IDENTIFICATION OF KEY SUCCESS FACTORS FOR THE SUCCESSFUL IMPLEMENTATION OF THE RISK MANAGEMENT SYSTEM (PT JASA RAHARJA (PERSERO) D.I YOGYAKARTA BRANCH)

UNDERGRADUATE THESIS

Submitted As One of the Requirements for Obtaining A Bachelor's Degree in The International Program Industrial Engineering Department, Faculty of Industrial Technology

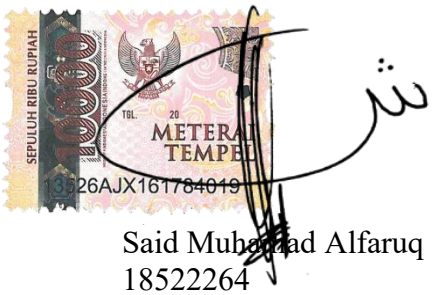
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FACULTY OF INDUSTRIAL TECHNOLOGY
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YOGYAKARTA
2025

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Yogyakarta, 12 April 2025



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Telah melakukan riset/penelitian di Kantor PT. Jasa Raharja Cabang Yogyakarta pada tanggal 12 Februari 2024 dengan judul penelitian *Identification Of Key Success Factors For The Successful Implementation Of The Risk Management System.*

Demikian surat keterangan ini dibuat untuk dipergunakan sebagaimana mestinya

Yogyakarta, 20 Agustus 2024

JASA RAHARJA
DI YOGYAKARTA

Zulaikha Siti Anisah

SUPERVISOR APPROVAL SHEET

IDENTIFICATION OF KEY SUCCESS FACTORS FOR THE SUCCESSFUL IMPLEMENTATION OF THE RISK MANAGEMENT SYSTEM (PT JASA RAHARJA (PERSERO) D.I YOGYAKARTA BRANCH)

UNDERGRADUATE THESIS

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EXAMINERS' APPROVAL PAGE

IDENTIFICATION OF KEY SUCCESS FACTORS FOR THE SUCCESSFUL IMPLEMENTATION OF THE RISK MANAGEMENT SYSTEM (PT JASA RAHARJA (PERSERO) D.I YOGYAKARTA BRANCH)

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DEDICATION PAGE

I really dedicate this last project to Emak and Abah, two outstanding individuals in my life. They both made it feasible for me to get to the point where this Final Project is finally completed. I appreciate all of your sacrifices, both material and spiritual, as well as your counsel and ceaseless prayers. I will always be grateful that you are my parents.

MOTTO

Pulau pandan jauh ke tengah
Dibalik pulau angsa dua
Hancur badan di kandung tanah
Budi yang baik terkenang jua

"This essentially means that positive deeds are always remembered."

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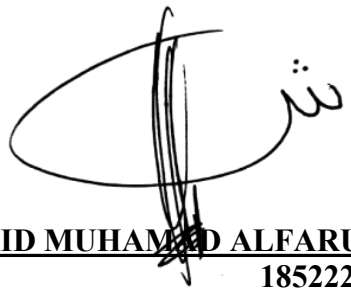
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Yogyakarta, 12 April 2025



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ABSTRACT

Every daily activity, both personal and group life, certainly involves risks that are directly proportional to the sustainability of the company. The more risks, the more potential losses for the company which can certainly have a detrimental impact. This is realized by PT Jasa Raharja (Persero) D.I Yogyakarta Branch to overcome, control, and avoid the risks that are present by implementing a risk management system. The implementation of good risk management can help companies reduce disruptions or obstacles in their operations and there are many more goals in implementing a risk management system. The method in this study uses an analysis method using the SmartPLS v.4.1.0.4 application with results indicating that there are 5 key factors for success in implementing a risk management system, including the basic principles of risk management, risk culture and communication, risk management processes, management and supervision, and tools and techniques. In the implementation of the risk management system by PT Jasa Raharja (Persero) D.I Yogyakarta Branch, it resulted in only one of the five factors was significant in the success of implementing a risk management system, namely the tools and techniques factor.

Keywords: Risk management system, Key success factors, SmartPLS

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CHAPTER I
INTRODUCTION

1.1 The background of the study

Risk is an integral part of human life and risk can be interpreted as an uncertainty about what will happen in the future when decisions are made based on various considerations. Likewise with companies, various types of risks and various complexities inherent in their business activities will always exist. According to BPS data, there were a total of 131,414 companies in the Indonesian trade sector in 2021. This number increased by 1.76% from the previous year of 129,137 companies. This shows that the number of new businesses contributing to state revenues and employment in Indonesia is increasing every year. Therefore, it is very likely that Indonesia's largest economy will experience a more severe monetary crisis than the one in 1998, if these companies cannot handle the impending dangers or risks. It is impossible to eliminate the risk completely, so this risk must be managed. Success in a risk management system can also increase competitive advantage both over competing companies and in the face of global changes that occur (Lark, 2015). The purpose of this risk management system is to manage risks in such a way that the company can survive or mitigate the risks that arise.

Currently, almost no company in Indonesia has a dedicated section or manager to handle the overall risk management system that will be faced by the company. The existing ones are usually just an insurance manager, and they are only responsible for issues related to the insurance company they are covering, such as closing insurance contracts, paying losses, and so on. This manager is usually only at the lower level of the section chief or lower-level manager. Subagyo et al. (2021) investigated the fact that approximately 80% of developed countries, especially large companies in the United States, have a Risk Manager with various titles such as Risk Manager, Insurance Manager, Risk Management Director, and so on. This job is usually at the same level as a mid-level manager. Here, their responsibilities typically

include finding and measuring losses from exposure, resolving insurance claims, planning and managing labor insurance, and overseeing occupational safety and losses. Therefore, they are an important component of the company's management team.

Ministry of Finance Regulation No.191/PMK.09/2008 on the Implementation of Risk Management System in the Ministry of Finance was made because the Ministry of Finance realized the importance of implementing a risk management system. The finance ministry was the first government agency to implement a risk management system. Other institutions, such as Bank Indonesia, BUMN, OJK, etc., then began to implement this risk management system more widely. As a result of this implementation, the Key Performance Indicators or "IKU" from the Ministry of Finance of the Republic of Indonesia increased quite significantly from 77%, 86%, and 91% in the 2016, 2017, and 2018 time brackets thanks to the implementation of this risk management system (Jauhari, R et al., 2021). This is in accordance with Florio and Leoni (2017), who state that a risk management system also aims to help the company achieve its goals. Therefore, various uncertainties that will occur in the future must always be studied, designed, controlled, and managed so that the company can immediately manage and be able to adapt quickly when a pandemic, crisis, or other things that endanger the smooth operation of the company. It is this process of controlling risks that will be referred to as 'Risk Management System', and this is what the authors will be the subject of researching.

In a risk management system, success and the ability to manage and control risks that may jeopardize the operations and progress of the company are essential. It can also give an edge to companies that implement a risk management system compared to their competitors. In a risk management system, Critical Success Factor (CSF) or Key Success Factor (KSF) is an indicator of the determining factors for the success of its implementation. KSF is also a representation of various strategies designed to improve the operational efficiency and competitiveness of the company. According to Boynton and Zmud (1984), KSF is a few components that must run well to ensure the success of a manager and organization. Therefore, they represent areas of management or companies that require special and sustained attention to achieve high performance. However, as stated by Bullen and Rockart (1981), KSF includes several important areas of activity where favorable results are necessary for a particular manager in achieving his goals. Because this area of activity is so important, the manager must have the right information to allow him to determine whether events are going well enough in each area (Bullen Rockart, 1981). Companies will find it difficult to achieve their

strategic goals if they do not understand their key success factors or CSF (Kustanti et.al., 2014).

Yaraghi Langhe (2011) stated that not much research has been done on the key success factors in individual risk management systems. Oliviera et al. (2018) is one of the studies discussing the CSF risk management system, which identifies ten important success factors that most influence the implementation of the enterprise risk management system. Knowing the KSF required to implement a risk management system will help organizations create an ideal environment. The authors have not found any research that shows how effective the implementation of a risk management system is in public or private companies in Indonesia. Therefore, the author wants to conduct research on the Implementation of Risk Management Systems in Companies that have implemented risk management systems. The author can indicate which areas of KSF are considered strong and which are considered lacking for the improvement of risk management system implementation at PT Jasa Raharja Branch D.I Yogyakarta. The structure of this study explains how the risk management system is applied at PT Jasa Raharja Branch D.I Yogyakarta. A brief description of the literature used and the conceptualization of Key Success Factor (KSF) is presented in the next section. Also discussed is the research methodology used. After discussing the methodology, the results are presented and discussed. In the last section, suggestions and conclusions are discussed, as well as the constraints of the study. On this basis, this study is entitled **"Identification of Key Success Factors for the Successful Implementation of the Risk Management System."** It is expected to provide information on what key success factors are needed to implement the risk management system successfully. In addition, by investigating how the risk management system is applied in insurance companies, this research can contribute to the advancement of a risk management system as well as increase knowledge of the risk management system. The author can show which KSF areas are considered strong and which are considered lacking for improving the implementation of risk management at PT Jasa Raharja Cabang D.I Yogyakarta. The structure of this study explains how risk management is implemented at PT Jasa Raharja Cabang D.I Yogyakarta. A brief description of the literature used and the conceptualization of Key Success Factors (KSF) is presented in the next section. The research methodology used is also discussed. After discussing the method, the results are presented and discussed. In the last section, suggestions and conclusions are discussed, as well as the limitations of this study.

1.2 The problems of the study

Given the problems and backgrounds mentioned, the author argues that the company should implement a risk management system. Thus, the company will be able to handle emerging risks more easily. The purpose of this study is to determine the KSFs that contribute to company performance through risk management. The author also formulates research questions based on the background of the problem.

1. What are the key success factors of the identified risk management system?
2. How to identify and analyze the key success factors of the risk management system?

1.3 The scope and limitations of the study

This research focuses on important factors that contribute to the implementation of the risk management system by PT Jasa Raharja Branch D.I Yogyakarta. The purpose of this study is to examine the implementation of the risk management system at PT Jasa Raharja Branch D.I Yogyakarta by involving and determining the scope of research, including determining key success factors in the implementation of the risk management system. The following are the limitations used to determine the scope of the study.

1. Constraints may only be limited to certain periods, such as those that impact the productivity of the company during the implementation of a risk management system.
2. Geographical Location Restrictions Research may be limited to specific regions or countries, as well as the impact of policies and regulations on the implementation of the risk management system in Indonesia.
3. Problems can be limited to specific samples from individuals or companies, such as the effect of the risk management system on customer or client involvement within the company.
4. Problems can be limited by specific research methodological frameworks, such as qualitative case studies, to understand the impact of implementing a risk management system on customer satisfaction or claims.
5. The limitations of Problem Theory may be limited to a specific theoretical framework, such as contingency theory approaches to understanding the relationship between leadership style and firm performance.

1.4 The objectives of the study

This study aims to identify important factors that contribute to the success of implementing risk management at PT Jasa Raharja D.I Yogyakarta branch based on the background, formulation, and limitations of the problems mentioned above. The purpose of this study is to be a focal point for implementing risk management policies at PT Jasa Raharja D.I Yogyakarta branch itself and to be a reference for companies that want to implement risk management. The author also formulates research objectives from the background of the problem.

