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IMPLEMENTATION OF INCIDENT AND PROBLEM MANAGEMENT TO ACHIEVE SERVICE LEVEL AGREEMENT

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Implementation of incident and problem management to achieve service level agreement (Conference Paper)

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Abstract

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The success in providing a service that is best proved can also provide a good spectacle for viewers around Indonesia. Why is that? The development of broadcasting is no longer only be enjoyed through the medium of television, but also through other visual media (such as gadgets, laptops, smartphones, et al.). To meet these needs, the IT division of LPP TVRI be prepared to provide services to support those needs, not only for the audience but also supports internal performance LPP TVRI. This study aims to assess how much the level of maturity of the Service Level Agreement which may be provided by the IT department through a matrix approach to the management of incident and problem management in the framework ITIL Version 3. The final result of this study is to analyze the extent to which the level of service the IT division in support of LPP TVRI performance of internal staff as well as the broadcasting memeberikan repair procedure recommendations for improving the quality of IT services division LPP TVRI. © 2017 ACM.

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Implementation of Incident and Problem Management to Achieve Service Level Agreement

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ABSTRACT

The success in providing a service that is best proved can also provide a good spectacle for viewers around Indonesia. Why is that? The development of broadcasting is no longer only be enjoyed through the medium of television, but also through other visual media (such as gadgets, laptops, smartphones, et al.). To meet these needs, the IT division of LPP TVRI be prepared to provide services to support those needs, not only for the audience but also supports internal performance LPP TVRI. performance LPP TVRI. This study aims to assess how much the level of maturity of the Service Level Agreement which may be provided by the IT department through a matrix approach to the management of incident and problem management in the framework ITIL Version 3. The final result of this study is to analyze the extent to which the level of service the IT division in support of LPP TVRI performance of internal staff as well as the broadcasting memeberikan repair procedure recommendations for improving the quality of IT services division LPP TVRI.

Keywords

Service Level Agreement; Incident Management; Problem Management; ITIL Version 3

1. INTRODUCTION

The development of television broadcasting system in Indonesia has now entered a new phase. The digital era that is now crowded into a trend setter in the development of information technology and also penetrated the world of broadcasting or broadcasting. Public Broadcasting Televisi Republik Indonesia (LPP TVRI) are well aware of the condition so that it continues to improve itself improve service both internally and externally of the company to respond to the challenges these technologies. Aspects of Information Technology (IT) became the second most important component after the technical devices in the process of digitalization of broadcasting.

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On the external side (service to the people of Indonesia), TVRI utilize technology applications that aim to integrate analog and digital broadcast multimedia services as well as integrate with interactive media such as Video on Demand (VoD), Pay Per View (PPV), and teleconference [1]. Then in terms of internal (self-service for employee performance/staff) TVRI give responsibility to its IT Division to provide support (support) in the application as well as technically. IT departments are considered able to provide solutions in a computerized system that can integrate the human resources (people), process, and technology in TVRI. The ability of an organization to manage its IT assets will affect the quality of IT services, one of which can be measured by the achievement of Service Level Agreement (SLA). SLA itself can be interpreted to be a reference the basic services provided by or determined through an agreement two sides in the form of a cooperation contract , for example : When the down time between Internet Service Provider with the company . To determine the extent of the IT division Traffic master and execute business processes it is necessary to measure using existing best practice in this case using Information Technology Infrastructure Library (ITIL) [2], so that the organization can know exactly the level of maturity. Maturity level makes it easier to be able to determine the next process in improving IT services. Then, at this stage will also be their incident management and problem management .

IT Service Management processes on incident management and problem holds a very important role. This is because both of these are affected by the procedures, systems and IT staff that have an impact on the achievement of SLA. Given this, the SLA standard IT department in providing services becomes clearer. Incident management to restore their business operations back to normal as quickly as possible and normal levels of business can be contained within SLA limits. Incident management (incident management) is a process undertaken to resolve an incident. Incident management processes (incident management) is based on input from the user through the service desk, technician's report, as well as automatic detection of an event management tool [3]. While management problems (management) is a process for managing IT infrastructure (Information Technology), which is quite important to the organization. This study aimed to find out about the level of maturity as well as incident management and problem management IT departments to support both analog and digital television broadcasting as a whole in the LPP TVRI. Expected later, LPP TVRI's IT department can support the needs of the business process (broadcasting) by having a very good level of maturity.

