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OPEN PEER REVIEW

Investigating the Success Rate of the Hospital Information System (HIS) in Health Centers of Abadan University of Medical Sciences Based on the Delon and McLean Model

Hassan Bostan

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About this report

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1 Original submission

4 comments · 15 Jul 2025 – 2 Sep 2025

Ahmed Hosny Hassan Reviewer

MAJOR REVISION 15 Jul 2025

Dear authors

Thank you for your efforts in this study.
This manuscript investigates the success rate of the Hospital Information System (HIS) in health centers of Abadan University of Medical Sciences, utilizing the DeLone and McLean model. The study used a cross-sectional descriptive-analytical design, was conducted in 1403 (approximately 2024-2025 in the Gregorian calendar), and surveyed 200 HIS users selected through stratified random sampling. Data were collected using a researcher-made questionnaire with confirmed validity and reliability and analyzed using descriptive statistics in SPSS 26 software.
The results, based on the three criteria of the DeLone and McLean model (system quality, information quality, and service quality), showed that the highest success rate was related to system quality (3.36), and the lowest was related to service quality (2.99). The overall success rate of the HIS was 3.12. However, a statistical test indicated that the success rate for all three criteria was not at a desirable level (a score of 3.75 out of 5 was considered desirable).
The study concludes that while information quality, system quality, and service quality indirectly affect HIS success, and the system achieved an average level of user satisfaction, none of the individual quality dimensions reached a desirable level. The authors recommend focusing on these three variables to upgrade and improve current systems and design new ones, emphasizing their role in enhancing hospital performance, decision-making, and user satisfaction.

My comments:

General Structure and Clarity:
* Consistent Referencing: Ensure consistent formatting for in-text citations. For example, some citations are "" while others are "(x)" or "(x-y)". Choose one style and apply it uniformly throughout the entire manuscript.
* Paragraph Breaks: Break up lengthy paragraphs, especially in the Introduction and Discussion, to improve readability.
* Flow and Transitions: Enhance the transitions between sections and within paragraphs to ensure a smoother flow of ideas.
* Minor Typos and Grammatical Errors: Proofread carefully for minor typos and grammatical errors (e.g., "Effectivness", "present (%)").
* Redundancy: Some information is repeated; for instance, the study's aim and methodology are stated in the Abstract and then again in the Introduction/Materials and Methods. While some repetition is acceptable for clarity, consider rephrasing to avoid exact duplication.
Introduction:
* Stronger Hook: While the introduction states the importance of HIS, consider starting with a more compelling statement or statistic about healthcare challenges that HIS aims to address.
* Clearer Problem Statement: Explicitly state the gap in knowledge or the specific problem this study aims to address in the context of HIS success in Abadan University of Medical Sciences.
* Literature Review Depth: While the paper references other studies, consider briefly elaborating on the findings of a few key studies to provide more context for the current research. For example, when mentioning the benefits of HIS, provide a brief summary of what some of those studies found.
* Rationale for DeLone and McLean Model: Briefly expand on why the DeLone and McLean model was chosen for this study, beyond just stating it's widely accepted.

