ANALYSIS AND DEVELOPMENT OF PROTOTYPE KNOWLEDGE MANAGEMENT SYSTEM IMPLEMENTATION TO ACHIEVE INDEX SERVICE RECOVERY IN PT BALAI LELANG XYZ

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Abstract. Resolution of complaints that arise because of internal and external factors is the Service Recovery Index (SRI). So have to look for factors, indicators and build an SRI model that is in accordance with the readiness of implementing the Prototype Knowledge Management System in order to achieve the Service Recovery Index at PT Balai Lelang XYZ. The research method used is to use the data collection method by observing, interview and distributing questionnaires to respondents using the Prototype Knowledge Management System theory as a conceptual framework and the method of analyzing data from questionnaires with the factor analysis method. The results obtained from this study are the discovery of new factors along with the indicators of these factors as well as the ideal readiness model. The conclusions obtained are analysis factors related to the readiness of implementing the Prototype Knowledge Management System to achieve the Service Recovery Index, including: 1) Knowledge Utilization, 2) Lack of Knowledge Information, 3) Quality of Knowledge Sharing and Network Distribution

Keywords: Service Recovery Index, Auction Hall, Factor Analysis, Prototype, Knowledge Management, dan Knowledge Management System

Introduction.

Knowledge is one of the most important aspects in an organization or company in formulating a company strategy and vision and mission. Knowledge is perhaps the single most important source of competitive advantage available to an organization in the twenty-first century [1]. Knowledge management is the management of company knowledge and intellectual assets that can increase the range of organizational performance characteristics and added value by enabling a company to act smarter [2]. Therefore, knowledge management is one of the management tools that can be used to support the achievement of organizational goals and show competitive advantages as to create good organizational performance. PT Balai Lelang XYZ is a company engaged in the auction industry and a subsidiary of PT XYZ as a member of PT Astra International. PT Balai Lelang XYZ has customers, namely shippers and buyers. Where is the customer the sourcing is the party who owns the unit to be auctioned at PT Balai Lelang XYZ, while the buyer is the party who buys the unit through the auction process. In 2016, PT Balai Lelang XYZ has started to transform towards digital. However, this does not cover all business activities. So that the management of PT Astra International provides directions to PT Balai Lelang XYZ to start moving and transforming according to the industrial era 4.0, namely by digitizing end to end processes in the hope of increasing customer satisfaction. So that in 2018 in June, PT Balai Lelang XYZ has carried out a digital transformation by creating a digital ecosystem that changes 80% of manual processes to digitalization. This digital ecosystem is known as IMS II (XYZ Management System) II.

System developments carried out by PT XYZ with very mature technology and concepts must also be balanced with the skills of the users. In other words, knowledge must be balanced with sophisticated systems. Because without knowledge, a system that is designed and has been running is not successful without the ability of its users. Therefore, with the data that PT XYZ has, it must also be able to be processed and used as an appropriate analysis to make business development decisions by Top Management. In a Knowledge Management System and can be used to increase knowledge at both the Top Management level and employees in making decisions and making business innovations.

Knowledge (knowledge) in an institution or organization, especially in this context is the auction industry, namely PT Balai Lelang XYZ feels the need to manage and document the knowledge of each of its human resources in a Knowledge Management in the form of a web-based service, and over time, the institution This has also implemented Knowledge Management, so that it can be a reference for each other individual in gaining knowledge (knowledge) without having to depend on other individuals. With expectations, in the future knowledge management will make it easier to access and use this knowledge even though the individual who is the source of this knowledge is no longer working in this / related institution. The problem is that these organizations, namely PT Balai Lelang XYZ and employees, are currently experiencing information overwhelmed and lack of time to share knowledge.

