Measuring maturity level of information technology governance at the television broadcasting company

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Abstract. Information Technology has been implemented by PT. Rajawali Citra Televisi Indonesia as a service that contributes to the success of the company’s business goals. Measurement of the level of maturity of the use of information technology is needed to be able to optimize the use of information technology. Measurement of the maturity level of information technology governance using the COBIT 4.0 framework with a scale of maturity level 0 - 5. Research on measuring the level of maturity was carried out in the plan and organize (PO) domain. Data collection techniques using the method of observation and questionnaire to 76 respondents. The results showed that the role of information technology at this time is managed and measurable. This shows that the information technology used has been running well and constantly, but there is information technology in some subdivisions that have not been integrated. While the conditions to be achieved for the plan and organize (PO) domain are at level 5, where integrated information technology is no longer between divisions and subdivisions but between broadcasting within a television station company.

1. Introduction

The existence of information technology in broadcasting companies is needed. With the existence of information technology, work in certain parts of the department can increase the effectiveness and efficiency at work. Information Technology has been applied by PT. Rajawali Citra Televisi Indonesia as a service that contributes to the success of the company’s business goals. Each department has several information technology applications that are not integrated between departments, causing many problems each month. This problem can be seen from the ticket data that goes into the IT department every month.

![Data Ticketing 2014](image)

**Figure 1.** Ticketing data with achievement targets
The IT department has a standard ticketing completion target of 600 tickets every month. The instability of the number of tickets that enter each month, raises the gap that is thought to be one of the factors that influence the risk for the success of the company's business goals. Efforts to minimize the gap, the availability of IT needs to be managed properly. Obtaining an adequate level of IT availability requires an IT governance which gives attention to the availability of services, including services along with its resources, which ensure that service availability targets on all systems are measurable and reached [1]. IT governance is a relationship structure and process for connecting and organizing organizations to achieve complaints by adding compilation value [2]. IT Governance is an integrated part of the success of corporate governance with guaranteed efficiency and effectiveness of measurement improvements in relation to company processes. IT Governance enables companies to gain full advantage over information, maximum profits, capital, opportunities and competitive advantage in competing [3]. Research needs to be done that can measure the maturity level of information technology governance.

2. Methodology

COBIT is a supporting tool which regulates managers in bridging licensing arrangements, business risks and technical issues, and communicating the level of control to the interests of stakeholders. COBIT is used for developing clear policies and practices in controlling IT throughout the company. COBIT continues to update and harmonize with other standards. Therefore, COBIT is an integrator for information technology management in supporting information technology infrastructure governance that can overcome technical problems related to information technology. The COBIT process structure refers to business processes at the corporate level that provide direction for the implementation of information technology and the decisions that must be made regarding the implementation of information technology. IT activities in the generic process model in the empathic domain. These domains are Plan and Organize, Acquire and Implement, Deliver and Support, and Monitor and
Evaluate. This domain maps the traditional areas of IT accountability to be applied, built and carried out. There are 34 processes, as well as the application renewal and control process [4].

The level of maturity is designed as a profile of IT processes that will be recognized by companies as a description of current and future conditions. This model is not designed to be used as a threshold model, where for each stage must be completed first before increasing to the next stage at the next higher level and must follow up with the previous stage that was completed. By using a model developed for each of the 34 stages of the Information Technology objective control process, management can follow up on the next process related to:

1. Information technology performance at the corporate level - Where the company is now
2. Current corporate status - Comparison of industries.
3. Targeted implementation of information technology in the company - improvement to be achieved.

To make the results easily usable in management briefings, where will be presented as a means to support the business case for future plans, a graphical presentation method needs to be provided [5].
Based on a worldwide survey, it was found that the average maturity for the 34 COBIT IT processes was around 2.0 [6]. The general maturity model used is

0 **Non-existent.** Do not recognize the existing process. The company does not know how to overcome the problem of implementing existing information technology.

