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Research Article

Evaluation of Digital Transformation Success at Cahaya Medika Hospital Using DeLone and McLean Model

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Abstract: Hospitals must be able to deal with the dynamics of rapid change in the digital era, hence the need for digital transformation. Retention towards digital transformation in hospitals can take many forms, especially among medical and administrative staff. This study aims to evaluate the success of digital transformation at Cahaya Medika Hospital using the DeLone & McLean Model. This research method is quantitative explanatory research. The sample in this study were health workers, administration and medical support at Cahaya Medika Hospital totaling 127 respondents. Data collection using questionnaires and descriptive analysis techniques using the SEM-PLS method. The results showed system quality, information quality, and service quality influenced directly and indirectly on net benefits through use and user satisfaction on officers at Cahaya Medika Hospital. These results have theoretical implications that support theory and previous research. Managerially, it is expected to provide input for Cahaya Medika Hospital management to improve the success of digital transformation in hospitals. These efforts can help increase the level of system usage and user satisfaction which ultimately increases net benefits for the hospital. There is a significant influence of system quality, information quality, and service quality on net benefits through usage and user satisfaction on the success of digital transformation in RS Cahaya Medika Tambun Utara.

Keywords: Digital Transformation; Information Quality; Net Benefits; Service Quality; System Quality

1. Introduction

The rapid development of technology these days has become a strategic necessity for every organization, including hospitals. Hospitals must be able to face the dynamics of rapid change in the digital era, hence the need for digital transformation, not just the adoption of technology, but also efforts to support data-based decision making, improve inter-service coordination, and optimize interactions with patients (1).

In the context of hospitals, the success of this digital transformation cannot be ensured only by procuring technology or software. There needs to be a comprehensive evaluation that covers various dimensions to ensure that this digital transformation really has a significant impact on improving the quality of hospital services and operations.

DeLone and McLean responded to the measurement challenge by introducing the D&M IS Success Model, which helps organizations understand the success of technology without relying entirely on financial measures, widely across sectors including healthcare, education, and government. The model assesses information system success through six connected elements divided into three levels: system quality, information quality, and service quality at the first level; user usage and satisfaction at the second level; and net benefits as the end result.

Net benefits in the D&M IS Success Model framework refer to the various positive impacts felt by organizations and individuals as a result of information system

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implementation. Net benefits are not only measured by technical or operational aspects, but also by the system's contribution to efficiency, productivity and decision-making. Net benefits are the end result that measures the success of information systems. The dynamic relationship between quality variables (systems, information, and services), usage levels, and user satisfaction results in a direct impact on net benefits (2).

One of the factors believed to influence net benefits is usage, defined as the level of user interaction with information systems, both in the form of actual use and intentions to use in the future, including how often the system is used, for what duration, and in what operational activities the system is utilized (2).

User satisfaction is a measure of the extent to which an information system meets users' expectations and needs, encompassing the positive experiences felt during interaction with the system. According to the D&M IS Success Model, user satisfaction reflects a subjective evaluation of the quality of the system, information, and services provided, as well as their impact on user performance. In the hospital context, user satisfaction is also influenced by the stability and reliability of the system, as well as the quality of technical support received (3).

System Quality, refers to the ability of an information system to meet user needs consistently and support organizational goals efficiently and reliably. This component includes technical aspects such as stability, reliability, performance, security, and ease of use, which directly affect the level of user satisfaction and intention to use the system (2). In the context of hospitals, system quality becomes more critical as it concerns service efficiency and patient safety, therefore system quality not only ensures smooth operations, but also plays a role in generating net benefits for the organization, such as increased efficiency and customer satisfaction (3).

Information quality is one of the main dimensions that influence the level of user satisfaction and the decision to continue using the system. Information quality describes the extent to which information produced by an information system is relevant, accurate, complete, reliable and useful to its users (2). In the context of hospitals, information quality is not only an important element in the success of the system, but also has a positive impact on productivity and faster and more informed decision-making (4).

