

E-Service Quality: an Empirical Study of The Halo Application at Aisyiyah Hospital Bojonegoro

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Abstract. Providing adequate facilities to prioritize patient needs to obtain optimal health services, the Halo RSA application appears as a big step. The author sees empowerment in the side of health services through this digitalization steps provided to improve the performance of Aisyiyah hospital services, realize excellent service, and increase patient satisfaction. Improvement in service quality is given based on the less than optimal conventional services received by patients. With this application, the aim is to reduce public stigma towards health services which in fact take too long, are messy and even less responsive. However, despite the sophistication offered through digital service applications, problems are often still found in their application. Where, when patients or users use the Halo RSA application, there are features that experience bugs or errors, mismatches in registered queue numbers, and inpatient room registration. This research uses a qualitative type with a case study approach on the Halo RSA application. The research theory used by the Delone & McLean IS (D&M IS) Model to see the level of success of the Halo RSA application. Based on the results of research in the field, the Halo RSA application is able to meet standard indicators for each dimension where in its application they influence each other and there is a reciprocal relationship between patient and user satisfaction with Aisyiyah Hospital health services through the various features provided

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INTRODUCTION

The presence of technology-based services provides a new nuance in providing types of public services where the expected quality of service will be met and increase satisfaction, participation and trust from the community. According to Tjiptono in (Indrasari, 2019) service quality is an activity related to products, services and resources in an environment that is expected to be able to fulfill the services needed by the community. Public services will be able to run as expected if they also prioritize quality standards in service delivery. The essence of public services is that the government's obligations and responsibilities are not only for themselves but are also obliged to provide public services adapted to the needs of the community which then creates harmony and comfort in social life (Hagie et al., 2020) . As time goes by, the public service model must be adapted to the demands or needs of society where the government takes advantage of developments in the technological base in an effort to improve the quality of public services and be able to provide services quickly and precisely.

E-service can be said to be a public service product in the context of digitizing services which are website and application based. E-service is a service model provided through the application of ICT (Information and Communication Technology) based on an internet system (Yuniar and Agung, 2020) . In paradigm e-service is needed as a tool to become a benchmark in supporting the successful implementation of technology-based services where this will be used as evaluation material by the government and public service delivery organizations. The application of the e-service model in order to achieve excellent service can be seen or measured using the e-SERVQUAL method. E-SERVQUAL will show the extent of success in the application of e-service products provided to the public in obtaining public services. According to Laricha et al., in (Juhria et al., 2021) E-SERVQUAL is a modification of service quality (SERVQUAL) which is used as an evaluation tool for a type of online service. E-SERVQUAL/e-service quality (electronic service quality) is a benchmark tool in seeing the extent of the implementation of e-services in society. Based on Nasution et al., in (Ghifari and Syahputra, 2021) E-SERVQUAL is a result based on the public's assessment as users or consumers via the internet network regarding the quality of e-service. E-service quality is a measuring tool for an e-service product by comparing the service delivery that should be and what the public expects.

Zeithaml et al., in (Tjiptono and Chandra, 2019) explain that E-SERVQUAL/E-service quality includes seven dimensions, namely efficiency, reliability, fulfillment, privacy, responsiveness, compensation, and contact (Fitriani et al., 2022) . Nowadays, e-service is increasingly popular among the public due to the sophistication and accuracy in the use of technology in various types of public services, which will have an impact on improving the quality of public services as seen from the E-SERVQUAL benchmark. Such as research (Rita et al., 2019) where E-SERVQUAL is used to see customer satisfaction and behavior towards forms of e-service in online shop media by looking at the dimensions of website design, customer service, security/privacy, fulfillment where the three dimensions are related with e-service quality and one dimension is not directly related significantly. The dimensions of website design, security/privacy, and fulfillment are directly related to e-service quality, while the customer service dimensions are more directed to customer behavior. Judging from other research (Sherissa & Anza, 2022) e-service quality aims to see to what extent the PeduliLindungi application is able to meet the needs of public health services during the COVID-19 pandemic in order to reduce the positive number exposed to the COVID virus by reviewing it based on the dimensions of efficiency , trust , reliability and citizen support. The efficiency, trust, and reliability dimensions can be said to be working well according to their function, while the citizen support dimension is still in the bad category because the

