



Development of Risk Management Model in Managerial Accounting Bachelor of Applied Science Study Program

Moh. Hasanudin^(✉), Kenneth Pinandhito, Tutik Dwi Karyanti,
and Maria Theresia Heni Widayati

Accounting, Politeknik Negeri Semarang, Semarang, Indonesia
muhammadhasanudin1976s@gmail.com

Abstract. The quality management system (QMS) helps coordinate and direct the organization's activities to meet customer needs, continuously increasing effectiveness and efficiency. Regarding the quality management system, Polines has obtained an ISO 9001: 2015 certificate that explicitly states the application of the principles of risk management. The conditions in PMPP Polines have not provided guidance on Quality Procedures related to the measurement of risk in all departments and UPTs. The purpose of this research is to create a risk model based on the application of the BAN PT Form (AIPS 4.0 instrument). The method to be used in this study is the gap analysis method. The sample in this study is the same as the population, namely the DIV Managerial accounting study program of Polines. In this study, the results were obtained that the suitability is based on the AIPS 4.0 instrument with a value below 75% that will be made a risk map. The results of the risk map obtained will then be grouped into four, namely the extreme risk status level, there are six items, the high-risk status level is twenty-two items, the intermediate-risk status level is ten items and the low-risk status level is two items.

Keywords: Risk Management · Accounting · Applied Science · Quality Management System

1 Introduction

Quality management system (QMS) is a formal system that documents processes, procedures, and responsibilities to achieve quality policies and objectives. Since 2005, Polines has implemented an internal quality assurance system (SPMI) and an external quality assurance system (SPME) following developments and needs. Polines has implemented a quality management system (QMS) with an ISO 9001:2008 standard in relation to SPME. Furthermore, in 2018, Polines obtained an ISO 9001:2015 certificate that explicitly requires the implementation of risk management. By the SPM Dikti Polines also implements the SPME (Prodi accreditation). Accreditation is an External Quality Assurance System as part of the Higher Education Quality Assurance System.

The purpose of accreditation is to determine the feasibility of Study Programs and Higher Education based on criteria that refer to the National Higher Education Standards; and guarantee the quality of Study Programs and Higher Education externally, both in academic and non-academic fields to protect the interests of students and society. In accordance with Article 6 Permenristekdikti No. 32 of 2016 in paragraph (1) states that “The validity period of accreditation status and accredited ranking of Study Programs and/or Higher Education is 5 (five) years.

The managerial accounting study program will reaccredit, because the validity period of the accreditation status will end December 27, 2021. In accordance with the definition of risk according to BPKP [1] concluded that risk can arise from internal sources and external sources from an educational institution. Risks originating from external sources include the emergence of new laws and regulations, technological developments, natural disasters and security disturbances. For re-accreditation, which will be carried out in 2021, the AIPS 4.0 instrument is used with 9 different criteria from the previous accreditation with the AIPS 2.0 instrument, which only has 7 criteria. As previously explained, the emergence of new laws or regulations is a risk, for this reason, in this study the aim is to carry out development of risk management models in the DIV Managerial Accounting Study Program based on the application AIPS 4.0 instrument with 9 criteria.

2 Literature Review

2.1 Definition of Risk

According to Kloman and Seawrack [2], the word “risk” in English comes from the ancient Italian word “riscare”. Risk has a very diverse definition with many meanings and interpretations, depending on how people view it. Risk can be viewed as:

- Something detrimental happens (risk of loss).
- An uncertainty (risk of volatility).
- Something profitable does not happen (risk of lost opportunity).

Risk is a concept used by auditors and management to express their concern about the possible impact on an uncertain environment. Any event can have a material impact or significant consequence for the organization and its goals. Negative consequences are called risks and positive consequences are called opportunities.

BPKP [1] concludes that risk can arise from an educational institution’s internal and external sources. Risks originating from external sources include the emergence of new laws and regulations, technological developments, natural disasters and security disturbances. Meanwhile, internal sources of risk consist of limited operational funds, incompetent human resources, inadequate equipment, unclear procedural policies and an unfavorable working atmosphere. In addition to these two risks, risks can also be caused by inappropriate program expenditures, violations of fund control.

2.2 Quality Management System

Quality Management System (QMS) is a formal system that documents the company structure, duties and responsibilities of employees and management, procedures required

to realize product or service quality. Four quality tools should be used when creating a QMS: Quality Manual, Standard Operating Procedures, Work Instructions and supporting documents such as flow charts and quality records. The four tools must be consistent, interconnected, and work together to increase the value of goods or services to meet customer and market needs [3].

The quality management system defines how the organization consistently implements quality management practices to meet customer and market needs. There are several general characteristics of a quality management system [4]:

- The quality management system covers many activities in modern organizations. Quality can be defined through five main approaches, namely (1) transcendent quality is an ideal condition for excellence, (2) product-based quality is a product attribute that meets quality, (3) user-based quality is conformity or accuracy in the use of products (goods and/or services), (4) manufacturing-based quality is conformance to standard requirements, and (5) value-based quality is the degree of excellence at a competitive price level.
- The quality management system focuses on the consistency of the work process. This often includes some level of documentation against work standards.
- The quality management system is based on error prevention so that it is proactive, not reactive error detection.
- The quality management system includes elements: objectives (objectives), customers (customers), results (outputs), processes (processes), inputs (inputs), suppliers (suppliers) and measures for feedback and feedback (measurements for feedback and feedforward). In English, the acronym can be shortened to: SIPOCOM-Suppliers, Inputs, Processes, Outputs, Customers Objectives, and Measurements [5].

