eParticipation of SQA (Service Quality Assessment) in the Clinical Laboratory

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Abstract. Clinical laboratory become one of the most dynamic environments in health services business. Nonetheless, not all clinical laboratories have the same service standards and quality. Service quality can be assessed by consumers/patients served in clinical laboratories. The results of the assessment of service quality can be used as an evaluation and measurement. Clinical laboratories have not been able to format, obtain, process and provide data about the assessment of service quality from the participation of consumers/patients by utilizing information technology. These problems are solved using research methods by adopting Framework participation. The framework consists of 3 levels, such as Participation Areas, Categories of Tools, and Technologies. The result of the research were the eParticipation of SQA application can be used as a tool for format, obtain, process and provide data on the assessment of service quality from consumers/patient’s participation consisting of 14 elements and had to be relevant, valid, and reliable. The benefit of the assessment results can be used to determine out the lack of assessment elements, performance, and considered as a policy for determination material.

1. Introduction

Clinical laboratory is an organization which stands for two health organizations; the public clinical laboratory and private clinical laboratory. The clinical laboratory can be organized by the government, both local government and private institution. The clinical laboratory is not acknowledged to found a such assistant unit[1]. Clinical laboratory is one of the most dynamic environments in a service business of health[2]. The fact and occurrence in a business evolve into the challenge and opportunity for the organization working on service industry. Service is an activity standing for people needs. A distinguished service is set to get on to the needs of customer which gives them some benefits as well[3]. Not all of clinical laboratory has a qualified service standard[4].

The quality service is able to be determined by the consumer of clinical laboratory. The assessment of the service quality is acquired from customer’s participation on what they experience, know, and understand on the clinical laboratory[5]. Participation deals with someone involvement in a certain activity on the clinical laboratory. The participation is determined from the assessment result of the service quality given by the customers[6]. The assessment element of a qualified health service of the clinical laboratory has 14 points to assess and it might be relevant, valid, and reliable[7]. The qualified services will serve the patients and their family thoroughly. It will make them to use it back[8]. The assessment result of the quality service acquired from the consumer participation is an important and accurate data to evaluate and consider the quality of service, with the result that the clinical laboratory can compete with the businesses of the health service.
The main function of clinical laboratory is to serve the health services. This function will keep working as the service official are able to cope the challenging business[8]. One of the challenging challenges in the business of the health service is a business rivalry. It can be coped with evaluating and combining the technology on its activity services[2]. An effort of utilizing the information technology on laboratory has been made and it has performed the benefit evidences such as the swiftness of service process, and communication intelligibility with the customers[9]. The information technology is able to improve the efficiency and effectiveness in the business process, managerial decision, and, the collaboration of work group by the result that it will strengthen the position of company competitiveness in changeable market[10].

The utilization of technology to manage the customer participation for service quality of the clinical laboratory needs as an effort to produce the relevant, valid, and reliable service quality assessment. The Clinical laboratory has not yet been performed some data of the quality service assessment of consumer’s participation or patient by using information technology (by way of using an electronical media). Participation by using an electronical device is called with e-Participation. It is a crucial thing to evaluate the laboratory development, and the quality services. The research on eParticipation assessment of a qualified service laboratory aims to solve the founded problems in implementing the clinical laboratory.

2. Literature Review

The Clinical laboratory is a health laboratory set to serve a clinical specimen checkup service (whose raw material from human body) that is useful to have an information of individual healthy specially to support an effort of the disease diagnosis and health dignification. Based on its type service, the clinical laboratory has two sub-division; the public clinical laboratory and the private clinical laboratory. The public clinical laboratory is a laboratory conducting clinical specimen examination services all areas. The private clinical laboratory is a laboratory set to serve the clinical specimen checkup service on a private checkup type with certain capability. The duty is to stabilize internal qualification and follow the external qualification stabilization activity; a laboratory accreditation – an effort to serve the laboratory security, paying attention on social functions – assisting the government in serving the health effectively[1].

The service is to serve the society needs to an organization agreeing with the basic determined-regulation/ way while the quality is a dynamic situation dealing with a product, service, people, process, and environment that exceed the expectation or demand. A dynamic conditions relating to products, services, people, processes and environments that meet or exceed the desire is the quality[11]. The quality service is a dynamic condition as an effort to meet a consumer’s demand and pretension and delivery accuracy in counterbalancing the hope of consumer. The service quality deals with the customer assessment of the main experienced service. The health service quality is one of the quality service type refers to health service quality which is difficult to define, explain and consider[8]. The assessment of service quality in the clinical laboratory is the assessment on the quality based on the health services which is experienced, understood, known by the costumer or patient. The clinical laboratory should have the relevant, valid and reliable service quality assessment[7]. The health service quality assessment point of the clinical laboratory consists of 14 points performed in Table 1.

