

Comparative Evaluation of DA-Philrice Intranet Service Modules: Performance, Usability, and Efficiency

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ABSTRACT: This study conducted a comparative evaluation of three intranet service modules—PPD Assistance, ICT Maintenance, and Farm Operations—at the DA–Philippine Rice Research Institute (PhilRice) to assess user perceptions and identify areas for optimization. The research evaluated module usability, process clarity, responsiveness, outcome quality, and overall satisfaction to determine significant performance differences.

Employing a quantitative descriptive-comparative design, the study utilized a purposive sample of 32 employees with active system experience within the last twelve months. Data were gathered through a validated structured survey and analyzed using descriptive statistics, comparative ranking, and a one-way ANOVA ($p < 0.05$).

The results indicated that while all modules received high ratings for usability and satisfaction, the ICT Maintenance module achieved the highest scores in responsiveness and process efficiency. While comparative ranking revealed clear user preferences, the ANOVA showed no statistically significant differences in overall satisfaction across the three modules. The study concludes that while the intranet system is generally effective, opportunities exist to improve transparency and workflow standardization. It is recommended that the best practices observed in high-performing modules be implemented across the entire platform to enhance institutional service quality.

KEYWORDS: Intranet Service Modules, User Satisfaction, Process Efficiency, ICT Maintenance, Public Sector Information Systems, PhilRice

I. INTRODUCTION

1.1 Background of the Study

The DA-Philippine Rice Research Institute (PhilRice) utilizes an internal portal—the PhilRice Intranet—to host critical service modules supporting administrative and operational functions. Key modules include:

PPD Assistance: Facility and building repairs.

ICT Maintenance: Information technology support.

Farm Operations: Field and machinery-related service requests.

While these modules aim to streamline workflows and reduce manual transactions, there is a lack of comparative data regarding their user experience and efficiency. This study analyzes the performance, usability, and service efficiency of these three modules to identify optimization opportunities.

1.2 Objective of the Study

The general objective is to compare the performance of the PPD Assistance, ICT Maintenance, and Farm Operations modules and identify insights for improving service efficiency. Specifically, the study aims to:

- Evaluate modules based on usability, workflow clarity, responsiveness, and satisfaction.
- Compare aggregated user ratings across indicators.
- Identify common bottlenecks and performance gaps.
- Determine relative performance rankings.
- Generate actionable recommendations for system enhancement.

1.3 Significance of the Study

This research provides evidence-based insights for the Information Systems Division (ISD) to prioritize system improvements. It benefits service units (PPD, ISD, and FSC) by identifying workflow gaps and benefits end-users by promoting a more responsive, user-friendly intranet experience.

II. METHODOLOGY

2.1 Research Design

This study employed a descriptive-comparative research design. The descriptive approach captured end-user perceptions of existing systems, while the comparative component allowed for a systematic evaluation across

modules using standardized indicators (usability, responsiveness, and satisfaction).

2.2 Population and Sample of the Study

The population consisted of staff at the PhilRice Central Experiment Station (CES). A purposive sampling technique was used to select 32 respondents who had direct experience with at least one of the modules within the last 12 months.

2.3 Research Instruments

A structured survey questionnaire was developed using a five-point Likert scale (1: Strongly Disagree to 5: Strongly Agree). The instrument was divided into two parts:

1. Respondent profile and usage frequency.
2. Perceptions of usability, efficiency, responsiveness, and satisfaction.

2.4 Data Collection Procedure

A permission was secured from the ISD. Data was collected via an online survey to ensure anonymity. Statistical treatments included:

- Descriptive Statistics: Means, standard deviations, and frequency counts.
- Inferential Statistics: A One-way Analysis of Variance (ANOVA) was conducted at a 0.05 significance level to test for differences in user satisfaction across modules.

