Human Resource Risk Management in Construction Services Companies in Bojonegoro

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Abstract

The success of a construction service company is influenced by human resources. However, in its implementation, human resources have risks that can also have a negative impact on the company. Therefore, the purpose of this study is to analyze the risk of human resources in construction service companies in Bojonegoro using the probability impact matrix method. The results obtained are that there are 17 (seventeen) risk factors that have been identified, which are divided into low, medium and high levels. By knowing the risk level, a management action can be taken in the form of a transfer action for low risk factors, for risks at the medium level, reduction (mitigation) actions can be taken, and for risk factors at the high level, avoidance actions can be taken.

Keywords: *Construction service companies, Human resources, Probability impact matrix, Risk management*

1. Introduction

Adequate human resources are one of the main factors in determining the success of a construction service company [1], [2]. There are many things that need to be considered for each workforce in order to support and meet the achievement of organizational goals, so that in this case an adequate form of human resource management is also needed. Human Resource Management (HRM) is a method of managing human resources in an organization in order to achieve the organization's goals optimally through the development of human resources themselves [3]. Without human resources, other production factors cannot be run optimally to achieve company goals. The role of humans in achieving these goals is very important in achieving organizational goals [4], [5]. However, complex and dynamic human resources can also have risks that can impact project success [6] - [8], so in this case risk management is also needed to manage and minimize risks that may occur in the company [7]. In an organization, risk management is used as a tool for making decisions to increase effectiveness . Risk management standards must be applied in project organizations to achieve the best in life and also to achieve high success. To get significant risk analysis results, risk tools and types must be adjusted. This is certainly inseparable from the risk management system that will be used as a reference for analysis [9] - [11].

Risk management is the central issue in planning and is a management of all speculation. The function of risk management is to identify, measure and organize risks by applying resource coordination to minimize, monitor and control the probability and/or impact of unexpected events. [12] - [17].

Risk management in a project is an approach to risk, where this is done by understanding risk, identifying risk and evaluating project risk. [13]. Different types and types of risk give rise to different measurement techniques. Project risk management includes several stages. These stages can be described as follows;

1. Risk management planning, selecting the approach and planning risk management activities for the project;
2. Identify risks, deciding which risks will affect the project and documenting the characteristics of each risk;
3. Qualitative risk analysis, characterizing and analyzing risks and prioritizing their impact on project objectives;
4. Quantitative risk analysis, measuring the likelihood and consequences of risks and estimating their impact on project objectives;
5. Risk management planning, taking steps to increase opportunities and reduce threats to meet project objectives; and
6. Risk monitoring and control, namely monitoring known risks, identifying new risks, reducing risks, and evaluating the effectiveness of risk reduction throughout the life of the project.

Response is a form of process of selecting development and determining actions to increase opportunities and reduce obstacles to project objectives [18] - [21]. In this case, there are 4 (four) stages of strategy that can be used, namely;

1. *Acceptance (Do Nothing),*

Risk Acceptance is risk management that only accepts (surrenders) to the risk that occurs without taking any action to control the risk;

2. *Transfer*

Risk Transfer requires the transfer of the impact of risk to a third party. This transfer only gives part of the responsibility to the third party without reducing the overall impact of the risk. Risk transfer mostly uses insurance institutions. For this, payment is required as a risk premium to the institution that bears part of the risk;

3. *Reduction (Mitigation),*

Taking action to reduce the chance of a risk occurring is better than repairing the damage after the risk has occurred. Risk reduction can be done using various techniques, namely: reducing the impact of the risk that occurs; reducing the likelihood of the risk occurring; and can be used together, to reduce the likelihood of the risk, as well as its impact simultaneously.

4. *Avoidance* ,

Risk avoidance affects changes in project management planning to eliminate obstacles caused by adverse risks, isolate project objectives from the impact of risks, or delay objectives from being affected by harmful risks;

Risk		Probability				
		1	2	3	4	5
Impact	1	L	L	L	L	L
	2	L	L	L	M	M
	3	L	L	M	M	H
	4	L	M	M	H	H
	5	M	M	H	H	H

Figure 1. Risk Matrix

2. Methods

The method in this study that will be used is use method approach in a way descriptively. In general, the methodology used is a merger between qualitative study with quantitative study which uses approach studies, cases and surveys. The research was implemented in service construction companies in the district Bojonegoro.