From the definition that has been put forward regarding the Quality Management System, it can be concluded that the Quality Management System is a systematic procedure carried out by a company organization or educational institution to implement quality management in order to ensure the suitability of a product from the organization to the needs or requirements determined by customer or organization consistently.

2.3 Accreditation

In the Law on the National Education System in Chapter I, Article 1, and paragraph 32, it is stated that accreditation is an activity to assess the feasibility of programs in academic units based on predetermined criteria. Article 60 paragraphs 1, 2, 3 and 4 are further clarified that accreditation is carried out to determine the feasibility of educational programs and units at each level, type and path of education (formal and non-formal), while for educational programs and units, it is carried out by the government and/or independent institutions so that they have high public accountability (Law No. 20, 2003).

Accreditation is carried out on Study Programs and Higher Education based on the interaction between the standards in the Higher Education Standards, namely the National Higher Education Standards plus the Higher Education Standards set by the Higher Education. Accreditation of Study Programs and Universities is carried out using accreditation instruments.

The 2011 Higher Education Institution Accreditation Instrument (IAPS 3.0), which has been in effect since 2011 must be adjusted and replaced with the IAPS 4.0 instrument. With the implementation of IAPS 4.0, at least 5 fundamental changes are expected to occur. These changes include:

- A paradigm shift in accreditation from input-process to output-outcome.
- Changes in university assignments, from filling out forms to conducting self-evaluations related to institutional development.
- Changes in the assessor's task from describing data and information to assessing the results of the self-evaluation.
- Shifting the nature of accreditation from quality check to quality assurance in the context of sustainable quality development (CQI) and developing a quality culture (Quality Culture Development).
- Higher education institutions are involved in the accreditation process, especially in providing feedback on the preparation of accreditation reports.

This instrument is expected to trigger a shift from rule-based accreditation to principle-based accreditation as shown in the following 3 important characteristics.

- A paradigm shift in accreditation from input-process to output-outcome.
- Clarity of logical framework from planning, implementation, to evaluation, and its relation to institutional development plans.
- Emphasis that the university leadership is the most responsible party (leader responsibility) in the accreditation process.

The study program accreditation criteria include criteria regarding the commitment of higher education institutions to institutional capacity development and increasing the effectiveness of educational programs and the implementation and evaluation of the implementation of educational programs, which are grouped into 9 (nine) accreditation criteria follows.

- Criterion 1 Vision, Mission, Goals and Strategy
- Criterion 2 Governance, Governance, and Cooperation
- Criteria 3 Students
- Criterion 4 Human Resources
- Criterion 5 Finance, Facilities and Infrastructure
- Criterion 6 Education
- Criterion 7 Research
- Criterion 8 Community Service
- Criterion 9 Outcomes and Achievements of Tridharma

3 Research Methods

The method used in this research is the gap analysis method.

Gap analysis is defined by the IT Infrastructure Library (ITIL) as an activity that compares two types of data and identifies the differences. Gap analysis is commonly used to compare a set of requirements. Gap analysis is generally structured around a set of areas, topics or categories, thus making gap analysis efficient to find out which sectors

Table 1. Score gap analysis.

Score	Definition
1	If the organization or company does not understand what is required and does not do so.
2	If the organization or company understands the importance of the activity but does not do it.
3	If the organization or company has a document but it has not been applied or done but not recorded.
4	If the organization or company performs activities but is inconsistent.
5	If the organization or company performs activities well (consistently).

or areas need improvement. Gap analysis is effective because the checklist is structured and following the topic.

The checklist will include all the existing requirements and are made hierarchically in the assessment. This will include general questions and provide an overview of the topic or category to be assessed. The questions on the checklist are complete, detailed and assess each requirement if necessary. Each question relates to other questions to ensure traceability [6]. The following are the steps in conducting a gap analysis:

1. Determination of Score

The scores used in the gap analysis are shown in Table 1.

2. Rating Checklist

Checklist assessment by respondents based on current organizational conditions. The selected respondents are respondents who have sufficient competence. Based on the scoring provisions described in Table 1, the assessment is carried out.

3. Gap Rating

Gap assessment aims to see how big the gap is in the organization. The percentage value is obtained by adding up the scores per variable and dividing by the maximum value. The smaller the gap, the better. To measure readiness The resulting percentage value shows the company's readiness in implementing the BAN-PT. Table 2 shows the range of gaps values.

3.1 Identification of Research Variables

The research variables used in this study were taken based on the clauses/standards contained in BAN-PT. The following shows the research variables.

- Vision, Mission, Goals and Strategy
- Governance, Governance, and Cooperation
- Student
- Human Resources

Table 2. Range gap analysis.

Percentage	Definition
100%	The organization has completed the BAN-PT form, it has been carried out well
91%–99%	The organization has completed the BAN-PT Form but there are still some work procedures and requirements that are carried out but not yet consistent.
76%–90%	The organization has completed the BAN-PT form but there are still some work procedures and requirements that have not been implemented
51%–75%	Some of the organizations have not completed the BAN PT form and there are still some work procedures and requirements that have not been implemented
0%–50%	The organization needs improvement because it is very different from the Quality Management System of BAN-PT Forms

- Finance, Facilities and Infrastructure
- Education
- Study
- Community service
- Outcomes and Achievements of Tridharma

3.2 Processing and Data Analysis

Primary data obtained by field observations. In this study, primary data was in the form of system observations and an internal audit checklist for the BAN-PT form, which was made to determine the conditions for applying the three standards. The respondents were chosen because they were directly involved with making the existing and ongoing BAN-PT Forms in the Manjerial Accounting Study Program.

