



AUDIT OF ATTENDANCE INFORMATION SYSTEM AT MOTORCYCLE FACTORY USING COBIT 5

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Abstract

The change in the fingerprint attendance system into an attendance application is called "Mobile Attendance" according to research at motorcycle factory. The reason is, work activities that are usually carried out in the office have now changed to being at home due to the COVID-19 pandemic. Employees are required to carry out the attendance process at certain times by taking photos of themselves or the environment in which they are located. Audit attendance applications in companies using COBIT 5, namely the DSS subdomain on DSS02 Manage Service Requests and Incidents and DSS04 Manage Continuity. The audit is carried out through the company's employee interview method, then measures every management process involved in it. The results obtained in the form of the average value achieved by each process is still less than expected and the value of the gap is quite far. Therefore, it is expected to conduct further research related to the management process in the company

Keyword: mobile attendance, audit, cobit 5, DSS.

1. INTRODUCING

The development of information technology is currently getting faster and more sophisticated, especially in data processing activities. To deal with business changes, information technology has an important and significant role [1]. This role must be balanced with proper regulation, management and audit so that losses and threats that may occur can be avoided or prevented. Threats that often occur include cases of lost data, leaks, and inaccurate information available. This is caused by errors in data processing so that data integrity is not maintained. All activities that run greatly affect the company in making decisions effectively and efficiently to achieve its goals [2].

Motorcycle factory is a company that was founded in 2000 as the principal of the Viar Motor Indonesia brand, one of the largest two-wheeled and commercial motorcycle manufacturers in Indonesia. This is proven to the people of Indonesia, namely the company's commitment to always produce motorcycles with high quality and affordable prices. The company has more than 700 networks spread across districts and hopes to continue to grow. The vision of the company is to make Viar a leading brand in the automotive sector in Indonesia and its mission is to provide quality and guaranteed transportation vehicles at affordable prices for most of the Indonesian population. In supporting its business processes, the company implements an attendance information system for employees to improve organizational management and good information technology governance in accordance with the company's vision and mission [3].

Attendance is a data collection, part of the company's activity reporting that is compiled and regulated in such a way. Attendance is very influential on the personal performance of the company where the employee works [4]. In Number 21 of 2020 the Government Regulation concerning Large-Scale Social Restrictions (PSBB) was carried out, one of which was by closing the workplace in the context of handling COVID-19. However, it is impossible for work to be restricted forever, the wheels of the economy must continue to run. In dealing with this, it is necessary to make lifestyle changes in order to minimize the risks and impacts of a pandemic in the workplace where there is a potential for virus transmission due to the gathering of many people in one place [5].

At first the company implemented an attendance system with finger print. Finger print is an automatic attendance tool that is carried out by attaching employee fingerprints. Finger print is used as a sign of identity, a substitute for a signature, protecting the computer from data or computer use by irresponsible people. Efficiency is the basis for the use of an identification system from the use of finger prints in the company. Due to the pandemic and work being done at home, the application of this system was replaced with an application and aims to facilitate the attendance process and minimize employees who can potentially be exposed to viruses due to transmission due to contact through the finger print



attendance system [6].

The finger print attendance system is replaced with an online attendance application using an Android or iOS mobile device that can be installed on each employee's smartphone. This application is called "Mobile Attendance". The way it works is that employees can register themselves first and log in every working day using a username and password. Each employee must take attendance at predetermined times such as entering work a maximum of 08:00 WIB, starting break at 12:00 WIB, finishing break at 13:00 WIB, until leaving work at 17:00 WIB. Attendance is done by taking photos directly and uploading them into the application at these times. The photos taken can be in the form of selfies of yourself or the location where you work. Photos that have been uploaded can be seen in the history with detailed information about the time and date of attendance. With this application, it can be the right solution for companies to implement a new attendance information system [7].

However, the implementation of information technology for companies is certainly not free from problems that can occur. Therefore, it is necessary to evaluate the systems and processes that are running on this attendance application to overcome problems, prevent fraudulent actions that allow manipulation of attendance data [8]. Therefore, an audit of the attendance information system was carried out at the head office of motorcycle factory or Viar Motor Indonesia located in Sunter Jaya, North Jakarta with the aim of finding the source of existing problems and finding the right solution in correcting errors so that the same problem does not occur [9]. Problems that can occur in applications such as falsification of attendance proof photos that are directly uploaded without the user validation process again and times when attendance has been inaccurate without being notified that employees are faster or late or overtime in their working hours. The audit process using COBIT 5 consists of 5 main principles and is a comprehensive framework that can help the company to achieve its goals. In conducting an audit, we need a standard that can be a valid and reliable measuring tool. Auditors focus on several sub-domains of the Deliver, Service and Support (DSS) domains that will be used in the auditing process [10].

