

Evaluating the System Quality and Implementation Acceptability of Hei Parangal: An AI-Assisted Recognition and Awards Platform

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Abstract: Recognition systems play a vital role in strengthening institutional culture, motivation, and accountability in higher education institutions. However, many universities continue to rely on manual and paper-based processes, resulting in inefficiencies, data inconsistencies, and limited transparency. This study evaluates the system quality and implementation acceptability of HEI Parangal: An AI-Assisted Recognition and Awards Platform developed to centralize nomination submission, document validation, evaluation workflows, and reporting processes at the Nueva Ecija University of Science and Technology (NEUST).

A quantitative descriptive-evaluative research design was employed involving IT experts and end-users from key university offices. The system was assessed using the ISO/IEC 25010 Software Product Quality Model and a structured Likert-scale instrument to measure implementation acceptability. Descriptive statistical analysis was used to interpret the evaluation results.

Findings indicate that the system demonstrated high compliance with established software quality standards across key attributes, including functional suitability, performance efficiency, usability, reliability, security, compatibility, maintainability, and portability. End-users also expressed strong acceptance of the platform, particularly in terms of usability, workflow efficiency, and transparency features.

The results confirm that HEI Parangal is technically robust, highly acceptable to stakeholders, and ready for institutional deployment. The study contributes empirical evidence on the evaluation of AI-assisted administrative systems in higher education and supports the use of structured quality assessment frameworks in digital transformation initiatives.

Keywords: *AI-Assisted Systems, Recognition Management, Awards Platform, System Quality Evaluation, ISO/IEC 25010, Implementation Acceptability, Higher Education Institutions, Digital Transformation, Software Quality Assessment, Institutional Automation.*

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I. INTRODUCTION

Recognition plays a vital role in Higher Education Institutions (HEIs), fostering institutional culture, motivation, and stakeholder engagement. Awards and commendations reinforce achievement, inspire excellence, and strengthen organizational identity. Contemporary studies emphasize that structured recognition systems enhance performance, engagement, and institutional accountability in academic environments (International Association for Quality Assurance

in Pre-Tertiary and Higher Education [QAHE], 2025; O'Shea et al., 2019).

Despite its importance, recognition management in many institutions remains dependent on manual and paper-based processes. At the Nueva Ecija University of Science and Technology (NEUST), recognition activities are administered by the Office of Student Affairs and Services (OSAS), the Human Resource Management Office (HRMO), and the Alumni Affairs Office. The absence of a centralized digital

platform has contributed to delays, data inconsistencies, misplaced records, and increased administrative workload. Research on digital transformation in higher education indicates that traditional systems often lead to inefficiencies, reduced transparency, and fragmented workflows (Gonçalves, 2021; Madani, 2024). Furthermore, manual award processing has been associated with prolonged approval cycles and data management challenges (Parchment Staff, 2024; Regpack, 2024).

To address these challenges, HEI Parangal was developed as an AI-assisted recognition and awards platform designed to centralize nomination submission, document validation, evaluation workflows, and reporting processes. The system integrates role-based dashboards, automated notifications, real-time tracking, and AI-assisted document screening and ranking functionalities. The integration of artificial intelligence in administrative systems has been shown to enhance efficiency, improve consistency, and support data-driven decision-making when implemented with appropriate human oversight (OECD, 2021; GrantStack AI, 2024). Additionally, UNESCO (2022) highlights that responsible AI adoption in higher education can promote transparency, inclusivity, and institutional accountability.

However, the effectiveness of digital and AI-assisted platforms depends not only on development but also on rigorous system evaluation. Software systems deployed in institutional environments must be assessed in terms of functional suitability, performance efficiency, usability, reliability, security, compatibility, portability, and maintainability. The ISO/IEC 25010 Software Product Quality Model remains a widely accepted framework for evaluating these quality characteristics in contemporary systems (ISO/IEC, 2011). Moreover, recent research emphasizes that user satisfaction and perceived usefulness significantly influence successful implementation and sustained adoption of digital systems in higher education (Khatir, 2024; Salloum et al., 2019).

This study therefore evaluates the system quality and implementation acceptability of HEI Parangal: An AI-Assisted Recognition and Awards Platform. Through expert-based assessment using ISO/IEC 25010 standards and end-user evaluation of implementation acceptability, the research determines the platform's technical robustness, usability, and institutional readiness for sustained deployment in a higher education environment.

