RISK MANAGEMENT ANALYSIS BASED ON ISO 13000 AT NC UNIVERSITY

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ARTICLE INFO

ABSTRACT

Received: January, 26\textsuperscript{th} 2022
Revised: February, 17\textsuperscript{th} 2022
Approved: February, 18\textsuperscript{th} 2022

In order to improve organizational governance, universities are required to carry out risk management. This study aims to help NC University to identify, analyze, evaluate and treat risks systematically. This research is a qualitative research. The data were analyzed descriptively based on the ISO 31000:2018 risk management framework, namely a risk assessment which includes identification, analysis and evaluation of risks as well as risk treatment. The result of this research is that there are risks that have been identified based on three categories, namely strategic risk, operational risk, and financial risk. In addition, there are several risk treatment actions taken.

KEYWORDS

Management, Risk, ISO 31000

INTRODUCTION

Universities are required by the government to carry out risk management as part of the implementation of the Government Internal Control System (SPIP) as stipulated in Government Regulation Number 60 of 2008 concerning the Government’s Internal Control System. There are five elements in the SPIP, namely the control environment, risk assessment, control activities, information, communication, and monitoring (SUGIYONO, Miqdad, & Sulistiyo, 2021).

One of the elements of SPIP, namely risk assessment, is intended to improve organizational governance through the implementation of risk management (Purwanto, Sp, & Fitria, 2021). Risk is something that leads to uncertainty over the occurrence of an event during a certain time interval where the event causes a loss, both small losses that
are not so significant or large losses that affect the survival of an organization (Lokobal, Sumajouw, & Sompie, 2014). Thus, risk management (risk management) becomes important for an organization, including educational institutions because educational activities cannot be separated from risks that can interfere with the achievement of educational goals.

There are 2 methods that are most often used in risk management, namely the COSO and ISO methods (Ariff et al., 2014). Both methods have been widely used by companies and agencies in various countries because they provide guidelines for implementing risk management that aim to support the level of effectiveness of risk management for its users. However, both have differences, namely where COSO views risk as an event that may occur and has a negative influence on the achievement of organizational goals (Arfiansyah, 2021). On the other hand, ISO defines risk as the effect of uncertainty on organizational goals (Lalonde & Boiral, 2012). Then to ensure that risk management runs effectively, ISO mentions eight principles that must be met (Hopkin, 2018). The eight principles include integrated, structured and comprehensive, according to organizational needs, inclusive, dynamic, based on the best available information, considering human and cultural factors, continuous improvement. Meanwhile COSO did not mention the principle (Paape & Speklé, 2012).

KMK number 577/KMK.01/2019 concerning Risk Management within the Ministry of Finance also uses ISO 31000:2018 as a reference in perfecting the Ministry of Finance's risk management standards. There are 3 elements of ISO 31000:2018 Risk management—guidelines used in the KMK which include principles, frameworks and risk management processes into a more open and interrelated system. In addition, ISO defines risk not only for events that have a negative effect (downside risk) but also the risk of having a positive impact (upside risk) for the achievement of organizational goals.

Risk Management is the process of identifying, assessing, and prioritizing risks followed by the coordination and application of economic resources to minimize, monitor and monitor the possibility of occurrence of unfavorable events. The risk management process includes the systematic application of policies, procedures, and various approaches to carry out communication and consultation, build context and assess risk, treat, monitor, review, record and report (to interested parties) (Bashynska, Kovalova, Malovichko, & Shirobokova, 2020).

NC University is one of the PTN designated as PTN BLU based on the Decree of the Minister of Finance (Kepmenkeu) in 2017 (Astawa, Prayudi, & Diputra, 2020). This change in status has made NC University serious in risk management. Based on the Regulation of the Minister of Finance (PMK) No. 200/PMK.05/2017 of 2017 which regulates the internal control system of the BLU. The PMK states that BLU leaders need to conduct a risk assessment to identify risks that exist within the organization and analyze these risks.

