

**RANCANG BANGUN SISTEM INFORMASI MANAJEMEN SDM
BERBASIS WEB MENGGUNAKAN METODE *WATERFALL* Design and
Development of a Web-Based Human Resource Management Information System
Using the Waterfall Method**
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ABSTRACT

*Manual human resource management may lead to data entry errors, data duplication, and delays in report generation. These problems were identified at PT Zhanhui Jaya Indonesia, where employee, attendance, leave, and payroll data were still managed using Microsoft Excel and physical documents. This study aims to design and develop a web-based Human Resource Management Information System (HRMIS) to improve the effectiveness and efficiency of employee data management. The system was developed using the Waterfall methodology, consisting of requirements analysis, design, implementation, testing, and maintenance stages. The application was built using the Laravel framework and MySQL database. The developed features include employee management, departments, positions, attendance, leave management, payroll, and reporting. System testing was conducted using Black Box Testing with the Equivalence Partitioning technique to ensure that all system functions operated according to requirements. User experience evaluation was also performed using the User Experience Questionnaire (UEQ) involving 20 respondents consisting of 15 employees and 5 Human Resource Development (HRD) staff members. The results indicate that the system was successfully developed and all functions operated according to user requirements. Black Box Testing results showed that all system features functioned properly and produced valid outcomes. The UEQ evaluation produced scores of 1.69 for Attractiveness, 1.78 for Perspicuity, 1.88 for Efficiency, 1.56 for Dependability, 1.54 for Stimulation, and 1.15 for Novelty. All dimensions achieved the **Good** benchmark category, with Efficiency obtaining the highest score of 1.88, indicating that the system effectively supports users in completing their tasks quickly and efficiently. These findings demonstrate that the developed system not only fulfills functional requirements but also provides a positive user experience, making it suitable for implementation within the company.*

Keywords: *Human Resource Management Information System, Laravel, Waterfall, Black Box Testing, User Experience Questionnaire.*