1. To identify the key success factors of the risk management system.
2. To identify and analyze the key success factors of the risk management system.

1.5 The significance of the study

Identifying key success factors in the successful implementation of the risk management system certainly has benefits for the author. In this research, the author gets many benefits that the author can apply, including.

1. This research is expected to add literature in the field of industrial management and become a reference for further research on things that must be done by companies to implement a risk management system.
2. In addition, by applying the theory and knowledge that has been learned during the college period in the field of industrial management in general, as well as learning in particular about a risk management system, it will provide input and information for the government as policy-makers and companies interested in carrying out the risk management system.
3. The hope of the results of this study is that it is useful as an evaluation material for risk management system development applied by private companies and government agencies as a relevant reference to implement the concept.

1.6 The systematic of the study report

In making this final project, the author emphasizes focusing on the subject matter and avoiding discussion that is too broad to other issues. Therefore, the author designed an appropriate writing systematic s for the final project with the title **'Identification of Key Success Factors for the Successful Implementation of The Risk Management System'** as follows.

1. First Part
    a) Cover.
    b) Statement of Authenticity of Final Project.
    c) Certificate of Final Project Implementation from the Company Supervisor's Attestation Sheet, Lecturer's Attestation.
    d) Sheet Examiner.
    e) Page Presentation.
    f) Page Motto.
    g) Foreword Summary.
    h) Table of Contents.
    i) Table of Contents.
    j) List of Tables.
    k) List of Figures.
    l) List of Notation
2. Body Part
    a) Chapter I Introduction discusses the background of the research, the research problem, the scope and limitations of the research, the purpose of the Research, the significance of the Research, and the systematic of the Research report.
    b) Chapter II Literature Review related to theories to be raised in research on risk management system, key success factors, and SEM. Furthermore, there are several journals and even books that have been reviewed by the author and have become the state of the art in their research.
    c) Chapter III of Research Methodology explains the flow of data collection about what the Author will do, how the data processing is carried out by the Author, and why it is chosen.

d) Chapter IV, Findings and Data Processing, is a section where the author collects data and processes data in accordance with the flow previously submitted.

e) Chapter V Discussion discusses the findings of data processing results to answer the formulation of problems related to the identification of key success factors for the successful implementation of a risk management system.

f) Chapter VI Conclusions and Suggestions contains conclusions from the results of research that has been done, as well as suggestions for readers and for further research.

3. Last Part

a) Reference.

b) Appendices.

CHAPTER II
REVIEW OF RELATED LITERATURE

2.1 Relevant previous studies

In this context, the authors found some previous studies relevant to the studies that have been carried out. The studies are available in the form of books and journals, and show that such studies are not just limited to specific cases. Inductive studies are analyses or conclusions from the results of previous research that are related and can be used as a reference in current research. Here are some examples of previous research journals on Key Success Factors, Risk Management System, and Structural Equation Modeling.

Table 2. 1 Relevant Previous Studies.

No	Author	Title	Research Method	Result
1	Nicholas Chileshe and Geraldine John Kikwasi (2014)	Critical success factors for implementation of risk assessment and management practices within the Tanzanian construction industry	Critical Succes Factors (CSFs), Risk Assessment and Management Practices (RMP), SPSS 20.0.0 version	Average ranking score shown (1) awareness of risk management processes, (2) teamwork and cooperation, and (3) management style, are the three CSFs with the highest ratings, while the others are rank 4 and so on, including (4) effective use of methods and tools, (5) goals and strategic objectives of the organization, (6) availability of specialist risk management, (7) consideration of external and internal environment, (8) cooperative culture, (9) customer requirements, and (10) positive human dynamic
2	Rifqie Jauhari,	Implementatio	CSFs,	(1) Management commitment

No	Author	Title	Research Method	Result
	Citra Sukmadilaga, and Sri Mulyani (2021)	n and critical success factors of risk management in government agencies	Manajemen Risiko, Teori Agency, Qualitative Research Method	leadership, (2) risk management knowledge, (3) external environment, (4) consultant, (5) organizational structure, (6) risk monitoring evaluation, (7) culture, and (8) documentation reporting. Of the 8 CSFs identified, management leadership commitment and risk management knowledge should be considered when applying risk management.
3	Niam Yaraghi and Roland G. Langhe (2011)	Critical success factors for risk management systems	CSFs, Risk Management Systems (RMS), Grounded Theory	CSFs for Enterprise Readiness are (1) strategy, (2) team spirit, (3) commitment, (4) type of business, (5) organizational culture and (6) general management skills. CSFs for Design and Implementation RMS are (1) strategy, (2) organizational structure, (3) resources, (4) top management, (5) communication. CSF for RMS Administration is (1) strategy, (2) organizational structure, (3) top management, (4) communication, (5) resources, (6) education.
4	Brenda Didi-Quvane, Hanlie Smuts, and Machdel Matthee (2019)	Critical success factors for dynamic enterprise risk management in responsive organizations: a factor analysis approach.	CSFs, Enterprise Risk Management (ERM), Analisis Faktor SPSS v25	This study identifies three groupings of factors from the 18 CSFs, the three dimensions describe the factors that need to be considered in establishing and monitoring risk management policies and frameworks (ERM charter), defining risk management processes (ERM processes), and aligning risk management processes with business (ERM organizational alignment). Based on its high loading CSF here are (1) effectiveness agility and resilience dependent, (2) risk management practice should be accommodate changing

No	Author	Title	Research Method	Result
				organization, (3) iterative and responsive to change, (4) adequate internal reporting of framework effectiveness, (5) Clear risk management framework development and implementation accountability, and (6) Risk indicators tracking directly aligned to business performance indicators.
5	Gabriel Henrique Silva Rampinia, Harmi Takiab, and Fernando Tobal Berssanetia (2019)	Critical success factors of risk management with the advent of ISO 31000 2018- Descriptive and content analyzes	CSFs, Risk Management, ISO 31000	Consisting of 177 documents published between 2008 and 2018, critical success factors in risk management emerged as a promising topic of discussion given the interdisciplinarity and growing interest. Because between 2012 and 2017-2018 the number of documents issued more than tripled, which confirms the growth trend.
6	Sylwia Przetacznik (2022)	Key success factors of enterprise risk management systems: listed Polish companies	KSFs, RMS, Korelasi Kendall's Tau and Rank Spearman	Of the 54 key success factors in the application of risk management, the most important factors include : (1) management's awareness of current risk and risk decisions, (2) good risk communication within the organization, (3) methodical risk identification, (4) appropriate organizational culture that encourages risk awareness, and (5) strong commitment management, commitment, initiative, awareness, and knowledge of risk management (RM). (6) appoint risk owners, (7) risk assessment (size and likelihood of occurrence), (8) manage all major risks, (9) a qualified, experienced and competent team responsible for RM, and (10) Openness, willingness to talk about negative problems and events.

No	Author	Title	Research Method	Result
7	Sri Kustanti, Hanung Adi Nugroho, and Indriana Hidayah (2014)	Analisis critical success factors implementasi e-procurement di Kabupaten Probolinggo	CSFs, E-procurement,Structure Equation Modelling (SEM) SmartPLS 2.0	CSFs in the implementation of e-procurement is influenced by end-user acceptance and training, conformity to best practices, system integration, redrafting the procurement process and e-procurement implementation strategies, other supporting factors that indirectly affect the implementation are security factors/authenticity of procurement documents and performance measurement.
8	Norlida Abdul Manaba and Nazliatul Aniza Abdul Aziza (2019)	Integrating knowledge management in sustainability risk management practices for company survival	SRM, Knowledge Management, Partial Least Squares Structural Equation Modelling (PLS-SEM)	Results show that knowledge management moderates the relationship between organizational resilience and corporate survival. Knowledge management is an important strategic resource to help companies develop effective risk management strategies. This will result in better decision-making and risk control that affects the value of the company's stakeholders and reputation.
9	Xianbo Zhao, Bon-Gang Hwang, and Sui Pheng Low (2013)	Exploring critical success factors for enterprise risk management in Chinese construction firms	Critical Success Factors, ERM, Construction firms, Cronbach's Alpha Coefficient, Spearman Rank Correlation	A total of 16 CSFs were identified with the results of the top six CSFs being (1) board commitment and senior management, (2) risk identification, analysis and response, (3) goal setting, (4) ERM ownership, (5) ERM integration into business processes, and (6) adequate resources.
10	David Irianto, Iman Basriman, and Tatan Sukwika (2022)	Pengembangan model metode HIRADC dalam analisis risiko bekerja di ketinggian pada proyek kontruksi PT.	Hazard Identification, Risk Assessment and Determining Control (HIRADC), SEM SmartPLS 3.2.9	There is a significant relationship between risk identification and risk control against the risk of working at height. However, based on the results of the analysis, it shows that risk analysis and sustainable development have a direct effect

No	Author	Title	Research Method	Result
		X di JABODETABEK		on the risk of working at height apparently cannot be proven in this study.

Source: Result of Data Processing, 2024

2.2 Theoretical framework

2.2.1 Key success factors (KSFs).

The concept of 'Key Success Factors' has been around for a long time. In 1961, D. Ronald Daniel of the McKinsey Company introduced 'Critical Success Factors (CSFs)', which stated that enterprise information systems should be selective and discriminatory. The focus of the system should be on the 'success factor'. According to Rockart (1979), there are three to six components that usually determine the success of an industry. For a company to succeed, these essential elements must be done well. In simple language, Key Success Factors (KSFs) are factors that can make a business, career, or profession successful. To achieve its corporate goals, each company must have its own KSF. Critical Success Factors, Pulse Points, Key Variables, and Key Result Factors are other designations of Key Success Factors that have the same meaning of course.

In simple language, Key Success Factors (KSFs) are factors that can make a business, career, or profession successful. To achieve its corporate goals, each company must have its own KSF. Critical Success Factors, Pulse Points, Key Variables, and Key Result Factors are other designations of Key Success Factors that have the same meaning of course. Important variables inside and outside the company become critical success factors, which greatly affect the success of implementing strategies to achieve goals. Internal factors such as the key to its success are also considered by Tripomo (2005), is the most important and most important for an organization to deal with opportunities and threats in order to survive and win the competition and improve the position of the competition.

Key Success Factors analysis is performed to implement Key Success Factors (KSFs). This analysis is intended to determine what important factors must be considered by a company or business. The company's provisions and its environment affect the success or failure of the company. By determining the goals and objectives of the company, the factors that determine

success can be identified. Interpreting the objectives more clearly is the purpose of KSFs. This makes it possible to specify what tasks should be performed and what information is required. KSFs function to link the company's business strategy with its information system strategy, focus the information system strategic planning process on strategic topics, prioritize information system application proposals, and conduct information system evaluation.

One of the goals of Key Success Factors is to determine which factors are most important and which are least important to gain a competitive advantage. In this context, the identification of key success factors is critical to a company's success because they form strength and defense in competition with other firms. Identifying Key Success Factors in a company is not as easy as thought. As stated by Tripomo (2005), The need for several tools to be able to explore the idea of accurate KSF identification is (1) List of internal factors functional keys, (2) Identification of success key factors by presenting factors that are usually variables of internal analysis, (3) History Information about the history of growth of our organization and competing organizations is important to learn, namely important events and decisions and changes in performance that have been experienced by the organization, (4) The Balanced Score Card Framework Balanced Score Card undergoes the development of its implementation, not only as a measure of executive performance, but extends as an approach in developing strategic plans, including prospective internal business processes, finance, consumers and learning and growth, (5) Value Chain Value chain is a way of systematically looking at the series of activities carried out by the company to satisfy the customers served, (6) Industry evaluation stages by identifying key success factors with terms of reference at the industrial evaluation stages that present four stages, namely initial development, growth, uncertainty, and saturation stages.