Service quality in the context of information systems reflects an organization's ability to provide responsive, proactive, and relevant support for users when interacting with technology, is an important element that supports the successful implementation of technology by ensuring that users feel supported technically and operationally (5).

In the hospital context, quality service not only helps resolve technical issues, but also increases user confidence in the system. Fast, efficient and customized support strengthens satisfaction levels and encourages long-term technology adoption. (6).

While regulations and policies have encouraged digital transformation in the healthcare sector, its implementation in the field still faces various obstacles. the implementation of digital transformation does not always run smoothly. Its success rate often depends on various factors, such as technology readiness, management support, and user acceptance (7). Some hospitals are still grappling with challenges such as inadequate technology infrastructure, resistance from medical staff to change, and lack of training in the use of new digital systems. These challenges result in a gap between the expectation of healthcare digitization and the reality on the ground (4-8).

The reason for choosing the subject of health workers, health support and administrative officers at Cahaya Medika Tambun Utara Hospital is because there are several phenomena related to type D hospitals that have been observed, namely the use of hospital information systems (HIS) is still limited to basic functions such as recording electronic medical records. The integration between HIS and other important modules, such as drug inventory management, human resource management, and financial management, has not been fully optimized, and this resistance is also caused by a lack of understanding of the benefits of digital transformation making many health workers reluctant to fully utilize existing technology.

By looking at the results of this preliminary survey, it shows that the use of HIS is still limited to basic functions and there is resistance to digital transformation in the form of resistance to the use of switching manual records to digital records.

Therefore, it is necessary to conduct further evaluation so that it is raised in this study is the effect of system quality, information quality, and service quality on net benefits through use and user satisfaction on the success of digital transformation at Cahaya Medika Hospital Tambun Utara.

2. Related Work or Literature Review

2.1. Theoretical Framework: D&M IS Success Model in Healthcare

The D&M IS Success Model is widely applied in public sector and healthcare contexts due to its emphasis on multidimensional evaluation. It categorizes system performance into three layers:

- System Quality: the technical performance and reliability of the HIS;
- Information Quality: accuracy, relevance, and usefulness of system outputs;
- Service Quality: the quality of technical support and responsiveness provided to users.

These factors directly influence Use and User Satisfaction, which in turn affect Net Benefits the perceived organizational and individual improvements resulting from HIS usage.

2.2. Empirical Findings and Gaps

Numerous studies (2, 3, 4) affirm the relevance of the model in assessing HIS. However, gaps remain in understanding how these constructs interact in smaller hospitals (Type D), especially those still transitioning from manual to digital operations. Many such facilities, including Cahaya Medika Hospital, face limitations in HIS use—restricted mainly to electronic medical records, with minimal integration into modules like inventory or HR management. Additionally, resistance to digital transformation due to lack of training and perceived complexity further hinders its success (7, 8).This section must contain a state-of-the-art explanation. It can be explained in several ways. First, you can discuss several related papers, both about objects, methods, and their results. From there, you can explain and emphasize gaps or differences between your research and previous research. The second way is to combine theory with related literature and explain each theory in one sub-chapter.

3. Proposed Method

This study investigates the influence of system quality, information quality, and service quality on net benefits, mediated by system use and user satisfaction. The research was conducted quantitatively through explanatory research design.

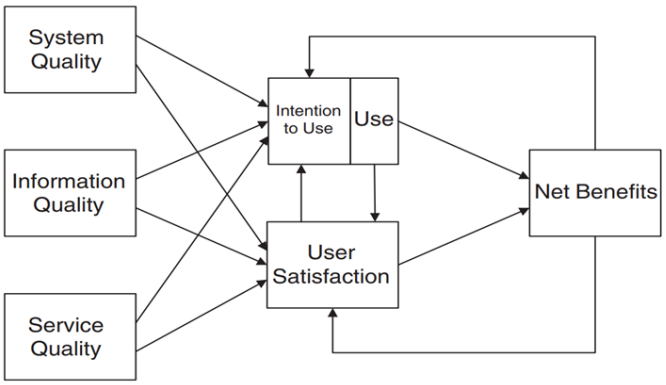

Figure 1. Updated DeLone & McLean IS Success Model (2003)

3.1. Algorithm/Pseudocode

Although no computational algorithm is employed, the conceptual research framework can be illustrated as follows:.

