Research Article

# Loyalty Survey Based on Net Promoter Score in A Tertiary Hospital in Indonesia

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**Abstract**
    *The COVID-19 pandemic has further emphasized the importance of comprehensive health care management. Currently, hospital services are a concern for many parties. With this study, we aim to measure loyalty in hospital care. Loyalty measurements carried out systematically and continuously can be expected to improve the quality and ultimately increase the profitability of hospitals as health services. This study is descriptive retrospective study from loyalty measurement using net promoter score (NPS) in a periodic survey of a tertiary hospital in the east part of Indonesia in 2021. Respondents were patients and their families based on purposive sample. After the respondents were categorized as promoter, passive, and detractor, the answers to qualitative questions included reasons for certain assessments marked as NPS 2 and what should the hospital do to improve the assessments marked as NPS 3. The respondents (2,488) were categorized as promoters, 1,570 respondents were categorized as passive, and 99 respondents were categorized as detractors. Overall NPS in 2021 is 57.5%. The most frequent answer for NPS 2 in all quarters and all groups were excellent and satisfactory hospital services. Evaluation of NPS 3 shows that all groups mostly recommend improving and maintaining hospital services. The high NPS results indicate the loyalty of the respondents to the hospital. Despite hospital services being considered excellent, several parts need to be improved. Specific recommendations from respondents are needed to improve hospital services.*
**Keywords:** *loyalty, net promoter score, hospital service, customer satisfaction, service quality.*

## Survey Loyalitas Berdasarkan Net Promoter Score di Salah Satu Rumah Sakit Tersier di Indonesia

**Abstrak**
    *Pandemi COVID-19 semakin menegaskan pentingnya manajemen pelayanan kesehatan yang komprehensif. Saat ini, pelayanan rumah sakit menjadi perhatian banyak pihak. Dengan penelitian ini, kami bertujuan untuk mengukur loyalitas di rumah sakit. Pengukuran loyalitas secara sistematis dan berkesinambungan diharapkan dapat meningkatkan kualitas dan profitabilitas rumah sakit sebagai pelayanan kesehatan. Penelitian deskriptif retrospektif ini mengukur loyalitas menggunakan net promoter score (NPS) pada survei berkala sebuah rumah sakit tersier di Indonesia bagian timur pada tahun 2021. Responden adalah pasien dan keluarga pasien yang berkunjung ke rumah sakit berdasarkan pengambilan sampel yang disengaja. Setelah responden dikategorisasikan menjadi promoter, pasif, dan pencela, jawaban atas pertanyaan kualitatif menyertakan alasan responden memberikan penilaian tertentu ditandai sebagai NPS 2 dan apa yang harus dilakukan rumah sakit untuk meningkatkan penilaian ditandai sebagai NPS 3. Hasil: 2488 responden tergolong promotor, 1570 responden tergolong pasif, dan 99 responden tergolong pencela. Secara keseluruhan NPS pada tahun 2021 adalah 57,5%. Jawaban paling sering dari NPS 2 di semua triwulan dan semua kelompok adalah pelayanan rumah sakit yang baik dan memuaskan. Evaluasi NPS 3 menunjukkan bahwa semua kelompok sebagian besar memberikan rekomendasi berupa peningkatan dan mempertahankan pelayanan rumah sakit. Hasil NPS yang tinggi menunjukkan loyalitas responden terhadap pelayanan yang diberikan rumah sakit. Walaupun pelayanan rumah sakit sudah dianggap baik, namun ada beberapa bagian yang perlu diperbaiki. Diperlukan rekomendasi khusus dari responden untuk meningkatkan pelayanan rumah sakit.*
**Kata kunci:** *loyalty, net promoter score, hospital service, customer satisfaction, service quality.*