2. METHOD

The methods used by the author is a step in the research is summarized along with the approach. The stages used in conducting a study. In the methodology should illustrate the

interconnectedness of each stages so that research activities could be better planned and systematic (Fig.1.).

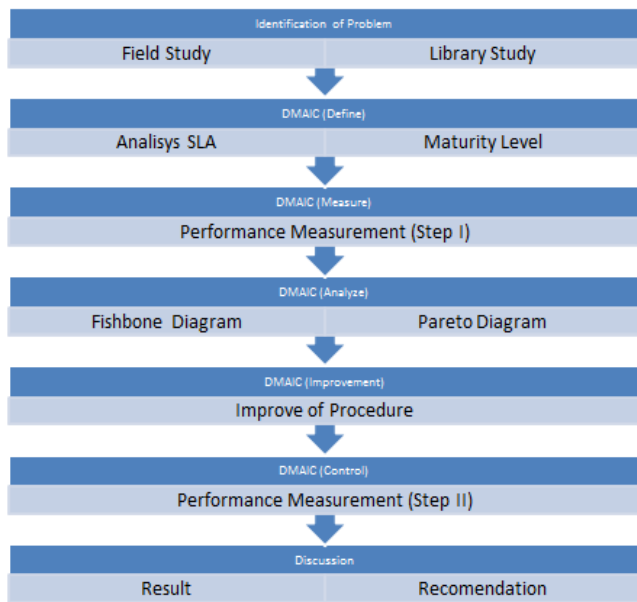


Figure 1. Stages of research activities

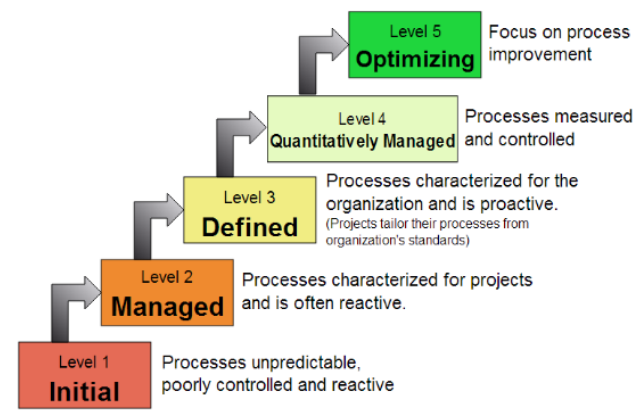


Figure 2. Maturity level

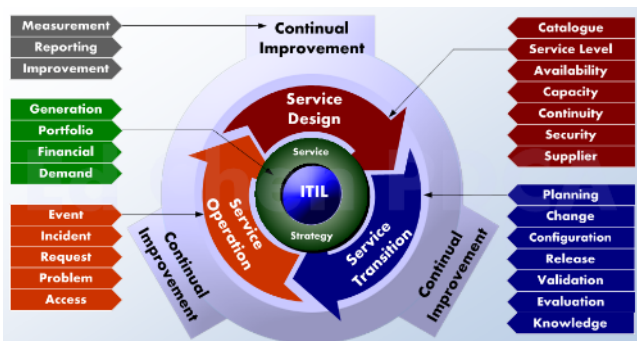


Figure 3. ITIL version 3

3. RESULT AND DISCUSSION

In carrying out the IT division's operating LPP TVRI can not be separated from the existing SLA . Here's a summary SLA division of technical support:

- 1.Genesis down to the target server 0 cases each month. SLA measured were the incidence server down for each month.
- 2.Genesis emails down to a target of 0 cases each month. SLA measured is incident down email or email server down for each month.
- 3.Genesis wireless internet or down to the target 0 cases each month. SLA measured is incident wireless internet or down for each month.
- 4.Improvement of hardware over 2 days with a target 0 cases each month. SLA measured is incident handling more hardware improvements darii 2 working days for each month.
- 5.There is a tutorial Making use of the application and dissemination of once every 6 months. SLA measured is how far the user or users outside the IT department can use applications that have been provided by the IT division LPP TVRI. This tutorial is a manifestation of the action with continuous improvement of the IT department.
- 6.Implementation of backup data and applications to every day. SLA measured is the implementation of backup for all data and applications are made every day.