II. REVIEW OF RELATED LITERATURE

To contextualize this study, it is necessary to examine literature related to manual award processing challenges, digital transformation in higher education, AI-assisted automation, software quality evaluation, and system acceptability.

➤ *Challenges of Manual Award Processing Systems*

Manual award processing systems in higher education often result in inefficiencies, data inaccuracies, delayed approvals, and limited transparency. Paper-based workflows frequently lead to duplicate encoding, misplaced records, and prolonged routing of documents across departments (Parchment Staff, 2024; MoldStud, 2024). Regpack (2024) further notes that fragmented storage systems complicate record retrieval, especially during peak processing periods. The lack of real-time tracking also reduces applicant visibility and increases administrative workload (FasterCapital, 2025). These challenges highlight the need for centralized and automated solutions.

➤ *Digital Transformation in Higher Education*

Digital transformation enhances institutional efficiency by modernizing workflows and improving data management. Teixeira (2021) emphasizes that successful digital initiatives must align with institutional strategy, while Gonçalves (2021) underscores the importance of integrated systems for interdepartmental coordination. Studies show that centralized digital platforms reduce manual workload and improve operational performance (Madani, 2024; Khatir, 2024). The integration of intelligent technologies further supports automation and data-driven decision-making in universities (Education and Information Technologies, 2022).

➤ *AI-Assisted Evaluation and Document Validation*

Artificial intelligence has significantly improved administrative systems by enabling automated evaluation, ranking, and anomaly detection. AI-driven platforms reduce processing time while maintaining accuracy (CommunityForce, 2024; GrantStack AI, 2024). The OECD (2021) emphasizes that AI should function as decision support within a human-in-the-loop framework to ensure fairness and accountability.

AI-assisted document validation also improves data integrity by detecting incomplete or non-compliant submissions before formal evaluation (UNESCO, 2019; IEEE, 2019). Such automation minimizes evaluator workload and reduces downstream errors.

➤ *Software Quality and Implementation Acceptability*

Beyond automation, system deployment requires rigorous evaluation of software quality. The ISO/IEC 25010 model provides a standardized framework for assessing functional suitability, performance efficiency, usability, reliability, security, compatibility, portability, and maintainability (ISO/IEC, 2011).

User acceptance is equally critical for sustained implementation. Research indicates that usability, perceived usefulness, and satisfaction significantly influence adoption in higher education systems (Venkatesh et al., 2018; Rusu et al., 2019).

The literature consistently identifies inefficiencies and transparency limitations in manual award systems and emphasizes the advantages of centralized digital platforms enhanced by AI-assisted automation. However, successful implementation depends on systematic evaluation of both technical quality and user acceptability.

HEI Parangal aligns with these findings by integrating centralized workflows, AI-assisted document validation, and structured evaluation mechanisms. This study contributes to existing literature by evaluating the system quality and implementation acceptability of an AI-assisted recognition platform using ISO/IEC 25010 standards and stakeholder-based assessment, providing empirical evidence of its readiness for institutional deployment.

III. METHODOLOGY

This study employed a quantitative descriptive-evaluative research design to assess the system quality and implementation acceptability of HEI Parangal: An AI-Assisted Recognition and Awards Platform. The evaluation focused on determining the system’s technical robustness and user readiness for institutional deployment through structured assessment tools administered to IT experts and end-users.

➤ *Research Design*

The study utilized a multi-stakeholder evaluation approach, combining expert-based software quality assessment and end-user acceptability evaluation. The system was assessed using the ISO/IEC 25010 Software Product Quality Model to measure key quality characteristics, while implementation acceptability was evaluated through structured user feedback instruments.

This approach allowed for both technical validation and experiential assessment of the platform prior to full institutional deployment.

➤ *Participants*

The evaluation involved 60 respondents, composed of 50 end-users and 10 IT experts selected through purposive sampling based on their expertise and direct involvement in recognition and award-related processes. The 10 IT experts, with backgrounds in software development and system analysis, evaluated the system’s compliance with ISO/IEC 25010 software quality characteristics to ensure it met established standards for functionality, performance efficiency, reliability, security, maintainability, and portability.