**Introduction**

Customer loyalty is an attachment to the same service provider for a continuous period of time. Intense competition occurs because all service providers compete to offer a variety of fast, creative, and innovative service options, resulting in an increased need for customer loyalty to survive in this competitive climate.[1,2] Companies must pay special attention to customer loyalty to maintain the continuity of business activities. This is supported by the fact that loyal customers who are very satisfied with a product or service will have the enthusiasm to introduce the product or service to anyone they know, starting with family and friends. In the next stage, the customer easily decides to try other products or services produced by the same service provider, and the customer will be a loyal customer to the service provider forever.[3]

The characteristics of loyal customers are repeating the selection of services regularly, recommending others to use these services, and rejecting competitors' offers or persuasion. Thus, customer loyalty is a manifestation of the customer's commitment to consistently maintain, although many competitors' marketing efforts are trying to take opportunities for potential changes in customer behavior.[4] Net promoter score (NPS) measures customer loyalty that various international companies use to measure service quality, including various health services. Measurement of customer loyalty that is carried out systematically can be used for monitoring, evaluation and improvement of service quality. Occasionally the NPS is interpreted as the ultimate question as a summary of customer or patient satisfaction. Intense competition among healthcare providers is driven by the recognition of the patient's right to freedom of choice.[5] In these competitive conditions, customer satisfaction and encouragement for customers to return to health services is a form of success in health services, not only relying on good technical skills and the provision of high quality services.[6]

The COVID-19 pandemic that hit the world has further emphasized the importance of comprehensive health care management. At a time when most people's attention is focused on the quality of health services, health service organizations, such as hospitals, are increasingly required to be able to provide excellent service quality, both from the perspective of service reliability, speed, as well as providing a sense of empathy, convenience and assurance the best service. Creating service satisfaction (service quality) is a continuous effort of a service organization, including hospitals. This is triggered by the continuous change in public expectations, which is accompanied by an increasingly

competitive environment. Therefore, hospitals need to carry out a continuous cycle of planning, implementation (deployment), evaluation (check), and follow-up (act) to achieve a complete service quality. The goal is to meet and exceed societal expectations.

A tertiary hospital in the east part of Indonesia has been certified to ISO 9001:2008, an international standard governing the quality management system. One of the requirements of ISO 9001:2008 is monitor customer perceptions of the hospital's ability to meet their needs while at the same time knowing the main causes of customer satisfaction or dissatisfaction. Currently, this tertiary hospital has been accredited internationally, in addition to the national accreditation, namely KARS, through (Joint Commission International (JCI) accreditation. With the achievement of this accreditation confirms the commitment of hospital to provide patient-focused health services and improve the quality of services on an ongoing basis. Since 2021 a quarterly periodic survey on patient loyalty conducted in addition to conducting a quarterly periodic survey on patient satisfaction.

Measurement of patient loyalty at this tertiary hospital is based on NPS, which is implemented as a measure of the quality of company services on a multi-national and international scale, including health services. Qualitative measurement about the reason of loyalty measurement and input to improve services is also part of a periodic survey. By conducting this research, we aim for the results of patient loyalty measurements carried out systematically and continuously can be expected to improve the quality and ultimately increase the profitability of hospitals as health services.

**Methods**

This study is a descriptive retrospective study using time series data from the results of the loyalty measurement in periodic survey of a tertiary hospital in the east part of Indonesia conducted in four quarter during 2021. This research was conducted with ethical approval from Dr. Soetomo General Hospital, East Java, Indonesia (Ref. No. 0818/LOE/301.4.2/III/2022).

The study population is quantitative data taken from the Quarterly Periodic Survey Database of Community Satisfaction at Dr. Soetomo General Hospital for a period of 1 year retrospectively. Determination of the sample in the 2021 Quarterly periodic survey using the non-random sampling method with the sampling technique using the convenience sampling technique. This study sample obtained 4,157 respondents.

