Evaluation Maturity Level IT Risk Management of Metatrader Software Using Risk IT Framework With Domain Risk Governance (RG)

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Abstract. The purpose of this study is to determine the extent to which companies anticipate and reduce information technology risks that will occur, it is necessary to evaluate information technology risk management. The method used in this study was evaluating information technology risk management is the Domain Risk Governance (RG) contained in the IT Risk Framework. The evaluation process using this framework and domain is that it can measure the level of company maturity in carrying out information technology risk management. The results of this study are companies knowing the level of maturity in implementing IT risk management at level 2 (recurring) and level 3 (defined), knowing the GAP between the current level of maturity with the target level of maturity and can increase the current level of maturity to achieve the target level it is desirable to use the recommendations given. So companies can compete with competitors in providing services, ensuring that IT risk management activities are aligned with company objectives, reducing losses in the IT implementation process, integrating IT risk strategies with business strategy risk decisions, and ensuring that decisions are made according to company objectives based on opportunities and the consequences that have been made.

1. Introduction

A company currently uses information technology to support operational and achievement of company goals. In the use of information technology allows the occurrence of unexpected risks. Risk management has become far more important in the company or IT Governance in recent years [1]. In his literature, Irfandi [2] states that there is a relationship between risk management and the success of information technology projects. In addition there are studies that discuss the process of identifying IT project risks that must be carried out from the beginning before failure occurs, this process can increase the success of IT projects because companies anticipate IT risks first [3]. There are several literatures that discuss risk IT framework conceptually from risk management process [4], risk management implementation [5], risk identification [6], measures of software projects performance and Software development risk [7]. The application of IT risk management is discussed in several literature [8], [9], [10].

To manage and minimize the occurrence of these risks, there is a framework that can overcome this problem, namely the Risk IT Framework. The Risk IT Framework describes detailed process models for IT risk management, risk analysis, risk profiles, responsibilities, and many other risk related terms [11]. In Risk
IT Framework there are three interrelated domains to improve management of the possibility of risk and increase the success of IT projects, namely Risk Governance (RG), Risk Evaluation (RE) and Risk Response (RR), can be seen in Figure 1 [12]. The main focus of this research is the domain of Risk Governance (RG) which aims to ensure that IT risk management practices are embedded in the company, enabling companies to secure returns that are adjusted to optimal risk [13]. The success or failure of IT projects depends on the measurement of IT risk management, the measurement in this study uses the maturity level. In evaluating the domain risk governance (RG) of information technology risk management for the use of the metatrader application, there is a need for risk identification and measurement of the company's current maturity level. In research on IT risk management, the main focus is on the maturity model of a company, so that it can continue to compete with the target maturity level. In addition, companies can improve IT better event capabilities [14]. There is some literature that discusses the maturity level measurement applied to several companies [15], [16], [17].

![Figure 1. The Risk IT Framework.](Source: The Risk IT Framework [12])

This research will discuss the use of metatrader software in companies there are still some risks that need to be managed to anticipate losses. By using the risk governance domain, companies can measure maturity levels in carrying out information technology risk management, ensuring that information technology risk management activities are aligned with the objectives to be achieved by the company and ensure that decision making does not cause losses to the company.
2. Methods

The method used in this study was Domain Risk Governance (RG) from the Risk IT Framework, ISACA. There are several steps taken in this study, the first stage is collecting data by conducting interviews and distributing questionnaires given to 50 respondents related to the use of the metatrader application, the results of the process from the first stage are data regarding the use of the metatrader application.

The second stage is the identification of the Risk Governance (RG) domain found in PT. X, at this stage, identified whether the company has implemented the RG 1 Establish and Maintain a Common Risk View process, the RG 2 Integrate with ERM process and the RG 3 Make Risk-aware Business Decisions process in the Risk Governance (RG) domain in the use of metatrader applications. Result of the second stage process is to ensure every operation regarding risk management is in accordance with the company's business targets so that the company does not experience losses related to IT (RG 1), to integrate IT risk strategies with decisions in risk management that have been made by the company (RG 2) and to ensure decisions taken by stakeholders in accordance with the risk management that has been made so that IT projects can be successful (RM 3).

After carrying out the first and second stages of the process, then in the third stage a measurement of the maturity level domain Risk Governance (RG) of PT. X now. Measurement of maturity level is obtained by using a Likert scale that is calculating the answers given by respondents then multiplied by the weight of each answer that has been determined then divided by the total questions. The result of this stage is the calculation of the risk governance (RG) maturity level domain of PT. X that level is.