Handling problems during the live streaming of the local and central levels. This problem often occurs due to many factors. SLA measured is live streaming events interrupt handling and rapid detection time into the source of the problem. In this case the IT department must maintain the performance of the personnel responsible for resolving these problems, because the live streaming become a major commodity in LPP TVRI broadcast.

It is important to maintain the productivity of all relevant parts and the use of IT services [4]. With reference to the SLA that of the IT division LPP TVRI , it will be the measurement of the level of maturity and performance measurement management incident and problem management . The purpose of the measurements to be done is to determine the extent of the relationship and the influence of the level of maturity of incident management and problem management on the performance and achievements of handling incident and problems.

3.1 Maturity Level Measurement Before Improvement

Measuring the level of maturity of the IT Division of LPP TVRI division performed two times using descriptive measurements (literature) and quantitative measurement with the questionnaire ITSM matrix [5] . A literature study is carried out as a reference in doing descriptive analysis on the basis of each - each level of maturity (Fig. 2).

Maturity level measurement , the measurement of phase I and phase II were made with a method of writing to the interview :

1. An IT Manager
2. Three heads of divisions
3. IT department staff

From the results of quantitative measurements, it can be seen that the maturity level of technical support divisions are in level 1.

Both measurements both descriptive and quantitative measurements of the same - the same yield *level 1 Initial*.

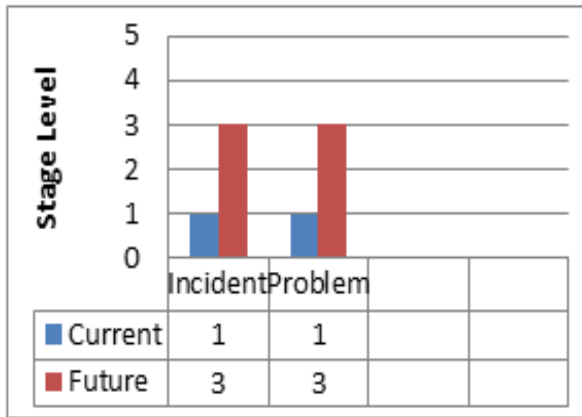


Figure 4. Measurements using maturity level

3.2 Performance Measurement in Incident Management and Problem Management (Phase I)

Measurements were made using a matrix which is based on ITIL v3 matrix [6] of incident management and problem management (Fig.3). Surveys and interviews conducted all components of the IT department LPP TVRI and all elements of its supporters (Fig.4).

Goal	Purpose	Improving incident handling
	Issue	Knowing incident service level
Questions	Q1	How many and percentage incident in process per service desk/technical support
Metrics	M1	Incident percentage finished by 1st line support (helpdesk team)
Questions	Q2	How many percent incident closed by service desk/technical support without reference to other level support

Figure 5. Incident handling

From the measurement results of Phase I or pre implementations obtained the following conditions (Fig.5) :

Given the level of events and conditions from the technical support division may be recommended some improvements : Make a helpdesk application and Procedures Improve handling of Incidents and Problems [7].

Seeing the incident handling of procedures and implementation of pre problem then some processes can be shortened as shown below :

3.3 Performance Measurement in Incident Management and Problem Management (Phase II)

In the second phase measurement is done using interviews and observations to the IT manager and head of the division . Matrix is still used as is done in stage I is the matrix of incident management and problem [8] . From the measurement results or post-implementation phase II obtained the following conditions (Fig.6):

Code	Metric	Measurement point	Standarpoint	Result
M1	Incident percentage solved by 1st line support (helpdesk team)	70 %	<65%	Save
M2	Incident percentage is wrong handled	10%	>30%	Save
M3	Total problem didn't solve on time	386	5	Warning

Figure 6. Measurement

Besides the measurement of phase II of this writer still uses the matrix of incident management and problem ITIL V3 to compare the measurement results of Phase I and found the following differences (Fig.7):