Quantitative data was obtained from data processing of questionnaires filled out by respondents in the form of NPS. The NPS calculation is done using answers to one key question, namely "Using a scale of 1 to 10, how likely are you to recommend (installation) hospital to friends, or family?". The NPS value consists of a value of 1 to 10; divided into 3 categories as follow:

1.  Promoters (score 9-10) are loyal consumers who will continue to use services, refer others, and encourage organizational growth through positive words of mouth.
2.  Passives (score 7-8) are satisfied but unenthusiastic consumers who are vulnerable to competitive offers.
3.  Detractors (score 0-6) are unhappy customers who can damage your brand and hinder growth through negative word of mouth.[7]

In measuring NPS, qualitative questions can also be asked about the patient's reasons for giving a score to a single quantified question, as a complement to a loyalty survey.[8] In addition to the single question, in the NPS measurement an open question was added, namely "Please tell us the reason you gave an assessment of the previous question?" and "What should the hospital do to improve service to you?".[9] After the respondents were categorized as promoters, passive, or detractors, the respondents' answers to qualitative questions included the reasons of respondents gave certain assessments marked as NPS 2 and what should the hospital do to improve the assessments marked as NPS 3. From the answers of NPS 2 and 3, the respondents' answers were formed into answer categories as shown in the table below and the answers to NPS 2 and 3 were analyzed based on the categories of promoter, passive, and detractor in all quarters.

## Results
### *Demographic Profile of The Respondents*

Out of 4,157 respondents, 1,612 of them were male and 2,545 of them were female. After giving the NPS assessment, 2,488 respondents were categorized as promoters, 1,570 respondents were categorized as passive, and 99 respondents were categorized as detractors.

**Table 1. NPS 2 and 3 Category**

| No | NPS 2 | NPS 3 |
|----|-------|-------|
| 1 | Excellent and satisfactory services | Satisfactory services |
| 2 | Excellent and complete facilities | Service must be improved and maintained |
| 3 | Incomplete facilities | Infrastructure facilities must be added and improved |
| 4 | Excellent or professional or competent personnel | Cleanliness should be improved |
| 5 | Friendly personnel | Service flow should be simplified and clarified |
| 6 | Unfriendly personnel | Improved service speed |
| 7 | Easy and clear administration and procedures | More friendly and attentive to patients |
| 8 | Confusing service flow, unclear information | Service schedule must be on time |
| 9 | Good responsiveness, prompt service | Improved administrative speed |
| 10 | Poorly-timed and not on time administration and services | More friendly and polite in providing explanations |
| 11 | Clean and comfortable facilities | Personnel added |
| 12 | Facilities not clean enough | More parking space |
| 13 | Dissatisfactory services | Digitalization services |
| 14 | Poorly security | Improve security |
| 15 | Referral hospital, government hospital | Routine evaluation and training for personnel |
| 16 | Serve national health insurance, affordable cost | Reduced costs, cost openness |
| 17 | Enough food portion | Verification equalization |
| 18 | Varied food menu | More variation in menu, portion, and taste of food |
| 19 | Service in accordance with what is offered | Translucent access between rooms so the distance is not too far |
| 20 | Others | Others |
| 21 | No answer | No suggestions |

### Evaluation of NPS

Evaluation of NPS through a boxplot in each quarter shows that all quarters show the median at number 9. In quarters 1,3, and 4, the minimum score for the NPS is 5, with first quartile pointing to