At the last stage, the results obtained from the third stage are compared with the current maturity level with the target maturity level desired by PT. X. At this stage it can be seen whether the company has carried out information technology risk management in the use of metatrader applications in accordance with the target of PT. X or not. After a comparison, there is a GAP between the company's current maturity level and the desired target. GAP analysis is a method used to determine the performance of a system that is running with a standard system [18]. The results of this stage are evaluating several processes so that the risk governance (RG) maturity level domain desired by PT. X can be achieved. The method of this research can be seen in Figure 2.
3. Results and Discussion

3.1. Data of Respondents

The following data of 50 respondents who carried out the interview process and filled out questionnaires about risk in using the metatrader application, as in Table 1 below:

| No | Respondents               | Qty of Respondents |
|----|---------------------------|--------------------|
| 1  | Marketing                 | 15                 |
| 2  | Brokerage                 | 15                 |
| 3  | IT (Information Technology)| 15                 |
| 4  | Customer                  | 5                  |
|    | **Total**                 | **50**             |
3.2. Identification of Domain Risk Governance (RG)
At this stage, identification of several risk governance domain processes is carried out by giving questionnaires to 50 respondents related to the use of the metatrader software. The following are the results of the questionnaire answers from 50 respondents, as shown in Table 2:

| No | Domain | RG 1 | RG 2 | RG 3 |
|----|--------|------|------|------|
| 1  |        | 155  | 164  | 116  |
| 2  |        | 155  | 170  | 62   |
| 3  |        | 158  | 145  | 95   |
| 4  |        | 154  | 178  | 102  |
| 5  |        | 126  | 132  | 118  |
| 6  |        | 132  | -    | -    |
| Total|        | 880  | 789  | 493  |

3.3. Measurement of Maturity Level Domain Risk Governance (RG)
After measuring the questionnaire, the results obtained were that the RG 3 domain had the lowest index compared to RG 1 and RG 2. The results of the measurement of risk governance maturity level in accordance with the current conditions in PT. X, can be seen in Table 3:

| No | Domain | ∑ Questionnaire | ∑ Answer | Index |
|----|--------|----------------|----------|-------|
| 1  | RG 1   | 300            | 880      | 2,933 |
| 2  | RG 2   | 250            | 789      | 3,156 |
| 3  | RG 3   | 250            | 493      | 1,972 |

3.4. Evaluation Implementation of Domain Risk Governance (RG)
This stage doing a comparison between the current maturity level and the maturity target of PT. X, an in this stage the process goal recommendation is given to increase the maturity level to fit the target. Comparison of this maturity level will produce GAP, this GAP can be overcome using corrective actions to reach the target of PT. X, as shown in Table 4:

| No | Domain | Current Maturity Level | Target Maturity Level | GAP |
|----|--------|------------------------|-----------------------|-----|
| 1  | RG 1   | 2,933                  | 4                     | 1,067 |
| 2  | RG 2   | 3,156                  | 4                     | 0,844 |
| 3  | RG 3   | 1,972                  | 3                     | 1,028 |

The results of maturity level domain Risk Governance (RG) evaluation at PT. X in managing information technology risk using metatrader applications is domain RG 1 and RG 2 at level 3 (defined), while domain RG 3 at level 2 (repeatable). After making a comparison on the maturity level, there is a GAP between current maturity level condition and company target maturity level. Domain RG1 domain has GAP as big as 1.067, domain RG 2 has GAP as big as 0.844 and domain RG 3 has GAP as big as 1.028. To overcome the GAP contained in the company's maturity level, a recommended process objective is needed so that the target desired by the company can be achieved. Recommendations for process objectives that need to be carried out by the company can be seen in Table 5, below:
Table 5. Process Goal Recommendation

| No | Domain | Process Goal Recommendation |
|----|--------|-------------------------------|
| 1  | RG 1   | Companies need to raise awareness of IT risk, often communicate to employees about IT risks on a regular basis and provide workflows that can be used to manage risk problems and decision making to consider the possibility of profit or loss to the company. |
| 2  | RG 2   | Top level management must be able to define risk appetite and risk tolerance as part of risk, including IT risk. Company policy reflects business risk tolerance. |
| 3  | RG 3   | Companies must be able to manage and analyze IT risks that will occur and take into account IT risks in a business decision making. |

With the process goal recommendations, the company can improve some of the application information technology risk management that has been applied. The company can improve the maturity level in the RG 1 and RG 2 domains from level 3 to level 4 by doing improvements on the IT risk workflow process, risk appetite and risk tolerance. In addition, the company can improve the level of maturity level in the RG 3 domain from level 2 to level 3 by improving management and analysis of IT risks that will occur to the company after implementing the metatrader application in its operational job[19].

4. Conclusion

Maturity level domain risk governance at PT. X in managing information technology risk using the software metatrader is at level 2 (repeatable) in the RG 3, level 3 (defined) process in the RG 1 and RG 2 processes. PT. X needs to improve and evaluate several risk governance domain processes in accordance with the recommendations given, so that the IT risk management process can be embedded in the company and the company can carry out the risk return that will occur so that the company does not experience losses.

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