Table 1 Algorithm

Algorithm 1. Framework for Evaluating HIS Success
INPUT: System Quality (SQ), Information Quality (IQ), Service Quality (ServQ) OUTPUT: Net Benefits (NB) 1: Measure SQ, IQ, and ServQ using Likert-scale survey instruments 2: Evaluate Use and User Satisfaction as mediating variables 3: Analyze their impact on NB using Partial Least Squares (PLS) 4: Interpret relationships and significance of constructs

3.1.1. Hypothesis Framework

- System Quality influences Use and User Satisfaction;
- Information Quality influences Use and User Satisfaction;

- Service Quality influences Use and User Satisfaction;
- Use and User Satisfaction affect Net Benefits

4. Results

4.1. System Quality

The System Quality variable consists of three dimensions with seven statement items.

Table 2. Three Box Method Analysis of System Quality Variables (X_1)

Variable	Index	Category
Ease of Use	108,63	High
Reliability	111,13	High
Perceived importance of health information	107,3	High
Average System Quality Index	108,78	High

Source: Primary Data, 2025

It is known that the System Quality indicator with the lowest index is number 7 in the "Perceived importance of health information" dimension which states "The digital technology implemented is well available in all hospital units". The index for this statement is 106 which is in the high category. This illustrates that although the availability of digital technology at Cahaya Medika Hospital is quite good, there is still room for improvement. Respondents may feel that the deployment of digital technology in all hospital units is not evenly distributed or optimal. The reality faced is not in accordance with these expectations, giving rise to the lowest perception compared to other indicators.

Overall, the average index score of the System Quality variable answers is obtained at 108.78 in the high category. This condition shows that Cahaya Medika Hospital officers generally have a positive perception of the quality of the digital system used, reflecting that the digital system has succeeded in meeting operational needs, providing reliability, and supporting work efficiency. This also indicates that the system is able to increase comfort in carrying out daily tasks, although there is still room for improvement in certain indicators.

4. 2. Information Quality

The Information Quality variable consists of three dimensions with five statement items.

Table 3. Three Box Method Analysis of Information Quality Variables (X_2)

Variable	Index	Category
Timelines	109,75	High
Accurasy	111,13	High
Completeness	108	High
Average Information Quality Index	109,6	High

Source: Primary Data, 2025

It is known that the Information Quality indicator with the lowest index is in statement number 4 in the "Completeness" dimension which states "In our hospital, there is a culture of utilizing information for decision making". The index for this statement is 106.75 which is in the high category. This illustrates that although a culture of utilizing information for decision-making already exists and is appreciated, there are still opportunities to strengthen

the integration of this culture in work processes. This could be due to challenges in optimizing data as a basis for decisions or limited training and awareness regarding the importance of strategic use of information in all hospital units.

Overall, the average index score of the Information Quality variable answers was obtained at 109.6 in the high category. This condition shows that Cahaya Medika Hospital officers generally have a positive perception of the quality of information produced by digital systems. This reflects that the system is able to provide data that is accurate, relevant, and supports the operational needs of the hospital.

4.3. Service Quality

The Service Quality variable consists of two dimensions with three statement items.

Table 4. Three Box Method Analysis of Service Quality Variables (X_3)

Variable	Index	Category
Satisfaction of User Guide	108	High
Knowledgeable	109,75	High
Average Service Quality Index	108,6	High

Source: Primary Data, 2025

It is known that the Service Quality indicator with the lowest index is in statement number 1 in the "Satisfaction of User Guide" dimension which states "Guidelines and training on digital systems are adequate and easy to understand". The index for this statement is 106.75 which is in the high category. This illustrates that although guidance and training are considered quite good by the majority of users, there is still an opportunity to improve the effectiveness and clarity of training delivery. This is important so that all officers can understand the digital system better, thus increasing their competence and confidence in using the system.