Data processing at this stage is to calculate the score as in Tables 1 and 2. The results of this score calculation are useful for assessing the application of standards/clauses in the Manjerial Accounting Study Program based on the BAN-PT. Gap analysis results with values below 75% are used as a basis for determining risk management with the following steps:

- Risk Identification
- Identify what, why and how factors influence risk occurrence for further analysis.
- Risk Analysis
- This is done by determining the level of probability and consequences that will occur. Then the level of risk is determined by multiplying the two variables (probability X consequences).
- Risk Evaluation
- Comparing the current risk level with standard criteria. If the risk level is set as low, then the risk falls into the good category and may only require monitoring without carrying out control.
- Risk Control
- Decreasing the degree of probabilities and consequences by using various alternative methods can be by risk transfer and others.

- Monitor and Review
- Monitor and review the results of the risk management system carried out and identify changes that need to be made.

4 Results and Discussion

Managerial Accounting Study Program (STr) at Semarang State Polytechnic in Semarang following the Minister of Education and Culture's decision. Director-General of Higher Education, namely Mr. Djoko Santoso on September 5, 2013, based on Operational Permit Decree Number: 364/E/O/2013. Although there is already an operational permit, the Managerial Accounting Study Program only accepted students in 2014.

In 2016, the Managerial Accounting Study Program carried out accreditation. Accreditation results based on the decision of BAN-PT No. 3314/SK/BAN-PT/Akred/Dipl-IV/XII/2016 stated that the Managerial Accounting Study Program was accredited with a B rank. In 2018 for the first time, the Managerial Accounting study program graduated students with 100% graduation.

4.1 Procedure for Gap Analysis Form BAN-PT

We can identify what we need to bridge the existing conformity [7]. The first step of this tool is to compile a gap analysis checklist which serves to identify gaps between the written procedure and the process carried out. The weighting in the Conformity analysis is carried out using discussions with several respondents who have sufficient competence. The steps in determining the score are based on the flow chart in Fig. 1.

The steps in determining the weighting value are carried out as follows:

- Score 1: If the clause in the BAN-PT form is not included in the Polines quality procedure.
- Score 2: If the AM or Polines Study Program understands the importance of the activity according to the BAN-PT form but does not do it.
- Score 3: If the AM or Polines Study Program has documented by the BAN-PT form but have not been implemented or carried out but not recorded.
- Score 4: If the AM or Polines Study Program carries out activities according to the BAN-PT form, but it is inconsistent.
- Score 5: If the AM or Polines Study Program performs activities according to the BAN-PT Form well (consistently).

The next step is to conduct a gap assessment, and this step aims to see how big the gap is in the AM Study Program. The percentage value is obtained by adding up the scores per variable and dividing by the maximum value. The smaller the gap, the better. To measure readiness The resulting percentage value indicates the readiness of the AM Study Program in implementing SN Dikti. Table 3 shows the range of the gap value.

4.2 Conformity/Gap Analysis with Accreditation of BAN-PT in AM Study Program

The results of the Gap analysis/suitability of the AM Study Program Accreditation Form implementation using a checklist based on the requirements on the technical instructions

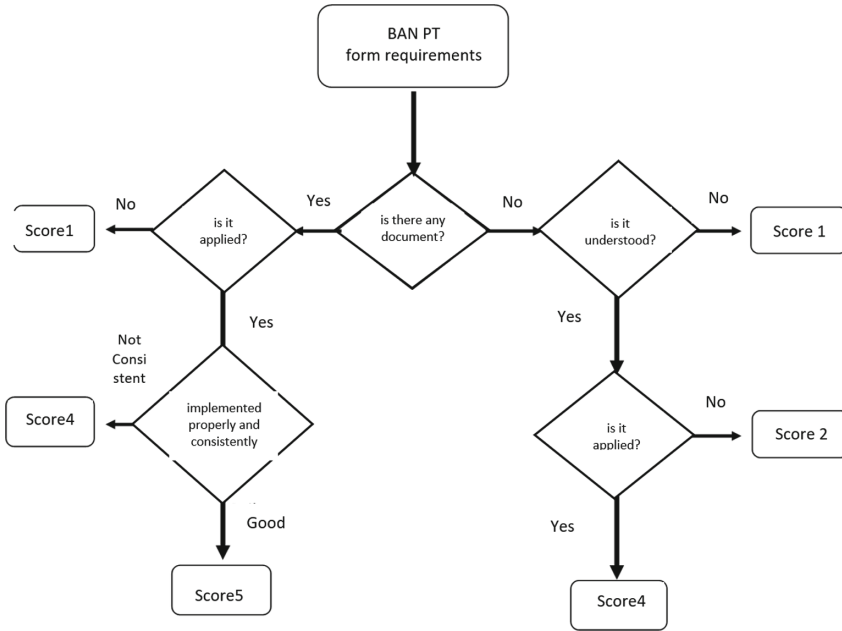


Fig. 1. Flowchart of scoring.

Table 3. Range gap values.