2. RESEARCH METHODS

The research method can be seen in figure 1.

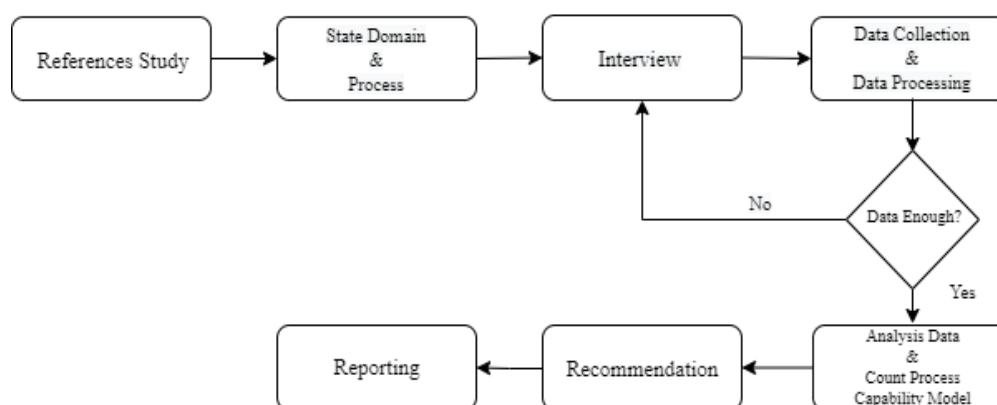


Figure 1. Research Method

The research methodology starts from the process of taking or obtaining data from sources in the company by looking for the subject matter that wants to be audited. The scope of this research is limited to the application of an attendance information system at motorcycle factory. The next process is to determine the domain to be used in accordance with auditing standards using COBIT 5. The domain is DSS with the following sub-domains:

- DSS02 Manage Service Requests and Incidents
- DSS04 Manage Continuity

The process is continued by conducting interviews with company employees regarding attendance applications to obtain valid information or evidence. The results of the interview will be used in measuring the achievement of the capability level on a certain scale. Figure 2 shows the Process Capability Level on COBIT 5.

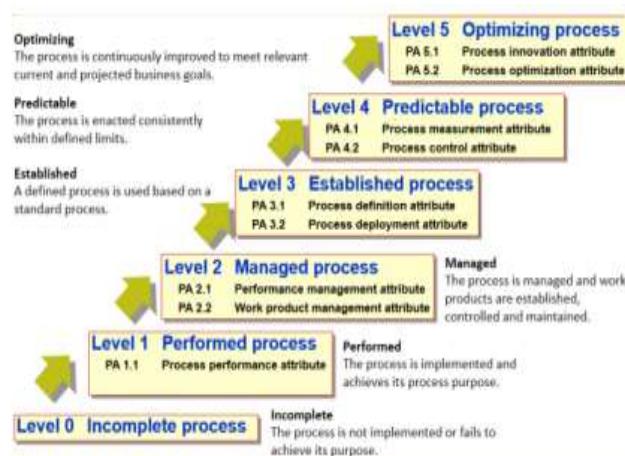


Figure 2. Process Capability Level

There are 6 levels of capability where the process can be achieved, namely:

- Level 0: Incomplete process**
The process is not implemented or fails to achieve its objectives. At this level it has no attributes.
- Level 1: Performed process**
Implemented processes achieve process goals, but only have “Process Performance” as an attribute.
- Level 2: Managed processes**
The way are carried out based on a series of events carried out, namely planning, monitoring, and adjusting conditions. Results are defined, controlled and maintained. Standard has its attributes, namely “Performance Management” and “Work Product Management”.
- Level 3: Established process**
The processes that were managed and described earlier, are now implemented using the discovered processes and achieving the process results. Standard has its attributes, namely “Process Definition” and “Process Deployment”.
- Level 4: Predictable process**
The process is implemented with defined constraints to achieve the result. This level has its attributes, namely “Process Measurement” and “Process Control”.
- Level 5: Optimizing process**
Processes are implemented to realize today and tomorrow business goals. This level has its attributes, namely “Process Innovation” and “Process Optimization”.