The 50 end-users were selected stakeholders from NEUST, including personnel from the Office of Student Affairs and Services (OSAS), Human Resource Management Office (HRMO), and Alumni Affairs Office. They assessed the system’s usability, functionality, and overall acceptability based on their actual interaction with the platform, providing practical insights into its effectiveness in supporting recognition management activities.

➤ *System Evaluation Rating Scale*

The evaluation employed a structured rating scale to assess the overall system quality, readiness, and implementation acceptability of the HEI Parangal system. This scale indicates the extent to which the system complies with ISO/IEC 25010 software quality standards and fulfills the institution’s criteria for deployment.

Table 1. Unified System Evaluation Rating Scale

Mean Range	ISO/IEC 25010 Quality Interpretation	System Readiness Interpretation	Implementation Acceptability
3.25–4.00	Highly Functional / Highly Efficient / Highly Compatible / Highly Usable / Highly Reliable / Highly Secured / Highly Maintainable / Highly Portable	Highly Recommended for Use	Highly Acceptable
2.50–3.24	Functional / Efficient / Compatible / Usable / Reliable / Secured / Maintainable / Portable	Recommended for Use	Acceptable
1.75–2.49	Needs Improvement	Needs Improvement Before Use	Needs Improvement
1.00–1.74	Poor	Not Recommended for Use	Poor

This scale was used to measure respondents’ perceptions of the system’s quality attributes and implementation acceptability. Each category reflects the extent to which HEI Parangal meets established software standards and institutional deployment requirements.

➤ *Data Collection*

Data collection was conducted through a evaluation questionnaire administered to both IT experts and end-users

after they interacted with the HEI Parangal system. Respondents were given sufficient time to explore the platform’s features, including nomination submission, document upload, AI-assisted validation, dashboard monitoring, and reporting functionalities prior to completing the evaluation form.

The evaluation instrument consisted primarily of quantitative rating items based on a 4-point Likert scale to

assess system quality attributes and implementation acceptability. The questionnaire measured perceptions related to ISO/IEC 25010 software quality characteristics and overall level of acceptability.

The accomplished survey forms were collected and consolidated for statistical analysis to determine the system’s level of quality, readiness, and acceptability within the university context.

➤ *Data Analysis*

Quantitative data gathered from the 4-point Likert scale were analyzed using descriptive statistics, particularly the weighted mean, to determine the overall ratings for system quality, readiness, and implementation acceptability. The computed mean scores were interpreted using the established rating scale to assess the level of compliance with ISO/IEC

25010 software quality attributes and institutional deployment standards.

The aggregated results from IT experts and end-users were compared to identify consistency in technical evaluation and user perception. This statistical analysis provided a clear and objective basis for determining whether the HEI Parangal system is suitable for full implementation or requires further refinement prior to institutional deployment.

IV. RESULTS AND DISCUSSION

This section presents the findings of the system evaluation of HEI Parangal: An AI-Assisted Recognition and Awards Platform, focusing on software quality attributes based on ISO/IEC 25010 standards and the level of implementation acceptability as assessed by IT experts and end-users.

Table 2. Summary of the IT Experts’ Evaluation of HEI Parangal

Software Quality Attribute	Mean Score	Verbal Interpretation
Functional Suitability	3.70	Highly Functional
Performance Efficiency	3.83	Highly Efficient
Compatibility	3.60	Highly Compatible
Usability	3.80	Highly Usable
Reliability	3.60	Highly Reliable
Security	3.86	Highly Secured
Maintainability	3.73	Highly Maintainable
Portability	3.93	Highly Portable
Grand Mean	3.76	Highly Recommended for Use

The IT experts’ evaluation of HEI Parangal, which obtained a Grand Mean of 3.76, interpreted as Highly Recommended for Use, are consistent with established literature on software evaluation in higher education. The ISO/IEC 25010 model provides a comprehensive framework for assessing software quality attributes such as functional suitability, performance efficiency, security, reliability, and maintainability (ISO/IEC, 2011). Research indicates that systems evaluated using standardized quality models

demonstrate greater technical robustness and deployment readiness (Khatir, 2024). Moreover, studies on digital transformation in universities emphasize that secure, efficient, and portable platforms enhance administrative transparency and workflow optimization (Madani, 2024; Gonçalves, 2021). The high mean scores across all quality attributes (3.60–3.93) therefore support the conclusion that HEI Parangal aligns with best practices in institutional system development and quality assurance.