Percentage	Definition
100%	The organization has completed BAN-PT Accreditation and has been running well
91%–99%	The organization has completed BAN-PT Accreditation, but some work procedures and requirements are still carried out but not yet consistent.
76%–90%	The organization has completed BAN-PT Accreditation but there are still some work procedures and requirements that have not been implemented
51%–75%	Some of the organizations have not completed BAN-PT Accreditation and there are still some work procedures and requirements that have not been implemented
0%–50%	The organization needs improvement because it is very different from BAN-PT Accreditation

for the preparation of the Study Program Accreditation Form. There are nine criteria for the study program Accreditation Form. For this reason, the evaluation was carried out on nine criteria by conducting interviews with the Head of the Managerial Accounting Study Program and by comparing it with the implementation of quality management in the Managerial Accounting Study Program. The nine criteria are:

- Vision, Mission, Goals, and Strategy.
- Governance, Governance, and Cooperation.

- Student.
- Human Resources.
- Finance, Facilities, and Infrastructure.
- Education.
- Study.
- Community service.
- Tridharma Outcomes and Achievements.

Gap Analysis of Vision, Mission, Goals, and Strategy Criteria. The results of the Gap/Fitness analysis conducted on The criteria for Vision, Mission, Goals, and Strategies for the value of conformity up to below 75% have 1 item, namely consistency with the results of the SWOT analysis and/or other analyzes as well as future development plans. In detail can be seen in Table 4.

Criteria Gap Analysis Governance, Governance, and Cooperation. The results of the Gap/Fitness analysis conducted on The criteria for Governance, Governance, and Cooperation have a value of conformity below 75%, there are 8 items. In detail can be seen in Table 5.

Criteria Gap Analysis Student. The Gap/Fitness analysis results conducted on Student criteria, the suitability value is below 75%, there is 1 item, namely international students. In detail can be seen in Table 6.

Criteria Gap Analysis Human Resources. The Gap/Fitness analysis results conducted on Human Resources Criteria, the suitability value is below 75%, there are 10 items. In detail can be seen in Table 7.

Criteria Gap Analysis Finance, Facilities and Infrastructure. The Gap/Fitness analysis results conducted on Criteria for Finance, Facilities and Infrastructure, the suitability value is below 75%, there is 1 item. In detail can be seen in Table 8.

Table 4. Gap analysis of vision, mission, goals, and strategy criteria.

No	Criteria for Vision, Mission, Goals, and Strategy	Mark
1	Consistency with the results of the SWOT analysis and/or other analyzes and plans future development.	75%
2	Readability of the information in the profile and consistency between the profile and the data and information submitted on each criterion, as well as showing a conducive climate for development and reputation as a reference in the field his knowledge.	100%
3	The study program Management Unit evaluates performance achievements, which must include identification of root causes, factors supporting success and inhibiting factors for achieving VMTS at UPPS, including analysis and specific evaluation related to the accredited study program.	100%

Table 5. Analysis of the criteria for civil service, governance, and cooperation criteria.

No	Criteria for Governance, Governance, and Cooperation	Mark
1	UPPS has a formal document of organizational structure and work procedures that are equipped with duties and functions, and has been running consistently and ensuring good governance and running effectively and efficiently.	75%
2	UPPS has good practices (best practices) in implementing governance that meets the 5 principles of good governance to ensure the implementation of quality study programs.	75%
3	There is valid evidence/recognition that the leadership of UPPS has the character of leadership. The leadership of UPPS is able to: 1) carry out 6 management functions effectively and efficiently, 2) anticipate and solve problems of operational, organizational, and public leadership. in unexpected situations, 3) innovate to generate added value.	100%
4	UPPS has valid evidence that the existing cooperation has fulfilled the following 3 aspects: <ul style="list-style-type: none"> • provide benefits for study programs in fulfilling the learning process, research, PkM. • provide increased performance of tridharma and supporting facilities for study programs. • provide satisfaction to industrial partners and other cooperation partners, as well as ensure the sustainability of the cooperation and its results. 	75%
5	Cooperation in education, research, and PkM relevant to the study program and managed by UPPS in the last 3 years.	75%
6	Cooperation at international, national, regional/local levels relevant to the study program and managed by UPPS in the last 3 years.	25%
7	Exceeding the SN-DIKTI set with additional performance indicators that apply at UPPS based on higher education standards set by universities on each criterion.	50%
8	Implementation of the Internal Quality Assurance System.	50%
9	Measurement of the satisfaction of stakeholders (students, lecturers, education staff, graduates, users, industrial partners, and other partners) on management services.	50%

Criteria Gap Analysis Education. The Gap/Fitness analysis results conducted on Education criteria, the value of conformity is below 75%, there are 11 items. In detail can be seen in Table 9.

Criteria Gap Analysis Study. The Gap/Fitness analysis results conducted on Research criteria, the suitability value is below 75%, there is 1 item. In detail can be seen in Table 10.

Table 6. Analysis of student criteria gap.

No	Student Criteria	Mark
1	Student Recruitment	100%
2	Foreign Student	0
3	Availability of Student Services	100%

Table 7. Analysis of the human resource criteria gap.