In implementing IMS 2 from June 2018 until now, there have been complaints from consumers both due to external and internal errors. Where the error caused by external parties is the fault of the depositor, while the internal error is the fault of the PT Balai Lelang XYZ team itself. This internal error arises because of gaps in product knowledge. As previously

explained, this complaint occurred because of differences in information between pra, during and after auction day. The settlement of the incoming complaint is called the Service Recovery Index. Therefore, it can be seen how the growth graph for customer complaints and the average time it takes to resolve these complaints.

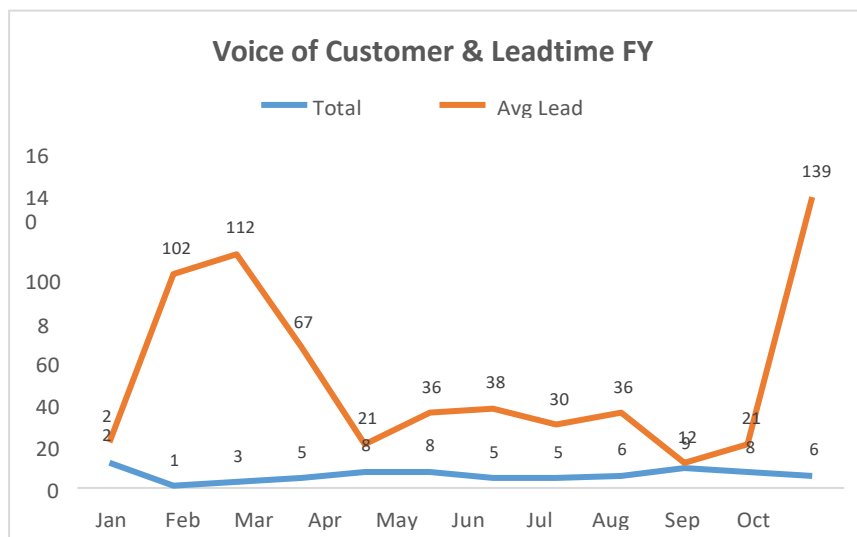The following is a graph of the IBID Voice of Customer and its completion for 2019

Figure 1 Voice of Customer & Leadtime Full Year 2019
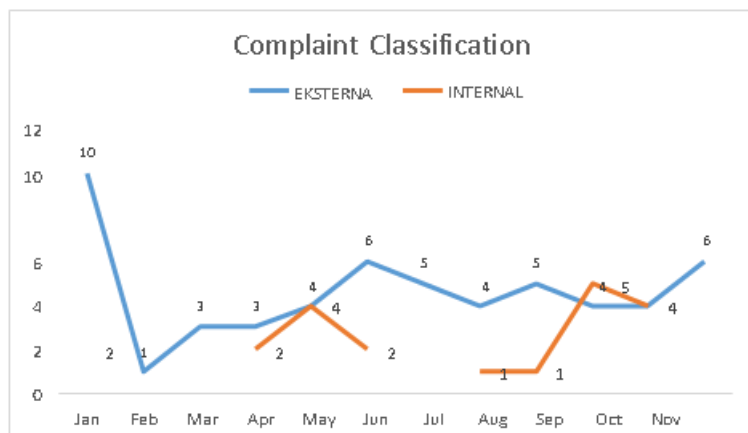