Respondent design used in this study is permanent respondent design, because respondents formed follow rule certain and not changeable during the withdrawal process respondent ongoing. permanentrRespondent design the chosen one in this study is cluster sampling method (respondents) in groups), namely technique to choose a respondent from a group of small units or cluster. The analysis method used in this study is *Probability Imcat Matrix (PIM).*

3. Results and Discussion

The results of the identification that has been carried out obtained human resource risk factors in construction service companies in Bojonegoro as presented in **Table 1**.

Table 1. Risk factors of human resource in the company service construction in Bojonegoro

No	Risk factors
1	Health and Safety Issues Work
2	Training Inadequate Staff
3	Recruitment Weak
4	Lack of Alternative Programs
5	Management Weak Information
7	Sabotage
8	Bad Morals
9	Problem Awards and Encouragement
10	Controversy
11	Educational Degree
12	Bad Leadership
13	Not Complying Rule
14	Planning Process Bad Strategy
15	Discriminated against
16	Inexperienced Senior Manager
17	Poor Performance

Source: Identification results, 2025

The table above is the result of risk factor identification, and it is known that there are 17 human resource risk factors in construction service companies in Bojonegoro. These risk factors include occupational health and safety issues, inadequate employee training, weak recruitment, lack of alternative programs, weak information management, sabotage, poor morale, reward and encouragement issues, conflict, educational degrees, poor leadership, disobedience, poor strategic planning processes, discrimination, inexperienced senior managers, and poor performance.

After identifying the risk factors, the next step is to conduct a risk assessment of the identified risk factors. The results of the risk assessment are shown in **Table 2** below:

Table 2. Risk values of human resource in the company service construction in Bojonegoro

No	Risk factors	P	I	R	Level
1	Health and Safety Issues Work	3	4	12	M
2	Training Inadequate Staff	2	2	4	L
3	Recruitment Weak	3	3	9	M

No	Risk factors	P	I	R	Level
4	Lack of Alternative Programs	4	2	8	M
5	Management Weak Information	3	2	6	L
7	Sabotage	2	4	8	M
8	Bad Morals	2	5	10	M
9	Problem Awards and Encouragement	2	3	6	L
10	Controversy	2	3	6	L
11	Educational Degree	2	3	6	L
12	Bad Leadership	2	3	6	L
13	Not Complying Rule	3	4	12	M
14	Planning Process Bad Strategy	4	4	16	H
15	Discriminated against	2	5	10	M
16	Inexperienced Senior Manager	3	3	9	M
17	Poor Performance	3	4	12	M

Source: Results analysis, 2025

The results of the risk assessment show that the risk factors of human resources in construction service companies in Bojonegoro related to occupational health and safety issues are worth 12, inadequate employee training is worth 4, weak recruitment is worth 9, lack of alternative programs is worth 8, weak information management is worth 6, sabotage is worth 8, poor morale is worth 10, reward and motivation issues are worth 6, conflict is worth 6, educational degrees are worth 6, poor leadership is worth 6, disobeying rules is worth 12, poor strategic planning process is worth 16, discrimination is worth 10, inexperienced senior managers are worth 9, and poor performance is worth 12.

The analysis results are then drawn and adjusted to the risk matrix as shown in **Figure 1**. The results obtained are occupational health and safety issues are worth 12 at level M (medium), inadequate employee training is worth 4 at level L (low), weak recruitment is worth 9 at level M (medium), lack of alternative programs is worth 8 at level M (medium), weak information management is worth 6 at level L (low), sabotage worth 8 is at level M (medium), poor morale worth 10, reward and motivation issues worth 6 are at level L (low), conflict worth 6 is at level L (low), educational degrees worth 6 are at level L (low), poor leadership worth 6 is at level L (low), disobeying rules worth 12 is at level M (medium), poor strategic planning process worth 16 is at level H (high), discrimination worth 10 is at level M (medium), inexperienced senior managers worth 9 are at level M (medium), and poor performance worth 12 is at level M (medium). From the results of the grouping of risk factors, the right action can be determined to reduce the existing risk, while for risk factors that are at the low level, transfer actions can be taken, for risks that are at the medium level, reduction (mitigation) actions can be taken, and for risk factors that are at the high level, avoidance actions can be taken**.**

4. Conclusion

This study resulted in the human resource risk factors in construction service companies in Bojonegoro, there are 17 (seventeen) identified risk factors, which are divided into low, medium and high levels. There are 6 risk factors at the low level, 9 risk factors at the medium level, and 1 risk factor at the high level. For risk factors at the low level, transfer actions can be taken, for risks at the medium level, reduction (mitigation) actions can be taken, and for risk factors at the high level, avoidance actions can be taken.

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