The application of risk management will help NC University as a PTN BLU in achieving organizational goals. Risk management is useful for NC University as PTN BLU in identifying what risk areas are faced and how risk management will help PTN BLU in achieving goals and improving the main performance of NC University. Implementation of risk management is able to minimize the possibility or consequences of unfavorable events. In addition, good risk management will increase the awareness of PTN BLU managers in making strategic and appropriate decisions based on the risk analysis that has been carried out. Based on the description of the background above, this research was conducted with the aim of conducting an analysis of risk management at the University of NC.
RESEARCH METHOD

This research approach uses a qualitative descriptive method with a case study at the University of NC as a BLU College (Syari’udin, Sutoyo, & Yulianti, 2021). This study uses an interactive model in the analysis of interview data. The interactive model uses 4 components, namely (1) data collection, (2) data reduction, (3) data presentation, and (4) conclusion or verification (Miles and Huberman, 1984; Sugiyono, 2019) (Isnaini & Ariyanti, 2020).

There are two (2) stages in this research, namely, first: a preliminary survey by distributing questionnaires to verify, clarify and find out whether or not the relevant risk variables obtained through literature studies and preliminary surveys of the heads of departments/work units at the university NC; the second stage, namely conducting a survey related to risk analysis. The survey results are processed using the Severity Index (SI) method (Haimovich et al., 2020).

RESULT AND DISCUSSION

The results of this study are divided into two parts based on the stages of research, namely:

1. Preliminary Survey

A survey of leaders within the University of NC, and obtained 30 respondents who are leaders in the University of NC from several classes of positions. Based on the returned questionnaire, information about the demographics of the respondents was obtained so that it can be seen the characteristics of the respondents who were the sample in this study (Luo, Lie, & Prinzen, 2020). In this section there is information about the gender, educational background, years of service and position of the respondents. The general description of the respondents can be seen in the following pictures:

![Figure 1 Respondents by Gender](source: processed data, 2021)
Based on Figure 2 that respondents with male sex as much as 57% while female sex as much as 43%. Thus, the majority of respondents in this study were women.

![Figure 2 Respondents based on Educational Background](image)

Figure 3 shows that most of the respondents’ education levels are Masters with a presentation level of 60%, while respondents with S1 and S3 education levels are 20% each.

![Figure 3 Respondents by Working Period](image)

Figure 4 shows respondents based on years of service. Based on the figure, respondents with a tenure of 10 – 15 years are the most dominant, which is 36%, for a service period of 15 – 20 years by 17%, for a service period of >25 years by 23%, a service period of 20 – 25 years by 10%, and years of service <5 years and 5 – 10 years respectively at 7%.

Respondents based on position are shown in Figure 4. 44% of respondents served as sub-coordinators, 23% Chair/Secretary of Study Programs, Respondents with positions
Based on the preliminary survey conducted, the results of the variable relevance test were obtained. In the risk variable relevance test phase, the researcher used the Guttman scale, the respondents were asked whether or not they agreed to the possibility of these risks within the University of NC. The statement agrees is that the risk variable is likely to occur at the University or has already occurred, while the statement disagrees is that the risk variable has no possibility of occurring or has never occurred at the University of NC. For a positive answer or agree it is given a score of 1, while for a negative answer or not it is given a score of 0. The score of the answers is then totaled, if the total score is > half of the total number of respondents, the answer is positive and vice versa (Perneger, Peytreman-Bridevaux, & Combescure, 2020).