| No  | Element                          | Description                                                                 |
|-----|----------------------------------|-----------------------------------------------------------------------------|
| 1   | Service Procedure                | The effortless of the service procedure can be seen through the simplicity of the service process. |
| 2   | Service Rule and Regulation      | The technical and administrative rule and regulation which is needed to have a distinguished service agrees with the type of the services. |
| 3   | The service official Intelligibility | The intelligibility of the service official such as name, position, and obligations should be provided. |
| 4   | Service official                 | The seriousness of official in serve the distinguished service agree with... |

Table 1. The Element of Health Quality Assessment [7]
3. Research Methodology

This research adopts the method from Framework e-Participation. This method is used for evaluating the appropriateness regarding the problems of service quality and participation in the clinical laboratory. This framework explains that eParticipation is the combination between participation and ICT. Participation is the area of traditional service participation in which ICT is not included. ICT is a tool and technology used to support participation service. eParticipation involves specific participation with ICT to assess the service quality in the clinical laboratory. eParticipation Framework comprises of 3 levels: participation areas, categories of tools, and technologies. Participation areas level is supported by categories of tools while categories of tools lies on technologies level. eParticipation Framework can be seen in Figure 1.
Participation Areas is the specific area or field involving society in the democracy process. Some of the fundamental aspects is managed for the democracy process such as making the politician’s assumption popular, assessing the acceptance of the constituent from participation’s assumption, making assumption about known political decision, ensuring transparency about political action, and giving a chance to formulate together the decision making in a particular political case. There are many of participation areas that can be used by the society, yet there are other areas with diverse descriptions that can be used in other areas. Categories of tools are a set of software application, tools, product, and component used in eParticipation project. The examples are the weblog and website that have played their roles as the sophisticated platform for consultation, tools for visualizing argumentation, and natural language interface. Technologies are diverse technologies used as the basic of eParticipation tools. Technology plays role as the domain for e-Participation. The technology combination can be used to produce innovative approach in accordance with the participation needs when using it in a certain tool[15].

4. Result and Discussion

In the Participation Areas, participation area is only limited to the consumer/patient of clinical laboratory. Participation is conducted after the consumer/patient experience the service. Participation data are taken from the consumer/patient towards the service quality. The assessment of the service quality in clinical laboratory has 14 elements each of which has its sub elements which is different. The total number of sub element/case for the service quality assessment is 33 items. The matrix for assessing the service quality of clinical laboratory can be viewed in Table 2.

Table 2. Assessment Point Matric of Service Quality [11]

| No | Element               | Sub Element                                                                 |
|----|-----------------------|------------------------------------------------------------------------------|
| 1  | Service Procedure     | (1) The level of accessible information about the service procedure           |
|    |                       | (2) The level of service process procedure                                   |
|    |                       | (3) The level of service procedure simplicity                                |
| 2  | Service rule and      | (4) The level of service regulation accessibility                            |
|    | Regulation            | (5) The level of simplicity in managing and fulfilling service regulation     |

Figure 1. eParticipation Framework[15]
The Categories of Tools level uses a tool built and used in the form of website-based application called “eParticipation of SQA”. This application is a tool utilized for formatting, obtaining, managing and displaying the data about the service quality assessment from the participation of consumer/patient. Applications can be used with the fulfillment of technology support at the level of technologies.

The options for each question and element of service in general represent the service quality. There are four options: Poor, Worse, Good and Very Good[7]. Questionnaire input for eParticipation of SQA application can be seen in Figure 2. The result of the service quality is obtained from the accumulation percentage on each element based on the four answer groups. The result element assessment points for eParticipation of SQA Application can be seen in Figure 3. The results can be displayed both in the forms of accumulation of each element and the detail of each sub element of assessment. The result sub-element assessment point for eParticipation of SQA application can be seen in Figure 4. Participation data processing is done by using the tools that are at the level Categories of Tools.
Figure 2. Questionnaire input for eParticipation of SQA Application

Figure 3. Result Element Assessment Points For eParticipation of SQA Application
In Technologies, a website-based technology is applied. The use of technology for website-based application requires some technologies such as software, hardware and network device. The softwares used are Framework CodeIgniter, Bootstrap, MySql, and Web Browser. Meanwhile, the hardwares used are computer server, personal computer/laptop, or smartphone.

5. Conclusion

The result of the research were the eParticipation of SQA application can be used as a tool for format, obtain, process and provide data on the assessment of service quality from consumers/patient’s. Assessment according of 14 elements had to be relevant, valid, and reliable for assessment. However, according on result of the assessment can be find out the weaknesses or lack of each elements on service organizer, finding out the performance of the service, and as the material for policy making and the effort that should be conducted. Implementation and evaluation can be carried out on subsequent research used conceptual framework or used desired framework.

6. References

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