Belassi and Tukel (1996) grouped CSF into the following four areas of project-related factors: project managers and team members, organization, and the external environment. Chua et al. (1999) used hierarchical analytic processes and grouped the 67 success-related factors into the following four categories: project characteristics, contractual arrangements, project participants, and interactive processes. However, despite the proliferation of studies on CSF, none of these studies are specific to risk assessment and management practices. In addition, previous studies such as Larsen and Myers (1999) have raised questions about the true meaning of 'success' and warn about how 'successful implementation' becomes failure.

2.2.2 Risk management system.

In everyday life, we often hear the term "risk". Various risks, such as the risk of fire, being hit by other vehicles on the road, the risk of flooding in the rainy season, and so on, can cause us to bear risks if we do not anticipate them from the beginning. The International Organization for Standardization (ISO) in 2009 defines risk as the effect of uncertainty on organizational goals The consequences of this uncertainty can be positive or negative, depending on what the expected outcome is. Risk is closely related to uncertainty, and the two have differences. Uncertainty is a condition in which there is a lack of knowledge, information, or understanding of a decision and its consequences (Ritchie and Marshall, 1993). So, a risk is the possibility of something happening that has an impact on achieving goals.

Risk arises because of uncertainty, because uncertainty causes doubts in predicting possible outcomes that will occur in the future (Djoso Soedarso, 1999). The higher the level of uncertainty, the higher the risk (Ritchie and Marshall, 1993). Especially in the business world, uncertainty and risk are something that cannot be ignored; in fact, they must be considered carefully, if people want success. These risks include fire, damage, accidents, theft, fraud, fraud, embezzlement, etc., which can cause no small loss. Concerning this fact, everyone (especially entrepreneurs) must always strive to overcome it, that is, strive to minimize uncertainty so that the losses caused can be eliminated or at least minimized.

It should be understood that no project is "risk-free," so every project, in principle, must consider and anticipate this and these risks need to be properly "managed" in terms of the full management function (Latham, 1994). The decision-making process involves risk, which may arise as a threat to unplanned planning or opportunity (Olechowski et al, 2016). Therefore, the risk management system is necessary, that is, an activity that aims to increase the likelihood of success in project management activities and product development that are complex, multidisciplinary and challenging (Oliva, 2016). The set of coordinated activities and methods used to direct the organization and control the many risks that can affect the organization's ability to achieve its objectives is the definition of a risk management system (ISO31000, 2009).

According to Monahan (2008), a risk management system is a potential loss caused by an event (or series of events) that can affect the achievement of company goals. Anderson Terp (2006) also states that basically, a risk management system can be defined as a process to eliminate, reduce, and control risks, increase benefits, and avoid losses from speculative

exposure. So, from these various definitions, it can be concluded that a risk management system is an activity and method used by the organization to control risks that can affect the organization's ability to achieve goals. Knowledge and understanding of risk management system are important to help identify and manage inherent risks effectively and systematically to achieve project objectives of time, cost and quality (Santoso et al, 2003). So, it can be understood that risk management system is processes to eliminate, reduce, and control risks that involve identifying, analyzing, measuring, monitoring, and controlling risks for the achievement of strategies and objectives of the company or business.

In Indonesia itself, the implementation of risk management at the Ministry of Finance is one of the best practices for implementing risk management in government agencies since the issuance of the Minister of Finance Regulation number 191 / PMK.09 / 2008 (Jauhari, R et al., 2021). So, it is not surprising that many ministries or other agencies are benchmarking the implementation of risk management at the Ministry of Finance. Since risk management is a tool for management to achieve goals. Risk management itself is a tool for management, so that it can provide considerations to the company in a structured manner by taking into account all forms of uncertainty in making decisions and actions that must be taken to handle risks (Anggraini & Pertiwi, 2017). Another study conducted by Kapuscinska & Matejun (2014) examined risk management in public sector organizations. This research reveals that the activities of public sector organizations are closely related to risks that must be identified, analyzed, evaluated, monitored, and controlled as part of the risk management process.

In research (Nair, et al., 2013) and (Soltanizadeh, S et al., 2016) stated that the successful implementation of risk management in companies can reduce capital costs, more accurate financial reporting, competitive advantage, improved organizational perceptions and better market presence and improve the ability to make the right decisions. More research adds that a successful RMS can affect the possibility and consequences of risk occurrence, as well as provide benefits related to more informed strategic decisions, successful implementation of change, and increased operational efficiency (Teece, et al., 2016) and (Soltanizadeh, S et al., 2016). Currently, some companies and organizations still do not have qualified capabilities related to the process of risk management. Based on this fact, the researcher intensifies an explanation regarding the risk management process in the next discussion.

2.2.3 Risk management processes.

Over time, the processes in the implementation of the risk management system have progressively developed in several papers, journals, books, and even standard guidelines for a risk management system. According to the State Bank of Pakistan (2003), the risk management system framework covers the scope, process/system/procedure of a risk management system as well as the roles and responsibilities of individuals related to a risk management system. An effective risk management framework includes risk management policies and procedures that include risk identification, acceptance, measurement, monitoring, reporting and control. The National Institute of Standards and Technology (2002) formulates three important parts in the process of implementing a risk management system, including risk assessment, risk mitigation, and evaluation and assessment.

The risk assessment process includes identification, risk impact evaluation, and risk reduction action recommendations. Second, risk mitigation involves prioritizing, maintaining, and implementing appropriate risk reduction controls recommended by risk assessment. Lastly, evaluation and assessment emphasize the ongoing evaluation process and key success factors of risk management programs. Then, in NIST (2011), experienced changes that the risk management process is divided into, including framing risks, assessing risks, responding to risks, and monitoring risks how companies frame risks or establish the context of risk, that is, describe the environment in which risk-based decisions are made to produce risk management strategies that discuss how the organization intends to assess risk, respond to risk, and monitor risk taking explicitly and transparently to the risk perception that the organization routinely uses in investment and operational decision making.

The risk management strategy establishes the foundation for managing risk and describes the boundaries of risk-based decisions within the organization. According to Vorst et al. (2015) referring to the definition of the risk management process is divided into six processes, including communication and consultation, context determination, risk assessment, risk treatment, monitoring, and review. The British Standards (2018) and the European Union Agency for Cybersecurity (2022) implement the same risk management guidelines. Sourced from International Organization for Standardization ISO31000 (2018) and which designed a risk management process/system/procedure model. This process consists of six activities: (1) communicating and consulting, (2) establishing the scope, context, and criteria, (3) risk

assessment, (4) risk treatment, (5) monitoring and review, and finally (6) recording and reporting.

So, the risk management process framework proposed by the British Standards (2018) will be a model in this study. The risk management process involves systematically implementing policies, procedures, and practices in communication and consulting activities, establishing context, and assessing, handling, monitoring, reviewing, recording, and reporting risks. The risk management process should be an integral part of management and decision-making and integrated into the structure, operations, and processes of the organization. This can be applied at the strategic, operational, program or project level. There are many applications of risk management processes in an organization, which are tailored to achieve objectives and adapt to the external and internal context in which the process is applied. The dynamic and varied nature of human behavior and culture should be considered throughout the risk management process. Although the risk management process is often presented sequentially, in practice it is iterative. The risk management process consists of six repeatable sub-processes, which are illustrated in Figure 2.1 below.

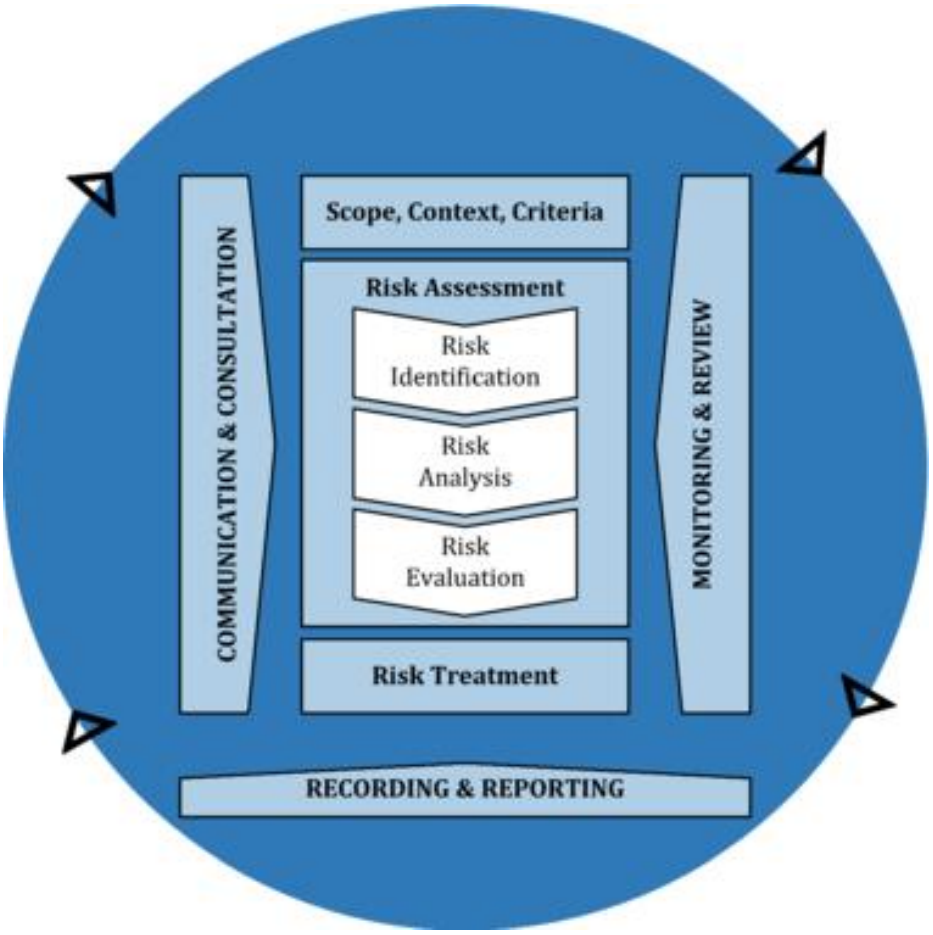


Figure 2. 1 Details of the risk management process

Source: ISO, 2018

2.2.3.1 Communication and consultation.

The purpose of communication and consultation is to assist relevant stakeholders in understanding the risks, the basis for decision making, and the reasons why certain actions are needed. Communication seeks to increase awareness and understanding of risk, whereas consultation involves obtaining feedback and information to support decision making. Close coordination between the two should facilitate the exchange of factual, timely, relevant, accurate, and understandable information, taking into account the confidentiality and integrity of information as well as the right to privacy of individuals. (ISO, 2018).