PeduliLindungi application operator is still unable to answer the problems complained by the public or users. E-SERVQUAL is one of the most frequently used e-service benchmarks in assessing the level of success of services provided and received by the community based on demands, complaints and needs. There is a difference with the previous research that focused on E-SERVQUAL, this research uses the D&M IS Model theory to review and assess more specifically the quality of service based on the dimensions within it. Delone & McLean Information System model is a measuring tool that includes three dimensions, namely information quality, system quality, and service quality (Ming et al., 2018) .

Based on previous research (Meilani et al., 2020) The success of the Academic Information System at Sultan Ageng Tirtayasa University as measured using the dimensions of the D&M IS model, namely: information quality, system quality, service quality, usage, user satisfaction and net benefits is considered to have reached the good category, only the user satisfaction sub-indicator is still considered adequate. Both those related to usage and net benefits can be improved by improving work on the quality of the system to speed up the resolution of errors, improving the quality of service in providing guarantees of solving problems quickly, and also focusing on improving the quality of information related to timely presentation. In research (Putri et al., 2021) the Delone and McLean IS Model is used to assess the level of success of the Jogja Istimewa application by finding out the causes of delays in the operation of the application and offering solutions to be able to improve the quality of service by reviewing variables, including: information quality, system quality, service quality, usage, user satisfaction, and individual impact. These research variables show that system quality and service quality are directly related to usage variables.

The development of the times also influences the paradigm of literature studies to adapt to the needs of academics in conducting research. One theory that also has a new paradigm is the Delone & McLean IS Model theory. Based on (Pramudito et al., 2023) This theory is the result of a modification which initially consisted of 3 dimensions which then increased to 6 dimensions, namely: 1) System quality is seen from the operation of a system in providing system information needed by users. The dimensions of system quality can be seen by having indicators, such as ease of use, integration, flexibility, response time, security, reliability (Muharsyah & Ekawati, 2019) . 2) Information quality is related to openness and ease in obtaining information. The quality of information can also be seen using several indicators namely, completeness, easy understanding, accuracy, relevance (Hidayatullah et al., 2020) . 3) Service quality which will adjust user responses by providing the service they expect. According to Keller (2009) in

(Berliana & Mashadi, 2022) the dimensions of service quality have indicators in them to become assessment benchmarks such as reliability, assurance, tangibles, empathy, responsiveness. 4) Use is a dimension that maximizes the use of a system by users. Use or usefulness also has indicators in it, namely daily used time and frequency of use (Saputri & Kunang, 2019) . 5) intention to use User satisfaction is the result of the extent to which system application is influenced by user reactions (Agustina & Sutinah, 2019) , and 6) Net benefits, by looking at the extent to which a system is successful in responding to user needs in providing benefits or advantages for users (Hidayatullah et al., 2022) . Furthermore, what makes it different from previous research, in this research the D&M IS Model theory used is based on new paradigm where E-SERVQUAL is not only reviewed from System quality, Information quality, Service quality but also added by looking at the dimensions of Use, Intention to use Users Satisfaction, and Net benefit (impact and benefits for both parties). The Paradigm of the D&M IS Model theory is directly related to knowing the level of public satisfaction with the previous 3 dimensions.

Health services are one type of service in Indonesia that is targeted in efforts to improve the quality of public services by adding or changing existing (conventional) services into digital services. Bojonegoro Regency has also participated in efforts to improve the quality of public services (E-SERVQUAL) by implementing service digitalization or e-service in every public service providing organization. Referring to health services, Bojonegoro itself has district-owned and private health facilities, each of which also prioritizes achieving a predetermined vision and mission through digital service products or e-services in providing excellent and optimal service to the community. One of the health facilities in Bojonegoro that is implementing and adding e-service products is Aisyah Hospital with the Halo RSA Application.