1 **Initial.** There is evidence that the company has acknowledged that there is a problem and needs to be addressed. However, there is no standard process; instead there is an ad hoc approach that tends to be applied on an individual or case-by-case basis. The overall approach to management has not been organized.

2 **Repeatable.** Information technology governance has begun to run in accordance with existing procedures and can be implemented by different people performing the same tasks, but there has been no formal training or standard procedures with responsibilities given to stakeholders. So there is a high level of dependence on individuals who have the knowledge so that it has the potential to cause errors when there is an individual replacement or assignment.

3 **Defined.** Standardized Procedures and documented and communicated through training. However, these processes are left to each individual, and it is unlikely that irregularities will be detected. The procedure itself is not sophisticated but is a formalization of existing practices.

4 **Managed.** Has carried out a series of processes to monitor and measure compliance with procedures and to take actions where the process does not appear to be functioning effectively. This process must be improved.

5 **Optimised.** Refined processes to the level of best practice, based on the results of continuous improvement and maturity modeling with other companies. IT is used in an integrated way to automate workflows, provide tools to improve quality and effectiveness, making companies adapt quickly[7].

3. **Results**

Developing a questionnaire to measure the level of maturity (level of maturity) is done using CobiT 4.0 in the first domain, namely Plan and Organize (PO). Research subjects were 76 respondents.
The following table explains the comparison of the acquisition of maturity level obtained by the company at this time with the target set.

**Table 1. Comparison of Maturity Level in PO Domain Between Current Conditions and Future Targets**

| PLAN AND ORGANISE (PO)                                                                 | MATURITY LEVEL |      |      |
|---------------------------------------------------------------------------------------|----------------|------|------|
|                                                                                       | AS IS | TO BE | GAP  |
| **PO1** Define a Strategic IT Plan                                                    | 4.62  | 5.00  | 0.38 |
| **PO2** Information Architecture Definition                                           | 4.36  | 5.00  | 0.64 |
| **PO3** Determine Technological Direction                                            | 4.32  | 5.00  | 0.68 |
| **PO4** IT Processes Definition, Organisation and Relationships                       | 4.44  | 5.00  | 0.56 |
| **PO5** Manage the IT Investment                                                      | 4.50  | 5.00  | 0.50 |
| **PO6** Management Aims Communication and Direction                                  | 4.42  | 5.00  | 0.58 |
PLAN AND ORGANISE (PO) | MATURITY LEVEL  
|-----------------|--------------|--------------|
| **AS IS**       | **TO BE**    | **GAP**      |
| **PO7** IT Human Resources Management | 4.57       | 5.00          | 0.43         |
| **PO8** Manage Quality              | 4.23       | 5.00          | 0.77         |
| **PO9** IT Risks Management and Assessment | 4.21       | 5.00          | 0.79         |
| **PO10** Manage Projects            | 4.42       | 5.00          | 0.58         |
| **PO** Average                      | 4.41       | 5.00          | 0.59         |

**Figure 7.** Spider Chart Nilai Maturity Level

4. Discussion

From the results of data processing, the average maturity level achieved by information technology governance at PT. Rajawali Citra Television Indonesia is 4.41. This figure shows that the maturity level is managed and measurable.

1. **PO1 (Define a Strategic IT Plan)**
   In determining the IT strategic plan, the maturity level is 4.62. This figure shows the maturity level in this process reaches level 5, which is optimized. IT is used in every work activity, which is used to improve effectiveness and quality. Companies also quickly adapt to adjust the company's strategy to the circumstances and needs in the field or in the media industry. Optimizing the use of IT is necessary in each division. Forecasting IT infrastructure needs to minimize the risk of IT performance disruption.

2. **PO2 (Information Architecture Definition)**
   In determining the information system architecture, the maturity level value is 4.36. This figure shows the maturity level in this process reaches level 4, which is managed. Information system at PT. Rajawali Citra Televisi Indonesia has been functioning well, but still needs management in the information system, related to integration in several sub-departments.