8 and the third quartile pointing to 10. First quarter shows an assessment score 0 in 1 respondent. Second quarter shows slightly different numbers, with a minimum score of 7, the $1^{st}$ quartile of 8, and the third quartile of 9 (Figure. 1).
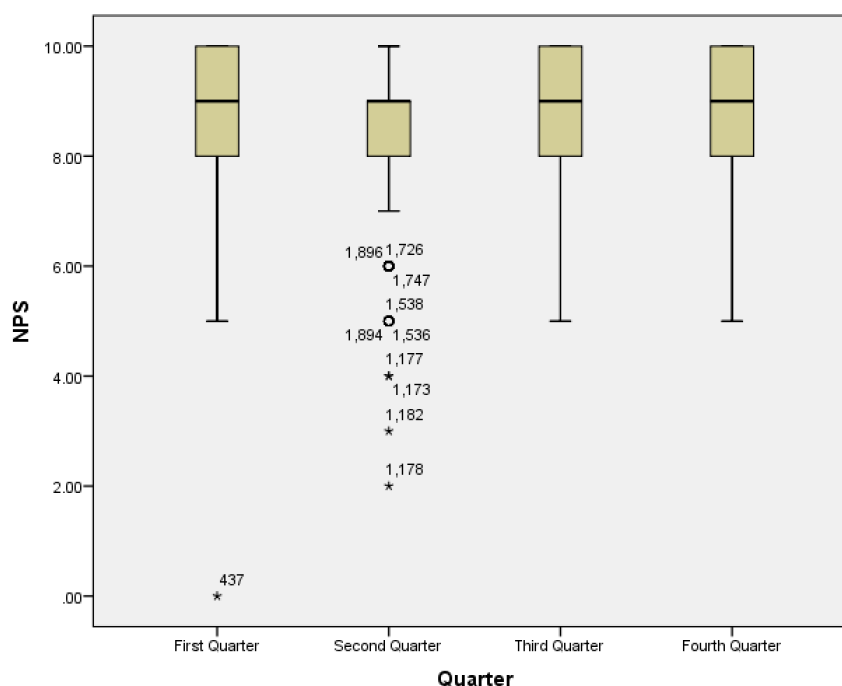


**Figure 1. Boxplot NPS in Every Quarter of 2021**

Table 2 shows the NPS on a quarterly basis, subtracting the percentage of Detractors from the percentage of Promoters yields the Net Promoter Score, which can range from a low of -100 (if every customer is a Detractor) to a high of 100 (if every customer is a promoter). NPS

in first quarter of 2021 has the lowest NPS with 49.4%, accompanied by an increase every quarter (second quarter with 53.9% and third quarter with 61.6%) until the fourth quarter to become the highest NPS with 64.4%. Overall NPS in 2021 is 57.5%.

**Table 2. NPS 2 and 3 In Every Quarter of 2021**

| NPS | First Quarter | Second Quarter | Third Quarter | Fourth Quarter |
|---|---|---|---|---|
| **NPS 2** | | | | |
| Promoter | 1,2,9,5,4 | 1,2,9,5,4 | 1,2,9,5,4 | 1,5,9,2,4 |
| Passive | 1,2,10,5,4 | 1,2,5,4,9 | 1,2,9,4,5 | 1,2,9,5,4 |
| Detractor | 1,10,8,13,3,4,6 | 10,8,2,6,1 | 13,8,1,4,10 | 8,2,3,4,10,13 |
| **NPS 3** | | | | |
| Promoter | 2,1,21,3,5 | 2,1,21,3,5 | 2,21,1,10,3 | 2,21,1,6,15 |
| Passive | 2,1,5,3,9 | 2,1,3,6,5 | 2,3,10,9,4 | 2,3,21,9,10 |
| Detractor | 2,9,10,1,3 | 2,5,3,10,4,7 | 9,5,7,6,1,4,10,11,15 | 3,5,4,6,10 |

### Evaluation of NPS 2

From the evaluation of 4,157 respondents, it was found that the highest NPS 2 results in all quarters of the promoter group were excellent and satisfactory hospital services; 383 respondents answered this in the first quarter, the second quarter with 291 respondents, the third quarter with 316 respondents, and fourth quarter with 451 respondents.

In the first quarter, the passive group answered the reason for choosing the NPS for the same reason as the promoter group, namely excellent and satisfactory hospital services. While in the detractor group, two answers were most often expressed by respondents: satisfactory hospital services as well as administration and service are slow and poorly-timed.

In the second quarter, 600 respondents belonged to the promoter group, 394 respondents to the passive group, and 42 respondents to the detractor group. From the promoter and passive respondent groups, the most NPS 2 answers were excellent and satisfactory hospital services, with a total of 291 and 150 in each group, respectively. Meanwhile, in the detractor group, the main reason for giving the assessment was because of administration and service are slow and poorly-timed.

