DOI: https://doi.org/10.70656/ijcse.v3i02.886

Evaluation and Process Flow Re-modeling of the AJAK BESTIE System (Integrated with BKD) Using Gap Analysis

1st Lailatul Badriah
Information System Study Program, Department of Engineering
University of Bengkulu
Bengkulu, Indonesia
lailatulbadriah793@gmail.com

2nd Julia Purnama Sari
Information System Study Program, Department of Engineering
University of Bengkulu
Bengkulu, Indonesia
juliapurnamasari@unib.ac.id

3rd Krisna Wahyudi
Department of Communication, Informatics, and Statistics of Bengkulu Province
Bengkulu, Indonesia
krisnawahyudibkl@gmail.com

Abstract*— The AJAK BESTIE system, integrated with the Bengkulu Provincial Regional Personnel Agency (BKD), still faces several process-related challenges, such as manual employee data entry and a lack of data synchronization between systems. These issues result in inefficient data management, create a risk of data inconsistencies, and hinder the system's ability to adapt to changing organizational needs. This study aims to identify gaps in the system's process flow, evaluate current operations, and redesign a process flow that is more effective and aligned with operational requirements. A qualitative approach was employed, utilizing gap analysis to compare actual conditions with the desired state. Data were collected in 2026 through system observation, discussions with developers, and documentation of process flows across four key modules: job analysis, job biodata, BKD data comparison, and recommendation data. The findings reveal gaps regarding a static job structure, manual input processes, the absence of data synchronization features, and the fragmented management of recommendation files. Based on these results, a new process flow is proposed, featuring a dynamic job structure, NIP-based employee data integration, a synchronization feature with BKD, and centralized management of recommendation files. Implementing these improvements is expected to enhance work efficiency and data consistency while simplifying the management of the AJAK BESTIE system.

Keywords- activity diagram, gap analysis, BKD, process modeling, information system

I. INTRODUCTION

The AJAK BESTIE system (a system for Job Analysis, Workload Analysis, Competency Standards, and Job Evaluation) is an integrated system managed by the Regional Civil Service Agency (BKD) to support personnel data management across various Regional Apparatus Organizations (OPD) in Bengkulu Province. However, implementation has revealed issues within the existing process workflows. Discussions with the AJAK BESTIE developers at the Bengkulu Province Communication, Informatics, and Statistics Agency (Diskominfotik) and a system analysis revealed that data management was not optimally integrated with the BKD; consequently, manual data entry persisted, creating a risk of data discrepancies. Furthermore, the complexity of data relationship structures particularly regarding job data linked to multiple tables led to inconsistencies whenever data changes occurred. Another issue was the absence of a mechanism to compare data between the system and the BKD, resulting in further data inconsistency. These conditions indicate that the system's process workflows do not yet fully meet operational needs; therefore, an evaluation and remodeling of these workflows are required to enhance data consistency and system effectiveness.

Based on issues identified within the AJAK BESTIE system, the proposed solution involves evaluating the process workflow using the gap analysis method. This method compares the system's current state with the ideal state required by the organization, leading to planned recommendations for improvement [1]. This process reveals workflow segments that are suboptimal or exhibit inconsistencies. Subsequently, the analysis results serve as the basis for refining the system's workflow to better align with user needs. This approach aims to enhance system efficiency, minimize data errors, and ensure greater consistency in the integration process between AJAK BESTIE and BKD.

Applying the gap analysis method is crucial for evaluating information systems; previous research indicates that this approach involves comparing actual conditions against expected targets to determine the extent of the gap and formulate recommendations for improvement [2]. Furthermore, gap analysis has been shown to enhance organizational process effectiveness by identifying gaps and enabling more targeted improvements [3]. Thus, gap analysis facilitates the systematic identification of system issues and supports the development of more focused improvements.

Nevertheless, gap analysis has limitations in describing the system holistically, particularly regarding the detailed representation of process flows and interactions between system components. Research indicates that the systems analysis approach still faces limitations concerning integration, temporal dynamics, and the ability to capture system complexity and uncertainty; consequently, the analysis results do not fully depict the system's condition in detail [4]. Therefore, a process modeling approach is required to complement the analysis and provide a more comprehensive overview of the system.

Based on this, the study aims to identify gaps in the workflow of the BKD-integrated AJAK BESTIE system, evaluate the current process, and remodel the workflow to make it clearer and more efficient. The problem statement

focuses on identifying existing system discrepancies and redesigning the workflow to better align with operational needs. Through this approach, the study is expected to assist stakeholders in making data management processes more consistent and easier to execute, while reducing the errors that frequently occurred in the past.