III. RESULTS AND DISCUSSION

3.1 Respondent Profile

A total of thirty-two (32) employees of the DA–Philippine Rice Research Institute (PhilRice) participated in the study. Most respondents had more than two years of service in the institute, indicating adequate familiarity with organizational workflows and intranet-based services. In terms of system usage, the majority reported accessing the PhilRice Intranet on a daily basis, while most had utilized two or more service modules within the last twelve (12) months.

Among the modules, ICT Maintenance and PPD Assistance were the most frequently used, while the Farm Operations module had fewer users. These characteristics indicate that respondents possessed sufficient exposure and experience to provide informed and reliable evaluations of the intranet service modules. As noted by DeLone and McLean (2003), system evaluations are more meaningful when respondents have substantial experience with the system being assessed.

3.2 Evaluation of PhilRice Intranet Service Modules

3.2.1 Usability and Ease of Navigation

Results indicate that all three intranet modules received very high usability ratings, with mean scores exceeding 4.60. Both the PPD Assistance and ICT Maintenance modules were rated very high in terms of ease of navigation and simplicity of form completion. The Farm Operations module likewise obtained a very high usability rating; however, this finding

should be interpreted with caution due to the smaller number of respondents who used this module.

These results suggest that the interface design of the PhilRice Intranet effectively supports accessibility and ease of use. This finding is consistent with the system quality dimension of the DeLone and McLean Information Systems Success Model, which emphasizes usability as a key determinant of user satisfaction (DeLone & McLean, 2003). Wixom and Todd (2005) similarly emphasized that systems perceived as easy to use are more likely to be accepted and positively evaluated by users.

3.2.2 Process Clarity and Responsiveness

With respect to process clarity and responsiveness, the ICT Maintenance module achieved the highest mean rating and was interpreted as very high. In contrast, the PPD Assistance and Farm Operations modules received high ratings. The superior performance of the ICT Maintenance module suggests more effective acknowledgment of requests, clearer task assignment, more visible progress updates, and faster perceived turnaround time.

These findings align with the responsiveness dimension of the SERVQUAL model, which highlights the importance of timely service and prompt assistance in shaping user perceptions of service quality (Parasuraman et al., 1988). The comparatively lower rating of the PPD Assistance module suggests opportunities for improvement, particularly in terms of request tracking, follow-up mechanisms, and communication during pending stages.

3.2.3 Outcome Quality and Service Effectiveness

Outcome-related indicators, including the extent to which completed requests met user needs and reduced the need for repeated follow-ups, were rated high to very high across all modules. The ICT Maintenance and Farm Operations modules demonstrated very high outcome quality, while the PPD Assistance module showed high performance.

These results indicate that, once services are completed, users generally perceive the outcomes as effective and satisfactory. According to Petter, DeLone, and McLean (2008), perceived net benefits and successful outcomes reinforce positive user attitudes toward information systems, even when minor inefficiencies exist during earlier process stages.

3.2.4 Overall User Satisfaction

Overall user satisfaction ratings were very high for all three intranet modules, with ICT Maintenance obtaining the highest mean score. The PPD Assistance and Farm Operations modules followed closely, reflecting generally favorable perceptions of the intranet service system.

High satisfaction levels support the proposition that both system quality and service quality strongly influence user satisfaction (DeLone & McLean, 2003). However, the relatively higher variability in satisfaction ratings for the PPD Assistance module suggests uneven user experiences,

potentially attributable to differences in service turnaround time or communication practices.

3.3 Comparative Ranking of Intranet Modules

When respondents were asked to rank the modules based on overall performance, ICT Maintenance emerged as the top-ranked module, followed closely by PPD Assistance, while Farm Operations ranked lowest. Although all modules received high satisfaction ratings, the ranking results reveal users' relative preferences when making direct comparisons.

This finding suggests that comparative ranking can reveal subtle distinctions in perceived performance that may not be evident from mean satisfaction scores alone. As emphasized by Petter et al. (2008), comparative evaluations are useful for identifying best-performing systems that may serve as benchmarks for improvement.