No	Human Resources Criteria	Mark
1	Adequacy of the number of permanent lecturers in the study program (DTPS)	100%
2	DTPS academic qualifications	75%
3	DTPS competency/professional/industry certification.	100%
4	DTPS academic position	75%
5	The ratio of the number of study program students to the number of DTPS	100%
6	The assignment of DTPS as the main supervisor of the student's final project.	50%
7	DTPS Full Teaching Time Equivalence.	100%
8	Non-permanent lecturer	100%
9	Involvement of industrial lecturers/practitioners	100%
10	Recognition/recognition of the expertise/achievements/performance of DTPS	75%
11	DTPS research activities relevant to the field of study program in the last 3 years.	75%
12	DTPS PkM activities that are relevant to the field of study program in the last 3 years	50%
13	Scientific publications with themes relevant to the field of study program produced by DTPS in the last 3 years.	25%
14	DTPS scientific work articles cited in the last 3 years.	25%
15	DTPS products/services adopted by industry/community in the last 3 years.	25%
16	Outcomes of research and PkM produced by DTPS in the last 3 years.	50%

Criteria Gap Analysis Community Service. The Gap/Fitness analysis results conducted on Community Service Criteria, the suitability value is below 75%, there are 2 items. In detail can be seen in Table 11.

Table 8. Gap analysis of financial criteria, facilities, and infrastructure.

No	Criteria for Finance, Facilities and Infrastructure	Mark
1	Education operational costs	100%
2	DTPS research fund.	100%
3	DTPS community service fund	100%
4	Adequacy of funds to ensure the achievement of learning outcomes	100%
5	Adequacy, accessibility and quality of facilities and infrastructure to ensure the achievement of learning outcomes and improve the academic atmosphere.	75%

Criteria Gap Analysis Tridharma Outcomes and Achievements. The Gap/Fitness analysis results conducted on Tridharma Outcomes and Achievements Criteria, the suitability value is below 75%, there are 6 items. In detail can be seen in Table 12.

4.3 Risk Identification and Analysis Based on Accreditation Form

Risk Identification: Risk Identification Is Carried Out if There Are Risks Beyond the Organizational Unit’s Control. The anticipation of the impact that may arise still needs to be done. Against such risks, unit leaders need to convey to higher parties/units. From some of the problems that arise, problem identification will be carried out so that solutions can be found to control these problems. The following are the results of Risk Identification based on each criterion on the form:

Risk Identification on the Criteria of Vision, Mission, Goals, and Strategy. There is only one item for identifying risks in the criteria of Vision, Mission, Objectives, and Strategy (Table 13).

Risk Identification on the Criteria of Governance, Governance, and Cooperation. There are eight items for identifying risks in the criteria for governance, governance, and cooperation (Table 14).

Risk Identification on the Student Criteria. For risk identification, there is only one item in the Student criteria (Table 15).

Risk Identification on Human Resource Criteria. There are ten items for the identification of risks in the human resource criteria (Table 16).

Risk Identification on the Criteria of Finance, Facilities, and Infrastructure. For risk identification, there is only one item in the criteria for finance, facilities and infrastructure (Table 17).

Risk Identification on Education Criteria. There are eleven items for risk identification in education criteria (Table 18).

Table 9. Gap analysis of education criteria.

No	Education Criteria	Mark
1	Stakeholder involvement in the process of evaluating and updating the curriculum.	75%
2	Conformity of learning achievement with graduate profile and KKNI/SKKNI level	100%
3	The accuracy of the curriculum structure in the formation of learning outcomes.	100%
4	The characteristics of the learning process, which consist of: 1) interactive, 2) holistic, 3) integrative, 4) scientific, 5) contextual, 6) thematic 7) effective, 8) collaborative, and 9) student-centered.	50%
5	Availability and completeness of semester learning plan (RPS) documents.	50%
6	The depth and breadth of the RPS are in accordance with the learning outcomes of graduates.	50%
7	The form of interaction between lecturers, students and learning resources.	75%
8	Monitoring the conformity of the process to the lesson plan.	75%
9	The learning process related to research must refer to the SN Dikti Research:	100%
10	The learning process related to PkM must refer to SN Dikti PkM.	100%
11	Monitoring and evaluation of the implementation of the learning process	75%
12	Quality of implementation of learning assessment	50%
13	Integration of research activities and PkM in learning by DTSP in the last 3 years.	50%
14	Implementation and periodicity of programs and activities outside of structured learning activities to improve the academic atmosphere.	50%
15	The level of student satisfaction with the educational process	100%
16	Analysis and follow-up of the results of measuring student satisfaction.	50%

Risk Identification on Research Criteria. For risk identification in the research criteria, there is only one item (Table 19).

Risk Identification on Community Service Criteria. To identify risks in the community service criteria, there are two items (Table 20).

Table 10. Analysis of research criteria gap.

No	Research Criteria	Mark
1	Relevance of research on UPPS	100%
2	DTPS research which in its implementation involves study program students in the last 3 years.	50%

Table 11. Gap analysis of community service criteria.

No	Community Service Criteria	Mark
1	The Relevance of PKM to UPPS	50%
2	Pkm DTSP which in its implementation involves study program students in the last 3 years.	75%

Table 12. Gap analysis of outcome criteria and achievements of tridharma.

No	Tridharma Outcomes and Achievements Criteria	Mark
1	Analysis of the fulfillment of graduate learning outcomes (CPL)	100%
2	Graduate GPA.	100%
3	Student achievements in academics in the last 3 years.	50%
4	Student achievements in non-academic fields in the last 3 years.	50%
5	Graduated on time.	100%
6	Study success.	100%
7	Implementation of tracer study which includes 5 aspects	100%
8	Waiting time.	100%
9	Work suitability.	75%
10	Degree and size of graduate workplace.	75%
11	Level of satisfaction of graduate users.	100%
12	Student performances/exhibitions/presentations/scientific publications, which are produced independently or with DTSP, with titles relevant to the field of study program.	25%
13	Products/services by students, produced independently or with DTSP, adopted by industry/community in the last 3 years.	50%
14	Outcomes of student research and PKM, produced independently or with DTSP, in the last 3 years.	50%

Table 13. Risk identification on the criteria of vision, mission, objectives, and strategy.

