vol. 9169, pp. 143–151, 2015, doi: 10.1007/978-3-319-20901-2_13.

[12] A. Riyandi, A. Sudibyo, B. Wijonarko, M. Rinaldi, and M. F. Fahleyi, "Analisa Audit Sistem Informasi Perpustakaan Menggunakan Cobit Frame Work," *J. Sist. dan Teknol. Inf.*, vol. 8, no. 3, p. 296, 2020, doi: 10.26418/justin.v8i3.41167.

[13] G. Gushelmi, M. Neldi, and Y. Septiadi, "Analisa Kualitas Sistem Informasi Manajemen Menggunakan Framework Cobit 5 (Studi Kasus Pada Kantor Dprd Kabupaten Sijunjung)," *J. Teknol. Dan Sist. Inf. Bisnis*, vol. 4, no. 1, pp. 89–96, 2022, doi: 10.47233/jteksis.v4i1.376.

[14] R. P. Kusuma, "Audit Teknologi Informasi Menggunakan Framework Cobit 5 Pada Domain Dss (Deliver,Service, and Support) (Studi Kasus : Konsultan Manajemen Pusat)," *J. Digit*, vol. 9, no. 1, p. 97, 2020, doi: 10.51920/jd.v9i1.137.