The Halo RSA application is a form of concrete action by Aisyah Bojonegoro Hospital in facilitating the public with e-service health products. The Halo RSA Application offers various features which make it easier to access, reach and meet the needs of the community in an effort to provide optimal health services in order to achieve excellent service. Before the launch of the Halo RSA application, the services provided by Aisyiyah Hospital had implemented digitalization of services via WhatsApp. However, via WhatsApp messages it is felt to be less effective because the person serving is not the bot admin but the hospital staff. If the serving officer has other tasks to complete, sudden matters, or being sick will hinder the provision of services to patients. Moving on from this problem, the Hospital launched the Halo RSA application which was also initiated with developments and demands of the times. The Halo RSA application provides

easy access to services and enables patients and the public to get information more quickly and accurately.

However, despite the various digital features offered and provided by the Halo RSA Application, it is also not free from obstacles in terms of its operationalization. Problems that often arise in the operation of the Halo RSA application, such as errors in the operation of the application, discrepancies in registered queue numbers, and room registration. Regarding the problems above, this research aimed to measure e-service quality in the use of the Halo RSA application in achieving excellent service by using the Delone & McLean IS Model in reviewing the success of application implementation and providing optimal health service needs for the community.

METHODS

The method used in this research is qualitative. According to Creswell (2013) defines qualitative research is research where the researcher is very dependent on information from an object with a broad scope, general questions, collecting data from objects, and carrying out analysis and subjectively conducting research. In this study, a qualitative method was used because it is different from previous research and becomes a new discussion to understand the substance of the research focus, understand the interrelated research context, and understand the research context holistically. This research uses a case study approach carried out on the Halo RSA Application. In the research, the sample determination used a purposive sampling technique by determining informants who are directly related to being the target of implementation and those responsible, implementers and policy makers for the Halo RSA application, namely the 1) Deputy Director of Administration and Finance, Mrs. Rahayu, 2) IT Management, Mr. Febi, 3) and patients and application user, includes Mrs. Heti. Mrs. Endang, Mr. Irwan, Mr. Isnandar, and Mr. Andri. The type of data analysis used is qualitative data analysis techniques based on the results of observations, interviews and documentation where the data source is a support and complement that strengthens the analysis in the research carried out.

RESULTS AND DISCUSSION

System Quality

Based on the results of research in the field, the Halo RSA application is able to meet system quality indicators by successfully responding to community demands. The features provided by the Halo RSA application are easy to use and do not cause confusion or difficulty for users. The Halo RSA application is designed to be as simple as possible so that all levels of society feel the impact of digitalization of services and can be understood easily. Furthermore, the

features provided help the administrative management of Aisyiyah Hospital in terms of inputting data on patients who have registered. *"This application is also very helpful in the registration process because you just have to come and print the queue number by scanning the barcode without queuing twice,"* said Mrs. Heti as a user. Apart from that, the Halo RSA application also prioritizes system capabilities to keep up with the flow of change and novelty arising from the dynamics of community needs which are channeled based on their demands. In response to this, the application provides a criticism and suggestion feature to accommodate complaints and input from users which will later be reviewed by IT management and then updated or maintained if necessary. On the other hand, when the hospital wants to inform you about the schedule and availability of doctors, the available hours for health services can be done via 2 routes, namely via WhatsApp and the doctor's consultation feature, which previously was only via WhatsApp messages. The operational system in the Halo RSA application also guarantees the speed and accuracy of information which will later influence patient and user satisfaction. *"The information system applied is real time which will continue to be updated after the user or patient receives the service,"* said Mas Febi as IT Management.

