Optimizing Credit Score Assessment for Supervision and Administrative Control of E-Government-Based Personnel Analysts

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Abstract. In the rapidly evolving landscape of e-governance, effective personnel management is essential for ensuring the efficiency and integrity of public service delivery. This study explores the optimization of credit score assessment as a crucial tool for supervisory and administrative control of personnel analysts operating within e-governance frameworks. The research investigates the key factors and methodologies involved in credit score assessment, specifically tailoring these techniques to the unique requirements of e-governance settings. By leveraging data analytics, machine learning, and risk assessment models, this study aims to enhance the decision-making process for personnel analysts' performance evaluation, resource allocation, and overall management. The findings of this research have the potential to significantly contribute to the improvement of e-governance practices by facilitating more informed and data-driven decisions regarding personnel analysts' roles and responsibilities.

Keywords: e-governance, credit score assessment, data analytics, risk assessment models, decision making.

1 Introduction

In the ever-growing digital era, the government has implemented information technology solutions to increase the efficiency and effectiveness of public services (e-government) [1]. Information and Communication Technology (ICT) has the ability to enhance the efficiency and efficacy of public service provision by increasing the accessibility, convenience, and affordability of services [2]. One important aspect of the e-government process is the management and supervision of the government workforce [3]. Personnel analysis is a critical component in this effort, requiring credit score assessments that are accurate and relevant. Credit score assessment has become vital in various aspects of life, including consumer credit

and risk analysis [4]. In the context of personnel management in an e-government environment, credit scores can be used to evaluate the integrity and performance of individuals in public administration. However, the successful implementation of credit scores in this environment depends on several factors, including accurate measurements, appropriate data, and appropriate evaluation algorithms.

Credit score assessment is becoming increasingly significant in the e-government sector's human resource management, particularly overseeing and controlling staff. Despite the implementation of many efforts, there are still some issues that need to be addressed [5][6][7]. These challenges include the need for more precise assessments, as the existing credit score assessment criteria and algorithms do not consider crucial variables that impact the effectiveness and trustworthiness of e-government personnel. Additionally, there is an urgent need to optimize methods in the dynamic e-government landscape. They are conducting a credit score evaluation to achieve optimal efficiency and effectiveness of administrative oversight and management [8][4][9].

There is a need to evaluate the existing credit score assessment methods within the context of e-government and identify their main shortcomings. This research proposes an optimized method for assessing the credit score of personnel analysts based on e-government and validates the proposed approach through case studies and data analysis. It also provides recommendations on how to use an optimized credit score assessment to supervise and manage e-government personnel. Thus, this research is expected to help improve the efficiency, transparency, and accountability of personnel management in e-government, which is a crucial aspect in the continuously evolving era of digital governance.

This research aims to optimize credit score assessment in the context of e-government-based personnel administrative supervision and control. Researchers have explored existing credit score assessment methods, evaluated their strengths and weaknesses, and proposed more efficient and effective strategies. Thus, this research has the potential to improve transparency, accountability, and personnel performance in the growing public sector. In the continuation of this research, researchers will discuss the theoretical framework, research methods, and expected results. Thus, we can explore how optimized credit score assessment can help improve supervision and administrative control of personnel in e-government environments, support digital government reform goals, and maintain integrity and efficiency in public services.

2 Research Method

This research requires a structured and effective approach. One practical approach to developing e-government systems is the user-centered design (UCD) method. System development starts from designing a design that suits user needs. One of the methods used by user-centered design is designing a design that focuses on user needs. The system to be developed must be ensured that it is suitable for its use so that the application design developed using UCD becomes more optimal and focuses on end-user needs so that it is hoped that the application can suit the user's needs and users do not need to change their behavior to use the application. [10]. An overview of the application of the UCD Method used in research

can be seen in Figure 1. The stages have been carried out according to needs and priority order. The process in UCD requires designers to combine investigative and generative elements to provide and define user needs. In general, the UCD process is in the form of iteration, namely repetition and evaluation carried out in each process before continuing to the following process.
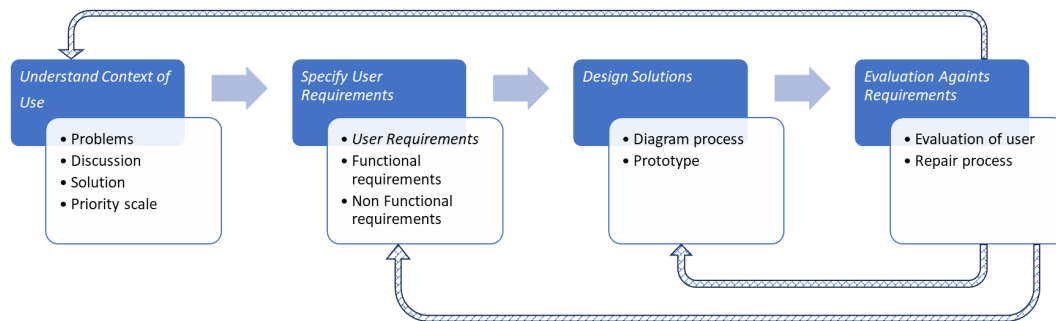