Table 1 Relevance Test Results for Risk Variables

<table>
<thead>
<tr>
<th>No</th>
<th>Risk Code</th>
<th>Risk Variable</th>
<th>Agree</th>
<th>Not Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A. Strategy and Planning Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>A1</td>
<td>Decreased accreditation of universities/study programs</td>
<td>23</td>
<td>77%</td>
</tr>
<tr>
<td>2</td>
<td>A2</td>
<td>Undana's performance contract was not achieved</td>
<td>23</td>
<td>77%</td>
</tr>
<tr>
<td>3</td>
<td>A3</td>
<td>Webometrics ranking drops</td>
<td>24</td>
<td>80%</td>
</tr>
<tr>
<td>4</td>
<td>A4</td>
<td>Decreased cooperation with external parties</td>
<td>25</td>
<td>83%</td>
</tr>
<tr>
<td>5</td>
<td>A5</td>
<td>UKT rates are not in accordance with the student’s ability to pay</td>
<td>13</td>
<td>43%</td>
</tr>
<tr>
<td>6</td>
<td>A6</td>
<td>Decrease in the number of students</td>
<td>15</td>
<td>50%</td>
</tr>
<tr>
<td>7</td>
<td>A7</td>
<td>Financial Statements get an unqualified opinion</td>
<td>25</td>
<td>83%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Finance Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>B1</td>
<td>PNBP receipts below the set target</td>
<td>16</td>
<td>53%</td>
</tr>
<tr>
<td>9</td>
<td>B2</td>
<td>Unaccountable financial accountability</td>
<td>19</td>
<td>63%</td>
</tr>
</tbody>
</table>
Based on the results of the relevance test, 3 risk categories were identified at NC Universities, and most of them agreed that the risk occurred at NC Universities. As shown in Table 1. These risks are divided into 3 risk groups, namely:

a. Strategy and Planning Risk, which is a risk related to the strategic decision-making process. The risks that usually arise are unexpected conditions that reduce the company's or institution's ability to carry out the planned strategy in achieving the goals that have been set.

b. Finance Risk, is a risk that can affect the ability and financial stability of the company/institution.

c. Operational/Infrastructure risk, is a risk related to the failure of the company's/institution's internal process function. There are 4 common factors that cause operational risk, namely human error, process error, system error and error due to external factors.
2. Main Survey

After identifying the relevant risks at NC University, a main stage questionnaire survey was then conducted to conduct a risk analysis. The risk analysis phase begins by distributing the risk probability and impact questionnaire to the same 30 respondents before. Each probability and risk impact has 1-5 indices which have the following meanings:

<table>
<thead>
<tr>
<th>Indeks</th>
<th>Likelihood Level</th>
<th>Likelihood Criteria</th>
<th>The number of possible occurrences in 1 period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Almost didn't happen</td>
<td>$x &lt; 5%$</td>
<td>Very rarely</td>
</tr>
<tr>
<td>2</td>
<td>Rarely happening</td>
<td>$5% &lt; x &lt; 10%$</td>
<td>$&lt; 2$ times in 1 year</td>
</tr>
<tr>
<td>3</td>
<td>Sometimes it happens</td>
<td>$10% &lt; x &lt; 20%$</td>
<td>Rarely $2$ to $5$ times in 1 year</td>
</tr>
<tr>
<td>4</td>
<td>Often occurs</td>
<td>$20% &lt; x &lt; 50%$</td>
<td>Quite often $5$ to $9$ times in 1 year</td>
</tr>
<tr>
<td>5</td>
<td>It's almost certain to happen</td>
<td>$x &gt; 50%$</td>
<td>Often $10$ times to $12$ times in 1 year</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Index</th>
<th>Impact Level</th>
<th>Impact Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not significant</td>
<td>Total loss: 0 – IDR 10 million</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stakeholder complaints directly verbally/written to the organization are about 3 in one period</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Achievement of performance targets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Delayed service in 1 day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of lawsuits $5$ times in one period</td>
</tr>
<tr>
<td>2</td>
<td>Minor</td>
<td>Total state losses are more than Rp. 10 million – Rp. 50 million</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stakeholder complaints directly verbally/written to the organization are more than 3 in one period</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Achievement of performance targets above $80%$ to $100%$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service is delayed more than 1 day to 5 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of lawsuits above 5 to 15 times in one period</td>
</tr>
<tr>
<td>3</td>
<td>Sometimes it happens</td>
<td>The total loss to the state in local mass media</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Achievement of performance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service is delayed more than 5 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of lawsuits</td>
</tr>
</tbody>
</table>
Risk Management Analysis Based on ISO 13000 at NC University

<table>
<thead>
<tr>
<th>No</th>
<th>Risk Code</th>
<th>Probability</th>
<th>SI (%)</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>A1</td>
<td>Decreased accreditation of universities/study programs</td>
<td>70.0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>A2</td>
<td>Undana's performance</td>
<td>63.3</td>
<td>4</td>
</tr>
</tbody>
</table>

After the data is obtained, then the main survey results are analyzed using the Severity Index (SI) method. The aim is to obtain a combined result of the risk assessment of probability and impact. Based on the data obtained through questionnaires that have been distributed, the results of the analysis of the probability and impact risk assessment for all risk variables using the Severity Index (SI) method can be seen in Table 4 and Table 5.