Overall, the average index score of the Service Quality variable answers is obtained at 108.6 in the high category. This condition shows that Cahaya Medika Hospital officers in general that the services provided by the digital system, including technical support and guidance, have met their expectations, reflecting a positive perception of service quality, both in terms of the technical capabilities of the support team and the provision of information that helps users in carrying out their daily tasks more efficiently and without significant obstacles.

4.4. Use

The Use variable consists of two dimensions with four statement items

Table 5. Three Box Method Analysis of Use Variables (Z_1)

Variable	Index	Category
Use of HIS	107,75	High
Perceived usefulness	109,13	High
Average Use Index	108,4	High

Source: Primary Data, 2025

It is known that the Use indicator with the lowest index is in statement number 1 in the "Use of HIS" dimension which states "I use the hospital's digital system in my daily tasks".

The index for this statement is 105.75 which is in the high category. This illustrates that although the use of digital systems by Cahaya Medika Hospital officers in their daily tasks is quite good, there is an opportunity to further improve the utilization of the system so that it becomes an integral part of the workflow, so that the use of the system can be more evenly distributed and consistent in all operational tasks.

Overall, the average index score of the Use variable answer is obtained at 108.4 in the high category. This condition shows that Cahaya Medika Hospital officers in general feel that the digital system implemented is very useful in supporting the smooth running of health services. This reflects a positive perception of the use of digital systems, where officers feel more efficient in carrying out daily tasks and providing better health services, with a system that supports their needs significantly.

4.5. User Satisfaction

User Satisfaction consists of two dimensions with two statement items.

Table 6. Three Box Method Analysis of User Satisfaction Variables (Z_2)

Variable	Index	Category
Overall user satisfaction	109,75	High
Improved user satisfaction	112,25	High
Average User Satisfaction Index	111	High

Source: Primary Data, 2025

It is known that the User Satisfaction indicator with the lowest index is in statement number 1 in the "Overall user satisfaction" dimension which states "I am satisfied with the experience of using this digital system". The index for this statement is 109.75 which is in the high category. This illustrates that although this statement has the lowest index among other indicators, respondents are still generally satisfied with the experience of using the digital system. This satisfaction shows that although there is room for improvement, the digital system has provided a good experience for users.

Overall, the average index score of the User Satisfaction variable answer is obtained at 111 in the high category. This condition shows that Cahaya Medika Hospital officers are generally satisfied with the experience of using digital systems, feel more confident and comfortable at work, and consider digital systems to make a positive contribution to the quality of their work. This reflects a high level of satisfaction with the digital system implemented in the hospital.

4.6. Net Benefits

Net Benefits consists of two dimensions with three statement items.

Table 6. Three Box Method Analysis of Net Benefits Variables (Y)

Variable	Index	Category
Improved decision making	106,75	High
Improved effectiveness	107,63	High
Average Net Benefits Index	107,3	High

Source: Primary Data, 2025

It is known that the Net Benefits indicator with the lowest index is in statement number 3 in the "Improved effectiveness" dimension which states "This system facilitates better communication among hospital staff". The index for this statement is 106 which is in the high category. This illustrates that although this statement has the lowest index among other indicators, respondents generally still feel the positive benefits of the digital system in improving the effectiveness of communication among hospital staff. Although there is some room for improvement, the digital system has made a good contribution in facilitating communication in the hospital environment.

Overall, the average index score of the Net Benefits variable answers is obtained at 107.3 in the high category. This condition shows that Cahaya Medika Hospital officers generally feel the positive benefits of implementing a digital system, especially in increasing the effectiveness of services and communication in the hospital. Although there are some aspects that can still be improved, overall the digital system has had a significant impact in improving service quality and hospital operational efficiency.