2.2.3.2 Scope, context, criteria.

When establishing a risk management system in an organization, fundamental decisions regarding the risk management process itself are made at the time of determining the scope, context, and criteria. Based on the scope of a risk management system, it is important to clarify the scope of the risk management process, its objectives (risk management units), and its alignment with organizational goals. In the planning approach, several things to consider include goals and decisions that need to be made; the expected result of the implemented stage in the process; time, location, specific things that need to be involved and not necessary; appropriate risk assessment tools/methods and techniques; necessary resources, division of responsibilities and records to be kept; relationship with projects, processes and other related activities (ISO, 2018).

By establishing the context, the organization determines the parameters to be considered when managing risk and establishes the scope and Risk criteria for subsequent processing. This process needs to be considered in more detail and, in particular, in relation to the scope of the specific risk management process. Standards Australia and Standards New Zealand (2004) provide a five-step process to help establish the context in which risks should be identified.

a. External context – the external environment in which the organization seeks to achieve its goals.
b. Internal context – the internal environment in which the organization seeks to achieve its goals.
c. Risk management context – defines the objectives, strategies, scope, and parameters of the organization's activity or the part of the organization in which the risk management process is applied or should be established.
d. Develop risk evaluation criteria – the organization should develop criteria that should be used to evaluate the significance of risk and determine acceptable levels of risk for a particular activity or event and decide what is unacceptable.
e. Define a risk analysis structure – separate managed risk categories. This structure will provide greater depth and accuracy in identifying significant risks.

The organization shall specify specifically the amount and type of risk that can be accepted/taken, or rejected, associated with the target. The organization should also establish criteria to evaluate the importance of risk (priority) and to support the decision-making

process. Risk criteria should be aligned with the management of the risk management framework and tailored to specific objectives and the scope of related activities. Risk criteria should reflect values, objectives, and organizational resources and be consistent with policies and statements on the risk management system. The criteria should be established taking into account the organization's obligations and stakeholders' point of view (BSISO 31000,2018).

2.2.3.3 Risk assessment.

Risk assessment is the entire process from risk identification, risk analysis, and risk evaluation. Risk assessment should be systematic, repeatable, and collaborative (in collaboration with interested parties), based on the knowledge and views of stakeholders on risk. The goal of risk identification is to find, recognize, and describe risks that can support or hinder the achievement of organizational goals. Relevance, adequacy, and up-to-date are important in identifying risks (ISO, 2018). Then, for risk analysis related to the assessment of the potential impact of exposure and the likelihood of certain outcomes occurring. The impact of exposure should be considered based on the elements of time, quality, benefits, and resources. This step determines the probability and consequences of negative impacts and then estimates the level of risk by combining probabilities and consequences (AS/NZS, 2004). Before determining probabilities, it is important to consider risk tolerance. The organization will consider the "risk appetite" (the amount of risk they are willing to take) and decide whether or not to accept the risk. Risk evaluation is important for understanding a particular situation and providing adequate material for decision making (Vrijling, Hengel, and Houben, 1995). This step is about deciding whether the risk is acceptable or requires handling.

2.2.3.4 Risk treatment.

The purpose of risk treatment is to select and implement risk treatment options. Risk treatment includes an iterative process of risk treatment option formulation and selection; risk treatment planning and implementation; assessment of the effectiveness of risk treatment; decision making as to whether the remaining risks are acceptable; implementation of follow-up treatment, if the option is not accepted (BS ISO 31000, 2018). Risk treatment involves selecting the application of one or more options to manage risk. Standards Australia and

Standards New Zealand (2004) offer the following risk management options: avoid, change the likelihood of occurrence, change consequences, share risk, and maintain risk (remaining risk can be maintained if it is at an acceptable level).

2.2.3.5 Monitoring and review.

Monitoring and review are an important and integral step in the risk management process. Risks need to be monitored to ensure environmental changes do not change risk priorities and to ensure the risk management process is effective. Based on ISO 31000 (2018), the purpose of monitoring and review is to ensure and improve the quality and effectiveness of process design, implementation and output results. Ongoing monitoring and periodic review of risk management processes and outcomes should be a planned part of the risk management process, with clearly defined responsibilities. Monitoring and review should be carried out at all stages of the process. Monitoring and review include planning, collecting, analyzing information, recording results, and providing feedback. Monitoring and review results should be included throughout management, measurement, and management activities. Organizational performance reporting

2.2.3.6 Recording and reporting.

Risk management processes and outcomes should be documented and reported through appropriate mechanisms. Risk management processes and outcomes should be documented and reported through appropriate mechanisms. Reporting is an integral part of organizational governance and should promote the quality of dialogue with stakeholders and support top management and regulatory bodies in fulfilling their responsibilities. Factors to consider according to BS ISO 31000 (2018) in reporting include but are not limited to different stakeholder differences and their specific information needs and requirements; cost, frequency, and timeliness of reporting; reporting methods; relevance of information to organizational goals and decision making.

2.2.4 KSFs for risk management system.

Identifying key success factors can bridge the gap between literature and practice in the field of risk management system rationally; organizations will focus their limited resources on the things that actually make the difference between success and failure (Bullen Rockart, 1981). Some previous studies such as Mok et al. (1997) have observed that the successful implementation of risk management processes depends on whether the KSF can be overcome. Therefore, the management style adopted in any organization will greatly influence the way of managing risk. Based on the author's review, previous studies have been identified in the risk management system literature, but their relative importance to each other has not been revealed and most research has been conducted in developed countries. In addition, most of these KSFs are introduced based on the knowledge and results of case studies that the author conducts. In previous studies, success factors were considered important but, since some factors are definitely more important than others, it makes sense to try to rank them down. The following are important factors in implementing risk management system.

Table 2. 2 Definition of Key Criteria for Potential Success

Factor	Variable Code	Variable Name
Basic Principles of Risk Management	$BPRM_1$	Integrating risk management with strategy, planning, and all processes
	$BPRM_2$	Risk management being a continuous and repeatable process
	$BPRM_3$	Identifying all types of risks
	$BPRM_4$	Risk portfolio management and risk-return optimization
Culture and Risk Communication	CRC_1	Good internal communication regarding risk
	CRC_2	Appropriate organizational culture promoting risk awareness
	CRC_3	A qualified, experienced, and competent team responsible for risk management
	CRC_4	Openness, willingness to talk about problems and negative events
	CRC_5	Commitment, awareness, and responsibility for risk management among employees
	CRC_6	Clearly defined system of values, views, and goals in the organization
	CRC_7	Risk training and workshops for employees and managers
	CRC_8	Good external communication regarding risk

	CRC_9	Rewarding a conscious approach to risk, correct attitudes and actions
	CRC_{10}	Testing risk communication, monitoring risk culture implementation
Risk Management Process	RMP_1	Methodical risk identification, considering sources and consequences
	RMP_2	Designating risk owners
	RMP_3	Risk assessment
	RMP_4	Managing all main risks
	RMP_5	Selecting optimal risk response, considering costs and benefits
	RMP_6	Preparing for possible crisis
	RMP_7	Proper selection of risk management tools and methodology
	RMP_8	Management responsible for monitoring and assessing risk management
	RMP_9	Improving risk management continuously
	RMP_{10}	Verifying and updating the risk register regularly
	RMP_{11}	Analyzing historical events and drawing conclusions from them
	RMP_{12}	Identifying opportunities
	RMP_{13}	Creating appropriate documentation supporting risk management
	RMP_{14}	Awareness and preparation for the “black swans”
	RMP_{15}	Graphical representation of the effects of a risk assessment
	RMP_{16}	Including manager's subjective, rational assessment in risk management
	RMP_{17}	Listing obligations regarding risk management in managers' contracts
	RMP_{18}	Developing alternative strategies for managing the main risks
Management and Supervision	MS_1	Management awareness of current risk exposure and risk decisions.
	MS_2	Managers commitment, awareness, and knowledge regarding risk management.
	MS_3	Manager's responsibility for risk culture is a good example of behavior.
	MS_4	Involving management at all levels in risk management.
	MS_5	Right selection of employees, division of roles, and tasks related to risk management.
	MS_6	Considering the impact of risk when making all decisions.

	MS_7	Providing adequate resources and conditions for risk management.
	MS_8	Establishing official risk-based decision-making procedures.
	MS_9	Maintaining risk at a level corresponding to risk appetite and tolerance.
	MS_{10}	Establishing risk management structures and fitting them into the existing structures.
	MS_{11}	Risk manager with adequate resources and capabilities.
	MS_{12}	The functioning of the risk committee.
	MS_{13}	Preparing key employees and managers for succession.
	MS_{14}	Accepting additional costs related to risk management.
	MS_{15}	Considering and preventing biases.
Tools and Techniques	TT_1	Improving planning and forecasting processes.
	TT_2	Simplicity of the models and solutions used.
	TT_3	Adjusting risk management to the organization and conditions in which it operates.
	TT_4	Using qualitative risk management methods.
	TT_5	Creating an incident database.
	TT_6	Using indicators supporting risk management.
	TT_7	Using quantitative risk management methods.

Source: Przetacznik, 2022

Taking into account the factors identified in the section above, the authors extract the relevant 54 KSFs described in Table 2.2 Key decisions in an organization are informed by a wide range of possible outcomes, and these outcomes are rarely binary. The KSF depicted in the Table 2.2 shows a well-developed ability to identify, measure, manage, and monitor risks across organizations, businesses and companies for example.

2.3 Hypotheses

Hypotheses are temporary answers to research formulations where the formulation of research problems has been stated in the form of a question sentence. Hypotheses are temporary conjectures that may be right and may be wrong, so they can be considered as temporary conclusions, while the rejection or acceptance of a hypothesis depends on the results of

research on the 5 factors that have been collected above, then a conclusion is drawn. Key Success Factor (KSF) is a benchmark for success in implementing risk management. Researchers hypothesize that all key success factor variables affect the implementation of risk management carried out by PT Jasa Raharja (Persero) D.I Yogyakarta Branch, including the following.

A. H1: The basic principles of risk management applied will have a positive effect on success in implementing a risk management system.
B. H2: Culture and risk communication applied will have a positive effect on success in implementing a risk management system.
C. H3: The risk management process applied will have a positive effect on success in implementing the risk management system.
D. H4: The management and supervision applied will have a positive effect on success in implementing the risk management system.
E. H5: The tools and techniques applied will have a positive effect on success in implementing the risk management system.

CHAPTER III
RESEARCH METHODOLOGY

3.1 Research design

The overall objective of this final project is to provide KSFs in the implementation of risk management for companies or businesses or organizations that have not implemented it. These KSFs empower companies to identify risk management processes that affect sustainability in the risk management practices applied. Given the determination of the key success factors in the most accurate implementation of risk management, the author uses several research methods. This research method uses a mixed method, which involves narrative analysis using quantitative and qualitative approaches methods including surveys of respondents. Furthermore, it also uses in-depth interview techniques using several selected informants, to support the output based on the survey carried out. Added research processor flowchart.