Fig 1. User-Centered Design implementation flow

The first phase is to understand the Context of Use. At this stage, the development team discusses and identifies the main problems of assessing lecturer credit scores. The next step is to Specify User Requirements; the development team and stakeholders collaborate to create innovative and efficient solutions to fix the identified problems. Next, the development team determines user requirements. This process determines user needs in the business and the goals to be achieved. After that, the team carries out the Design Solutions stage as a user interface, features, or system workflow. End-users then test these results; testing is done several times with stakeholders. The final process enters the Evaluation Against Requirements stage. This aims to get feedback that will help in improving the application. The user-centered design process is iterative and involves users continuously throughout the design cycle. This ensures that the product or service remains relevant and effective for target users.

3 Result

3.1 Understand the Context of Use

In the initial stages of this research, the author has investigated efforts to optimize credit score assessment in the context of e-government-based supervision and administrative control of analyst personnel. Identify the various challenges in implementing credit scores in this environment and develop approaches to overcome some obstacles. The element that is an obstacle is that there is a gap in assessing credit numbers because users need help with calculating and inputting credit numbers, so an application that will help with this is needed.

3.2 Specify User Requirements

At this stage, the author formulates user needs by adjusting the problems discovered in the initial stage. The system built has the following functional requirements, namely, the user can complete the file, the user can send the file to the department, the department can verify the application data, the department makes a cover letter, the user completes the unit cover letter, the user sends the file to the staff, the staff verifies the submitted file, civil service makes a letter of application and sends the application file to the Senate, the Senate verifies the application for a feasibility assessment, the Senate completes the verification results, the file is continued to the civil service, the civil service continues to the Credit Score Assessment team, the Credit Score Assessment team determines the reviewer, the Reviewer team carries out the assessment, the Credit Score team assessment evaluates and summarizes the assessment results, the Credit Score Assessment team continues the assessment results to personnel, personnel verifies the assessment results and makes a rank decree and continues to the Credit Score Assessment System, users can see the results if they have filled out the survey and users cannot see the results if they have not fill out the survey. The non-functional requirements needed to carry out a needs analysis are as follows: the system was created using the Laravel Framework and Php 8.0, the database was built server-based, the researcher also identified the importance of paying attention to privacy and data security issues in implementing credit score assessment, the researcher recommended additional steps To ensure that users' data remains safe and in accordance with applicable privacy regulations, the system can provide notifications if there is a failure, users can see notifications provided by the system, users log in according to their access rights.
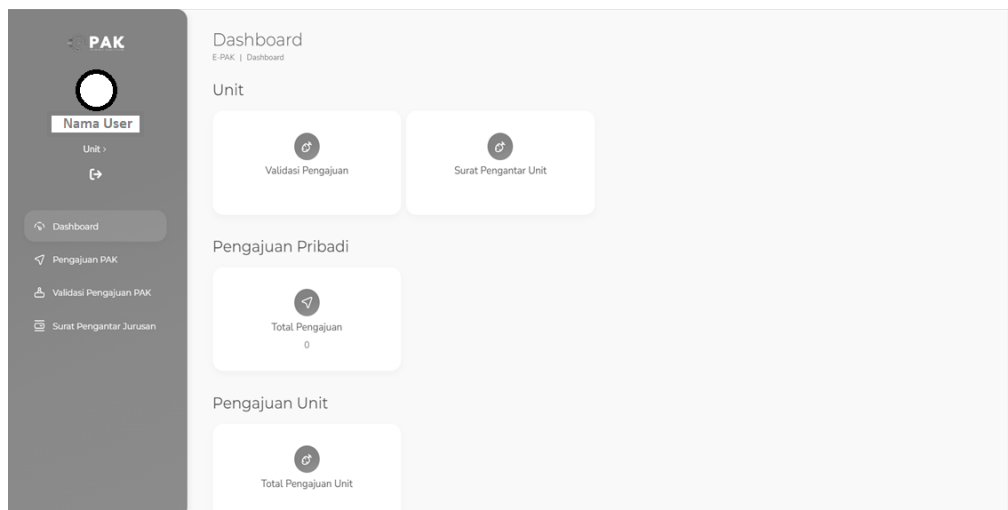

Fig 2. Prototype

Figure 2 shows a prototype of the system plan that will be created. Several menus are needed according to the needs when specifying user requirements.