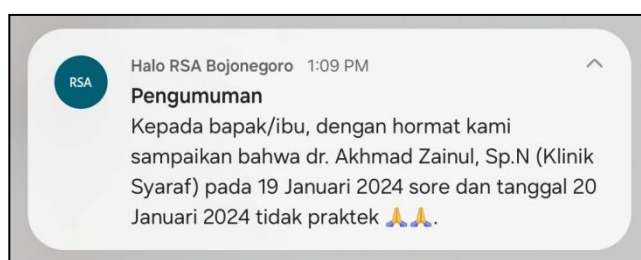
Therefore, before launching the Halo RSA application, it is mandatory to go through a testing phase that is verified by the Google Play Store. Based on an interview with IT Management, namely Mas Febi, *"There is a check for bugs on each feature, if it is pressed, whether it matches the feature we want or not."* If a bug is indicated Google will inform you Play Store via e-mail and updating action will be taken immediately by IT Management. Aisyiyah Hospital also facilitates the Halo RSA application for iOS users, which was previously only available for Android users. The availability of the Halo RSA application on iOS mobile phones stems from users' complaints about not being able to feel the influence of digital-based health services.

With the explanation before, it is clear that the system quality dimensions of the Halo RSA application are able to provide excessive benefits regarding the impact of digital health services on society. The existence of the Halo RSA application can adapt and take advantage of the speed of information flow and technological sophistication which requires people to be technologically literate in order to get the services they want.

Information Quality

In terms of completeness of information, the Halo RSA application provides 9 categorized service features which can be selected according to the needs of patients and users. The features provided include, registration, registration history, queue status, doctor consultations, criticism and suggestions, information and news, beds, doctor's schedules, and RM number

registration. The Halo RSA application provides complex information from the registration section, the doctor's daily schedule, specialist service hours, programs organized by Aisyiyah Hospital, patient queues, inpatient care, to independent consultations with each specialist doctor. Furthermore, the Halo RSA application provides an easy information system for patients and users which can be seen in the doctor consultation feature, when there is a change in service hours, the doctor is on leave, and the doctor suddenly does not come, the Hospital will inform you directly via the doctor consultation feature or a notification will appear on the cellphone screen which comes from the feature.



Pictures 1. Notification of Doctor Availability

Source: processed from Halo RSA Application

In the information and news features, the Hospital displays various programs, types of health services, and even matters related to health. Meanwhile, the doctor's schedule feature provides information regarding the availability of doctors and service hours for each specialist, which makes it easier for patients and users to change their health check schedule to another day. Furthermore, the *accuracy* indicator prioritizes the accuracy of the information distributed through the Halo RSA application to patients and users. The accuracy of the information obtained has been adjusted to what is needed and desired by both patients and users. Through the service features available, Aisyiyah Hospital will inform the sustainability of the health services chosen by patients and users. If, in the process of providing services, there are changes related to the availability of doctors, the service hours will be adjusted to the type of specialist service chosen. Furthermore, Aisyiyah Hospital also ensures that in operating the Halo RSA application it can offer various features that have been adapted to the type of health services available to patients and users. The features offered include the types of inpatient, outpatient, and specialist or poly health services which will depend on the choice.

Based on the research results above, it can be said that the Halo RSA application has met and has standards of success in providing quality information that is relevant to patients and users. The success of quality information also means that the Halo RSA application has a fast, precise and accurate information system.

Service Quality

Based on the research results, the Halo RSA application has provided service quality standards that meet several indicators which are capable of creating excellent service. In terms of reliability indicators, the Halo RSA application can provide various types of health service features with a reliable system. The features provided provide a new nuance for patients and users in obtaining health services from the effectiveness of registering medical records, queue numbers and being able to adjust the desired service hours. This is directly related to the flexibility indicator because the new experience provided by the Halo RSA application refers to the ability to adapt to changing and new demands from patients and users. Furthermore, in terms of *assurance* indicators, the Halo RSA application provides convenience in accessing the application and sharing the features provided to patients and users. This can be seen how Aisiyiah Hospital realizes solutions to the complaints and input received. Based on the previous explanation, the assurance indicator has a correlation with reliability in the system quality dimension where Aisiyiah Hospital and IT Management facilitate IOS-based mobile phone users. Apart from that, IT Management also provides comfort for patients and users by carrying out the system repair process when *bugs or errors occur or are found*. *"There was a previous problem where we couldn't use the application before we logged in,"* said Mas Febi. In tangibles indicators, prioritizing the capabilities of an application so that it can be enjoyed and felt by users.