3.4 Test of Significant Difference Using One-Way ANOVA

A one-way Analysis of Variance (ANOVA) was conducted to determine whether there were statistically significant differences in overall user satisfaction among the three intranet modules. Results indicated no statistically significant difference at the 0.05 level of significance $F(2,68)=1.08, p=0.346$.

The absence of statistically significant differences suggests that overall satisfaction across the three modules is consistently high. While descriptive results and rankings indicate performance variation, these differences were not sufficient to produce statistically significant separation. This outcome may be influenced by overlapping user groups and the smaller number of respondents for the Farm Operations module. Nevertheless, descriptive differences remain practically important for identifying areas for optimization.

3.5 Common Issues and Workflow Bottlenecks

Analysis of open-ended survey responses revealed recurring concerns across modules, including limited visibility of request status, delays caused by incomplete request details, and insufficient feedback during pending stages. These issues were most frequently associated with the PPD Assistance and Farm Operations modules.

These findings underscore the importance of transparent communication and workflow visibility, which are core components of perceived service quality (Parasuraman et al., 1988).

3.6 Synthesis and Optimization Insights

Overall, the findings indicate that the PhilRice Intranet service modules perform at a high level in terms of usability, outcome quality, and user satisfaction. However, variations in process clarity and responsiveness suggest opportunities for optimization. Best practices observed in the ICT Maintenance module—particularly in request acknowledgment, progress tracking, and turnaround time management—may be adopted and standardized across other modules.

Consistent with the DeLone and McLean Information Systems Success Model, improvements in system and service quality are expected to further enhance user satisfaction and service efficiency across the PhilRice Intranet platform.

IV. SUMMARY OF FINDINGS

This study conducted a comparative evaluation of three intranet service modules of the DA–Philippine Rice Research Institute, namely PPD Assistance, ICT Maintenance, and Farm Operations. The evaluation focused on user perceptions of usability, process clarity and responsiveness, outcome quality, and overall satisfaction.

Results showed that all three modules were generally well accepted by users, with very high ratings in usability and overall satisfaction. The ICT Maintenance module consistently obtained the highest ratings, particularly in terms of service responsiveness, communication, and turnaround time. The PPD Assistance module also performed well but showed relatively lower ratings in process-related indicators, suggesting opportunities for improvement in request tracking and communication. The Farm Operations module, while rated high in satisfaction and outcome quality, ranked lowest in comparative assessments, which may be attributed to fewer users and variability in process execution.

Overall, the findings indicate that although satisfaction levels are consistently high across modules, meaningful differences exist in service processes and responsiveness.

IV. CONCLUSIONS

Based on the findings of the study, the following conclusions are drawn:

1. The DA-PhilRice Intranet service modules are effective and generally well accepted by users, as reflected in high usability, outcome quality, and satisfaction ratings.
2. The ICT Maintenance module demonstrates best practices in service delivery, particularly in terms of responsiveness, communication, and turnaround time, making it a benchmark for other modules.
3. Differences in user satisfaction alone do not fully capture variations in intranet service performance; process-related indicators provide important insights into system effectiveness.
4. Comparative evaluation of intranet modules is a useful approach for identifying strengths, weaknesses, and opportunities for service optimization within public sector information systems.

VI. RECOMMENDATIONS

The following recommendations are proposed:

1. The practices and workflows observed in the ICT Maintenance module should be reviewed and adapted for implementation across other intranet service modules, particularly in areas related to request

acknowledgment, progress updates, and turnaround time management.

2. Enhancements to request tracking and status visibility should be prioritized, especially for the PPD Assistance and Farm Operations modules, to improve user communication and reduce follow-up inquiries.
3. Future system enhancements may include the integration of analytics or dashboard features to monitor service performance and support continuous improvement initiatives.
4. Future studies should consider larger sample sizes, balanced module usage, and longitudinal designs to validate and extend the findings of this research. Comparative studies across other government or research institutions are also recommended to improve generalizability.

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