Figure 2 Complaint Classification 2019

It can be seen from the graph above, that the number of VOCs of PT Balai Lelang XYZ tends to increase towards the end of the year, but the settlement rate is faster than the number of smaller VOCs at the beginning of 2019. One of the reasons for complaints to be resolved quickly is the type of complaint that usually arises. comes from external parties, because 72% of the total complaints that arise are due to external factors and 28% are due to factors originating from the internal team due to limited knowledge and human errors. This is what makes IBID itself have to pay more to resolve these complaints, and the average cost incurred due to internal errors reached 500 million throughout 2019. Below is a chart of the classification of complaints that arise due to internal and external factors.
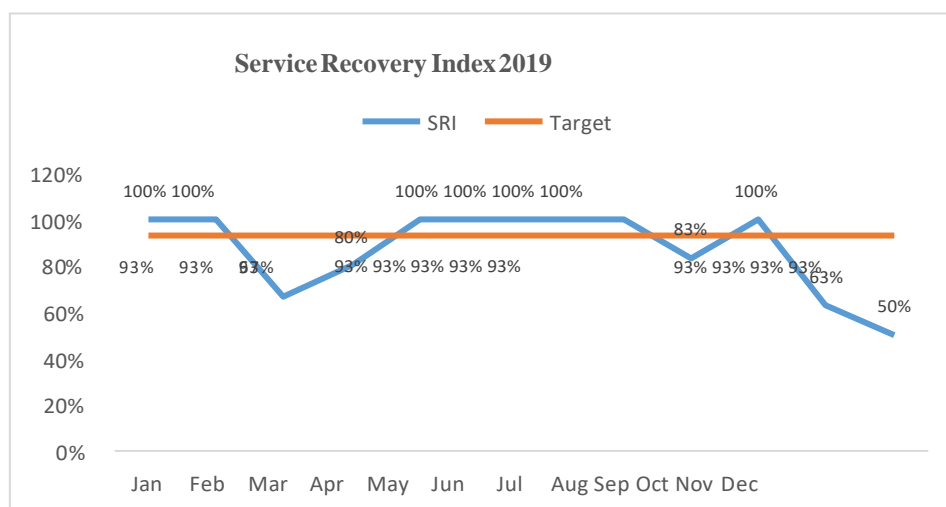
Figure 3 Percentage Service Recovery Index 2019

One of the ways that PT Balai Lelang XYZ uses to measure the level of settlement of complaints that arise due to both internal and external factors is by making a Service Recovery Index. Where the Service Recovery Index is a way of measuring the index in service completion, and this SRI arises from the total number of completed complaints compared to the total complaints. The bigger the SRI, the better and the goal is to increase customer satisfaction with the services PT Balai Lelang XYZ provides. The following is a graph of the percentage of success rate in resolving complaints.

2. Literature Review

2.1 Knowledge Management System

Knowledge management is the formalization and access to, experience, knowledge and expertise that creates new capabilities that enable superior performance, drive innovation and increase customer value [3]. In organizations, there are 2 types of knowledge, which:

    1. Tacit
       It is knowledge that is contained within us that has not been documented.
    2. Explicit
       Is knowledge that is implied or documented, making it easier for employees to learn.

With the two types of knowledge mentioned above, Knowledge Management is needed to organize the documentation of this knowledge, so that it can be a competitive advantage for the company. This is what makes Knowledge Management System (KMS) needed by companies. KMS is a knowledge-based information system that supports the creation, organization, and dissemination of business knowledge to employees and managers of a company [4].

The success of a knowledge management system in an organization must have people, process, and technology components that are mutually sustainable. In addition, according to [5], in the Knowledge Management System process it is necessary to pay attention to 4 things, namely Knowledge Discovery, Knowledge Capture, Knowledge Sharing and Knowledge Application.

One of the most well-known theories in the formation of knowledge in organizations is the Nonaka's Spiral of Knowledge which has the main objective of developing this model which is to provide an overview of the various types of knowledge formation carried out within an organization. The types of knowledge in the SECI model are Socialization (tacit to tacit), Externalization (tacit to explicit), Combination (explicit to explicit), and Internalization (explicit to tacit).

Knowledge management relies on two aspects, namely knowledge management solutions and knowledge management foundations [6]. Knowledge management solutions are a way to facilitate knowledge sharing activities, which are divided into 2 (two) parts, namely the knowledge management process and the knowledge management system. Meanwhile, a

knowledge management foundation is a broad organizational aspect that supports knowledge management in the short and long term. Knowledge management foundation consists of technology and knowledge management mechanisms as well as knowledge management infrastructure.