Table 4 Results of Risk Variable Probability Assessment with SI

<table>
<thead>
<tr>
<th>No</th>
<th>Risk Code</th>
<th>Probability</th>
<th>SI (%)</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A1</td>
<td>Decreased accreditation of universities/study programs</td>
<td>70.0</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>A2</td>
<td>Undana's performance</td>
<td>63.3</td>
<td>4</td>
</tr>
<tr>
<td>Contract was not achieved</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 A3 Webometrics ranking drops</td>
<td>2 2 15 10 1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 A4 Decreased cooperation with external parties</td>
<td>9 7 7 5 2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 A5 UKT rates are not in accordance with the student's ability to pay</td>
<td>6 4 9 10 1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 A6 Decrease in the number of students</td>
<td>1 4 5 10 10</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 A7 Financial Statements get an unqualified opinion</td>
<td>5 1 11 9 4</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance Risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 B1 PNBP receipts below the set target</td>
<td>2 6 12 8 2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 B2 Unaccountable financial accountability</td>
<td>5 3 3 7 12</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 B3 Financial realization does not match the expected target</td>
<td>3 7 6 11 3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational/Infrastructure risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 C1 The ratio of lecturers and students does not meet the accreditation requirements</td>
<td>7 9 6 7 1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 C2 The results of the lecturer's research do not answer the community's needs</td>
<td>6 12 7 4 1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 C3 Scholarships are received by students who are not right on target</td>
<td>4 7 8 9 2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Description</td>
<td></td>
<td></td>
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<td>---</td>
<td>---</td>
<td>------------------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>14</td>
<td>C4</td>
<td>The business unit did not achieve the planned target</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>C5</td>
<td>Business Units are not managed efficiently</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>16</td>
<td>C6</td>
<td>Procurement of goods does not meet specifications</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>C7</td>
<td>There is an expensive price in the procurement of goods/services</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>C8</td>
<td>Asset administration and maintenance is not going well</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>19</td>
<td>C9</td>
<td>Handling of Inventory Change (Up) is stagnating</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>C10</td>
<td>Reporting of SPI audit results is not in accordance with the set schedule</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>21</td>
<td>C11</td>
<td>The occurrence of a fire in the lecture building / laboratory / office building / multipurpose room</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>22</td>
<td>C12</td>
<td>Website with undana.ac.id account hacked</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>23</td>
<td>C13</td>
<td>Prolonged power outage</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>No</td>
<td>Risk Code</td>
<td>Impact Description</td>
<td>SI (%)</td>
<td>Category</td>
</tr>
<tr>
<td>----</td>
<td>-----------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>--------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not Significant</td>
<td>Minor</td>
<td>Moderate</td>
</tr>
<tr>
<td>1</td>
<td>A1</td>
<td>Decreased accreditation of universities/study programs</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>A2</td>
<td>Undana's performance contract was not achieved</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>A3</td>
<td>Webometrics ranking drops</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>A4</td>
<td>Decreased cooperation with external parties</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>A5</td>
<td>UKT rates are not in accordance with the student's ability to pay</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>A6</td>
<td>Decrease in the number of students</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>A7</td>
<td>Financial Statements get an unqualified opinion</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>B1</td>
<td>PNBP receipts below the set target</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>B2</td>
<td>Unaccountable financial accountability</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>B3</td>
<td>Financial realization does not match the expected target</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