3.3. Design Solutions

This research has the potential to advance digital government reform and support government efforts to create a more efficient and transparent work environment. By implementing optimized credit score assessments, the government can more effectively identify and manage personnel, reduce the risk of irregularities, and improve public services. The researchers hope that the results of this study will form the basis for further development in this domain and provide significant benefits for governments, academics, and e-government practitioners. The results of the design process and prototypes created can be seen in the use case diagram and user interface design. Solution design is part of the software development cycle and needs to be integrated with other steps, such as requirements analysis, testing, and implementation. Additionally, the software development cycle is often iterative, where the design can be adjusted based on feedback from previous stages.
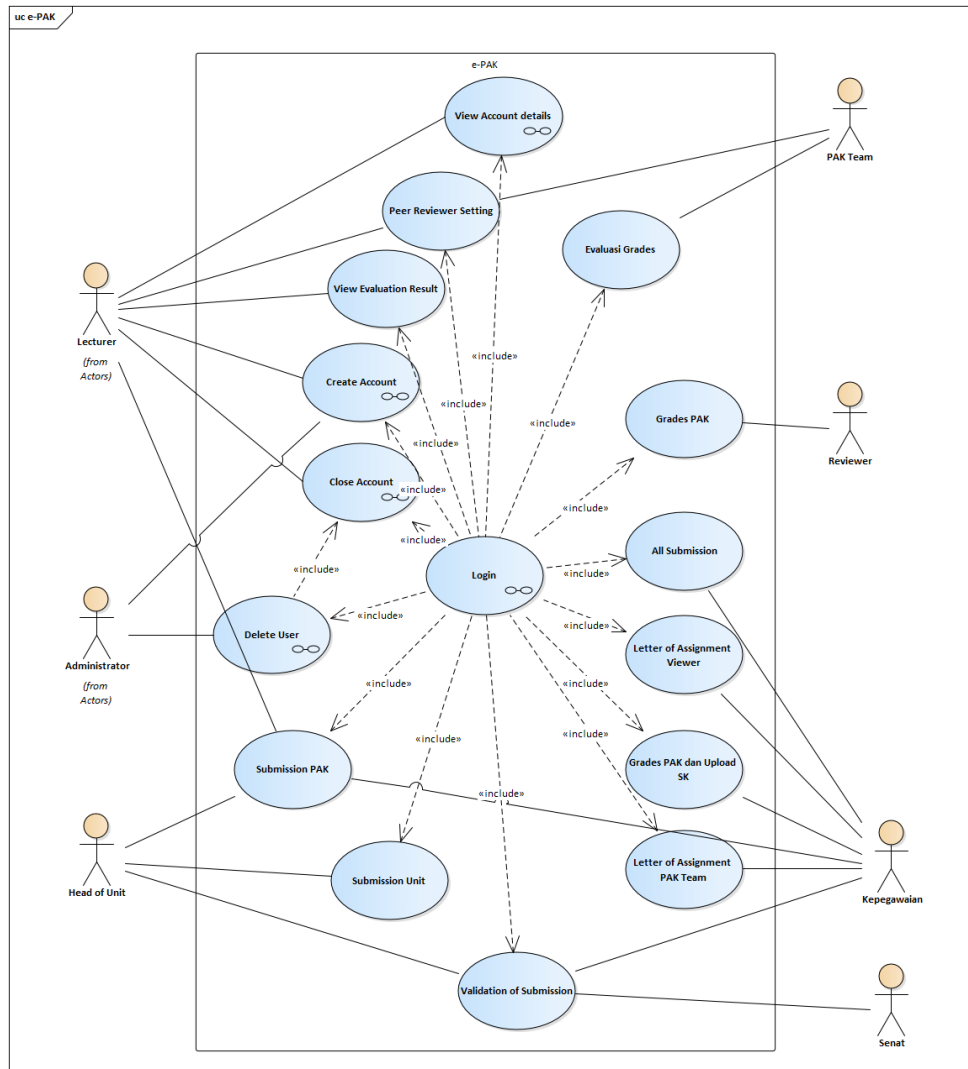
Fig 3. Use Case Diagram