The Halo RSA application provides designs in it, either as the application background, the logo for each feature, or adding various features which will be directly connected to the Aisiyiah Hospital website and social media. Next comes the empathy indicator, which prioritizes needs and desires as well as following up on user complaints. Based on this, the Halo RSA application guarantees speed of service and information as well as speed in handling patient and user complaints. *"For example, if there is a complaint about drug services sent via the criticism and suggestions feature, we immediately confirm it by providing instructions based on the evaluation results,"* said Mas Febi as IT Management. In line with this, according to Mr. Isnandar, *"It was immediately repaired and there have been no problems or complaints using the application."*

The next indicator, namely responsiveness, is related to responsiveness in terms of providing services, conveying information, and improving system performance. The Halo RSA application prioritizes responsive actions which are known from the public's complaints about getting services, either when using the application when an error occurs or when being served by officers or nurses, but they are less friendly and unclear. In conveying information, Aisiyiah Hospital will provide information regarding service hours, the existence of new types of health

services, free health service programs and the implementation of programs related to health. Apart from that, IT Management always stands by when there is damage or system failure and will later carry out revisions for improvements which will then be confirmed with the official parties from the Google Play Store and the official App Store. By iOS to improve the performance of the Halo RSA application.

With the presentation of the research results above, it is clear that Aisyiyah Hospital has provided health services that are oriented towards quality, satisfaction, needs and digital technology. Maximizing service quality makes the Halo RSA application also gain trust and comfort in terms of use by providing various complex features.

Usability

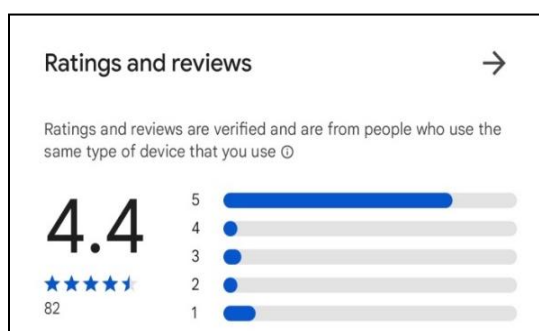
Based on the results of research in the field, the usability dimension has an influence on the Halo RSA application regarding use by patients and users. For daily used time, it refers to the daily use time of the Halo RSA application to obtain health services. *"It depends, because it is used when you are sick or want to do a medical check-up,"* said Mas Febi as IT Management. From this explanation, the Halo RSA application is generally used when health services are needed. Next, the frequency of use indicator, which is used to determine the intensity of time used by patients and users using the Halo RSA application. Based on the results of the interview, according to Mas Febi, *"If you just register, it only takes 1-2 minutes."* Apart from that, the Halo RSA application is also used when patients or users want to arrange a time for a *check-up* or health check. You can see the schedule of available specialist doctors and if the doctor who matches the specialist or specialty category is not available, is on leave or there is a sudden event, you can contact the officer medical records field to confirm the continuation of the service, whether a replacement doctor is provided or *rescheduled* for another day. *"Apart from when you're sick, use the application when you want to schedule a health check-up with your usual doctor,"* said Mrs. Endang. *"Just use this application for a moment, I want to see the queue status and also the doctor's hours,"* said Mr. Irwan.

From the discussion above, it can be said that the Halo RSA application is only used and used when you are sick or need immediate health services. This is because the Halo RSA application is a digital platform that will be used by the public only as needed. Apart from that, the usability dimension also explains that the Halo RSA application graph increases high when it is needed a lot and vice versa it decreases.

Users Satisfaction

Based on the results of research in the field, the Halo RSA application is able to provide various health service features that have been adapted to the needs of patients and users. In

adapting and facilitating service needs, Aisyiyah Hospital always routinely monitors the reactions of patients and users with an updating process. Aisyiyah Hospital always prioritizes patient and user satisfaction by providing and creating excellent health services. This is in line with the mission and objectives of Aisyiyah Hospital, namely providing and realizing excellent health services in order to create a hospital that is Islamic, superior, professional, and the choice of the community by 2025. The existence of the Halo RSA application is to facilitate digital-based health services that are able to reach society at large, providing quality systems, information and services that are effective, fast, precise and optimal, which is also in line with its motto or slogan, namely Quick to serve, Friendly to serve with Islam.