In the third quarter, there were 663 respondents included in the promoter group, 368 respondents in the passive group, and 17 respondents in the detractor group. Main answers given by promoter and passive groups were excellent and satisfactory hospital services, with a total of 316 and 124 respondents, respectively. In detractor group, the most common reason found was the dissatisfactory hospital services with four respondents.

Fourth quarter had 698 respondents as promoter group, 368 respondents as passive group, and 7 respondents as detractor group. Just like the previous quarter, the highest answers in the promoter and passive groups were excellent and satisfactory service, with 451 and 185 respondents, respectively. While in the detractor group, the main answers with two respondents were confusing service flow and unclear information.

### Evaluation of NPS 3

NPS 3 is a suggestion from respondents regarding steps that hospitals should take to improve their patient loyalty. In the first quarter, the promoter, passive, and detractor groups gave the most recommendation in the form of improving and maintaining hospital services with 188, 147,

and 7 respondents, respectively. The second highest answer in the promoter and passive groups in the first quarter considered hospital services are satisfactory with 179 and 105 respondents, respectively. While the detractor group with the same number, namely 6 respondents gave suggestions in the form of improving the speed services and suggested that personnel should be more friendly and attentive in giving explanations.

From second quarter, the promoter, passive, and detractor groups provided the most recommendation in the form of improving and maintaining hospital services with a total of 210, 92, and 10 respondents respectively and considered hospital services are satisfactory. In the third quarter, the promoter and passive groups gave the most frequent suggestions in the form of improving and maintaining services, with a total of 209 and 60 respondents, respectively. While in the detractor group, most suggestions are about improving the speed of services with four respondents. Most revealed answers in fourth quarter in the promoter and passive groups were the same as in the previous three quarters, namely improving and maintaining hospital services. In the fourth quarter detractor group main answer with the same number of respondents namely two respondents suggested adding or improving infrastructure and clarify or simplify the flow of services.

### Discussion

Loyalty survey with NPS to determine customer loyalty was developed by Satmetrix and Fred Reichheld from Bain & Company. Net promoter score measures customer loyalty that various international companies use to measure service quality, including various health services. Measurement of customer loyalty that is carried out systematically can be used for monitoring, evaluation and improvement of service quality.

The results of the NPS assessment in 31 installations at a tertiary hospital in the east part of Indonesia obtained the frequency of NPS in first quarter were 49.4%, second quarter 53.9%, third quarter 61.6%, and fourth quarter 64.4%. With this, overall NPS in 2021 is 57.5%. The high NPS results (more than 50%) indicate the loyalty of the respondents to the services provided by a tertiary hospital in the east part of Indonesia. The characteristics of loyal customers are repeating the selection of services on a regular basis, recommending others to use these services,

and rejecting competitors' offers or persuasion. Thus, customer loyalty is a manifestation of the customer's commitment to consistently maintain, although many competitors' marketing efforts are still trying to take opportunities for potential changes in customer behavior.[4]

From the evaluation of 4,157 respondents, it was found that the highest NPS 2 results in all quarters showed that respondents who had promoter status gave a NPS assessment because they considered hospital services excellent and satisfactory. In first, second, and third quarters the second highest answers to respondents who became promoters based on the NPS assessment was that the hospital had excellent and complete facilities. While in fourth quarter, the second highest answer was the staff at the hospital were friendly. The third answer most frequently expressed by promoter respondents in first quarter was friendly hospital personnel, while in second, third, and fourth quarters respondents gave answers in the form of hospital services were fast, timely, and responsive. The highest NPS 2 in the passive group of respondents in first, second, and fourth quarters are the same as respondents classified as promoters, namely hospital services are excellent and satisfying. In third quarter, most frequent answers are excellent and complete hospital facilities. While in the detractor group, the two highest answers in NPS 2 were slow and poorly-timed administration and service as well as service flow were confusing or unclear information.