2.2 Service Quality

Service Quality is the opinion / assessment of customers about the goodness of the overall form or excellence. Service Quality (SQ) is a comparison of the expectations or expectations that you want from the service to the perceived performance. As time goes by and services then develop to digital or online-based, Service Quality has begun to be differentiated into offline and online. What distinguishes online service quality measurement is the services that are carried out online and the interaction between humans and machines. The Servqual method was then developed into Webqual as a method for measuring the quality of the website. WebQual was developed since 1998 with adjustments to the latest Webqual 4.0 [7].

After knowing the level of customer satisfaction through service quality, then there is a calculation to handle the service failure and there needs to be action to fix the service failure. This action is known as Service recovery. Service recovery is a program that aims to improve the relationship between the company and its customers so that it returns to normal conditions after an error has been made by the company [8]. Service recovery refers to actions taken by service providers to address customer complaints or complaints regarding perceived service failures.

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Customer satisfaction is a person's feelings of pleasure or disappointment resulting from comparing the perceived product or service performance (or results) based on expectations. If the performance or experience falls short of expectations, the customer is dissatisfied. If it is as expected, the customer is satisfied. If it exceeds expectations, the customer is very satisfied [10].

3. Methodology

This research was conducted by looking for sources of information through interviews, observations and questionnaires using the factor analysis method. The main objective in finding sources of information is to obtain relevant information and to find out to what extent the level of knowledge affects PT Balai Lelang XYZ. Through observation and interviews, researchers can see qualitative data to measure the relationship of knowledge and how much interaction between departments, while looking for information through questionnaires, researchers can see factor analysis and find out assessing the readiness of implementing knowledge management systems at PT Balai Lelang XYZ. After knowing the new factors, a Knowledge Management System prototype was then made which would be implemented at PT Balai Lelang XYZ.

The following is a phase of the prototype model as a representation of the results of the system design requirements analysis in the form of a mockup.
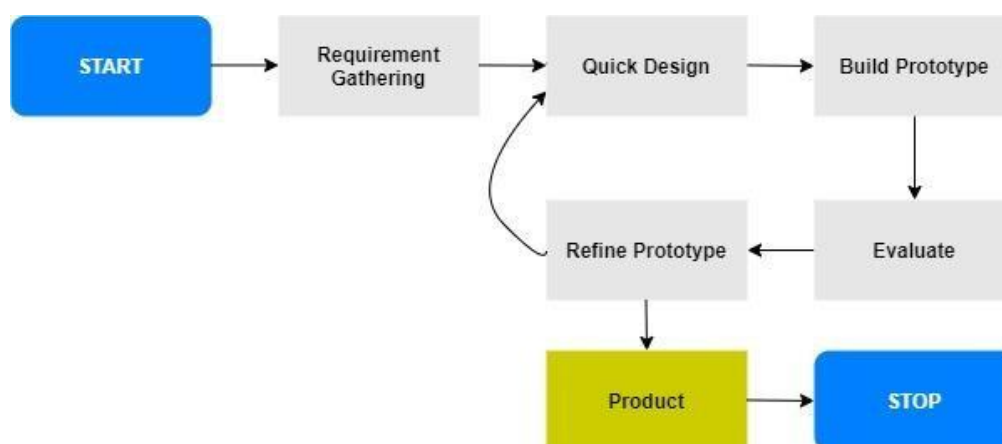

Figure 4 Knowledge Management System Prototype Design Model

4. Results and Discussion

Based on the direction of the management of PT Balai Lelang XYZ in digitizing all processes from end to end, it is necessary to make a prototype which will be implemented for all employees to improve soft skills related to the auction and automotive industry. So that after distributing a questionnaire consisting of 23 questions and 100 internal party respondents, 4 new factors were obtained that influenced the implementation of the Knowledge Management System Prototype to Achieve the Service Recovery Index at PT Balai Lelang XYZ, namely Knowledge Utilization, Lack of Knowledge Information, Quality of Knowledge Sharing and Network Distribution. This can be explained as follows :