3. **PO3 (Determine Technological Direction)**
   In determining the direction of technology, the maturity level value of 4.32 is obtained. This figure shows the maturity level in this process reaches level 4, which is managed. The technology used has supported business processes. However, it is still needed to manage and design the technology.
direction, which is expected in the future not only as a supporter but also as a foundation in the success of the company's business goals. Of course the direction of the technology being managed must be adjusted to technological developments and the development of needs in the environment.

4. PO4 (IT Processes Definition, Organisation and Relationships)
   In determining the IT process, the organization and its relationships get a maturity level of 4.44. This figure shows the maturity level in this process reaches level 4, which is managed. In this case, PT. Rajawali Citra Televisi Indonesia has determined IT processes, organizations and relationships, of which there has been discussion related to the merger of 4 television stations (RCTI, MNC, SCTV and Global) in logistics management of EFP and ENG goods (shooting equipment), of course in such management an integrated information system is needed so that it can manage the logistics needs of media tools well.

5. PO5 (Manage the IT Investment)
   In managing IT investments, a maturity level of 4.5 is obtained. This figure shows that the maturity level in this process has reached level 5, which is optimized. IT investment policies and processes are well managed and communicated. It can be seen that in every activity, there is IT that functions as a service, where business processes can run efficiently thereby increasing the quality of work. But the management or IT department still needs to do regular evaluations.

6. PO6 (Management Aims Communication and Direction)
   In communicating the goals and direction of management, the maturity level of 4.42 is obtained. This figure shows the maturity level in this process reaches level 4, which is managed. Policies in IT development are aligned with IT strategic plans. It is necessary to evaluate the results of policies in IT management.

7. PO7 (IT Human Resources Management)
   In managing human resources, the maturity level of 4.57 is obtained. This figure shows that the maturity level in this process has reached level 5, which is optimized. In this case, there is a strict selection in hiring, which is seen from the ability of experienced and educational status in accordance with the field of work. There is a reward given by management every month. Provide training in accordance with the field of work and provide opportunities for exchange of work / rotation for 3-6 months to find out other parts of the work field, which are expected to bring up ideas / ideas / creativity and knowledge sharing, because this company produces a product requires good cooperation from all departments in a short time.

8. PO8 (Manage Quality)
   In managing quality, the maturity level of 4.23 is obtained. This figure shows the maturity level in this process reaches level 4, which is managed. The management has implemented it well in terms of planning and maintaining the quality of the management system. What needs to be improved is to optimize the quality of the management system with periodic evaluations.

9. PO9 (IT Risks Management and Assessment)
   In assessing and managing IT risk, a maturity level of 4.21 is obtained. This figure shows the maturity level in this process reaches level 4, which is managed. The IT department has managed IT risk by making tickets where the complaint tickets will be handled directly by the IT Helpdesk. IT Helpdesk has a standard target of 600 tickets every month to solve problems related to IT and information systems. However, the IT Helpdesk still needs to resolve complaint tickets with a stable target achievement every month.

10. PO10 (Manage Projects)
    In managing the project, the maturity level value of 4.42 is obtained. This figure shows the maturity level in this process reaches level 4, which is managed. In managing the project, the management has set project management for all IT project management. However, these projects must still be managed and completed properly.
According to Guldentops and De Haes, the standard set internationally is 2.0. Thus the current position can be said to be above international standards with the number 4.41.

5. Conclusion

The final maturity level value in the Plan and Organize (PO) domain is 4.41. This value is included in the level 4 (Managed) category. This figure has not yet reached the desired target based on the expected fulfillment target of 5.00. This results in a gap of 0.59. One effort that can minimize the gap in order to achieve the desired target value is to do IT management and its risks. With the merger of IT for 4 television stations (RCTI, MNC, SCTV and Global) in the logistics management of EFP and ENG goods (shooting equipment), the right decision making in information technology needs to be made from all stakeholders, including directors and commissioners and internal users and related sections such as finance, warehouse and logistics. All information and changes that occur in the company need to be communicated to each related function. This is done in order to increase the value of the next measurement of maturity level.

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