No	Risk	Reason	Control
1	Inconsistency in the results of the SWOT analysis and/or other analyses and future development plans.	LKPS and LED are not made annually	Can be controlled

Table 14. Risk identification on the criteria of governance, governance, and cooperation.

No	Risk	Reason	Control
1	The formal document of organizational structure and work procedures that are completed with their duties and functions have been running consistently and ensure that the governance system is not running effectively and efficiently.	It has not been carried out consistently and some several tasks and functions have not been standardized	Can be controlled
2	Good practice (best practices) in implementing governance has not fulfilled all of the 5 principles of good governance to ensure the implementation of quality study programs.	It has not been carried out consistently and some several tasks and functions have not been standardized	Can be controlled
3	Valid evidence regarding existing cooperation does not meet all of the following 3 aspects: <ul style="list-style-type: none"> • benefit study programs in fulfilling the learning process, research, PkM. • provide the increased performance of tridharma and supporting facilities for study programs. • provide satisfaction to industrial partners and other cooperation partners and ensure the sustainability of the cooperation and its results. 	There is no valid evidence of cooperation on the aspect of satisfaction	Can be controlled
4	Cooperation in education, research, and PkM relevant to the study program has not been managed properly in the last 3 years.	Implementation of Cooperation is more administrative	Can be controlled
5	Cooperation at international, national, regional/local levels relevant to the study program and have not been managed properly in the last 3 years.	Implementation of Cooperation is more administrative in nature	Can be controlled

(continued)

Table 14. (continued)

No	Risk	Reason	Control
6	The number of exceeding the SN-DIKTI set with additional performance indicators that apply in UPPS based on higher education standards set by universities is still small.	There is no guide regarding SN-Dikti lighting yet	Can be controlled
7	The implementation of the Internal Quality Assurance System has not run optimally.	The implementation of quality audits is more administrative	Can be controlled
8	The measurement of stakeholders' satisfaction (students, lecturers, education staff, graduates, users, industrial partners, and other partners) on management services has not run optimally.	Stakeholder satisfaction measurement is only done once a year	Can be controlled

Table 15. Risk identification on student criteria.

No	Risk	Reason	Control
1	There are no international students yet.	There is no program for international classes yet	Can be controlled

Risk Identification on Tridharma Outcomes and Achievements Criteria. There are seven items for identifying risk on the outcome criteria and the achievement of the tridharma (Table 21).

Risk Analysis. The purpose of risk analysis is to separate small, acceptable risks from major risks, and prepare data to aid in prioritizing and managing risks. Risk analysis includes determining the source of risk and the possibility and impact of the risk. Factors that must be considered in analyzing risk include:

- Understand the management/control of existing risks
- Possibility and impact

Risk analysis can be carried out at various levels of depth depending on the available risk information, data and costs. Three risk analysis methods can be used to determine risk status, namely qualitative, semi-quantitative, and quantitative or a combination depending on the conditions. In practice, the approach used tends to be qualitative analysis to obtain general indications of risk status. The objectives of carrying out a risk analysis include:

- Risk identification results
- Probability/Frequency of risk

Table 16. Risk identification on human resources criteria.

No	Risk	Reason	Control
1	There is no DTSP with Doctoral education	Low motivation to continue Doctoral degree	Can be controlled
2	There is no DTSP who has an academic professorship position	No one has a doctoral education yet	Can be controlled
3	The ratio of the number of students to permanent lecturers in thesis guidance is still small	The number of DTSP that meet the qualifications of supervisors is only 70%	Can be controlled
4	No DTSP has yet received Recognition/recognition for expertise/achievement/performance	Most of the time the lecturer is in Polines	Can be controlled
5	The number of DTSP research activities relevant to the study program in the last 3 years is still small.	Interest and motivation for research and small PKM	Can be controlled
6	The number of PkM DTSP activities that are relevant to the field of study program in the last 3 years is still small	Interest and motivation for research and small PKM	Can be controlled
7	The number of international and national scientific publications with themes relevant to the field of study program produced by DTSP in the last 3 years is still small.	Interest and motivation to write a small journal	Can be controlled
8	The number of articles of DTSP scientific works cited in the last 3 years is still small.	The number of publications by public study program lecturers is low	Can be controlled
9	DTSP products/services adopted by industry/community in the last 3 years are still few.	Lecturer's interest and motivation for research and small PKM	Can be controlled
10	The number of research and PkM outputs produced by DTSP in the last 3 years is still small.	Lecturer's interest and motivation for research and small PKM	Can be controlled

- Impact and magnitude
- Risk status and risk map
- Risk response
- Information to leadership

Table 17. Risk identification on criteria of finance, facilities, and infrastructure.

No	Risk	Reason	Control
1	The e-learning learning process is still limited	Limited band wide	Can be controlled

Table 18. Risk identification on education criteria.