3.2 Population and sample

This study is about "Identification of Key Success Factors for the Successful Implementation of Enterprise Risk Management". In this study, the population and sample will be considered based on the country of origin, what sector, and what company it deals with, as well as what position to go to. The author decided to collect data from the financial industry that has successfully implemented risk management in their company. This research is conducted on policyholders or those responsible for the risk management of the company. Due to the fact that upper management is directly responsible for risk management. The company that became the place of research by the author is PT Jasa Raharja Branch D.I Yogyakarta, which is located at Magelang street no 7, Bumijo, Jetis, Yogyakarta City, DIY. The target group is

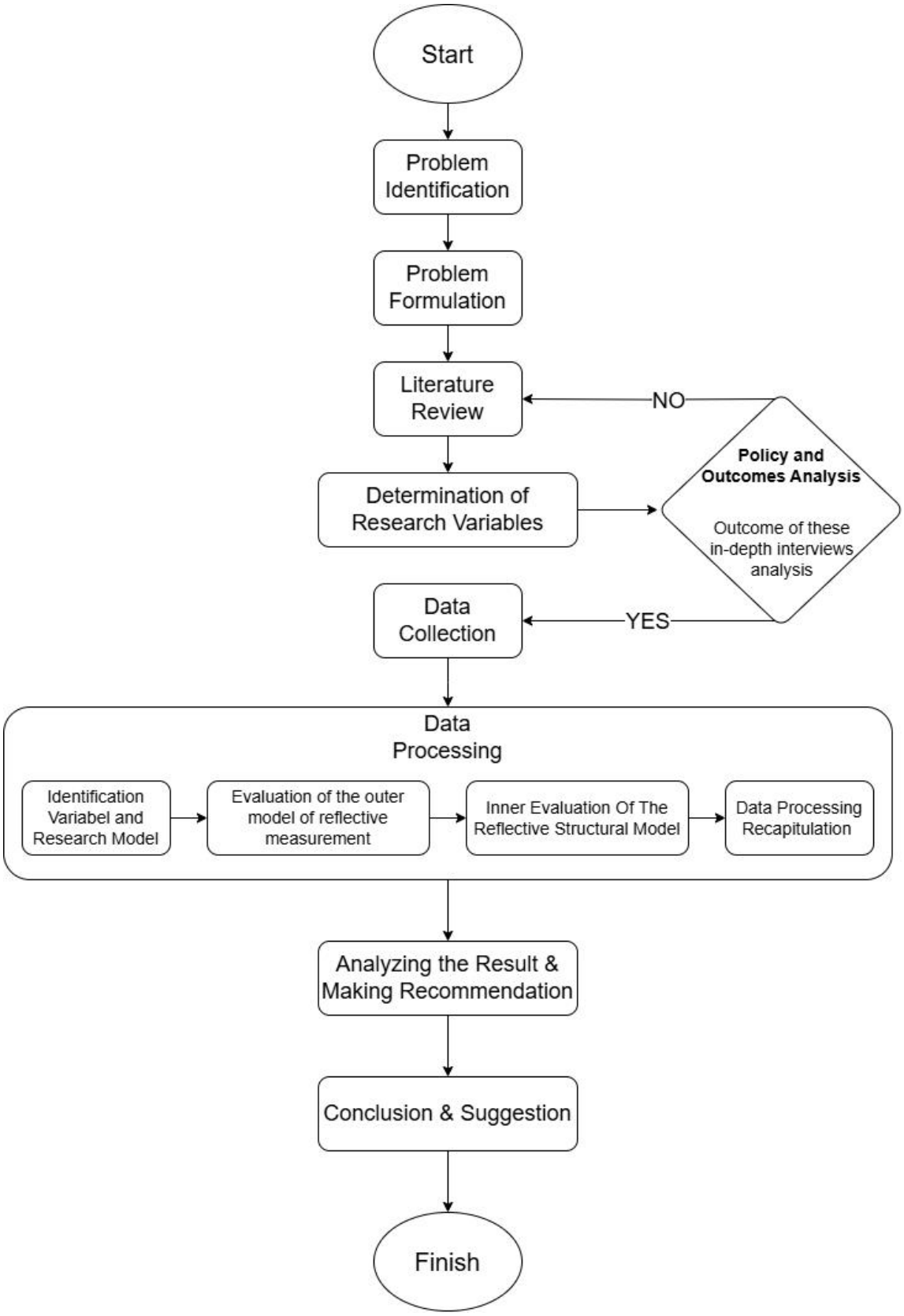
the range of positions from supervisors to the board of directors, who will be sampled in this study.

The implementation of this research was carried out over a span of approximately 6 months. Data that will be obtained from both the literature review and in-depth interviews are collected and recorded on data collection sheets or transcripts which are then processed into more organized and complete records to be used as questionnaire data instruments in conducting surveys. The sample size in this study is a small sample size of 30 to 50 samples. In accordance with Hair et al. (2017), which stated that the minimum sample size guide in SEM-PLS analysis is ten times equal to or greater than the largest number of formative indicators used to measure a construct or ten times the largest number of structural paths that lead to a particular construct. And according to Jorgiyanto & Abdillah (2015), when conducting research with the analysis method using SmartPLS software, the recommended sample size is between 30 - 100 people or respondents. In accordance with the availability of professionals and the limited number of employees at PT Jasa Raharja Branch D.I Yogyakarta, a total of 44 people have fulfilled the sample size mentioned above.

3.3 Research Flow

This is part of the research flow which will make it easier for us to understand the research flow. Below is a picture of the research flow and points from each part.

Figure 3. 1 Research Flowchart



Source: Result of Data Processing, 2025

Based on the Figure 3.1 above, the following is a brief explanation of each part in this research flow:

1. Problem Identification

   Problems in the risk management system are identified through observation, either directly or through previous research. The problems that have been identified are issues that will be studied and focused on in this research to be solved. In this research, the problem is what is the key to success in implementing a risk management system.

2. Problem Formulation

   Problem formulation involves determining and formulating problems that have been identified in the previous stage to formulate further actions in setting the objectives and benefits of the research conducted.

3. Literature Review

   In this step, synchronize the theories and findings that are in accordance with the problems in the research and conduct an in-depth analysis. The goal is to serve as a reference to help in the implementation of this research and provide an overview of the next steps in the research.

4. Determination of Variable

   After conducting a literature review, previous works, studies, and guidelines on the topics were reviewed to find gaps and expand the knowledge base in this research area. So that the author is able to present the most important factors described in the literature that may have a positive impact on the success of risk management and therefore can be a factor in the success of implementing risk management. And divided into two parts: dependent variables (3.5.1) and independent variables (3.5.2).

5. Data Collection (In-Depth Interview)

   To further deepen the literature review by the author, it is deemed necessary to conduct a series of interviews on general key success factors in the implementation carried out with experts and risk management practitioners, especially in the corporate environment. The results of in-depth interviews are used as a basis for conducting surveys or collecting data, and revisions are made to improve the

readability and accuracy of the KSFs description if necessary (NO), then return to stage 3. If there are no significant changes (YES), then proceed to stage 6.

6. Data Collection (Questionnaire Results)

   The last stage of this data collection is secondary data, by conducting a survey. It is done by distributing questionnaires among professionals who have worked in companies that have successfully implemented a risk management system. The Special Study in this study is at the Jasa Raharja company, D.I Yogyakarta Branch.

7. Data Processing

   a) Identification Variable and Research Model

      To determine whether there is a significant difference in their perception of KSFs. The results of the questionnaire data in the form of primary data obtained will be continued using the Structural Equation Modeling (SEM) data analysis technique to analyze the bond patterns between variables, followed by using SmartPLS software. This model intends to determine the direct or indirect influence of a set of independent variables (exogenous) on related variables (endogenous).

   b) Evaluation of the outer model of reflective measurement

      That is, measuring the goodness of causality between variables and measurement items which refers to Hair et al (2021). There are two tests including validity tests and reliability tests as well as several checks on the software, further explanations of which are in sub-chapter (3.7).

   c) Inner evaluation of the reflective structure model

      Structural model evaluation is an evaluation of research hypothesis testing. The influence between variables is represented in the path coefficient or coefficient. Structural model evaluation is related to hypothesis testing between research variables. Examination of structural model evaluation is carried out in the complete hypothesis testing stage (3.8).

   d) Data processing recapitulation

      The last stage in the data processing of each indicator is continued by evaluating the goodness of fit of the model, which involves evaluating the entire model. SEM PLS is a variance-based SEM analysis with the aim of testing model theory that focuses on prediction studies. Therefore, several

measures were developed to state that the proposed model is acceptable, such as R square, Q square, and SRMR (Hair et al, 2019a). At this stage, a recapitulation of the entire data processing process from all stages of processing for each indicator will also be carried out, from which the priority scale of each indicator can be determined.

8. Analyzing the Results & Making Recommendations

   The discussion discusses the findings of data processing results to answer the formulation of the problem related to the identification of key factors for the success of implementing a risk management system. After calculating and testing the hypothesis, it will be known which indicators need to be improved and are the key to the success of implementing a risk management system. It is a reference for in-depth discussion for each indicator that has a significant impact or vice versa.

9. Conclusion & Suggestion

   Conclusions are made to answer the research objectives that have been determined at the beginning. Conclusions and Suggestions contain conclusions from the results of the research that has been carried out as well as suggestions for readers and for conducting further research. At the same time, suggestions are accommodated as considerations and recommendations for further research on the same topic.

3.4 Technique of data collection

The research was divided into several steps, with the aim of this step being to collect the data required for the research. The three data collection techniques used were literature review, in-depth interviews, and questionnaires. The first stage of the research was a detailed review of risk management literature and standards. With regard to the literature review, previous works, research, and guidelines on the subject matter were reviewed to find gaps and expand the knowledge base in the field of this research. The authors were able to present the most important factors described in the literature that may have a positive impact on the success of risk management and, therefore, may be a factor in the successful implementation of risk management. These factors are divided into five groups: (1) Basic principles of risk management, (2) Culture and risk communication, (3) Risk management process, (4) Management and supervision, and the last is (5) Tools and Techniques. The KSF used in this

study is based on research conducted by Sylwia Przetacznik in 2022 in Poland. The author chose this research using a narrative analysis using quantitative & qualitative approach methods, applying surveys to respondents. Furthermore, it also uses in-depth interview techniques using several selected informants, so that they can support the output based on the survey conducted. To further deepen the KSF that has been reviewed by the author, it is deemed necessary to conduct a series of interviews on general key success factors in implementation conducted with risk management experts and practitioners, especially in the Jasa Raharja environment, with various concepts of financial, operational, and corporate risk management.

Interviews were conducted sufficiently to contain the ideas of risk management experts at Jasa Raharja regarding an overview of the factors that influence the implementation of risk management. These descriptions became the theoretical basis for further data collection. The purpose of these interviews was to obtain practitioners' opinions on the key success factors of risk management implementation. It also allowed the authors to better understand the characteristics of risk management in companies located in Indonesia. Interviewees were asked to list the factors that they believe have the greatest impact on the success of risk management, a positive impact on the function of implementing risk management, and thus a positive impact on company results. The results of the in-depth interviews were used to inform the survey or data collection, and revisions were made to improve the readability and accuracy of the KSFs descriptions where necessary.