Pictures 2. Level of User Satisfaction With The Halo RSA Application

Source: processed from Halo RSA Application

The launch of the Halo RSA application really helps the community by providing effective and efficient health services without having to disrupt their busy lives. *"Because my house is in Dungadem and it is far from the hospital, using this application you can register without having to go there,"* said Mrs. Heti. Apart from that, Mr Andri also said *"Using this application, you don't have to queue for a long time, because you can see the queue status and you can come here when the number is close."* The Halo RSA application prioritizes user satisfaction by providing fast and accurate information and displaying all information about Aisyiyah Hospital, *"We can know the operational hours of each health service, we can also see the adequacy of the inpatient rooms, and we can know the doctor's hours so we can come according to the hours."* said Mr. Isnandar.

With the explanation above, the Halo RSA application is able to maintain comfort, build trust, and provide a sense of satisfaction for patients and users after receiving health services. The application of digitalization of health services in the Halo RSA application is able to increase user satisfaction and build and help the level of public awareness in technology literacy. Apart from

that, the Halo RSA application can also realize the digitalization of services in line with developments over time as well as behavior patterns and community needs.

Net Benefits

Based on the results of research in the field, the Halo RSA application in its application functions as it should to provide health services through a digital platform which is able to create new nuances based on the quality of a capable system, the quality of fast and accurate information, the quality of responsive service, which then increases satisfaction, trust and comfort of patients and users. This is empirical evidence that implementing the Halo RSA application provides benefits for both patients and users and the Aisyiyah Hospital. Through the Halo RSA application, this is concrete evidence of the realization of the accelerated flow of digitalization of health services in Bojonegoro Regency. In its implementation, the Halo RSA application also collaborates or bridges with BPJS Health Bojonegoro which facilitates patients who are registered with BPJS or have a BPJS card. *"Where later, if you register via the JKN Mobile application, you will automatically be connected to the Halo RSA application,"* said Mrs. Rahayu.

The Halo RSA application also provides many benefits and advantages for patients and users where its reach is wider and more comprehensive. With the Halo RSA application, patients and users will be given the convenience of using it to get the health services they need. In line with that, Mrs. Rahayu said that *"When there was a survey from BPJS Health, employees said that the Halo RSA application was easier to use than JKN Mobile."* If you want to access this type of service, every patient or user is required to have an RM (Medical Record) number, which has been facilitated in the Halo RSA application feature, so that processing can be done immediately. *"Even though it hasn't been fully managed through the application, at least the RM registration has been completed halfway,"* said Mrs. Endang as a user. Furthermore, the increasing number of patients registering also affects the types of polys provided by Aisyiyah Hospital where new types of polys are added which will previously be reviewed and tested before being added.

From the explanation above, the implementation of the Halo RSA application provides many benefits and positive impacts for both Aisyiyah Hospital and patients and users. The benefits obtained come from the success of the Halo RSA application in meeting the criteria of the Delone & McLean IS Model theory which is supported by the previous 5 dimensions, namely system quality, information quality, service quality, usability and user satisfaction.

CONCLUSION

The level of e-service quality/e-SERVQUAL The Halo RSA application is able to create excellent service in the era of digitalization of services. Judging from the research results above,

the D&M IS Model used as a measuring tool for research objects in the Halo RSA Application is able to show the level of success of Aisyah Hospital in achieving excellent service in accordance with the established vision and mission. Through the D&M IS Model theoretical approach, the Halo RSA application is also able to provide many and complex benefits for patients and users. The implementation of the Halo RSA application is in line with the success chart of the D&M IS model theory where system quality, information quality, service quality influence user satisfaction which then results in reciprocity with benefits. Furthermore, the use dimension influences user satisfaction because the Halo RSA application is able to provide practical, easy, free and up to date activities in its use when patients and users access it. With that, the availability of the Halo RSA application is a manifestation of successful progress in developing the digitalization of public services by prioritizing needs and improving community welfare.

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