No	Risk	Reason	Control
1	There is still limited involvement of stakeholders in evaluating and updating the curriculum.	Limited funds, limited access to multinational companies	Can be controlled
2	The characteristics of the learning process have not been fulfilled, which consist of: 1) interactive, 2) holistic, 3) integrative, 4) scientific, 5) contextual, 6) thematic 7) effective, 8) collaborative, and 9) student-centered.	RPS does not meet 9 characteristics	Can be controlled
3	Not all courses have a semester learning plan (RPS) document.	Not all lecturers make RPS	Can be controlled
4	There has been no evaluation of the synchronization of RPS with the learning outcomes of graduates.	Not yet regulated in the quality procedure	Can be controlled
5	The interaction between lecturers, students and learning resources through various media has not been carried out optimally	Limited bandwidth	Can be controlled
6	Monitoring the conformity of the process to the lesson plan is still administrative	There is no site in class audit yet	Can be controlled
7	Monitoring and evaluation of the implementation of the learning process has not been followed up	There is no follow-up procedure for learning money	Can be controlled
8	The implementation of learning assessment is not carried out in an integrated manner and is equipped with a rubric/portfolio	Not yet regulated in the quality procedure	Can be controlled
9	The number of courses developed based on research and PkM in the last 3 years is still small.	The number of research and PKM whose output is for course development is limited	Can be controlled
10	The number of activities outside of structured learning activities to improve the academic atmosphere is still small.	The program of activities is still limited	Can be controlled

(continued)

Table 18. (continued)

No	Risk	Reason	Control
11	There has been no analysis and follow-up of measuring student satisfaction.	Not yet regulated in the quality procedure	Can be controlled

Table 19. Risk identification on research criteria.

No	Risk	Reason	Control
1	The number of DTSP Research which in its implementation involves students of study programs in the last 3 years is still small.	Lecturer's interest and motivation for small research	Can be controlled

Table 20. Risk identification on r community service criteria.

No	Risk	Reason	Control
1	There are still PKM that are not relevant to UPPS	PKM Proposal Making does not refer to PKM TOR	Can be controlled
2	The number of Pkm DTSP which in its implementation involves study program students in the last 3 years is still small.	Lecturer's interest and motivation for small PKM	Can be controlled

From the results (Tables 22, 23, and 24) of the risk status processing that has been carried out, the risk analysis of activities related to the PT AM study program BAN accreditation form can be grouped based on the current risk level, as follows:

Extreme Risk Status

- The measurement of stakeholders' satisfaction (students, lecturers, education staff, graduates, users, industrial partners, and other partners) on management services has not run optimally.
- There are no international students yet.
- There is no DTSP with Doctoral education
- There is no DTSP who has an academic professorship position
- The number of international and national scientific publications with themes relevant to the field of study program produced by DTSP in the last 3 years is still small.
- The number of articles of DTSP scientific works cited in the last 3 years is still small.

Table 21. Risk identification on education criteria.

No	Risk	Reason	Control
1	The number of student achievements in the academic field at international and national levels in the last 3 years is still small.	No funding, lack of preparation	Uncontrollable
2	The number of student achievements in non-academic fields at international and national levels in the last 3 years does not yet exist.	No funding, lack of preparation	Uncontrollable
3	There are still graduates in the field of work that are not suitable when they get their first job in 3 years.	Weak hard skills and soft skills	Uncontrollable
4	There are no graduates who work in multi-national/international business entities	Weak foreign language skills	Uncontrollable
5	There are no student scientific shows/exhibitions/presentations/publications produced independently or with DTPS, with titles relevant to the field of study program.	Interest and ability to write articles is weak	Uncontrollable
6	The number of products/services made by students, produced independently or with DTPS, adopted by industry/community in the last 3 years is still small.	Dissertation topic with limited model output	Uncontrollable
7	The number of research outputs and student PKM, produced independently or with DTPS, in the last 3 years is still small.	The topic of the thesis whose output can be in IPR is limited	Uncontrollable

Table 22. Probability measurement framework.

Probability		Criteria
Rating	%	
1	0–10	Very unlikely/almost impossible
2	10–30	It's unlikely, but not impossible
3	30–50	Likelihood of happening
4	–90	Likely to happen often
5	90	It's almost certain to happen

Table 23. Impact measurement framework.

Rating	Impact	Description
5	Very large	Threatening programs and organizations as well as stakeholders, huge losses for the organization from a financial point of view
4	Big	Threatening programs and organizations as well as stakeholders, big losses for the organization from a financial point of view
3	Intermediate	Threatening programs and organizations as well as stakeholders, the loss is quite large for the organization from a financial point of view
2	Low	Threatening programs and organizations and stakeholders, small financial losses for the organization
1	Very low	Threatening programs and organizations as well as stakeholders, financial loss to the organization Less material

Table 24. Map/risk profile.

IMPACT		1-Very Small	2-Small	3-Medium	4-Big	5-Very Big
POSSIBILITY	5-Almost Sure to Happen	5	10	15	20	25
	4-Happens Often	4	8	12	16	20
	3-It Might Happen	3	6	9	12	15
	2-Rarely Happens	2	4	6	8	10
	1-Barely Happens	1	2	3	4	5

High-Risk Status

- Inconsistency in the results of the SWOT analysis and/or other analyses and future development plans.
- Valid evidence regarding existing cooperation does not meet all of the following 3 aspects:
 - Cooperation in education, research, and PkM relevant to the study program has not been managed properly in the last 3 years.
 - Cooperation at international, national, regional/local levels relevant to the study program and have not been managed properly in the last 3 years.
 - The implementation of the Internal Quality Assurance System has not run optimally.
 - No DTSPS has yet received Recognition/recognition for expertise/achievement/performance.