- **The first factor is Knowledge Utilization**
  In this factor there are 7 indicators, namely Behavior, Website, Hardware and Software, Intention Refine Knowledge, Manage Knowledge, and Disseminate Knowledge
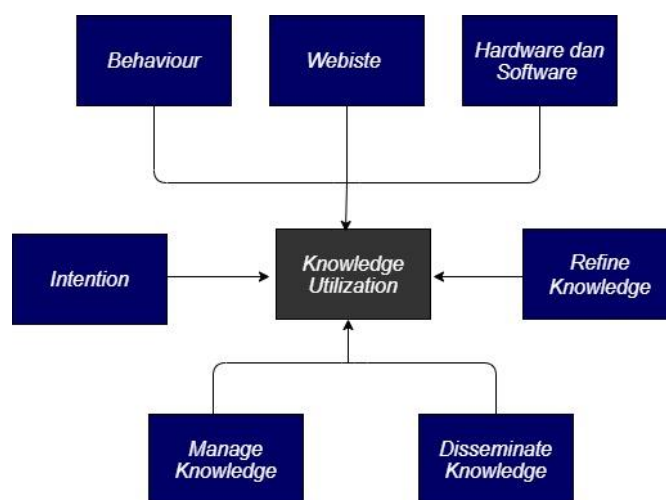
Figure 5 Knowledge Utilization factor indicators

- **The second factor is the lack of Knowledge Information**
  In this factor, there are 4 indicators, namely Organization Structure, Documentation, Capture Knowledge, and Store Knowledge
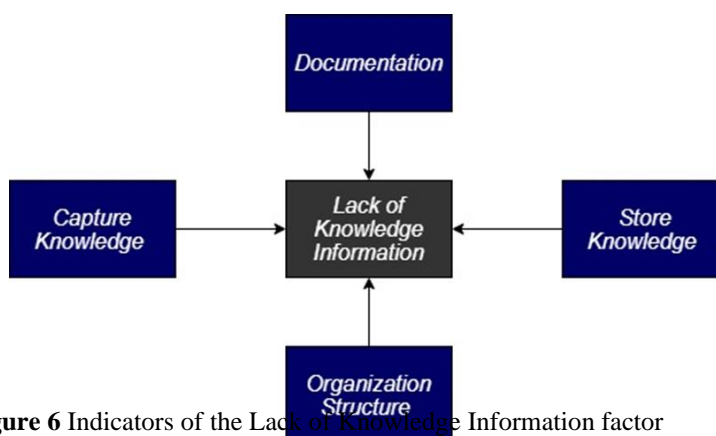
Figure 6 Indicators of the Lack of Knowledge Information factor

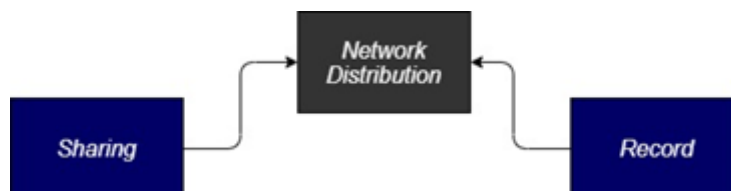- **The third Factor is Quality of Knowledge Sharing**
  In this factor there are 3 indicators, namely Analysis, Application, and Create Knowledge.
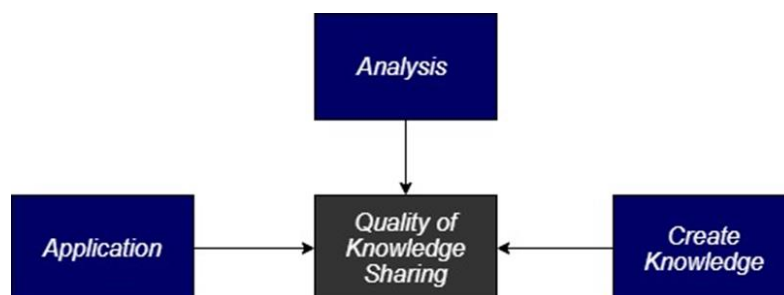
**Figure 7** Indicators of the Quality of Knowledge Sharing factor

- **The Fourth factor is Network Distribution**
  In this factor, there are 2 indicators, namely Sharing and Record.