Of all the net promoter score groups, the most common NPS 2 answers given by respondents included the services of medical personnel or other workers, both in terms of friendliness and professionalism, equipment or facilities, and speed of service (responsiveness). Patient experience concerning hospital services strongly impact outcome variables such as willingness to return to the same hospital and reuse its services or recommend it to others.[10] One study showed that variables related to people and variables from external objective conditions, such as type of admission, explained the ability of these factors to predict patient satisfaction.[11] According to Wu,[12] customer loyalty is a function of satisfaction, because loyalty itself is an endogenous variable caused by a combination of satisfaction. When there is a positive relationship between customer satisfaction and loyalty, high satisfaction will escalate customer loyalty.

Service quality is a predominancy perceived by consumers from the comparing what customers want and what consumers can receive after purchasing services. This can be realized through the fulfilment of the patient's needs and desires as well as the accuracy of delivery to complement patient's expectations.[13] In other words, service quality measures the quality of services provided by health care providers that are able to meet customer expectations. Service quality can also mean the gap between expected service and perceived service. Customers have the tendency to generally compare the services they get based on their expectations, from one health service to other competitors. Suppose the service obtained by the customer matches or exceeds their expectations. In that case, the health service provider can be considered reasonable. The health service provider will be judged better if the facts perceived by the customer are better than competitors' health service providers. However, if the opposite happens, it can be perceived by the customer that the competitor's health service provider may be better than the previously used health care provider, so there is a potential for the customer to switch using the services of a competitor's service provider.[14]

Service quality dimension consist of reliability (the company's ability to provide appropriate and reliable services), responsiveness (the company's willingness to assist services and the ability to provide services to customers quickly), assurance (the ability, courtesy and trustworthiness of the company's employees, empathy, understanding and attention of company employees to customer needs), and tangibles (the company's ability in terms of the appearance of various facilities including infrastructure and personnel appearance).[15-17] These five dimensions are quality systems that have the potential to improve functional quality and service performance.[17]

Service quality includes the physical environment, friendly environment to customers, good communication, privacy and security, and good responsiveness that can affect patient satisfaction and loyalty.[18] A study showed that willingness to communicate positive word-of-mouth, recommend a hospital to others and return to the same hospital, were all affected by the level of improvement in 'Costing', 'Quality process or QP', 'Quality Interaction or QI'. and 'Quality of Environment or QE' dimensions of service quality in a private hospital. QP includes items of reliability, responsiveness, and assurance. Factor two consists of assurance items (2 items) and empathy (5 items) which are labeled as QI. Quality Environment (QE) is the third factor

covering four tangible items. The fourth factor is Costing, which consists of 2 cost items. The study revealed that when a hospital wants to increase patient loyalty, quality improvement efforts should focus on rational costs, timeliness of care delivery, accurate performance and improving interpersonal relationships and communication skills of doctors, nurses and other personnel.[10]

Sitio et al,19 service quality has a positive and significant effect on patient loyalty at Rawamangun Special Surgery Hospital. Better service quality has a substantial impact on patient loyalty. From the results of the analysis of service quality dimensions in the form of physical evidence, assurance and empathy have a strong correlation coefficient on patient loyalty. A study also describes several relationships between enablers and components of patient loyalty, among others, the effect of elements of people and partnerships or resources on patient willingness to reuse hospital services has the highest value. Despite the fact that medical technology is advancing rapidly and technology regularly plays an increasing role in the medical world, human resources, especially doctors and medical teams, are still the most important and mainstay of hospitals. In fact, medical personnel and their competencies motivate patients to reuse hospital services.[20]