**Finance Risk**

**Operational/Infrastructure risk**
<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>C1</td>
<td>The ratio of lecturers and students does not meet the accreditation requirements</td>
<td>4</td>
<td>3</td>
<td>8</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>12</td>
<td>C2</td>
<td>The results of the lecturer's research do not answer the community's needs</td>
<td>6</td>
<td>3</td>
<td>13</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>C3</td>
<td>Scholarships are received by students who are not right on target</td>
<td>10</td>
<td>5</td>
<td>9</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td>C4</td>
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<td>3</td>
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<td>10</td>
<td>6</td>
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<td>12</td>
<td>8</td>
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<tr>
<td>17</td>
<td>C7</td>
<td>There is an expensive price in the procurement of goods/services</td>
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<td>2</td>
<td>8</td>
<td>7</td>
<td>9</td>
</tr>
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<td>7</td>
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<td>11</td>
</tr>
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<tr>
<td>20</td>
<td>C10</td>
<td>Reporting of SPI audit results is not in accordance with the set schedule</td>
<td>4</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>21</td>
<td>C11</td>
<td>A fire occurred in the lecture building/laboratory/office building/multipurpose room</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>
The following is an example of a calculation using the Severity Index (SI) method. Based on the data obtained through the questionnaire on the probability of the occurrence of A1 risk, namely "Decrease in university/study program accreditation", the following data were obtained, namely 2 respondents stated the probability of almost not happening (HTT/1), 3 respondents stated Rarely Occurred (JT/2), 2 respondents stated that it happens sometimes (KT/3), 15 respondents said it often happened (ST/4), 8 respondents said it almost certainly happened (HPT/5).

The calculation is as follows:

\[
SI = \frac{\sum ai \cdot xi}{\sum xi} \times 100
\]

Where: \( ai \) = research constant
\( xi \) = frequency of respondents

- \( a0 = 0 \times a0 = \) for the answer Almost does not happen (HTT/1)
- \( a1 = 1 \times a1 = \) for the answer Rarely Occurs (JT/2)
- \( a2 = 2 \times a2 = \) for the answer Sometimes Happens (KT/3)
- \( a3 = 3 \times a3 = \) for almost certain answer (HPT/4)
- \( a4 = 4 \times a4 = \) for the answer Very Often Happens (SST/5)

\[
SI = \frac{(0 \times 2) + (1 \times 3) + (2 \times 2) + (3 \times 15) + (4 \times 8)}{4 \times 30} \times 100
\]

\[
SI = 70
\]

After finding the SI value = 70, then this SI value is converted to the Probability and Impact assessment scale as follows:

- Almost did not happen (HTT/1) = 0.00 SI < 12.5
- Rarely Occurs (JT/2) = 12.5 SI < 37.5
- Occasional (KT/3) = 37.5 SI < 62.5
- Frequently Occurs (ST/4) = 62.5 SI < 87.5
- Almost certain to happen (HPT/5) = 87.5 SI < 100

Based on the above criteria, the Probability category of A1 risk, namely “Decreased accreditation of universities/study programs” is almost certain to occur (HPT/4).

After the risk category is converted into the form of a number, a risk analysis of the probability x impact calculation can be carried out with the help of the Probability and Impact Matrix as shown in Table 6 and Table 7. Risk analysis is carried out by multiplying the results of the probability assessment (P) with the results of the impact assessment (I). of each risk variable. The calculation results can be seen in Table 8.
From the results of the risk analysis in table 8, it is found that several risk variables have a fairly large value compared to other risks, namely the extreme high category. These risks have the greatest probability of occurring and have a significant impact on NC University.

### Table 6 Matriks Analisis Risiko

<table>
<thead>
<tr>
<th>Level</th>
<th>Risk Level</th>
<th>Priority Risk</th>
<th>Amount of Risk</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Very high</td>
<td>1</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Tall</td>
<td>4</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>20</td>
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</tr>
<tr>
<td></td>
<td></td>
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<td>19</td>
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<td></td>
<td></td>
<td>8</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Currently</td>
<td>9</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>11</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>12</td>
<td>14</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>13</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>16</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>17</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Low</td>
<td>18</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>19</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>21</td>
<td>5</td>
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<tr>
<td></td>
<td></td>
<td>22</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Very low</td>
<td>23</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>24</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