II. RESEARCH METHOD

This study uses a qualitative approach with the gap analysis method to examine the process flow of the AJAK BESTIE system integrated with BKD. The gap analysis method is used to compare the current system condition with the expected condition, thereby indicating parts that are not yet suitable and still need improvement. This will serve as the basis for improvement and re-modeling of the existing process flow.

Data collection was carried out through direct observation of the AJAK BESTIE system, interviews and discussions with the AJAK BESTIE system developer at Diskominfotik Bengkulu Province, and documentation of the system's process flow. These data collection techniques are common methods used in qualitative research [5]. The research stages begin with identifying the existing system process flow, followed by gap analysis to find problems. Then, an evaluation of the analysis results is carried out and continued with re-modeling of the system process flow. The final stage is validating the modeling results to ensure they meet the requirements.

III. RESULT AND DISCUSSION

This section explains the results of the process flow evaluation and proposed improvements for the AJAK BESTIE system integrated with BKD. It begins with identifying the current system challenges, then evaluating problems in each process flow. Finally, based on the analysis results, a process improvement plan that is more aligned with operational needs is formulated.

A. Identify Gaps in the System Process Flow

The gap analysis process in this study was conducted by comparing the actual condition of the AJAK BESTIE system process flow with the expected condition based on operational needs. The analysis was performed on various menus and features within the system through direct observation and discussions with the AJAK BESTIE system developer at Diskominfotik Bengkulu Province.

Each process flow was analyzed to see its alignment with user needs. The analysis focused on aspects of data integration, process efficiency, ease of use, and the system's ability to adapt to organizational changes. Differences between the actual condition and the expected condition were then recorded as gaps. Not all parts of the system experienced problems, so the discussion focuses on process flows that show gaps.

In the job analysis flow, the system does not yet provide a feature to move jobs directly. If there is a change in structure or job mutation, the user must delete the job data first and then recreate new data. This condition makes the process longer and inefficient, especially because job data has many relationships with other data so changes must be made repeatedly.

Meanwhile, in job biodata management, employee data is still input manually one by one. This data is also stored within the system itself, potentially causing discrepancies with data in BKD. This leads to duplication of work because data needs to be updated in two different systems, as well as increasing the risk of input errors.

Another problem is found in the BKD data comparison process, which lacks a mechanism for matching data between systems. As a result, data differences such as positions, organizational units, or employee data cannot be detected directly. This condition complicates the data adjustment process and can lead to information inconsistency.

Furthermore, in recommendation data management, each OPD still uploads recommendation files separately even though the same position is used. This causes many files with similar content to be stored in the system, increasing storage usage. Operator work processes also become longer because they have to search for and upload the same file repeatedly.

Based on the gap analysis results, several gaps in the process flow of the AJAK BESTIE system integrated with BKD are summarized in Table 1. These gaps serve as the basis for the evaluation process and the preparation of system improvement proposals. Meanwhile, process flows that are already aligned with operational needs are not included in the re-modeling.

Table 1. Gap analysis results

Process Flow	System Condition	Gap	Proposed Improvement
Job analysis	Static job structure, cannot be moved	Does not support structural changes and job mutations	Dynamic hierarchy and job move feature with automatic relationship updates
Job biodata	Manual employee data input	Data is inaccurate and not integrated with BKD	NIP-based employee addition integrated with BKD
BKD data comparison	No integration with BKD	Data is inaccurate and not integrated with BKD	Automatic data synchronization based on NIP
Recommendation data	File uploads are to be performed by OPD for	File duplication and increased	Centralized file management, one file per position

	the same position.	storage usage	

B. Evaluation of Problems in the System Process

Based on the gap analysis results in Table 1, it can be seen that there are several problems in the AJAK BESTIE system that affect work process effectiveness. Most of these problems stem from suboptimal data integration with BKD. Manual data input processes cause a high potential for input errors, and system flows consisting of many steps make the process less efficient, because the more stages that must be passed, the longer the process completion time [6][7].

In the job biodata menu, employee data input is still done manually, making it prone to errors and resulting in data discrepancies with BKD. To overcome this, NIP-based data integration is needed so that the system can retrieve employee data automatically. This approach can improve data accuracy and reduce manual input errors [8].

In the job analysis menu, the job structure is still static, making it difficult to adjust if there are organizational changes or employee mutations. Therefore, a dynamic job structure feature and a job move mode are needed. This proposal is based on the need for centralized employee mutation management, so that every job change can be updated automatically and in real time [9].