Table 7. Three Box Method Analysis Average Matrix

No	Variable	Score			Behavior
		Low	Average	High	
		(31,8-63,4)	(63,5-95,1)	(95,2-127)	
1	System Quality			+	effective
2	Information Quality			+	complete
3	Service Quality			+	satisfactory
4	Use			+	useful
5	User Satisfaction			+	satisfied
6	Net Benefits			+	profitable

Source: Results of Data Processing by Researchers, 2025

Based on the three box method average matrix Table 7 shows that System Quality gets a score in the high category, meaning that Cahaya Medika Hospital officers generally have a positive perception of the quality of the digital system used. This condition reflects that the digital system has successfully met operational needs, provided reliability, and supported work effectiveness and efficiency.

Overall, the results of these findings indicate that Cahaya Medika Hospital officers have a very positive perception of the implementation of digital systems in the hospital. The digital system successfully meets operational needs, improves information quality, and provides adequate services, both in terms of technical support and guidance. In addition, the digital system has proven to be useful in improving work efficiency and health services, as well as providing a satisfying experience for users. The positive impacts include an increase in the effectiveness of services to patients and the quality of work of staff, indicating that the implementation of the digital system has successfully supported the hospital's overall operations.

5. Discussion

5.1 Effect of system quality, information quality, service quality on net benefits through usage and user satisfaction

The results showed that there is an effect of system quality, information quality, service quality on net benefits through use and user satisfaction on the success of digital transformation in RS Cahaya Medika simultaneously. This shows that the success of digital transformation in RS Cahaya Medika is highly dependent on the quality of systems, information, and services provided by digital systems. The good quality of the three aspects not only has a direct impact on the benefits felt by users (net benefits), but also indirectly through increased use of the system (use) and user satisfaction . This study is consistent with previous research, such as that conducted by Petter et al, showing that users' positive experience with the system directly increases their satisfaction, which in turn strengthens the system's impact on organisational performance (9).

Thus, system quality, information quality and service quality may not directly affect net benefits, but rather through the intervening variables of use and user satisfaction. The better these three variables are, the higher the level of use and user satisfaction of hospital staff, which in turn will increase the perceived net benefits. This means that use and user satisfaction play an important role as mediator variables that influence the relationship between system quality, information quality, service quality, and net benefits on the success of digital transformation at Cahaya Medika Hospital. Accurate, relevant, and reliable information is key in decision making. This research is in line with Wixom and Todd's study, which states that good information quality increases user confidence in the system, encouraging their satisfaction(10). This finding provides an understanding that optimal system use and user satisfaction are important mediators that strengthen the relationship between system quality, information, and services to the net benefits obtained by hospitals.

5.2 The effect of system quality on use on the success of digital transformation

The results of hypothesis testing show that there is an effect of system quality on use on the success of digital transformation in RS Cahaya Medika with a positive direction, confirming that good system quality plays an important role in encouraging the use of digital systems in RS Cahaya Medika. This means that the better the quality of the system presented, the higher the level of system usage by users. Conversely, if the quality of the system is low, the use of the system tends to decrease.

This finding is consistent with Gorla et al's research, which found that high system quality, such as ease of navigation, reliability, and fast response time, encourages users to use information systems more often (4). This is also supported by McKinney et al's study, which states that system quality affects how frequently and effectively the system is used by medical personnel, which in turn contributes to the overall success of the organisation (11). This means that the better the system quality, it can increase the level of system use.

5.3 The effect of system quality on user satisfaction on the success of digital transformation

The results of hypothesis testing show that there is no effect of system quality on user satisfaction on the success of digital transformation at Cahaya Medika Hospital with a negative direction. This indicates that good system quality does not directly increase user satisfaction, which may be due to other factors that influence perceptions of user satisfaction.

This negative result reflects that other factors may play a greater role in the success of digital transformation at RS Cahaya Medika, and further analysis needs to be done to identify the more dominant factors. This finding contradicts DeLone and McLean's research, which states that system quality is one of the main factors affecting user satisfaction (5).

However, the results of this study are in line with a study conducted by Petter et al, which states that the relationship between system quality and user satisfaction can be influenced by contextual factors, such as the level of system complexity or user expectations. The results of this study provide important insights that system quality is not always the main factor influencing user satisfaction (6).