Complete facility at a tertiary hospital in the east part of Indonesia considered as advantages because most patients undergo referral treatment and may be an attraction till consumers gives high score assessment. Based on research by Sitio et al,[19] facilities have no significant effect on patient loyalty at Rawamangun Special Surgery Hospital. Better facilities do not have a significant effect on the level of patient loyalty to visits to Rawamangun Special Surgery Hospital. The analysis of all dimensions in facility has a weak correlation coefficient for patient loyalty.19 A study by Arab et al.,[10] also showed that quality of environment has a minor effect on the patient's loyalty compared with the other three dimensions. Tangibles factor is the easiest dimension (of quality) to control and manage, as human involvement in that is at a minimum level.[10] Other study state that impressions about the facility and the environment directly affect the level of satisfaction at interpersonal-based medical service encounters. However, this study also explains that compared to facilities and environment, the effectiveness of treatment has more significant effect on satisfaction, which indirectly affects satisfaction and directly affects

the intention to revisit. Both dimensions, treatment effectiveness and satisfaction positively affect customer intention to revisit.[21]

Evaluation of NPS 3 shows that the promoter, passive, and detractor groups offer most frequent suggestion in the form of improving and maintaining hospital services. This means that there are still some parts that need to be improved. However, the less specific recommendations from these respondents may indicate that the surveyor lacked detail in asking for suggestions. For this, the researcher may prepare several points before starting the interview and the main question is the depth of information to be collected, formed in semi-structured interview.[22] These questions are open-ended, interviewed in the same way and in a systematic order, but the interviewers are given the freedom to deviate slightly from the script.[23] The results of the interview are descriptive summaries as the end product, namely knowledge, either from confirmation or correction of something that already exists or the discovery of new knowledge, as well as an entry point for future studies.[23]

The second recommendation that is most often expressed by respondents is that hospital services are satisfactory. This can be a positive sign, that the services at a tertiary hospital in the east part of Indonesia are excellent. Meanwhile, several specific suggestions given by all groups was generally related to the timely-effective service, friendliness of the staff, ease/clarity of service flow/information, and improvement of infrastructure. The most important aspects for patient satisfaction should focus on timely service delivery, caring employees, billing accuracy, proper communication about service delivery time, timeliness of service, and the willingness of employees to help customer. In other words, employee attitudes towards patients, good communication with patients, and accurate service delivery are very important for the success of the hospital. Attitude, Communication, and Delivery (ACD Model) is the key to making patients return to the same hospital.[17]

The health care system can be characterized as follows: by the people, for the people, and by the people. This indicates that employees, especially medical staff, are an important component of the health care system.[24] Lis et al.,[25] stated that for consumers, patient care as an individual and willingness to help patients know about their condition becomes the influence of consumers to recommend medical service to others.[25] Therefore, medical and non-medical staff should be willing to

help patients understand their illness and condition, answer their questions, understand and pay attention to their emotional and social needs, and be there when needed.

The complexity of health services and the high level of patient involvement in interactions with medical personnel and interactions with health providers make these interactions an essential factor in the context of customer loyalty. Patients come to health care facilities hoping to get the best recovery and treatment. The positive physical and psychological reactions created in health services with the presence of hospital staff can intensify loyalty.[26] Loyalty cannot occur in a short period of time because it proceed  through various learning processes based on customer experience within a certain time span. Purchases can be made repeatedly if the reality is in accordance with customer expectations to state that loyalty has occurred.[1]

## Conclusions

The high NPS results (more than 50%) indicate the loyalty of the respondents to the services provided by a tertiary hospital in the east part of Indonesia. Of all the NPS groups, the most common NPS 2 answers included the services of medical and non-medical staff, both in terms of friendliness and professionalism, facilities, and speed of service. Evaluation of NPS 3 show that all groups provided the most common suggestion in the form of improving and maintaining hospital services. The second recommendation that is most often expressed by respondents is that hospital services are satisfactory. This means that despite hospital services being considered excellent, there are several parts that need to be improved. However, the less specific recommendations from these respondents may indicate that the surveyor lacked detail in asking for suggestions. Specific suggestions are needed for improvement of hospital services.

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