Another problem is the lack of a comparison and synchronization mechanism with BKD, which creates potential data differences between systems. Research shows that suboptimal system integration can lead to duplication, inconsistency, and delays in data updates [10]. Therefore, an additional flow for data comparison with BKD is needed to be more efficient and make data more consistent, in line with research findings that delays or disconnections in synchronization processes between regional and national personnel systems cause data discrepancies and hinder central-regional information integration [11].

The current system also lacks a centralized recommendation data menu, where each OPD must upload recommendation files separately even for the same position type. This causes file duplication, consumes more storage space, and adds to operator workload. Recommendation files are used as reference documents for position requirements. To overcome this, centralized file management is needed so that documents are uploaded once and can be accessed by all OPDs. This approach supports storage efficiency and data access convenience [12].

Based on these various problems, it can be seen that several process flows in the AJAK BESTIE system still need to be adjusted to operational needs. Improvements focus not only on data integration but also on process simplification and efficiency in supporting document management. Therefore, re-modeling the system's process flow is necessary as a proposed improvement, which will be discussed in the next section.

C. Re-modeling of the System Process Flow

After identifying gaps and evaluating problems in the system, the next stage is to develop a Re-modelingof the system process flow. The modeling is based on the gap analysis results that indicate parts that are not yet optimal and require improvement. The goal is to make the AJAK BESTIE system process flow more optimal and aligned with current operational needs.

In this study, the only diagram used is the activity diagram. The activity diagram was chosen because it describes the sequence of activities and control flow from start to finish of a process [13]. Additionally, the activity diagram also shows the overall business process flow within the system, including the sequence of activities, decisions, and parties involved [13].

Other diagrams such as use case diagrams function to visually express interactions between users and the system and present all functions the system will perform [14]. Sequence diagrams are used to document interactions between classes, showing a number of objects and messages placed between class objects [15]. Meanwhile, class diagrams are used to model classes in the system, their attributes, methods, and relationships between classes [16]. Because most of the problems in the AJAK BESTIE system lie in work processes, manual steps, and inefficient process steps, the activity diagram is considered the most suitable for remodeling this system.

The gaps already identified include manual employee data input, lack of data synchronization with BKD, and lack of flexibility in job transfers. These are problems in the work process flow. Such conditions are easier to analyze and improve if depicted using activity diagrams, because each process step can be visualized clearly and sequentially.

Re-modelingis only performed on flows that have gaps, based on the gap analysis results, namely the job analysis menu, job biodata menu, and the addition of BKD data comparison and centralized recommendation data menu flows. Meanwhile, system parts that are still aligned with operational needs are not remodeled. To illustrate the proposed changes, each process is presented in two states: the current system process flow and the proposed process flow. This comparison aims to show the improvements made for each process.

Job Analysis Menu

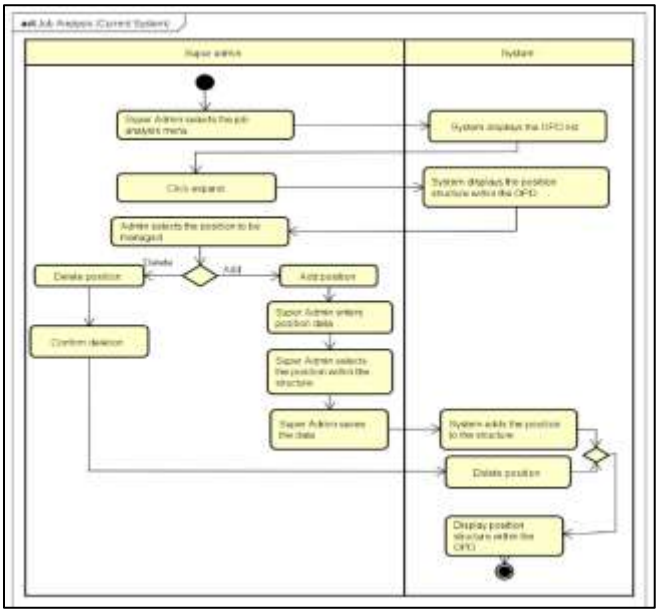


Fig. 1. Activity Diagram of Current System for Job Analysis

Based on Figure 1, the job analysis flow begins when the super admin selects the job analysis menu, then the system displays a list of OPDs. Next, the super admin selects the expand feature to view the job structure in the selected OPD and determines the position to be managed. In this process, the super admin can add a new position by filling in position data and selecting the position in the structure, or delete a position through a confirmation process. This flow shows that the current system does not have a direct job transfer feature.

