



International Journal of Multidisciplinary Research in Science, Engineering and Technology

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.206

Volume 9, Issue 4, April 2026



LGUCONNECT: A Web-Based Human Resource Management Information System for LGU Madrid

**Hanemae A. Paglinawan, John Francis T. Estrada, Rojennie A. Ornieta, Chriselda O. Cuadrillero,
Sharon A. Bucalon, MIT**

Undergraduate Student, Department of Computer Studies, North Eastern Mindanao State University - Cantilan
Campus, Cantilan, Surigao del Sur, Philippines

Instructor III, Department of Computer Studies, North Eastern Mindanao State University - Cantilan Campus, Cantilan,
Surigao del Sur, Philippines

ABSTRACT: This study presents LGUConnect, a web-based Human Resource Management Information System (HRMIS) developed for the Local Government Unit (LGU) of Madrid, Surigao del Sur. The system addresses challenges associated with manual and paper-based HR processes, including delays in leave processing, inaccuracies in attendance tracking, and inefficiencies in payroll preparation. LGUConnect integrates key HR functions such as employee management, leave processing, Daily Time Record (DTR) monitoring, travel order management, and payroll generation into a centralized platform.

The system was developed using PHP, MySQL, HTML, CSS, and JavaScript following the Agile development model. Evaluation was conducted using ISO/IEC 25010 software quality standards with 60 respondents, including IT professionals and LGU employees. Results showed high ratings across all quality characteristics, particularly in functional suitability (4.67), performance efficiency (4.63), usability (4.54), and reliability (4.52), indicating that the system is effective, efficient, and user-friendly.

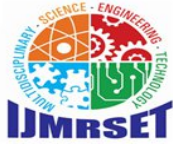
LGUConnect significantly improves HR operations by reducing manual workload, enhancing data accuracy, and providing real-time access to HR information. The study demonstrates that localized, web-based HR systems can effectively support digital transformation in local government units.

KEYWORDS: Human Resource Information System, Web-Based System, LGU, Payroll System, Attendance Monitoring, ISO 25010

I. INTRODUCTION

Local Government Units (LGUs) play a vital role in delivering public services, yet many still rely on manual systems for managing human resource operations. As observed in LGU Madrid, Surigao del Sur, HR processes such as leave applications, attendance monitoring, and payroll preparation are handled using paper-based records and spreadsheets. These traditional methods often lead to delays, data inconsistencies, and difficulties in tracking employee information. The growing demand for efficiency and transparency in public administration has encouraged the adoption of digital solutions. Human Resource Information Systems (HRIS) have been proven to enhance operational efficiency by automating repetitive tasks, improving data accessibility, and reducing errors. Studies indicate that digital HR systems contribute to faster processing, improved accuracy, and better employee satisfaction.

Despite the availability of commercial HR systems, many are not suitable for smaller LGUs due to cost, complexity, and lack of customization for government-specific workflows. This creates a gap where local governments continue to rely on inefficient manual processes.



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

To address these challenges, this study introduces LGUConnect, a web-based Human Resource Management Information System designed specifically for LGU Madrid. The system centralizes HR operations including employee records, leave management, attendance tracking, travel orders, and payroll processing into a single platform.

The main objective of this study is to design, develop, and evaluate LGUConnect using ISO/IEC 25010 software quality standards. Specifically, it aims to assess the system in terms of functionality, usability, performance efficiency, reliability, and security.

II. LITERATURE SURVEY

The use of digital systems in human resource management has significantly improved organizational efficiency worldwide. Studies show that HRIS platforms help reduce manual errors, streamline workflows, and improve data accessibility. These systems commonly integrate functions such as attendance tracking, payroll processing, and employee record management.

International research highlights that centralized HR systems enhance productivity by automating routine administrative tasks. Role-based access control is also emphasized as a key feature for maintaining data security and system usability.

In the Philippine context, many LGUs still rely on manual HR processes, leading to inefficiencies and delays. However, studies indicate that implementing web-based HR systems improves service delivery, promotes transparency, and enhances employee satisfaction.

Local studies further show that customized systems tailored to LGU workflows are more effective than generic commercial platforms. Systems designed specifically for government processes help reduce workload, improve record management, and support better decision-making.

Overall, existing literature supports the development of localized HR systems. LGUConnect aligns with these findings by providing a customized, web-based solution designed to meet the specific needs of LGU Madrid.

III. METHODOLOGY

Research Design

This study used a developmental-descriptive research design. It focused on developing a functional HRMIS and evaluating its effectiveness based on user feedback and system performance.

System Development

The system was developed using the Agile methodology, allowing iterative improvements and continuous feedback. The following technologies were used:

- PHP for backend development
- MySQL for database management
- HTML, CSS, and JavaScript for frontend design

System Features

LGUConnect includes the following modules:

- Employee Management
- Leave Management System
- Attendance Tracking (DTR)
- Travel Order Processing
- Payroll Generation and Payslips
- Role-Based Access Control
- Reports and Analytics Dashboard

Evaluation Method



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

The system was evaluated using ISO/IEC 25010 standards, focusing on:

- Functional Suitability
- Performance Efficiency
- Usability
- Reliability
- Security
- Maintainability

Data were collected using a survey questionnaire from 60 respondents, including IT professionals and LGU employees, and analyzed using weighted mean.

IV. RESULTS AND DISCUSSION

Table1. System Evaluation Results

Quality Characteristic	Mean	Interpretation
Functional Suitability	4.67	Functional
Performance Efficiency	4.63	Efficient
Usability	4.54	Usable
Reliability	4.52	Reliable
Overall Mean	4.59	Very Good

Discussion

The results indicate that LGUConnect performs effectively across all evaluated criteria. Functional suitability received the highest rating, showing that the system meets user requirements and performs its intended functions accurately. Performance efficiency results demonstrate that the system responds quickly and handles operations smoothly. Usability ratings confirm that users find the system easy to learn and navigate, while reliability results indicate stable system performance with minimal errors.

These findings suggest that LGUConnect successfully improves HR operations by automating processes, reducing manual workload, and enhancing data accuracy. However, further improvements in system optimization and advanced security features may enhance overall performance.

V. CONCLUSION

LGUConnect successfully addresses the challenges faced by LGU Madrid by providing a centralized and efficient Human Resource Management Information System. The system improves data organization, reduces processing time, and enhances transparency in HR operations.

Evaluation results confirm that the system meets ISO 25010 quality standards and is suitable for real-world implementation. The study demonstrates that a localized, web-based HRMIS can significantly improve administrative efficiency in local government units.

Future enhancements may include mobile optimization, integration with biometric devices, and advanced security features such as encryption and penetration testing.

REFERENCES

- [1]Valerio, 2024. Digital Transformation in HR Systems.
- [2]Salah et al., 2022. HRIS Implementation in Government Institutions.
- [3]Roman, 2025. Impact of HRIS on Employee Performance.
- [4]Wulandari et al., 2023. Digital HR Systems and Efficiency.
- [5] ISO/IEC 25010:2011 Systems and Software Quality Models.



INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH IN SCIENCE, ENGINEERING AND TECHNOLOGY

| Mobile No: +91-6381907438 | Whatsapp: +91-6381907438 | ijmrset@gmail.com |

www.ijmrset.com