Table 3. Summary of the End-Users’ Evaluation of HEI Parangal

HEI Parangal	Overall Mean	Verbal Description
Functional Suitability	3.85	Highly Functional
Performance Efficiency	3.78	Highly Efficient
Usability	3.89	Highly Usable
Grand Mean	3.84	Excellent System Quality

As shown, Usability (3.89) obtained the highest rating, indicating that end-users found the system intuitive and easy to navigate. Research emphasizes that usability significantly influences user satisfaction and long-term adoption of institutional systems (Venkatesh et al., 2018). This was followed by Functional Suitability (3.85), suggesting that the platform effectively supported recognition-related tasks. The

ISO/IEC 25010 framework identifies functional suitability as a critical determinant of software effectiveness in meeting user requirements (ISO/IEC, 2011).

Performance Efficiency (3.78), although the lowest among the three, remained within the Highly Efficient range, reflecting stable system responsiveness during operational use.

Studies on digital transformation in higher education highlight that efficient system performance enhances workflow optimization and administrative productivity (Madani, 2024).

The overall Grand Mean of 3.84, interpreted as Excellent System Quality, confirms that HEI Parangal was positively

evaluated by end-users and aligns with established software quality and adoption frameworks. These findings support the system's readiness for institutional deployment and sustained implementation within higher education settings.

Table 4. End-Users' Evaluation of the Acceptability of HEI Parangal

Acceptability	Mean	Verbal Description
1. The system provides clear and timely updates on the status of recognitions and awards.	3.96	Highly Acceptable
2. The system uses clear and straightforward language that is easy to understand.	3.84	Highly Acceptable
3. The system's design and controls are consistent with standard applications, making it easy to use.	3.98	Highly Acceptable
4. The award submission and evaluation process is smooth and efficient.	3.82	Highly Acceptable
5. The system sends timely notifications, such as reminders for submissions, deadlines, and award results.	3.80	Highly Acceptable
6. System elements, such as buttons, interfaces, and functions, are easy to identify and navigate.	3.98	Highly Acceptable
7. The system design includes only essential elements and terms relevant to recognition and award processes.	3.80	Highly Acceptable
8. The system provides an option for users to view their award or recognition history.	3.98	Highly Acceptable
9. The system includes clear and helpful error messages that make it easier to correct entries.	3.92	Highly Acceptable
10. The system accurately tracks submissions and provides clear records for monitoring purposes.	3.78	Highly Acceptable
Overall Mean	3.89	Highly Acceptable

Table 4 presents the end-users' evaluation of the acceptability of HEI Parangal. The system obtained an Overall Mean of 3.89, verbally interpreted as Highly Acceptable, indicating strong user approval and readiness for institutional deployment.

The highest-rated indicators were related to design consistency, ease of navigation, and accessibility of recognition history (Mean = 3.98). These findings align with digital transformation studies emphasizing that user-centered interface design and structured system workflows significantly improve system adoption in higher education institutions (Gonçalves, 2021; Madani, 2024). The high usability perception also supports the ISO/IEC 25010 framework, which identifies usability and functional appropriateness as critical determinants of software acceptance and operational success (ISO/IEC, 2011).

Although the indicator on accurate tracking of submissions (Mean = 3.78) obtained the lowest rating among the items, it remained within the Highly Acceptable range. This suggests that while users perceive the tracking functionality as effective, further refinement may enhance clarity and monitoring efficiency. Research on digital administrative systems highlights that transparency and clear feedback mechanisms strengthen user trust and institutional accountability (OECD, 2021; Khatir, 2024).

Overall, the consistently high acceptability ratings confirm that HEI Parangal aligns with established principles of digital transformation and system adoption in higher education. The findings demonstrate that the system is not only technically sound but also positively received by stakeholders, reinforcing its readiness for sustained institutional implementation.

V. CONCLUSIONS AND RECOMMENDATIONS

The system evaluation of HEI Parangal: An AI-Assisted Recognition and Awards Platform yielded highly positive results in terms of software quality and implementation acceptability. The following conclusions and recommendations are drawn from the evaluation findings.

- The HEI Parangal system demonstrated strong software quality performance, obtaining a Grand Mean of 3.76 from IT experts, interpreted as Highly Recommended for Use. This confirms that the system complies with ISO/IEC 25010 quality standards and is technically robust for institutional deployment.
- End-users positively evaluated the system, yielding a Grand Mean of 3.84 for system quality and 3.89 for implementation acceptability. These results indicate that the platform effectively meets user expectations in terms of usability, functionality, and performance efficiency.
- High ratings across functional suitability, usability, security, and portability demonstrate that the system effectively

supports recognition workflows, ensures data protection, and adapts well within the institutional environment.