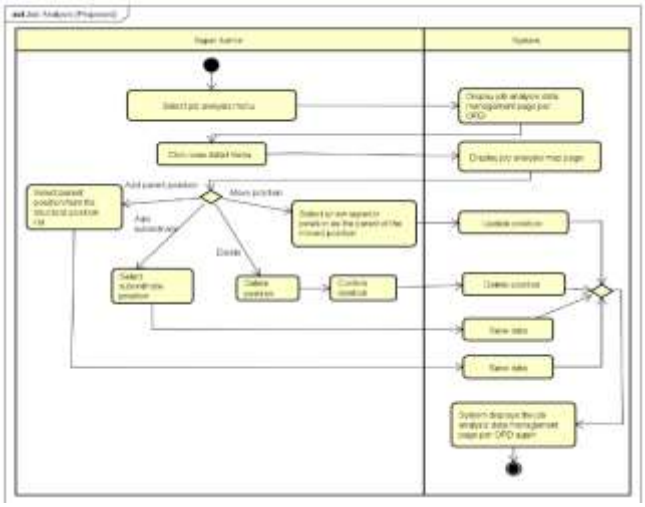


Fig. 2. Proposed Activity Diagram for Job Analysis

Based on Figure 2, the proposed job analysis flow begins with the super admin selecting the job analysis menu, then the system displays job analysis data for each OPD and the job structure map. Next, the super admin selects the position to be managed and chooses the required action. In this proposed system flow, the super admin can add a parent position, add a subordinate position, or delete a position. Any changes made will be immediately processed by the system and the position structure will be updated automatically. This flow shows that the proposed system flow is more flexible and more efficient in managing changes to the position structure.

Job Biodata Menu

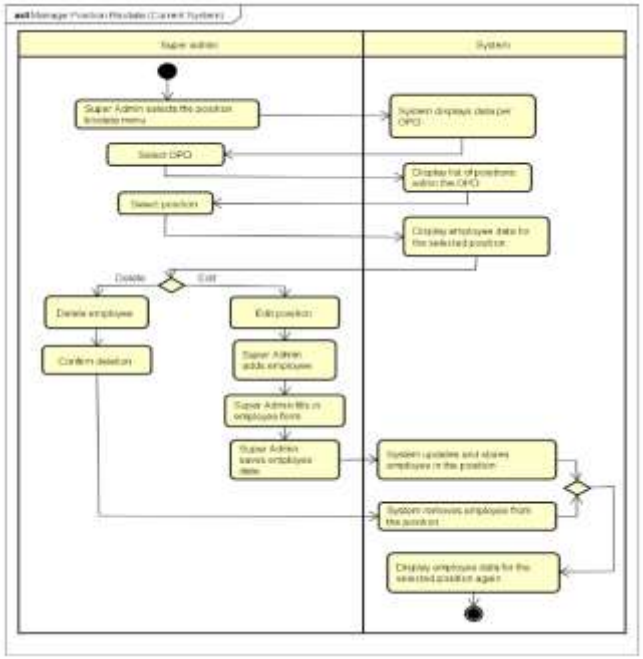


Figure 3: Activity Diagram of Current System for Job Biodata

Based on Figure 3, the job biodata flow begins with the super admin selecting the job biodata menu, then the system displays OPD data, a list of positions, and employee data for the selected position. The super admin can choose the edit action to add an employee with manual input or delete to remove employee data. This flow shows that the current system still uses manual processes and is inefficient.

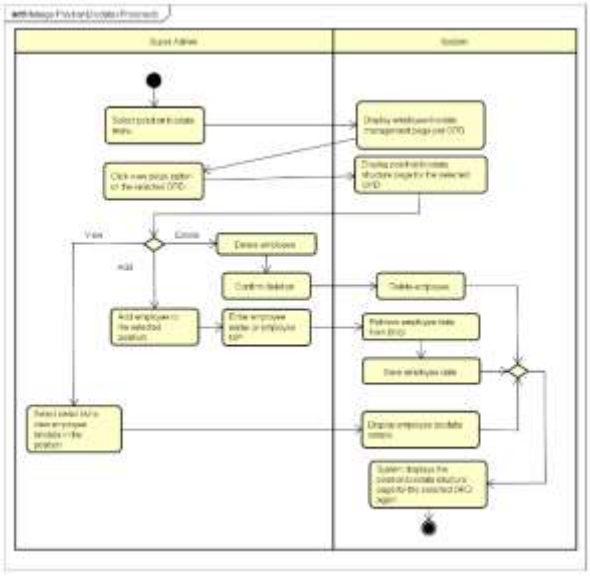


Figure 4: Proposed Activity Diagram for Job Biodata

In Figure 4, the proposed job biodata flow begins with the super admin selecting the job biodata menu, then the system displays employee biodata for each OPD and the job structure in the selected OPD. Here, the super admin can choose several actions: view biodata details, add an employee, or delete an employee from that position. To add an employee, the super admin simply types the employee's name or NIP, then the system will retrieve employee data from BKD. In the proposed system, any data changes will be immediately

processed by the system and employee information will be displayed again automatically. This proposed flow shows that the job biodata management process becomes more integrated and efficient.