The following is the scale used to assess the attribute process, namely:

- N: (Not Achieved, 0 to 15%)
- P: (Partially Achieved, >15% to 50%)
- L: (Largely Achieved, >50% to 85%)
- F: (Fully Achieved, >85% to 100%)

After that, data collection and processing are carried out whether the data obtained is sufficient to conduct an audit. If not, then return to the interview process. If yes, then data analysis and calculation of interview results can be carried out. How much achievement or maturity level has been applied by the company from the sub-domain and analysis of existing gaps. Thus, it can be seen how much the actual implementation of the system and what the company expects. The next stage, which is given a final recommendation on the attendance system used in order to have better performance and be able to overcome problems that arise according to needs and policies. In the final stage, the audit process ends by providing audit results in the form of reports and suggestions for further research to the company [13]

3. RESULT AND DISCUSSIONS

This section describes the results and analysis of audit attendance at motorcycle factory using the DSS domain



with subdomains DSS02 and DSS04 on COBIT 5 below. The results were obtained through an interview process with company employees.

3.1. DSS02 Manage Service Requests and Incidents

This process provides a timely and effective response to all incidents that occur. The goal is to improve performance to minimize disruption through rapid resolution.

- a. **DSS02.01 To defined event and service base on classification schemes.**
The company classifies service requests and incidents based on schemes and models. In the DSS02.01 sub-domain, the company has determined what is needed in the attendance application to overcome changes in the attendance system that used to use fingerprints. However, it does not yet have good management. Therefore, the capability level is level 1 performed.
- b. **DSS02.02 To Recorded, categorized, and prioritize demand and incidents.**
On service requests and incidents, companies identify, record, classify, and assign the most important priorities according to the business needs of the moment. The DSS02.02 sub-domain in the application has recorded employee attendance on every working day at a certain time. The system can run well, but not optimal. Therefore, the capability level is level 2 managed.
- c. **DSS02.03 To verified, approved, and fulfilled service requests.**
Select the appropriate request procedure and verify that the service request meets the specified request criteria. Obtain approval, if required, and fulfil the requests. In the DSS02.03 sub-domain the attendance application designed is suitable and meets the company's employee attendance process and has been implemented. Therefore, the capability level is level 2 managed.
- d. **DSS02.04 To investigated, diagnosed, and allocated incidents.**
The company identifies and records incident symptoms, then determines the possible causes, and allocates them for resolution. In the DSS02.04 sub-domain, changing the fingerprint attendance process into an attendance application due to employees being required to work at home and avoiding absenteeism with the fingers used can cause several problems allowing fraud to occur and the management is still not good. Therefore, the capability level is level 1 performed.
- e. **DSS02.05 To resolved and recovered from incidents.**
Create solutions for incidents related to IT services. In the DSS02.05 sub-domain, we have tried to deal with incidents that have occurred, but if an error occurs in the attendance application system, the company's management has not been able to respond in a fast and appropriate manner. Therefore, the capability level is level 2 managed.
- f. **DSS02.06 To closed service requests and incidents.**
Close or resolve incidents that have fulfilled the request. In the DSS02.06 sub-domain the attendance application has been designed according to requests and needs, repairs are made if an error occurs in the application. Therefore, the capability level is level 2 managed.
- g. **DSS02.07 To tracked status and produced reports.**
Analysis of incidents that occur for continuous improvement. In the DSS02.07 sub-domain, every time a problem occurs, the employee will notify the company for further improvement of the application. However, the management is still not good because the backup for the attendance process is not right. Therefore, the capability level is level 1 performed.

To get a clear understanding of the capability level achieved by each process, it is necessary to do process attribute mapping (PA) based on the results of interviews with employees and company attendance applications that have been analyzed. Table 1 shows the mapping process attributes of the form in the DSS02 sub-domain.