Figure 8 Indicator of the Network Distribution factor

After the discovery of 4 new factors obtained after going through factor analysis, namely, Knowledge Utilization, Knowledge Information, Lack Quality of Knowledge Sharing, and Network Distribution. Then these four factors will be used by the author to analyze the readiness of KMS implementation at PT Balai Lelang XYZ.
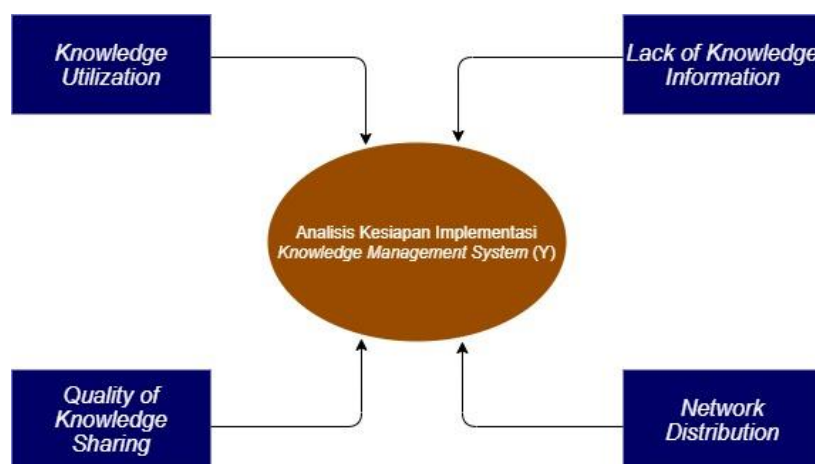
**Figure 9** New Factors Affecting Readiness to Implement KMS

The next step the writer took was to factor scoring from the 4 newly formed factors. Based on the questionnaire statement regarding the level of understanding of the Knowledge Management System at PT Balai Lelang XYZ using a scale of one to five, the author will regress the four new factors with the level of understanding.

Level of Understanding	Scale
Perfect	5
Good	4
Passably	3
Less	2
Bad	1

Table 1 Respondents Understanding Level Scale

By using the assessment of the current KMS implementation readiness level as the dependent variable and the score factor as the independent variable, the analysis is continued by performing a factor regression on the respondent's understanding as shown in Appendix A8. From the results of this analysis, it is found that an equation can be used as a formula that describes the readiness of KMS implementation at the XYZ Auction Hall.

$$Y = 3,660 + 0,406\ X_1 - 0,010\ X_2 + 0,132\ X_3 + 0,060\ X_4$$
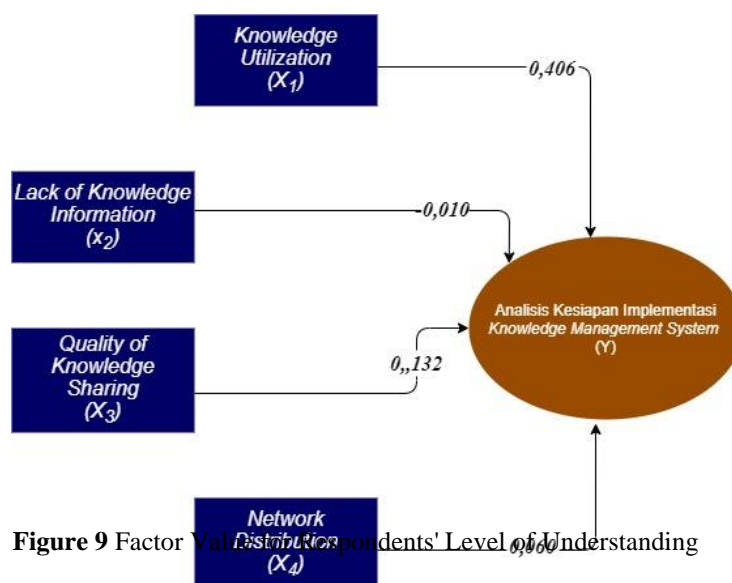
Figure 9 Factor Value of Respondents' Level of Understanding