The author used survey research as a research strategy by selecting a large sample of participants from a predetermined population of interest (Kelley et al., 2003). Choosing surveys as a research strategy allows the author to obtain the same type of data from a large group of people in a standardized way (Oates, 2008). The final stage of this research was a survey conducted by distributing questionnaires among professionals working in the field of risk management in an Indonesian-based Jasa Raharja company that implements a mature risk management system. The data collection method carried out in this study was by distributing questionnaires online through Google Forms. According to Hadi (2009), a questionnaire is a set of questions that have been prepared and written in advance by the researcher to ask for answers from respondents. The questionnaire will be submitted to respondents related to the subject matter. Researchers will distribute questionnaires to all employees of PT Jasa Raharja Yogyakarta Branch. The questionnaire survey was conducted to collect the importance of

KSFs to implement the risk management system of PT Jasa Raharja Branch D.I Yogyakarta. The design of the questionnaire questions and divided into the following segments.

1. The first section contains questions regarding the respondent's personal data, which will be kept confidential.
2. The second section contains several indicators to test the research variables with a Likert scale.

The first section contains general information that identifies the background of the respondents. Next, it focuses on the questions and statements at the core of this research, namely KSFs in the implementation of enterprise risk management. There are various questions such as questions that require one answer or questions that must be elaborated. Examples of questionnaires and draft questions when conducting interviews will be shown in the Appendix. The Likert scale model is a rating scale to measure the opinions, perceptions, or attitudes of a person or group of people by providing a range of values. Researchers used 5 Likert scales which were distributed online via Google Forms, to collect factual data in order to test the hypothesis in order to obtain primary data. The technique used was the purposive sampling technique when distributing questionnaires. The purposive sampling technique is a data source sampling technique with certain considerations, for example, the person is considered to know best about what we expect (Sugiyono, 2019). Meanwhile, according to Burhan Bungin (2012), the most important sampling procedure is how to determine key informants (key informants) or certain social situations that are full of information. Choosing a sample, in this case key informants or social situations, is more appropriately done deliberately or purposefully, namely by purposive sampling. This research uses a purposive sampling technique. Because the researcher feels that the sample taken knows the most about the problem that the researcher will study. The use of purposive sampling in this study aims to find out how the implementation of the risk management system occurs in the sustainability of PT Jasa Raharja Branch D.I Yogyakarta. Then the entire data obtained is processed, analyzed, and conclusions are drawn.

3.5 Research variables

The data sources used in this study are primary data and secondary data. According to Bungin (2013) the type of data is divided into two, namely primary data is the first data in the field,

while secondary data is data obtained from a second source. Primary data is data obtained directly from data users (Sugiyono, 2014). Data collection is done by distributing questionnaires. The primary data in this study are the results of questionnaires distributed to respondents, and the secondary data in this study are from research articles with the same research variables. The questionnaire technique was used to obtain primary data from respondents.

3.5.1 Dependent variable.

The dependent variable in this study is the risk management system, the risk management system is defined as the level of success in implementing the risk management system, with the assumption that respondents have access to this information. This research instrument was taken from Sylwia's research (2022). The measurement scale used for each value of this question uses a Likert scale with scale points 1 to 5, alternative answers with variable measurements are Very Important answers are given a score of 5, Important answers are given a score of 4, Ordinary answers are given a score of 3, Unimportant answers are given a score of 2, and Very Unimportant answers are given a score of 1.

Table 3. 1 Dependent Variable Risk Management System

Indicator	Description	References
RMS1	Improving the quality of business management	Sylwia, 2022
RMS2	Adapt better to environmental changes	
RMS3	Improving and stabilizing financial results	
RMS4	Meet stakeholder requirements	
RMS5	Protect company assets and reputation	
RMS6	Meet legal requirements	
RMS7	Limiting the impact of crises and disaster events	
RMS8	Reduce the number of complaints and fines	
RMS9	Increase company value	
RMS10	Improve company image	
RMS11	Reduce insurance costs	

Source: Result of Data Processing, 2024

3.5.2 Independent variables.

A. Basic principles of risk management

This is one of the independent variables in this study. Basic principles of risk management can be interpreted as an initial factor in encouraging and influencing success in implementing a risk management system, with research indicators taken from previous research. The measurement scale used for each value of this question uses a Likert scale with scale points 1 to 5, alternative answers with variable measurements are Very Important answers are given a score of 5, Important answers are given a score of 4, Ordinary answers are given a score of 3, Unimportant answers are given a score of 2, and Very Unimportant answers are given a score of 1.

Table 3. 2 Independent Variable: Basic Principles of Risk Management

Indicator	Description	References
BPRM1	Integrating risk management with strategy, planning, and all processes	Beasley & Frigo, 2010; Frigo & Anderson, 2011; Fraser & Simkins, 2016; COSO, 2017; Rebelo, Silva, & Santos, 2017; ISO, 2018;
BPRM2	Risk management being a continuous and repeatable process	FERMA 2003; Lam, 2017;
BPRM3	Identifying all types of risks	Decker and Galler, 2013; Cook, 2018; Olson and Wu, 2020
BPRM4	Risk portfolio management and risk-return optimization	Frigo and Anderson, 2011; Bromiley et al., 2015; COSO, 2017; Cook, 2018;

Source: Result of Data Processing, 2024

B. Culture and risk communication

This is the second variable of the independent variable in this study. Culture and risk communication is the level of formation or awareness of individuals in the implementation of the risk management system. The measurement scale used for each value of this question uses a Likert scale with scale points 1 to 5, alternative answers with variable measurements are Very Important answers are given a score of 5, Important answers are given a score of 4,

Ordinary answers are given a score of 3, Unimportant answers are given a score of 2, and Very Unimportant answers are given a score of 1.

Table 3. 3 Independent Variable: Culture and Risk Communication

Indicator	Description	References
CRC1	Good internal communication regarding risk	Althonayan et al., 2012; Boultwood and Dominus, 2014; Etges et al., 2018
CRC2	Appropriate organizational culture promoting risk awareness	Archer, 2002
CRC3	A qualified, experienced, and competent team responsible for risk management	Sylwia, 2022
CRC4	Openness, willingness to talk about problems and negative events	Sylwia, 2022
CRC5	Commitment, awareness, and responsibility for risk management among employees	Althonayan, 2012; Boultwood and Dominus, 2014; COSO, 2017
CRC6	Clearly defined system of values, views, and goals in the organization	Kaplan, 2016
CRC7	Risk training and workshops for employees and managers	Fraser and Simkins, 2016; Lam, 2017
CRC8	Good external communication regarding risk	Sylwia, 2022
CRC9	Rewarding a conscious approach to risk, correct attitudes and actions	Sylwia, 2022
CRC10	Testing risk communication, monitoring risk culture implementation	Sylwia, 2022

Source: Result of Data Processing, 2024

C. Risk management process

The third independent variable is the risk management process, which is the extent to which the processes that will be passed in implementing a risk management system are able to improve performance. The measurement scale used for each value of this question uses a Likert scale with scale points 1 to 5, alternative answers with variable measurements are Very Important answers are given a score of 5, Important answers are given a score of 4, Ordinary answers are given a score of 3, Unimportant answers are given a score of 2, and Very Unimportant answers are given a score of 1.

Table 3. 4 Independent Risk Management Process

Indicator	Description	References

RMP1	Methodical risk identification, considering sources and consequences	Sylwia, 2022
RMP2	Designating risk owners	Lundqvist, 2014; Etges et al., 2018; ISO, 2018
RMP3	Risk assessment	Sylwia, 2022
RMP4	Managing all main risks	Cormican, 2014; ISO, 2018
RMP5	Selecting optimal risk response, considering costs and benefits	Shortreed, 2010; FERMA, 2003; COSO, 2017; Kline and Hutchins, 2017; ISO, 2018
RMP6	Preparing for possible crisis	Sylwia, 2022
RMP7	Proper selection of risk management tools and methodology	Sylwia, 2022
RMP8	Management responsible for monitoring and assessing risk management	Shortreed, 2010,
RMP9	Improving risk management continuously	Fraser and Simkins, 2016; Green, 2016; COSO, 2017; Kline and Hutchins, 2017
RMP10	Verifying and updating the risk register regularly	Malinowska, 2011; Marchetti, 2012; ISO, 2018
RMP11	Analyzing historical events and drawing conclusions from them	Sylwia, 2022
RMP12	Identifying opportunities	Sylwia, 2022
RMP13	Creating appropriate documentation supporting risk management	Sylwia, 2022
RMP14	Awareness and preparation for the “black swans”	Sylwia, 2022
RMP15	Graphical representation of the effects of a risk assessment	Cormican, 2014; ISO, 2018
RMP16	Including manager's subjective, rational assessment in risk management	Frigo and Anderson, 2011; Cormican, 2014; ISO, 2018
RMP17	Listing obligations regarding risk management in managers' contracts	Sylwia, 2022
RMP18	Developing alternative strategies for managing the main risks	Sylwia, 2022

Source: Result of Data Processing, 2024

D. Management and supervision

This is the next independent variable contained in this study. Management and supervision are the extent of the company's commitment to the successful implementation of the risk management system. The measurement scale used for each value of this question uses a Likert scale with scale points 1 to 5, alternative answers with variable measurements are Very Important answers are given a score of 5, Important answers are given a score of 4, Ordinary

answers are given a score of 3, Unimportant answers are given a score of 2, and Very Unimportant answers are given a score of 1.

Table 3. 5 Independent Variable Management and Supervision

Indicator	Description	References
MS1	Management awareness of current risk exposure and risk decisions.	FERMA, 2003
MS2	Managers commitment, awareness, and knowledge regarding risk management.	FERMA, 2003; Cormican, 2014; ISO, 2018
MS3	Manager's responsibility for risk culture is a good example of behavior.	Sylwia, 2022
MS4	Involving management at all levels in risk management.	Młodzik, 2014; ISO, 2018
MS5	Right selection of employees, division of roles, and tasks related to risk management.	FERMA, 2003; COSO, 2017
MS6	Considering the impact of risk when making all decisions.	Benjamin, 2017; ISO, 2018
MS7	Providing adequate resources and conditions for risk management.	Frigo and Anderson, 2011
MS8	Establishing official risk-based decision-making procedures.	Sylwia, 2022
MS9	Maintaining risk at a level corresponding to risk appetite and tolerance.	Sylwia, 2022
MS10	Establishing risk management structures, and fitting them into the existing structures.	FERMA, 2003; COSO, 2017
MS11	Risk manager with adequate resources and capabilities.	Sylwia, 2022
MS12	The functioning of the risk committee.	Sylwia, 2022
MS13	Preparing key employees and managers for succession.	Młodzik, 2014; ISO, 2018
MS14	Accepting additional costs related to risk management.	Sylwia, 2022
MS15	Considering and preventing biases.	Sylwia, 2022

Source: Result of Data Processing, 2024

E. Tools and techniques

Independent variable tools and techniques are the level of trust in the selection of tools and technology in helping the successful implementation of the risk management system. The measurement scale used for each value of this question uses a Likert scale with scale points 1 to 5, alternative answers with variable measurements are Very Important answers are given a score of 5, Important answers are given a score of 4, Ordinary answers are given a score of 3,

Unimportant answers are given a score of 2, and Very Unimportant answers are given a score of 1.