Table 1. Mapping Process Attributes Form (DSS02)

IT Processes	PA 1.1	PA 2.1	PA 2.2	PA 2.3	PA 2.4	PA 2.5	PA 2.6	PA 2.7	PA 2.8
DSS02.01	F	N	N	N	N	N	N	N	N
DSS02.02	F	F	N	N	N	N	N	N	N
DSS02.03	F	F	F	N	N	N	N	N	N



DSS02.04	F	N	N	N	N	N	N	N	N
DSS02.05	F	F	N	N	N	N	N	N	N
DSS02.06	F	F	N	N	N	N	N	N	N
DSS02.07	F	N	N	N	N	N	N	N	N

Based on table 1, each process management achieve different process attributes. In DSS02.03 it reaches PA up to level 2.2 (Fully Achieved) for DSS02.02, DSS02.05, and DSS02.06 it reaches level 2.1. Then DSS02.01, DSS02.04, and DSS02.07 only reached level 1.1. Table 2 below shows the overall level of capability in the DSS02 and the average results for it processes.

Table 2. Results of DSS02 Manage Services Requests and Incidents

Sub-domains	Process Attributes	Capability Level	Expected Level
DSS02.01 To defined event and service base on classification schemes.	1,1	1	3
DSS02.02 To Recorded, categorized, and prioritize demand and incidents.	2,1	2	3
DSS02.03 To verified, approved, and fulfilled service requests.	2,2	2	3
DSS02.04 To investigated, diagnosed, and allocated incidents.	1,1	1	3
DSS02.05 To resolved and recovered from incidents.	2,1	2	3
DSS02.06 To closed service requests and incidents.	2,1	2	3
DSS02.07 To tracked status and produced reports.	1,1	1	3
Average		1,57	3

3.2. DSS04 Manage Continuity

This process is a plan to establish and maintain business and IT in response to incidents or disruptions to keep business processes running and maintain the availability of company information.

a. DSS04.01 To define the business continued policy, objectives, and scope.

The company establishes policies and scope for business process continuity that are in line with company objectives and stakeholders. In the DSS04.01 sub-domain, IT has planned to create a fingerprint replacement attendance application that supports Work from Home (WFH) activities for company employees to keep the business running. Therefore, the capability level is level 2 managed.

b. DSS04.02 To maintain a continued strategy.

Evaluate the management of business processes and select a sustainability strategy that is cost-effective and feasible and can ensure the recovery and continuity of the company in the face of incidents. In the DSS04.02 sub-domain, the company evaluates management options, especially managing employee attendance so that the business continues even though there is a pandemic incident that occurs. Therefore, the capability level is level 2 managed.

c. DSS04.03 To developed and implemented a business continuity response.

Develop a business continuity plan (BCP) based on strategy in accordance with documented procedures and information used in preparation for incidents, enabling the company to continue its critical activities. In the DSS04.03 sub-domain of an incident that occurred, the company developed an attendance application that regulates employee attendance with features that complete the process and proves that employees are present on a certain day and time. Therefore, the capability level is level 2 managed.

d. DSS04.04 To exercised, tested, and reviewed the BCP.

Perform regular restorations and develop innovative solutions that can work as anticipated. In the DSS04.04 sub-domain the company designs attendance applications and is used by its employees. This application has been



implemented twice so that it can help and work more optimally in managing attendance. Therefore, the capability level is level 2 managed.

e. DSS04.05 To reviewed, maintained, and improved the continuity plan.

Conduct periodic reviews of the company's management processes for it continuity capabilities. In the DSS04.05 sub-domain, the attendance application is made twice, the second version is an update from the first and the features provided are better according to needs. Therefore, the capability level is level 2 managed.

f. DSS04.06 To conducted continuity planed training.

Provide training sessions to all relevant internal and external parties of the company regarding procedures and their roles and responsibilities in the event of a disturbance. In the DSS04.06 sub-domain, the company provides training to employees in each department regarding changes to the attendance system and procedures for using changes to become attendance applications. Therefore, the capability level is level 2 managed.

g. DSS04.07 To managed backup arrangements.

Maintaining the availability of important business information is protected by managing regular data backups by the company. In the DSS04.07 sub-domain the absence history on the application is recorded every working day at a predetermined time. Therefore, the capability level is level 2 managed.

h. DSS04.08 To conducted posted resumption reviewed.

Assessing that BCP has met the success of re-starting business processes after a disruption and is still running well. In the DSS04.08 sub-domain the application is still applied when certain days are Work from Office (WFO) to deal with incidents. However, it is not yet known if work activities are entirely in the office, the application is still used or if the fingerprint is used again. Therefore, the capability level is level 1 performed.