With an explanation of the X value limit:
- $4,956 \leq X1 \leq 1,124$
- $1,717 \leq X2 \leq 1,536$
- $2,032 \leq X3 \leq 1,365$
- $2,177 \leq X4 \leq 1,768$

The explanation of the results of the formula analysis in Figure 9 is:
- Normal conditions, in this condition the value of the analysis of the respondent's understanding of the knowledge management system is 3,660 where this value is in the good and passably category. KMS can be used as a source of knowledge information, improve performance, and always make improvements to improve company performance.
- Minimum condition, in this condition the value of the analysis of respondents' understanding of the knowledge management system with the lowest level is 1.266 where the value is in the bad category. It should be noted because the low value of the analysis of this understanding, which was initially categorized as good and good, but at this minimum condition, decreased to bad. It is necessary to improve the quality of factors that can reduce the level of understanding of KMS users by providing training, coaching and consuling, challenges to increase knowledge which will have an impact on employee performance.

- Maximum condition, all new factors found are improved from normal conditions by seeing the highest value of each new factor. When compared with normal conditions, this maximum condition is an increase because it is included in the good to perfect category.
- In extreme conditions, in this condition the positive value is lowered to the lowest value and the negative factor is increased to the highest value. Because if the current KMS condition is not repaired and the negative factors (Lack of Knowledge Information) are being ignored, the KMS condition at PT Balai Lelang XYZ will get worse.
- Under ideal conditions, all new factors that are found to be positive are increased to the maximum value, and for factors that are negative are reduced to the minimum value. After testing the ideal conditions in the analysis of understanding the knowledge management system into the good category to the perfect direction so that if in the future this KMS is implemented at the XYZ Auction Hall, users already understand the usefulness of KMS so that it can be used to improve employee performance in completing work and assisting decision making .

5. Conclusion

Knowledge management systems are able to create new knowledge through collaboration on experience, knowledge and expertise. So that to increase the success of an organization, companies must prioritize knowledge in making a company strategy. Along with the era of digitalization, directing the role of knowledge requires a system as a forum that facilitates the process of distributing knowledge to internal company parties according to the job desk. The goal is that every employee can get real-time knowledge updates and it is hoped that employee performance will increase. In addition to improving performance performance, the role of knowledge has an impact on customer satisfaction.Where for companies that provide goods and services such as PT Balai Lelang XYZ, every employee is required to work in totality and loyalty because it has an impact on the products or services received by the customer. As a company that provides services for goods and services, of course, it must experience service failures that cause customer complaints, customer complaints must be quickly responded to and can provide solutions that can provide a positive image for the company. Therefore, employees are expected to be able to handle complaints faster than the specified SLA and customers are satisfied with the solutions provided. This is called the service recovery index. The SRI level greatly affects the customer satisfaction index. Therefore, through this research, an analysis of the readiness to implement the Knowledge Management System prototype has been carried out. Factor analysis has been carried out on 100 respondents, which resulted in 4 new factors for the implementation of the Prototype Knowledge Management System for achieving Indepelx Service Recovery PT Balai Lelang XYZ, namely Knowledge Utilization, Lack of Knowledge Information, Quality of Knowledge Sharing and Network Distribution.

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