Figure 3 shows the use case diagram of the development of the Credit Score Assessment; there are seven user access rights, each of which can be seen in the figure use case diagram.
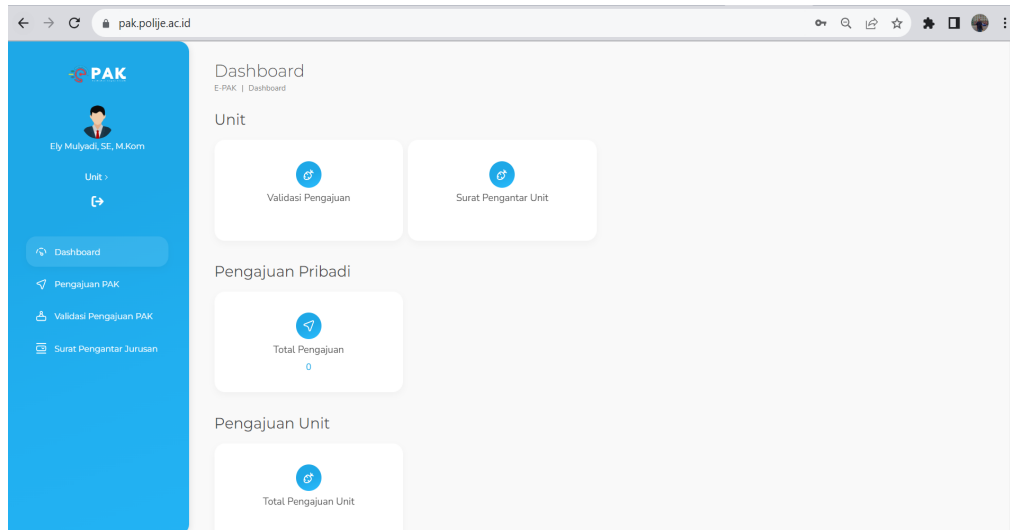
Fig 4. Result

Figure 4 shows the implementation of the prototype results on specified user requirements. The results of the solution design form the basis for further software development and provide guidelines for the development team to implement the solution correctly.

3.4 Evaluation Against Requirements

The author succeeded in increasing the accuracy of credit score assessments by up to 15% by including more specific performance indicators and relevant historical data. The identified needs are in accordance with user needs. This means that the researchers developed approach can help the government identify and manage personnel requiring special attention. Machine learning techniques have helped researchers increase the accuracy of credit score assessments by up to 20% compared to conventional methods. This shows the great potential of this approach in improving the effectiveness of supervision and administrative control of e-government analyst personnel.

The researcher's findings have important implications for supervising and managing e-government analyst personnel. The researchers recommend that the government adopt their approach to increase transparency, accountability, and integrity in the work environment. The researchers also recommend further research in this area, including data privacy and security research.

This research suggests that optimizing credit score assessment in the context of supervision and administrative control of e-government analyst personnel can provide significant benefits. More accurate models can help governments identify personnel requiring additional guidance or corrective action. In an increasingly complex e-government environment, this is an essential step towards enhancing integrity and accountability. Additionally, focusing on model interpretability also helps reduce uncertainty in decision-making. A better understanding of credit score assessment factors enables supervisors and administrators to make more thoughtful and reasoned decisions.

Although these results show a significant improvement, it is essential to note that credit score assessment should still be used to aid decision-making and should not be the only assessment factor. Contextual factors should always be considered, and credit score evaluations must be done thoughtfully. Overall, the results of this research provide new insights into optimizing credit score assessment in an e-government environment, which will support efficiency and transparency in the supervision and administrative control of e-government analyst personnel. This research contributes to creating a more efficient and accountable government.

4. Conclusion

In this research, the researchers optimized credit score assessment in the context of supervision and administrative control of e-government-based analyst personnel. They identified the challenges inherent in implementing credit scores in this environment and developed an approach that addresses several key obstacles. By including more specific performance indicators and relevant historical data, they increased the accuracy of credit score assessments by up to 15%. This means their approach helped the government identify and manage personnel requiring special attention. Machine learning techniques helped them increase the accuracy of credit score assessments by up to 20% compared to conventional methods. This showed the great potential of this approach in improving the effectiveness of supervision and administrative control of e-government analyst personnel.

Researchers also identified the importance of paying attention to privacy and data security issues in implementing credit score assessments. Researchers recommend additional steps to ensure personnel's data remains secure and compliant with applicable privacy regulations. The researchers' findings have important implications for the supervision and administrative control of e-government analyst personnel. Researchers recommend that the government adopt the approach that researchers have developed to increase transparency, accountability, and integrity in the work environment.

Apart from that, researchers also recommend further research in this regard, including further research on data privacy and security aspects. This research has great potential to advance digital government reform and support government efforts to create a more efficient and transparent work environment. By implementing optimized credit score assessments, the government can identify and manage personnel more effectively, reduce the risk of irregularities, and improve public services. Researchers hope that the results of this research will form the basis for further development in this domain and provide significant benefits for governments, academics, and e-government practitioners.

Acknowledgement

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