In addition, the low effect of system quality on user satisfaction may also be due to a lack of training or user resistance to new technology, as mentioned by Venkatesh et al, in the Unified Theory of Acceptance and Use of Technology (12).

5.4 The effect of Information Quality on Use on the success of digital transformation

The results of hypothesis testing show that there is no effect of information quality on use on the success of digital transformation at Cahaya Medika Hospital with a positive direction. This reflects that good information quality does not directly motivate users to use the system more often, possibly due to other external factors such as need or context of use.

This result differs from the findings of DeLone and McLean, which state that information quality plays an important role in increasing system usage (5). However, the findings of this study can be explained by Petter et al's research, which states that information quality is only effective if users feel the direct benefits of the information (6).

In the context of RS Cahaya Medika, it is likely that users feel that the quality of information produced by the system does not fully support their operational needs. If the information provided by the system is not considered relevant by users, they tend not to utilize the system optimally (10).

5.5 The effect of Information Quality on User Satisfaction on the success of digital transformation

The results of hypothesis testing show that there is an effect of information quality on user satisfaction on the success of digital transformation at Cahaya Medika Hospital with a positive direction. This means that the better the quality of information produced by the system, the higher the level of user satisfaction with the system. Conversely, if the quality of information is poor, the level of user satisfaction with the system will decrease.

The findings of this study are consistent with the DeLone and McLean information system success model which emphasises that information quality is the main determinant of user satisfaction (5). Gorla et al's study also supports these findings, where accurate, relevant, and complete information is proven to increase user trust and comfort in using the system (4).

5.6 The effect of service quality on use on the success of digital transformation

The results of hypothesis testing show that there is an effect of service quality on use on the success of digital transformation at Cahaya Medika Hospital with a positive direction. This means that the better the quality of service provided by the digital system, the higher the level of system usage by users will be higher.

Conversely, if the quality of service is poor, then the level of system usage tends to decrease. The results of this study confirm the importance of service quality in encouraging the use of digital systems. This supports theory and previous research, which shows that good service quality can increase the level of system adoption by users. This finding is in line with the study of DeLone and McLean (2003), which identified service quality as one of the important dimensions in the success of information systems (5). Urbach and Müller's study also supports that service quality, such as response speed, technical ability, and support provided, significantly affects the level of adoption and use of the system by users (3).

5.7 The effect of service quality on user satisfaction on successful transformation

The results of hypothesis testing show that there is a significant effect of service quality on user satisfaction on the success of digital transformation at Cahaya Medika Hospital with a negative direction, this indicates that improving service quality is not always directly proportional to the level of user satisfaction.

This finding also reinforces the view of Petter et al, highlight that in digital systems, perceptions of service quality are often mediated by users' actual experiences, so their impact on satisfaction is contextual. Petter et al, also emphasize that user experience of digital systems largely determines perceptions of service quality, which sometimes results in a non-linear relationship (6).

5.8 The effect of use on user satisfaction on the success of digital transformation

The results of hypothesis testing show that there is an effect of use on user satisfaction on the success of digital transformation at Cahaya Medika Hospital with a positive direction. This means that the higher the intensity and quality of the use of digital systems by users, the more their satisfaction with the system will increase. Conversely, if the use of digital systems is low, the level of user satisfaction tends to be lower.

This finding is also in line with a study by Iivari, which shows that the success of an information system depends on the user's experience in utilizing its features (13). In the context of hospitals, this experience can be in the form of easy access to patient information or efficient communication between staff. The results of this study reinforce the

understanding that use is an important component in achieving user satisfaction, especially in the success of digital transformation in the health sector.

From these findings, it is concluded that the more frequently and optimally a digital system is used by users, the higher the level of user satisfaction with the system. This indicates that direct experience in using digital systems contributes greatly to the perception of user satisfaction.

5.9 The effect of use on net benefits on the success of digital transformation

The results of hypothesis testing show that there is an effect of use on net benefits on the success of digital transformation at Cahaya Medika Hospital with a positive direction. This means that the more optimal the use of digital systems by users, the higher the net benefits obtained, such as operational efficiency, service improvement, and user satisfaction. Conversely, if the use of digital systems is less than optimal, the perceived net benefits tend to be lower.