### Table 7 Matrix of ISO 31000:2018 Risk Analysis

<table>
<thead>
<tr>
<th>Likelihood Level</th>
<th>Impact Level</th>
<th>Not Significant</th>
<th>Minor</th>
<th>Moderate</th>
<th>Significant</th>
<th>Very Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost Definitely Happening</td>
<td>17</td>
<td>10</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Often occurs</td>
<td>20</td>
<td>13</td>
<td>8</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
### Table 8 Risk Analysis Matrix

<table>
<thead>
<tr>
<th>Risk Code</th>
<th>Risk Variable</th>
<th>Probability</th>
<th>Impact</th>
<th>P x I</th>
<th>Risk Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Decreased accreditation of universities/study programs</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>High</td>
</tr>
<tr>
<td>A2</td>
<td>Non-achievement of performance contract</td>
<td>4</td>
<td>4</td>
<td>16</td>
<td>Extreme High</td>
</tr>
<tr>
<td>A3</td>
<td>Webometrics ranking drops</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>High</td>
</tr>
<tr>
<td>A4</td>
<td>Decreased cooperation with external parties</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>Medium</td>
</tr>
<tr>
<td>A5</td>
<td>UKT rates are not in accordance with the student's ability to pay</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>High</td>
</tr>
<tr>
<td>A6</td>
<td>Decrease in the number of students</td>
<td>4</td>
<td>4</td>
<td>16</td>
<td>Extreme High</td>
</tr>
<tr>
<td>A7</td>
<td>Financial Statements get an unqualified opinion</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>High</td>
</tr>
<tr>
<td>B1</td>
<td>PNBP receipts below the set target</td>
<td>3</td>
<td>4</td>
<td>12</td>
<td>High</td>
</tr>
<tr>
<td>B2</td>
<td>Unaccountable financial accountability</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>High</td>
</tr>
<tr>
<td>B3</td>
<td>Financial realization does not match the expected target</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>High</td>
</tr>
<tr>
<td>C1</td>
<td>The ratio of lecturers and students does not meet the accreditation requirements</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>High</td>
</tr>
<tr>
<td>C2</td>
<td>The results of the lecturer's research do not answer the community's needs</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>Medium</td>
</tr>
</tbody>
</table>

### Table 9 Probability x Impact Risk

<table>
<thead>
<tr>
<th>No</th>
<th>Risk Code</th>
<th>Risk Variable</th>
<th>Probability</th>
<th>Impact</th>
<th>P x I</th>
<th>Risk Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A1</td>
<td>Decreased accreditation of universities/study programs</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>High</td>
</tr>
<tr>
<td>2</td>
<td>A2</td>
<td>Non-achievement of performance contract</td>
<td>4</td>
<td>4</td>
<td>16</td>
<td>Extreme High</td>
</tr>
<tr>
<td>3</td>
<td>A3</td>
<td>Webometrics ranking drops</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>High</td>
</tr>
<tr>
<td>4</td>
<td>A4</td>
<td>Decreased cooperation with external parties</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>Medium</td>
</tr>
<tr>
<td>5</td>
<td>A5</td>
<td>UKT rates are not in accordance with the student's ability to pay</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>High</td>
</tr>
<tr>
<td>6</td>
<td>A6</td>
<td>Decrease in the number of students</td>
<td>4</td>
<td>4</td>
<td>16</td>
<td>Extreme High</td>
</tr>
<tr>
<td>7</td>
<td>A7</td>
<td>Financial Statements get an unqualified opinion</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>High</td>
</tr>
<tr>
<td>8</td>
<td>B1</td>
<td>PNBP receipts below the set target</td>
<td>3</td>
<td>4</td>
<td>12</td>
<td>High</td>
</tr>
<tr>
<td>9</td>
<td>B2</td>
<td>Unaccountable financial accountability</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>High</td>
</tr>
<tr>
<td>10</td>
<td>B3</td>
<td>Financial realization does not match the expected target</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>High</td>
</tr>
<tr>
<td>11</td>
<td>C1</td>
<td>The ratio of lecturers and students does not meet the accreditation requirements</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>High</td>
</tr>
<tr>
<td>12</td>
<td>C2</td>
<td>The results of the lecturer's research do not answer the community's needs</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>Medium</td>
</tr>
</tbody>
</table>
Based on Table 9, it is known that of the 23 identified risks, there are 5 risks that fall into the Extreme High category, meaning that these 5 risks must be handled immediately. There are 13 risks in the High category, 4 risks in the Medium category and 1 risk in the low category.