- The number of DTPS research activities relevant to the study program in the last 3 years is still small.
- The number of PkM DTPS activities that are relevant to the field of study program in the last 3 years is still small.
- DTPS products/services adopted by industry/community in the last 3 years are still few.
- The number of research and PkM outputs produced by DTPS in the last 3 years is still small.
- The e-learning learning process is still limited.
- There is still limited involvement of stakeholders in evaluating and updating the curriculum.
- The number of activities outside of structured learning to improve the academic atmosphere is still small.
- There has been no analysis and follow-up of measuring student satisfaction.
- The number of DTPS Research which in its implementation involves students of study programs in the last 3 years, is still small.
- There are still PKM that are not relevant to UPPS.
- The number of Pkm DTPS which in its implementation involves study program students in the last 3 years, is still small.
- The number of student achievements in non-academic fields at international and national levels in the last 3 years does not yet exist.
- The number of student achievements in non-academic fields at international and national levels in the last 3 years does not yet exist.
- There are still graduates in the field of work that are not suitable when they get their first job in 3 years.
- There are no graduates who work in multi-national/international business entities
- There are no student scientific shows/exhibitions/presentations/publications produced independently or with DTPS, with titles relevant to the field of study program.
- The number of products/services made by students, produced independently or with DTPS, adopted by industry/community in the last 3 years is still small.
- The number of research outputs and student PKM, produced independently or with DTPS, in the last 3 years is still small.

Medium Risk Status

- The formal document of organizational structure and work procedures that are completed with their duties and functions have been running consistently and ensure that the governance system is not running effectively and efficiently.
- Good practice (best practices) in implementing governance has not fulfilled all of the 5 principles of good governance to ensure the implementation of quality study programs.
- The number of exceeding the SN-DIKTI set with additional performance indicators that apply in UPPS based on higher education standards set by universities is still small.

- Not all courses have a semester learning plan (RPS) document.
- There has been no evaluation of the synchronization of RPS with the learning outcomes of graduates.
- The interaction between lecturers, students and learning resources through various media has not been carried out optimally.
- Monitoring the conformity of the process to the lesson plan is still administrative.
- Monitoring and evaluation of the implementation of the learning process has not been followed up.
- The implementation of learning assessment is not carried out in an integrated manner and is equipped with a rubric/portfolio.
- The number of courses developed based on research and PkM in the last 3 years is still small.

Low-Risk Status

- The ratio of the number of students to permanent lecturers in thesis guidance is still small.
- The characteristics of the learning process have not been fulfilled, which consist of: 1) interactive, 2) holistic, 3) integrative, 4) scientific, 5) contextual, 6) thematic 7) effective, 8) collaborative, and 9) student-centered.

5 Conclusion

Based on the results of risk identification processing which is then followed by a risk analysis of activities related to the current BAN-PT accreditation form for Polines Managerial Accounting Study Program, it can be grouped into four, namely:

- The level of extreme risk status is six items
- The high-risk status level is twenty-two items
- The medium risk status level is ten items
- Low-risk status level there are two items

6 Suggestion

Based on the discussion and conclusions above, the following suggestions can be given:

- Regarding the maturity date of the accreditation form of BAN PT. Managerial accounting study program which will expire on December 23, 2021, where the accreditation form must be submitted six months in advance, the managerial accounting study program must pay attention to extreme, high and medium risk status to achieve superior accreditation.
- Support from all parties (Department of accounting and State Polytechnic of Semarang) is needed to eliminate all risks associated with the implementation of the accreditation form of BAN PT Prodi managerial accounting.

References

1. Badan Pengawasan Keuangan dan Pembangunan.: Penilaian Risiko. Pusat Pendidikan dan Pelatihan Pengawasan, Jakarta (2010).
2. Kloman, H.F., Seawrack.: Risk Management Reports. Volume 27. Press Inc. Review Against the Gods: The Remarkable Story of Risk by Peter Bernstein (2000).
3. Rahmawaty, P.: Dampak Penerapan Sistem Manajemen Mutu ISO 9001: 2000 terhadap Kinerja Organisasi (Studi Kasus Pada Fakultas Ilmu Sosial dan Ekonomi Universitas Negeri Yogyakarta). Universitas Negeri Yogyakarta, Yogyakarta (2014).
4. Gaspersz, V.: ISO 9001:2000 and Continual Quality Improvement. PT. Gramedia Pustaka Utama, Jakarta (2005).
5. Kholidatunur.: Penerapan Sistem Manajemen Mutu Iso 9001:2008 dalam Meningkatkan Mutu Pelayanan Pendidikan Di Pondok Pesantren Modern Sahid. Skripsi, UIN Syarif Hidayatullah, Jakarta (2011).
6. Picard, M., Renault, A., Barafort, B., Cortina, S.: Measuring readiness for compliance: A gap analysis tool to complete the TIPA process assessment framework. In: Systems, Software and Services Process Improvement: 23rd European Conference, EuroSPI 2016, Graz, Austria, September 14–16, 2016, Proceedings 23 (pp. 106–116). Springer International Publishing (2016).
7. Admaja, A.F.S.: Studi Kesiapan Direktorat Standardisasi Dalam Menerapkan SNI ISO/IEC 17065. Buletin Pos dan Telekomunikasi 11(3), 223-234 (2013).

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