Table 3. 6 Independent Variable Tools and Techniques

Indicator	Description	References
TT1	Improving planning and forecasting processes.	Sylwia, 2022
TT2	Simplicity of the models and solutions used.	Sylwia, 2022
TT3	Adjusting risk management to the organization and conditions in which it operates.	Lundqvist, 2014; Fraser dan Simkins, 2016
TT4	Using qualitative risk management methods.	Kaplan,2016
TT5	Creating an incident database.	Sylwia, 2022
TT6	Using indicators supporting risk management.	Duckert, 2011
TT7	Using quantitative risk management methods	Kaplan,2016

Source: Result of Data Processing, 2024

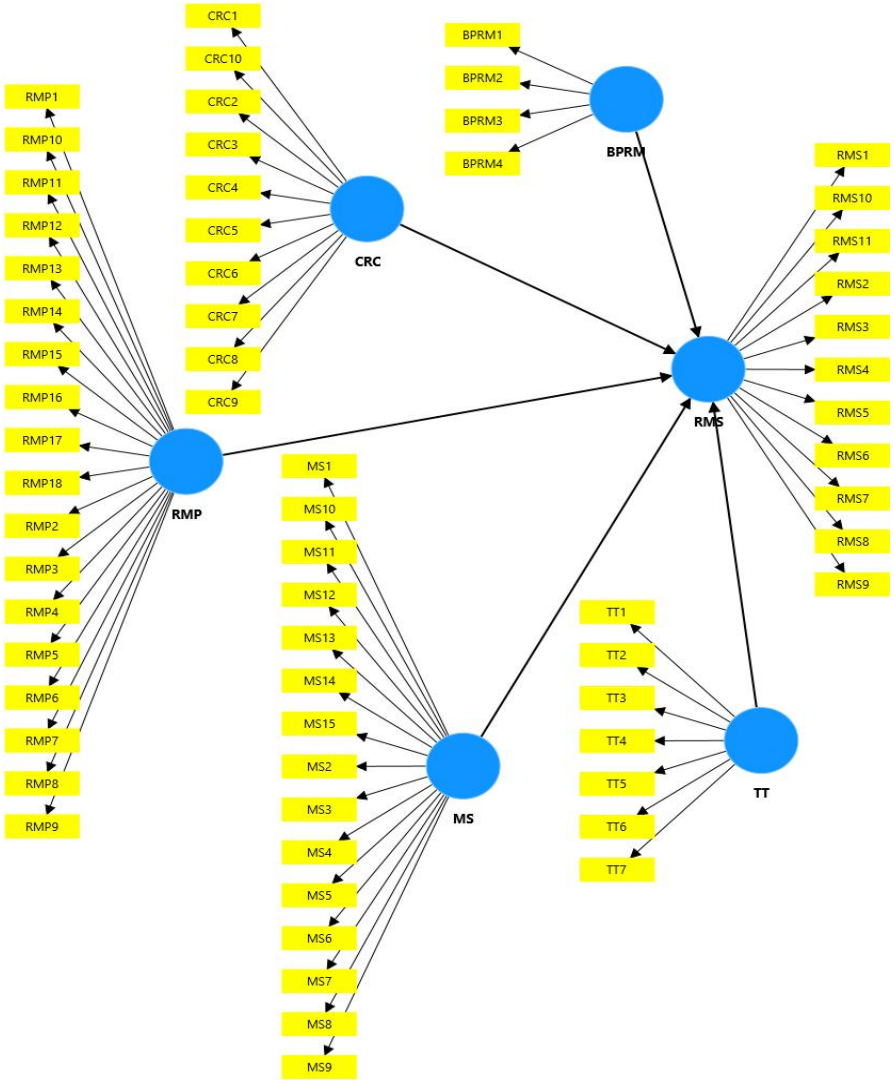
3.6 Technique of data analysis

The main focus of this study is to identify Jasa Raharja professionals' perceptions of KSFs in the application of risk management in relation to the successful application of risk management practices to determine whether there are significant differences in their perceptions of KSFs. The results of the questionnaire data in the form of primary data obtained will be continued by using the data analysis technique, Structural Equation Modeling (SEM), to analyze the pattern of bonds between variables, followed by using Smart PLS software. This model intends to determine the direct or indirect influence of a set of independent (exogenous) variables on related variables (endogenous). The partial least squares method was used to provide data analysis for excellent relationship prediction (Hair et al., 2014; Buniya et al., 2023). PLS-SEM generally uses a causal modeling strategy, which is designed to use non-normal data with smaller sample sizes. Furthermore, PLS-SEM can be used to optimize the explained variance of dependent latent variables (Hair et al., 2011; Buniya et al., 2021). Variance-based SEM can model latent variables with minimal data requirements (Hair et al., 2019b).

This study uses PLS-SEM because it requires minimal data, offers simple assumptions, and is able to model the relationship of several variables (Hair et al., 2019b). Furthermore, normally distributed data does not indicate any compulsion in PLS. Various data types such as

nominal, interval, or ratio data with low sample sizes, can be used for analysis (Hair et al., 2019b). continued Hair et al. (2019a, 2019b) PLS SEM is a multivariate statistical method for testing a set of influences between variables that are estimated simultaneously for the purpose of prediction, exploration, or structural model development studies. There are research variables as follows: Successful implementation of risk management (Y), Basic principles of risk management (X1), Culture and risk communication (X2), Risk management process (X3), Management and supervision (X4), Tools and Techniques (X5). This research framework is a relationship between the concepts observed and assessed, with the stages of research to be carried out. Referring to the theoretical foundation, researchers can make a theoretical foundation formulation, which is seen in the following figure:

Figure 3. 2 Research Model



Source: Result of Data Processing, 2024

SEM testing using PLS aims to test the predictive relationship between constructs by seeing if there is a relationship or influence between constructs. The use of SEM PLS includes several reasons such as that this analysis does not require certain distribution assumptions (normal distribution), can work with complex models, and the purpose of the study is model theory testing which focuses on prediction studies, exploration or development of structural model theory (Hair et al., 2019a). In addition, testing also does not require a strong theoretical basis, ignores many assumptions, and the accuracy of the prediction model is seen from the determination value (Ghozali, 2014). According to Yamin (2022) that evaluation in SEM PLS includes 3 things, namely measurement model evaluation, structural model evaluation, and evaluation of goodness and fit of the model, or goodness of fit. The research model used in this study is second order, where the basic principles of risk management, culture and risk communication, risk management process, management & supervision, tools & techniques, and risk management system are measured reflectively.

3.7 Evaluation of the outer model of reflective measurement

Evaluation of the reflective measurement model is to measure the goodness of causality between variables and measurement items, which refers to Hair et al (2021). The relationship between the items and the original latent structure is described in the convergent and discriminant validity of the measurement model. The degree of agreement between two or more measurements (CSF) of the same concept is referred to as convergent (group) validity. It is considered part of construct validity (Buniya et al., 2021). Three tests can be used to evaluate the convergent validity of the measured constructs when using PLS models. Therefore, Cronbach's alpha (α), composite reliability (rc), and average variance extracted (AVE) can be calculated. The use of Cronbach's alpha and rc values of 0.7 was suggested by Nunnally and Bernstein as threshold values for simple composite reliability (Fornell et al., 1981), while values of more than 0.60 are appropriate for exploratory investigations (Wong, 2013). This is a normative metric for evaluating the convergent validity of model constructs, with values above 0.50 indicating a reasonably good level of convergent validity (Wong, 2013). The term 'discriminant validity' denotes the empirical distinction of the phenomena being tested. This indicates that any undetected measurements in the phenomenon are then

tested by SEM (Hair et al., 2010). It is stated that the degree of similarity between different measurements should not be too high to indicate discrimination (Campbell & Fiske, 1959).

3.7.1 Validity test.

Validity is the accuracy of a measuring instrument to achieve a goal. According to Azwar (2011), validity is the accuracy and accuracy of the measuring instrument in performing its measurement function. A measurement is said to be valid if the measuring instrument provides measurement results that are in accordance with the purpose of the measurement. The validity test in this study aims to measure the level of accuracy of each indicator or question item in measuring the variables of basic principles of risk management, culture and risk communication, risk management process, management & supervision, tools & techniques. This study uses the PLS approach because PLS is more often used, and sample loading and free distribution are insignificant. The validity scale, according to (Hair et al., 2021), is divided into two, namely convergent validation analysis and discriminant validation analysis. The criteria for each analysis are as follows.

1. Convergent validity, in evaluating the reflective measurement model, it is seen from the outer loading or loading factor value, which is a description of the level of validity of the item in measuring variables. The recommended outer loading or loading factor value is a minimum of 0.70 (Hair et al., 2021) or a minimum of 0.60 (Chin, 1998). If the measurement item has an outer loading value or loading factor of less than 0.70, it is removed from the model and re-estimated. After that, the AVE (Average Variance Extracted) value is seen again, which is a measure of convergent validity or the extent to which the overall measurement item represents or reflects variable measurements. AVE also explains the amount of variation in measurement items contained by dimensions or variables, and the recommended value for AVE is above 0.50 (Hair et al., 2021).
2. Discriminant validity, Discriminant validity relates to the principle that measures of different variables should not be highly correlated. Discriminant validity is determined by several methods, by looking at the Fornell-Larcker criterion value, namely that variables must be different from other variables in theory and empirically proven. In Hair et al. (2021) that a variable is said to have good discriminant validity if the AVE root is greater than the correlation between variables or dimensions. Then look at the cross-loading value, and HTMT (Hetero-trait Mono-trait Ratio). HTMT describes the ratio of hetero-

trait (the average correlation between items measuring different variables) to the root of the mono-trait geometric multiplication (the correlation between items measuring the same variable). The value of the Fornell-Larcker criterion and cross loading on each variable is greater than the other variables, meaning that the latent variable can predict indicators better than other variables, and if the HTMT value is <0.90, the discriminant validity criteria are achieved (Hair et al., 2021).

3.7.2 Reliability test.

The reliability test was carried out to determine the reliability of the research questionnaire. The questionnaire is said to be reliable if this questionnaire is tested repeatedly on the same group, it will produce the same data. According to (Sugiyono, 2014) reliability testing is needed to determine whether the measurement results remain consistent when measuring two or more times using the same measuring instrument. In Hair et al. (2021) reliability test is a test used to determine and ascertain whether the tools used for data collection show the level of fixity and accuracy in collecting certain data. To test the level of reliability, an evaluation of the composite reliability and Cronbach's alpha values of each variable contained in the research instrument is carried out. CR (composite reliability), this measure describes the level of reliability or internal consistency (Hair et al., 2021). The recommended CR value is a minimum of 0.70, which means that the measuring instrument or instrument as a whole is consistent or reliable in measuring variables. Likewise, Cronbach's alpha is a reliability measure that has a meaning like CR, namely as a measure of internal consistency. The recommended value is a minimum of 0.70 that the dimension or variable is considered reliable. In PLS, the reliability test is carried out by looking at the composite reliability. A variable can be said to have high reliability or be reliable if the composite reliability value and Cronbach's alpha> 0.70 (Hair et al., 2021).