Materials and Methods:
* Sampling Details: Provide more detail on the "stratified random sampling" – how were the strata defined, and how were individuals selected from each stratum?
* Questionnaire Development: While it states the questionnaire was "researcher-made" and based on the DeLone and McLean model, provide more information on its development process. Was it adapted from existing validated questionnaires for the DeLone and McLean model, or was it entirely new?
* Validity and Reliability: Elaborate on how validity was "confirmed" by five experts. What specific methods were used (e.g., content validity index)? For reliability, clarify the "correlation coefficient of 86%" – which specific coefficient was used (e.g., Pearson's r, Intraclass Correlation Coefficient)?
* Ethical Approval Date: The ethical approval code is provided, but it would be beneficial to state the year of approval more clearly in the "Materials and Methods" section, as the study was conducted in 1403 (which typically refers to the Iranian calendar year, roughly 2024-2025). The ethical approval date of 1396-203 (which usually refers to the Iranian calendar year 1396, approximately 2017) might seem like a significant time gap if not clarified.
* Statistical Analysis Details: While SPSS 26 and descriptive statistics are mentioned, specifying the exact statistical tests used for the "statistical test" mentioned in the results (e.g., t-test, ANOVA) would enhance clarity. The one-sided sample test is mentioned later, but it would be good to introduce it earlier in this section.
* "1403" Clarity: Since the audience might not be familiar with the Iranian calendar, consider adding a parenthetical note indicating the approximate Gregorian calendar year for "1403".
Results:
* Order of Presentation: The abstract mentions that the highest success rate was for system quality and the lowest was for service quality. This order could be maintained when presenting the detailed results for each criterion to improve consistency.
* Interpretation of Mean Scores: For Tables 2, 3, and 4, briefly explain what the mean scores (e.g., 3.36 for system quality) indicate in relation to the 1-5 Likert scale, and what these scores mean in practical terms before the "desirable level" is introduced in Table 5.
* Elaborate on "Undesirable Level": When stating that the success rate was "not at a desirable level", further elaborate on the implications of this finding.
* Table Formatting: Ensure consistent formatting for all tables. For example, the "Total" row in Table 2 has "SD ./78", and the "Total" row in Table 3 has "SD /73", which should likely be decimal values such as "0.78" and "0.73", respectively, for standard deviation. In Table 5, the "SD Total" values are also inconsistently formatted.
* Visual Representation of Data: While not explicitly requested, consider adding a bar chart or a similar visualization of the mean scores for system, information, and service quality to make the results more accessible.
Discussion:
* Directly Address Findings: Begin the discussion by reiterating the main findings more explicitly before comparing them to other studies. For instance, clearly state the overall success rate and the ranking of the three quality criteria.
* Reconcile Conflicting Findings: When discussing studies that are "not in line with the findings of the present study", offer potential reasons for these discrepancies (e.g., differences in context, methodology, healthcare systems, cultural factors).
* Elaborate on Implications: Expand on the practical implications of the findings. For example, when it's mentioned that paying attention to the three variables is important for upgrading systems, discuss how this attention can be translated into actionable strategies.
* "Local and indigenous laws": This is an interesting point. Elaborate on how these laws specifically impact HIS design and evaluation in Abadan, if known.

* Limitations: While one limitation is mentioned, consider adding other potential limitations, such as the cross-sectional nature of the study, reliance on self-reported data, or the specific population studied.
Conclusion:
* Summarize Key Findings Concisely: Reiterate the most important findings without introducing new information.
* Reinforce Implications: Briefly restate the significance of the findings and their practical applications, particularly regarding improving HIS and decision-making.
* Future Research: Suggest specific avenues for future research based on the study's limitations or unanswered questions.
Footnotes/Authors' Contributions/Funding/Conflicts of Interest/Ethical Statements:
* These sections seem appropriately placed and clearly stated.
By addressing these points, the manuscript can be significantly strengthened in terms of clarity, rigor, and impact.

Samaneh Naeimi Reviewer

ACCEPT 14 Aug 2025

This article is a good and valuable piece of research in the field of hospital information systems evaluation. Strong methodology, clear findings, and logical discussion are its main strengths. The results of this research can be very useful for managers and decision-makers in the health sector, especially at Abadan University of Medical Sciences, to identify the weaknesses of HIS and plan for their improvement.

Considering the points for improvement, this article is of good quality and can be considered a valid piece of research in its field.

To improve this article, several suggestions are given to the team of authors:

1. Tables 2 to 4 can be merged due to the similarity of content.

2. In the discussion section, a little more attention could be paid to the contextual or methodological differences that may have led to the differences in findings between this study and the study by Zaied (23).

3. In the limitations section, only one limitation is mentioned. Usually, in studies like this, there are other limitations such as "the cross-sectional nature of the study and the lack of examination of effects over time" or "the dependence of the results on the self-reports of users" that could have been mentioned.

Associate Editor

MINOR REVISION 2 Sep 2025

Minor Revision

Editor-in-Chief

MAJOR REVISION 2 Sep 2025

We appreciate your submission to our journal. Please note that this article needs revision, and we recommend paying close attention to the English writing style. Moreover, there are several errors in terms of syntax and grammar.

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Public Comment:

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Its be revised.

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Confidential Comment:

2 Revision 1

1 comment · 4 Nov 2025

Editor-in-Chief

ACCEPT 4 Nov 2025

accept