BKD Data Comparison Menu

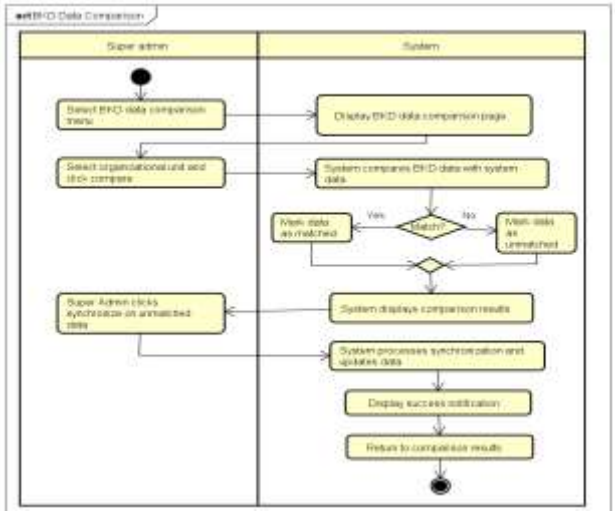


Figure 5: Proposed Flow for BKD Data Comparison

In Figure 5, the BKD data comparison flow begins when the super admin selects the BKD data comparison menu, then the system displays the data comparison page. Next, the super admin selects an organizational unit and the system compares BKD data with data in the system. The comparison results will mark matching and non-matching data. If different data is found, the super admin can select the synchronization process so that the system automatically updates the data. This proposed flow shows that the system is more integrated and helps maintain data consistency between systems.

Recommendation Data Menu

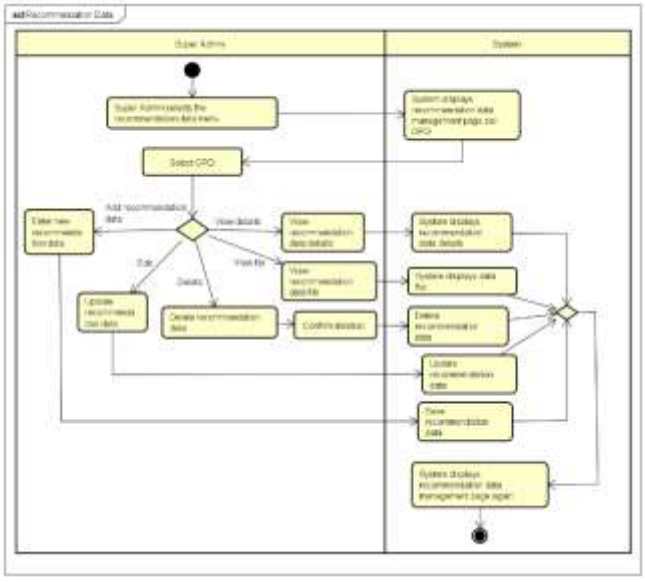


Fig. 6. Proposed Flow for Recommendation Data

In Figure 6, the centralized recommendation data flow begins when the super admin selects the recommendation data menu. Then, the system displays the recommendation data management page for each OPD. Next, the super admin selects an OPD and determines the action to be taken, such as adding recommendation data, viewing data details, viewing files, editing, or deleting data. Each selected process will be immediately processed by the system and then the recommendation data management page will be displayed again automatically. This proposed flow shows that recommendation file management becomes more centralized, better organized, and reduces file duplication between OPDs.

IV. CONCLUSION

The results show that the gap analysis method successfully identified several process parts that need improvement, namely the job analysis menu, job biodata, BKD data comparison, and recommendation data. Based on these results, Re-modelingwas carried out using activity diagrams, resulting in a process flow that is simpler, more integrated, and more efficient. Proposed improvements include a dynamic job structure, automatic employee data retrieval from BKD, data synchronization features, and centralized recommendation file management. Thus, the research objectives of improving data consistency and process system effectiveness have been achieved.

This study is still limited to the evaluation and design of the process flow, so it does not yet include direct system implementation. Subsequent research can focus on implementing the design results, testing system performance, and evaluating user satisfaction after improvements are made.

ACKNOWLEDGMENTS

The author expresses gratitude to the Communication, Informatics and Statistics Office of Bengkulu Province as the internship host institution for providing opportunities, support, data, and guidance during the activity. The author also thanks all parties who have assisted so that the internship activities and the preparation of this research could be completed successfully.

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