This research is in line with the study of DeLone and McLean, which shows that the level of use of information systems is positively correlated with net benefits (5). Another study by Gorla et al., confirms that the use of quality systems has a positive impact on organizational results (4).

At RS Cahaya Medika, this relationship shows that intensive and purposeful use of digital systems contributes to the success of digital transformation, providing real added value to the organization.

5.10 The effect of user satisfaction on net benefits on the success of digital transformation

The results of hypothesis testing show that there is no significant effect of user satisfaction on net benefits on the success of digital transformation at Cahaya Medika Hospital with a negative direction. This means that a high level of user satisfaction does not directly increase the net benefits of digital transformation. Conversely, low user satisfaction also does not necessarily reduce net benefits.

Hospital context, system complexity, and other organizational factors may be the reason for this low effect, as expressed in the study by Wixom & Todd, which emphasizes the importance of task fit and system relevance to user needs (10).

6. Conclusions

The results of this study indicate that system quality, information quality, and service quality affect net benefits in the implementation of digital transformation at Cahaya Medika Hospital. The effect occurs through intervening variables, namely system use and user satisfaction. This indicates that the success of digital transformation in hospitals depends not only on the technology used, but also on the user experience in accessing and utilizing the

system. Quality systems, relevant and accurate information, and responsive services increase user satisfaction, which in turn contributes to achieving net benefits in hospital operations.

The results of this study indicate that system quality has a positive influence on the level of system usage in the success of digital transformation at Cahaya Medika Hospital. This means that the better the quality of the system implemented, the higher the level of use by health workers and hospital staff. Conversely, if the system experiences problems or has poor quality, then users tend to be reluctant to use it optimally. This confirms that the successful implementation of digital transformation is highly dependent on the development of a system that is reliable, easy to use, and in accordance with user needs.

The results of this study indicate that system quality has no direct influence on user satisfaction in the success of digital transformation at Cahaya Medika Hospital. This finding indicates that even though the system implemented has good quality, it does not necessarily increase user satisfaction. There may be other factors that are more dominant in shaping the perception of user satisfaction, such as ease of understanding the system, technical support provided, or perceived benefits in daily work.

The results of this study indicate that information quality has no direct influence on the level of system usage in the success of digital transformation at Cahaya Medika Hospital. This finding indicates that although the information available in the system is of high quality, it does not necessarily increase the use of the system. There may be other external factors, such as user needs, work habits, or the operational context of the hospital, which are more dominant in determining whether the system will be used optimally or not. However, if the quality of information in the system is low, this can be an obstacle for users in making good use of the system.

The results showed that information quality has a positive effect on user satisfaction in the success of digital transformation at Cahaya Medika Hospital. This means that the higher the quality of information provided by the system, both in terms of accuracy, completeness, relevance, and currency, the higher the level of user satisfaction. Conversely, less quality information will reduce user satisfaction because it does not meet their expectations or needs in supporting work. This finding confirms the importance of providing quality information as one of the key factors in supporting successful adoption of digital systems in the hospital environment.

Service quality has a positive effect on the level of system usage in the success of digital transformation at Cahaya Medika Hospital. This means that the better the services provided, such as technical support, responsiveness, and assistance, the higher the level of digital system usage. Conversely, poor service quality can lead to low intensity of system use.

Service quality also affects user satisfaction. This suggests that good service will provide a positive experience for users, thus increasing their level of satisfaction with the digital system. If service quality decreases, then users will feel less satisfied.

System use has an effect on user satisfaction. The more intensely and effectively users utilize the digital system, the more likely they are to feel satisfied with the system. This confirms the importance of increasing the active involvement of users in the utilization of digital systems.

System usage has a positive effect on the net benefits of digital transformation. The more optimal the system is used, the greater the benefits obtained, both in the form of work efficiency, improved service quality, and hospital stakeholder satisfaction.