Table 3 below shows the process of mapping the form attributes on the DSS04 subdomain.

Table 3. Mapping Process Attributes Form (DSS04)

IT Processes	PA 1.1	PA 2.1	PA 2.2	PA 2.3	PA 2.4	PA 2.5	PA 2.6	PA 2.7	PA 2.8
DSS04.01	F	F	N	N	N	N	N	N	N
DSS04.02	F	F	N	N	N	N	N	N	N
DSS04.03	F	F	F	N	N	N	N	N	N
DSS04.04	F	F	F	N	N	N	N	N	N
DSS04.05	F	F	F	N	N	N	N	N	N
DSS04.06	F	F	N	N	N	N	N	N	N
DSS04.07	F	F	F	N	N	N	N	N	N
DSS04.08	F	N	N	N	N	N	N	N	N

Based on table 3, it can be seen that each process management achieve different process attributes. In DSS04.03, DSS04.04, DSS04.05, DSS04.07 it reaches PA up to level 2.2 (Fully Achieved) for DSS04.01, DSS04.02, and DSS04.06 it reaches level 2.1. Then DSS04.08 only reached level 1.1. Table 4 below shows the overall level of capability in the DSS04 and the average results for it processes.

Table 4. Results of DSS04 Manage Continuity

Sub-domains	Process Attributes	Capability Level	Expected Level
DSS04.01 To define the business continued policy, objectives, and scope.	2,1	2	3
DSS04.02 To maintain a continued strategy.	2,1	2	3
DSS04.03 To developed and implemented a business continuity response.	2,2	2	3
DSS04.04 To exercised, tested, and reviewed the BCP.	2,2	2	3



DSS04.05 To reviewed, maintained, and improved the continuity plan.	2,2	2	3
DSS04.06 To conducted continuity planed training.	2,1	2	3
DSS04.07 To managed backup arrangements.	2,2	2	3
DSS04.08 To conducted posted resumption reviewed.	1,1	1	3
Average		1,88	3

From all calculations in each table, show that the process capability level in each of the DSS02 and DSS04 sub-domains. For more details, it can be seen in Figure 3 which shows the recapitulation results from the two sub-domains. This figure describes the current, expected, and optimized level of the domain calculations that have been carried out.

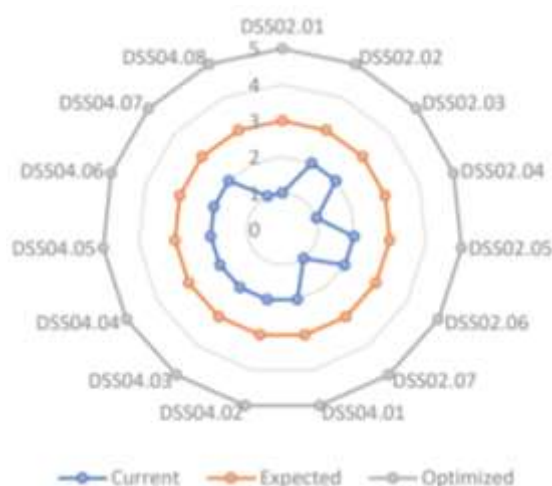


Figure 3. Recapitulation Results from DSS02 and DSS04

From Figure 3 it can be seen that the motorcycle factory is required to improve the management process in its employee attendance application, this is because the value achieved by the company with the gap is quite far. The blue color in the image shows the current level achieved by the company and for the orange color is the condition expected by the company. And the ash line shows the most optimal level for the company. Both DSS02 and DSS04 sub-domains are still at the managed process capability level 2 on average.

4. CONCLUSION

Based on the research that has been done at this company regarding employee attendance applications, it can be concluded that the management of this company is quite good, especially in dealing with existing problems, they know what to do. However, the management carried out has not reached the optimal level or as expected. There are still many shortcomings in the application system process. This can be seen from the audit with COBIT 5 on the DSS02 and DSS04 subdomains. The average score achieved by DSS02 was 1.57 and DSS04 achieved a score of 1.88. From the results obtained, there are still quite large gaps. The two domains explain how companies handle incidents of changing fingerprint attendance systems into attendance applications. Due to time constraints, we only focus on conducting research on these two sub-domains, we hope that further research will allow audits to be developed in other domains and not only on attendance applications to evaluate the company's operational activities so that in the future it can be better.



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