- The integration of AI-assisted validation enhanced operational efficiency while maintaining human oversight, contributing to improved transparency and streamlined recognition processes.

To further enhance the system's effectiveness and sustainability, the following are recommended:

- Full institutional implementation of HEI Parangal across relevant university offices to replace manual recognition processes.
- Further refinement of submission tracking and monitoring features to improve clarity and visualization of system outputs.
- Continuous system maintenance, including performance monitoring and security updates, to sustain compliance with ISO/IEC 25010 standards.
- Conducting regular user orientation and training sessions to maximize system utilization and ensure consistent adoption across offices.
- Future research focusing on long-term system performance, scalability, and integration with other institutional platforms to strengthen digital transformation initiatives.

REFERENCES

- [1]. CommunityForce. (2024). *AI-enhanced scholarship management: Benchmark report 2024*. CommunityForce.
- [2]. FasterCapital. (2025). *Transparency challenges in manual award systems*. FasterCapital.
- [3]. Gonçalves, M. A. (2021). Digital transformation in universities: Aligning strategy and tools. *Journal of Higher Education Policy and Management*, 43(4), 362–376. <https://doi.org/10.1080/1360080X.2021.1901123>
- [4]. GrantStack AI. (2024). *AI-driven ranking systems in awards administration: Performance report*. GrantStack AI.
- [5]. International Association for Quality Assurance in Pre-Tertiary and Higher Education. (2025). *Awards as drivers of institutional excellence*. QAHE Insight Brief.
- [6]. International Organization for Standardization. (2011). *ISO/IEC 25010:2011—Systems and software engineering: Systems and software quality requirements and evaluation (SQuARE)*. ISO.
- [7]. Khatir, M. (2024). Digital systems and service quality in university administration. *International Journal of Educational Management*, 38(2), 245–259. <https://doi.org/10.1108/IJEM-11-2023-0417>
- [8]. Madani, F. (2024). Digital transformation and administrative performance in universities. *Journal of Applied Research in Higher Education*, 16(2), 421–437. <https://doi.org/10.1108/JARHE-02-2024-0012>
- [9]. MoldStud. (2024). *Accumulated errors in manual award processing: A longitudinal study*. MoldStud.
- [10]. O'Shea, S., Lysaght, P., & Tanner, K. (2019). Digital co-curricular award systems: Broadening the scope of recognition. *Higher Education Research & Development*, 38(7), 1393–1407. <https://doi.org/10.1080/07294360.2019.1654722>
- [11]. Organisation for Economic Co-operation and Development (OECD). (2021). *AI systems in higher education: Ethical and governance considerations*. OECD Publishing.
- [12]. Parchment Staff. (2024). *Manual processing inaccuracies in transcript and award production*. Parchment Resource Center.
- [13]. Regpack. (2024). *File retrieval inefficiencies in paper-based awards systems*. Regpack Blog.
- [14]. Rusu, C., Rusu, V., Roncagliolo, S., & González, C. (2019). Usability and performance evaluation of interactive systems. *Computer Standards & Interfaces*, 63, 63–72. <https://doi.org/10.1016/j.csi.2018.10.001>
- [15]. Salloum, S. A., Al-Emran, M., & Shaalan, K. (2019). Factors affecting the acceptance of e-learning systems in higher education. *Education and Information Technologies*, 24(2), 843–858. <https://doi.org/10.1007/s10639-018-9787-3>
- [16]. Teixeira, A. (2021). Digital transformation in universities: Beyond technological upgrades. *European Journal of Higher Education*, 11(1), 1–5. <https://doi.org/10.1080/21568235.2021.1876132>
- [17]. UNESCO. (2019). *Artificial intelligence in education: Challenges and opportunities for sustainable development*. UNESCO.
- [18]. UNESCO. (2022). *Guidance for generative AI in education and research*. UNESCO.
- [19]. Venkatesh, V., Thong, J. Y. L., & Xu, X. (2018). Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of the Association for Information Systems*, 19(5), 328–376. <https://doi.org/10.17705/1jais.00509>