ITIL V3 METRIC	Step I		Step II	
	Total	Percent	Total	Percent
INCIDENT MANAGEMENT METRIC (Taylor, 2006, P.102)				
□□□total incident (as a control), measure from log book reading that serving in tech support division	12		10	
□□□Detail of incident per year (logged, process, closed).	N/A		N/A	
□□□Size of backlog event per time	N/A		N/A	
□□□ Total and percent of primary incident from total incident (point 1)	3	25%	5	50%
□□□Time average solved problem, counting from how long solved incident depend on total incident.	3 hari		2 hari	
□□□Incident percentage handled depend on dealing time (based on SLA, etc., based on impact and urgent). Counting from total incident handling based on SLA time to total incident.		12%		35%
□□□total incident reopen based on total incident percentage.	N/A		N/A	
□□□Total and incident percentage is wrong handling. (Brooks, Metrics for IT Service Management, 2006)	2	16.67%	1	10%
□□□Total and incident percentage is wrong category. Counting from total incident that is wrong based on total incident.	3	25%	0	0
□□□Incident percentage closed by service desk/technical support without reference to other support level.		80%		65%
□□□Total and incident percentage processed per service desk/technical support (Brooks, Metrics for IT Service Management, 2006)	3	25%	7	70%
□□□Total and incident percentage succeeded handling without come to location (remote desktop).	N/A		N/A	
□□□total incident handled by incident model.	N/A		N/A	
□□□detail of incident based on time the day to know top of incident time	N/A		N/A	

Matrik Manajemen Problem (Taylor, 2006, P.124)				
□□□ total problem recorded on period. Got from log book history for measurement period.	2000		2125	
□□□ problem percentage solved based on SLA target. Counting from total problem finished based on SLA target to total problem. (point 15).		20%		50%
□□□ Total and percent of problem that over time handled. (Brooks, Metrics for IT Service Management, 2006) Counting from total problem finished over time to total problem. (point 15).	377	18.85%	386	18.16%
□□□ The amazing and trend backlog problem (static, minus or plus) Counting from log book history based on total problem. (point 15)	13282	64.1%	1570	73.88%
□□□ Total problem (open and close and backlog). Counting from main total problem based on total problem. (point 15).	155	7.55%	155	7.29%
□□□ Problem percentage is success reviewed. Knowing from handling record based on total main problem.		25%		50%
□□□ Total KEDB	N/A		N/A	
□□□ KEDB percentage accuracy from database audit (known error database).	N/A		N/A	
□□□ View percentage of main problem that solved on time. Counting from total main problem to total problem (point 15).	878	43.9%	1063	50%

Figure 7. Matrix of incident management

From the picture above can be noted that with the improvement of the procedure on the handling of incidents and problems change quite as good as on the points as follows (Fig.8) :

METRIC ITIL V3	Step I	Step II
INCIDENT & PROBLEM MANAGEMENT METRIC (Taylor, 2006, P.102)	Percentage	Percentage
Incident percentage handled based on dealing time (based on SLA, exp: based on impact and urgent)	12%	35%
Problem percentage finished on SLA target	20%	50%

Figure 8. Incident & problem management metric

4. CONCLUSIONS

1. Application of COSO ERM framework model is in accordance with the conditions of PT. MAB as risk management tool related to the use of cloud computing technology. The management of PT. MAB has conducted an objective setting by defining business processes, the implementation model and the model of cloud computing services as well as the risk appetite to pick alternative risk responses.

2. Application of COSO ERM framework model can be used to assess 39 risks based on observations and interviews with PT. MAB and the assessment results of some previous research

and models related to cloud computing risk management framework that has been provided. These risks can be grouped into the legal aspects, financial aspects, technological aspects, operational aspects, security aspects and environmental aspects.

3. Based on the survey results revealed that the risk level is very high (extreme) covers the technological aspects, namely the availability of experts in the field of information systems security and adequate power supply capacity and power backup system, whereas in the security aspect is the risk of cyber-crime such as hackers, phishing, scamming, and a Distributed Denial-of-Service (DDOS).

4. Based on the results of questionnaires and interviews regarding risk management, information security and Information Protection (IP) program in PT. MAB that of the six subjects that are PT. MAB has level rating of "solid" in terms of Security Policy, Organizational Suitability, Physical Security, Technical Safeguards, and it has level rating of "poor" in terms of the Business Impact Analysis (BIA), Disaster Recovery Plan (DRP) and Telecommunications Security.

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