There is no significant influence between user satisfaction and net benefits in digital transformation. This finding indicates that to achieve maximum benefits from digital systems, it is not enough to increase user satisfaction, but must also be supported by optimizing system use and improving the overall quality of systems, information and services.

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References

[1] Agarwal R, Gao G, Desroches C, & Jha A. The Digital Transformation of Healthcare: Current Status and the Road Ahead. Information Systems Research. 2010;21(4):796-809.

[2] DeLone W, McLean E. Information Systems Success: The Quest for the Dependent Variable. Information Systems Research. 1992;3(1):60-95.

[3] Urbach N, Müller B. The Updated DeLone and McLean Model of Information Systems Success. Information Systems Theory. 2012;28(1):1-18.

[4] Gorla N, Somers TM, Wong B. Organizational Impact of System Quality, Information Quality, and Service Quality. Journal of Strategic Information Systems. 2010;19(3):207-228.

[5] DeLone W, McLean E. The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. Journal of Management Information Systems. 2003;19(4):9-30.

[6] Petter S, DeLone W, McLean E. Measuring Information Systems Success: Models, Dimensions, Measures, and Interrelationships. European Journal of Information Systems. 2008;17(3):236-263.

[7] Ross JW, Sebastian IM, Beath C. How to Develop a Great Digital Strategy. MIT Sloan Management Review. 2017;58(2):7-9.

[8] World Health Organization. WHO [Internet]. Global Strategy on Digital Health 2020-2025; 2021 Aug 18 [cited 2024 Dec 14]. Available from: https://www.who.int/publications/i/item/9789240020924

[9] Petter S, DeLone W, McLean ER. Information Systems Success: The Quest for the Independent Variables. Journal of Management Information Systems. 2013;29(4):7-62.

[10] Wixom B, Todd PA. A Theoretical Integration of User Satisfaction and Technology Acceptance. Information Systems Research. 2005;16(1):85-102.

[11] McKiney V, Yoon K, Zahedi, Fatemeh. The Measurement of Web-Customer Satisfaction: An Expectation and Disconfirmation Approach. Information System Research. 2002; 13(3):296-315.

[12] Venkatesh V, Davis FD. Perceived Usefulness and Usage of EHR Systems: Toward a Unified View. MIS Quarterly. 2000;24(1), 115-139.

[13] Ivari J. An Empirical Test of the DeLone-McLean Model of Information System Success. Data Base for Advances in Information Systems. 2005;36(2):8-27.

[14] DeLone, W. H., & McLean, E. R. (1992). Information Systems Success: The Quest for the Dependent Variable. Information Systems Research, 3(1), 60–95. http://www.jstor.org/stable/23010781

[15] DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. Journal of Management Information Systems, 19(4), 9–30. https://doi.org/10.1080/07421222.2003. 11045748

[16] Fitzgerald, M., Kruschwitz, N., Bonnet, D., & Welch, M. (2014). Embracing Digital Technology: A New Strategic Imperative. MIT Sloan Management Review, 55(2), 1–12. https://www.proquest.com/scholarly-journals/ embracing-digital-technology-new-strategic/docview/1475566392/se-2?accountid=215319

[17] Ivari, J. (2005). An Empirical Test of the DeLone-McLean Model of Information System Success. Data Base for Advances in Information Systems, 36(2):8-27. https://doi.org/10.1145/1066149.1066152

[18] McKiney, V., Yoon, K., and Zahedi, Fatemeh, (2002) "The Measurement of Web-Customer Satisfaction: An Expectation and Disconfirmation Approach", Information System Research, 13,3. https://doi.org/10.1287/isre.13.3.296.76

[19] Petter, S., DeLone, W., & McLean, E. (2008). Measuring information systems success: Models, dimensions, measures, and interrelationships. European Journal of Information Systems, 17(3), 236–263. https://doi.org/10.1057/ejis.2008.15

[20] Wixom, B.H., Peter A.T. (2005) A Theoretical Integration of User Satisfaction and Technology Acceptance. Information Systems Research 16(1):85-102. https://doi.org/10.1287/isre.1050.0042