There are 5 actions that can be taken to deal with these risks, namely:

1. Avoid
   This action is carried out by not carrying out activities that can cause these risks.

2. Share
   Risk treatment by dividing the process stages which are handled by other institutions and each is responsible for the stages of its work.

3. Transfer
   This action is carried out by dividing the risk by buying insurance, reinsurance and doing hedging.

4. Reduce
   Risk treatment by reducing the possibility of risk occurring through the creation of procedures and internal control, training, internal socialization.
5. Receive

This action means accepting risk because it cannot be avoided or reduced because it is part of the organization’s scope of work.

The same questionnaire was given to the respondents to see how the respondents think about dealing with these risks. Respondents’ answers varied, processed using the same method, namely the Severity Index (SI) method. The following is the response of respondents to the risk treatment that has been identified in table 10.

Table 10 Responses to Dominant Risks

<table>
<thead>
<tr>
<th>No</th>
<th>Risk Code</th>
<th>Impact</th>
<th>SI (%)</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Avoid Sharing Transfer Reduce Receive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>A1</td>
<td>4 2 0 22 2</td>
<td>63,33</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>A2</td>
<td>0 5 0 20 5</td>
<td>70,83</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>A3</td>
<td>0 4 0 19 6</td>
<td>70,83</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>A4</td>
<td>0 6 1 21 3</td>
<td>69,17</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>A5</td>
<td>3 2 1 23 1</td>
<td>64,17</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>A6</td>
<td>1 1 0 25 3</td>
<td>73,33</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>A7</td>
<td>5 3 0 15 7</td>
<td>63,33</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>B1</td>
<td>3 3 0 21 3</td>
<td>65,00</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>B2</td>
<td>2 2 1 22 3</td>
<td>68,3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>B3</td>
<td>4 2 1 20 3</td>
<td>63,3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>C1</td>
<td>4 2 1 21 2</td>
<td>62,5</td>
<td>4</td>
</tr>
</tbody>
</table>
Table 11 Responses to Dominant Risks

<table>
<thead>
<tr>
<th>No</th>
<th>Risk Code</th>
<th>Variable Risk</th>
<th>Type of Risk</th>
<th>Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A2</td>
<td>Non-achievement of performance contract</td>
<td>Extreme High</td>
<td>Reduce</td>
</tr>
<tr>
<td>2</td>
<td>A6</td>
<td>Decrease in the number of students</td>
<td>Extreme High</td>
<td>Reduce</td>
</tr>
</tbody>
</table>
Based on table 10, it is known that most of the risks are handled by respondents by reducing risk, namely 83% of the total respondents, while those who choose to transfer risk are 13%, and share risk is 4%. Risk management against 5 extreme high risks is dominated by risk reduction measures. This action can be done by making policies that can reduce these risks by using cost and benefit analysis.

**CONCLUSION**

Based on the results and discussion of this research, it can be concluded that after risk identification there are twenty-three risks identified at NC University based on three types of risks, namely Strategy and Planning Risk with 7 risks, Finance Risk with 3 risks, and Operational/Infrastructure risk. As many as 13 risks.

The results of the risk analysis show that of the twenty-three identified risks, there are 5 risks that fall into the Extreme High category, meaning that these 5 risks must be handled immediately, 13 risks in the High category, 4 risks in the Medium category and 1 risk in the low category. Risk management actions are carried out by reducing risk for 19 risks, which is 83% of the total respondents, while those who choose to transfer risk are 13%, or 3 risks and share and accept risk of 4%, namely 1 risk.

**REFERENCES**