3.8 Inner Evaluation of the Reflective Structural Model

Structural model evaluation is an evaluation of research hypothesis testing. The influence between variables is represented in the path coefficient or coefficient. Structural model evaluation is related to hypothesis testing between research variables. The structural model

evaluation check is carried out in the hypothesis testing stage, namely, first checking the collinearity between variables, which is the result of model estimation, will be robust (unbiased) if there is no collinearity or high relationship between variables. The measure used to check the absence of multicollinearity between variables with the Inner VIF (Variance Inflated Factor) measure. The Inner VIF value is recommended below 5, which indicates the absence of multicollinearity between variables (no collinearity) (Hair et al., 2021). The second stage is testing the significance of the path coefficient or hypothesis between variables by looking at the t-statistic value or p-value. This test is related to testing the research hypothesis. The hypothesis testing process in SEM PLS is carried out through a bootstrapping process where the t-statistics of the calculation results are greater than 1.96 (t-table) or the p-value of the test results is smaller than 0.05, so there is a significant influence between the variables (Hair et al., 2021). In addition, it is necessary to convey the results and the 95% confidence interval of the estimated path coefficient parameter. The 95% confidence interval path coefficient is a measure or value that explains the interval or confidence interval for the magnitude of the path coefficient effect between variables in the 95% confidence interval. This value relates to the extent to which the minimum or maximum value of influence between variables is produced. The last stage is the f-square value, which explains the effect of variables at the structural level, namely the effect of direct variables at the structural level with the criteria (f-square 0.02 low, 0.15 moderate, 0.35 high) (Hair et al., 2021).

3.9 Evaluating the goodness of fit of the model

Evaluation of goodness of fit is to evaluate the entire model. SEM PLS is a variance-based SEM analysis with the aim of testing model theory that focuses on prediction studies. Therefore, several measures were developed to declare the proposed model acceptable such as R square, Q square, and SRMR (Hair et al, 2019a). square (R2) is a measure of the proportion of variation in the value of the affected variable that can be explained by the variables that affect it. If a study uses more than two independent variables, the adjusted R-square (adjusted R2) is used. The adjusted R-square value is a value that is always smaller than R-square. The size of the R-square statistic describes the amount of variation in endogenous variables that can be explained by other exogenous variables in the model. According to Chin (1998), the interpretation value of R-square is 0.19 (low influence); 0.33 (moderate influence), and 0.66

(high influence). Then, according to Hair et al. (2019a) the interpretation of R2 for low influence is 0.25, moderate influence is 0.50, and high influence is 0.75. Then, Q square describes a measure of predictive accuracy, namely, how well each change in exogenous variables is able to predict endogenous variables. This measure is a form of validation in PLS to state the suitability of model predictions (predictive relevance) or prediction accuracy. The Q2 value above 0 states that the model has predictive relevance, but in Hair et al. (2019a), the qualitative Q square interpretation value is 0 (low influence), 0.25 (moderate influence), and 0.50 (high influence). Finally, SRMR is the Standardized Root Mean Square Residual, which is a measure of model fit, namely the difference between the data correlation matrix and the estimated model correlation matrix. Hair et al. (2021) stated that the SRMR value below 0.08 indicates a fit model. However, according to Schmelleh et al. (2003) the SRMR value between 0.08 - 0.10 is still an acceptable fit.

CHAPTER IV
RESEARCH FINDINGS AND DATA PROCESSING

4.1 Description of survey results

This chapter explains the results of research obtained from data that have been collected through questionnaires distributed to respondents at the Jas Raharja Company, Yogyakarta Branch. The data analyzed is in accordance with the main problems and hypotheses previously described. Data collection in this study was carried out by distributing questionnaires online from March 7, 2024, to May 20, 2024, reaching 44 respondents. The population in this study is companies that apply the Risk Management System in Yogyakarta. The sample was selected by purposive sampling, namely all employees who have positions in the Jas Raharja Branch Company D.I Yogyakarta, in accordance with the decree that has been made. The questionnaire distribution process was carried out through the Google Form online media and depended on the availability of the respondents to fill out the questionnaire. The data from the distribution of questionnaires will be processed using the structural equation model (SEM) method through SmartPLS v. 4.1.0.3 software, and will be tested for data reliability and validity, and hypothesis testing will be carried out.

4.2 Description of the company overview

4.2.1 General history of P.T Jasa Raharja (Persero).

The history of the establishment of Jasa Raharja cannot be separated from the government's policy to nationalize Dutch-owned companies with the promulgation of Law No. 86 of 1958 concerning the Nationalization of Dutch Companies. The elaboration of this law in the field of loss insurance, the government nationalized Dutch loss insurance companies based on Government Regulation (PP) No. 6 of 1960 concerning the Determination of Dutch Loss

Insurance Companies are subject to Nationalization. The nationalized companies referred to are the Bekouw & Mijnssen Firm in Jakarta, the Blom & van Der Aa in Jakarta, and the Sluyters Firm Company in Jakarta. This Government Regulation was stipulated on January 16, 1960, but was retroactive to December 3, 1957. Furthermore, several of the nationalized companies were designated as the legal entity status of the State Loss Insurance Company (PNAK). As a state company, based on the Announcement of Decree of the Minister of Revenue, Financing and Supervision of the Republic of Indonesia No.12631/B.U.M II. On February 9, 1960, the names of these companies were changed, including Blom & Van Der Aa Firm in Jakarta, Bekouw & Mijnssen Firm in Jakarta, Sluyters & Co Firm, and N.V. Assurantie Maatschappij Jakarta in Jakarta was merged and changed its name to the State Loss Insurance Company "IKA BHAKTI". Then N.V Assurantie Kantoor Lengvvedt-Schroder in Jakarta changed its name to State Loss Insurance Company "IKA DHARMA".

In 1961, based on Government Regulation Number 15 of 1961 concerning the Establishment of the State Loss Insurance Company Eka Karya, the four PNAKs, which were originally based on the Announcement of the Minister of Finance (Ruling Body for Dutch Casualty Insurance Companies) No.12631/B.U.M. II. on February 9, 1960, the company was called "Ika" became "Eka". Based on this Government Regulation, the four PNAKs, namely Eka Bhakti, Eka Dharma, Eka Mulya, and Eka Sakti, were merged on January 1, 1961, to become one company with the name PNAK Eka Karya. With this merger, all rights and obligations, assets, employees, and businesses of the four companies will be transferred to PNAK Eka Karya. However, in the Announcement of the Minister of Finance (Ruling Body for Dutch Casualty Insurance Companies) No.29495/B.U.M.II dated 31 December 1960, the names of these companies returned to using "Ika", including the newly founded company, namely "Ika Karya". This difference is due to the Minister of Finance's announcement being issued prior to the promulgation of Government Regulation Number 15 of 1961 concerning the Establishment of the State Loss Insurance Company Eka Karya, namely on March 24, 1961. PNAK Eka Karya is domiciled and has its head office in Jakarta and can have branch offices, office representatives, agents, or correspondents at home and/or abroad, engaged in the insurance business sector, namely.

1. Organize and cover all types of insurance, including reinsurance, except life insurance.
2. Providing intermediaries in closing all types of insurance

In 1965, based on Government Regulation No. 8 of 1965 concerning the Establishment of the State Loss Insurance Company Djasa Rahardja, starting January 1, 1965, PNAK Eka Karya was merged into a new company with the name "State Loss Insurance Company Jasa Raharja" and all its assets, employees, and all debts PNAK Eka Karya's receivables were transferred to PNAK Jasa Raharja. Like PNAK Eka Karya, PNAK Jasa Raharja is also domiciled and headquartered in Jakarta and can have branch offices, representative offices, while agents or correspondents are only allowed within the country. In contrast to PNAK Eka Karya, which provides general coverages for all types of insurance, PNAK Jasa Raharja was established specifically to provide coverage in the field of motor vehicle liability and passenger accident insurance, including reinsurance and intermediary services in the field of motor vehicle liability and passenger accident insurance. Several months after the founding of PNAK Jasa Raharja, precisely on March 30, 1965, the Government issued Decree of the Minister of Revenue, Financing and Supervision No. B.A.P.N. 1-3-3, which appointed PNAK Jasa Raharja to carry out the administration of the Mandatory Passenger Accident Insurance Fund and Road Traffic Accident Fund in accordance with Law Number 33 and Law Number 34 of 1964.

In 1970, PNAK Jasa Raharja changed its status to Jasa Raharja Public Company (Perum). This change in status is stated in the Decree of the Minister of Finance of the Republic of Indonesia No. Kep.750/KMK/IV/II/1970 dated 18 November 1970, which was a follow-up to the issuance of Law Number 9 of 1969 concerning the Stipulation of Government Regulations in Lieu of Law Number 1 of 1969 concerning Forms of State Business into Law. Article 2 paragraph 2 of the Law states that PERUM is a State Company established and regulated based on the provisions contained in Law no. 19 Prp 1960. In 1978 In 1978, namely based on PP No. 34 of 1978 concerning Amendments to Government Regulation Number 8 of 1965 concerning the Establishment of the General Loss Insurance Company "Jasa Raharja", in addition to managing the implementation of the Law. No.33 and UU. No. 34 of 1964, Jasa Raharja received an additional mandate to issue letters of guarantee in the form of Surety Bonds. This appointment makes Jasa Raharja a pioneer in providing surety bonds in Indonesia, at a time when other insurance companies generally still act as front offices for surety companies abroad, resulting in foreign exchange flowing abroad for this purpose. Then, as an effort to convey a sense of social responsibility to society, especially for those who have not received protection within the scope of Law No. 33 and Law No. 34 of 1964, the Aneka

Insurance business was also developed. In 1980, following further developments, considering that the business handled by Perum Jasa Raharja was growing so that more measurable and efficient business management was needed, then in 1980 based on PP No. 39 of 1980 concerning Transfer of the Form of General Loss Insurance Company Jasa Raharja was converted into Company (Persero) on November 6, 1980, The status of Jasa Raharja was changed again to Company (Persero) with the name PT (Persero) Jasa Raharja Loss Insurance.

In 1981, Jasa Raharja's Articles of Association were originally regulated in the Government Regulation on its establishment, so in accordance with Government Regulation No. 12 of 1969 concerning Limited Liability Companies (PERSERO), the regulations had to be separated. The Articles of Association of Jasa Raharja were further outlined in Notarial Deed Imas Fatimah, SH No. 49 of 1981, dated 28 February 1981. With the change in ministerial nomenclature, this year too, the Government through the Minister of Finance renewed the appointment of Jasa Raharja by issuing Minister of Finance Decree No: 337/KMK.011/1981 dated 2 June 1981 concerning the Appointment of the Jasa Raharja Loss Insurance Company (Persero) to Organize a Compulsory Passenger Accident Coverage Fund and a Road Traffic Accident Fund. In 1994 - Present, the government established Government Regulation Number 73 of 1992 concerning the Implementation of Insurance Business as an elaboration of Law No. 2 of 1992 concerning Insurance Business. This Government Regulation regulates, among other things, provisions that prohibit insurance companies that have implemented social insurance programs from carrying out insurance other than the social insurance program. In line with these provisions, starting from January 1, 1994, until now, Jasa Raharja has divested from the non-compulsory insurance and surety bond business to focus more on running the social insurance program, namely organizing the Mandatory Passenger Accident Coverage Fund as regulated in the Law. No.33 of 1964 and the Road Traffic Accident Fund as regulated in the Law. No.34 of 1964.

Table 4. 1 Brief Description about PT Jasa Raharja (Persero)

Name	PT Jasa Raharja (Persero)
Business fields	Social Insurance
Owner	100% owned by the Republic of Indonesia
Legal basis	a. Government Regulation Number 15 of 1961 concerning the Establishment of the State Loss Insurance Company Eka

	Karya. b. Government Regulation Number 8 of 1965 concerning the Establishment of the State Loss Insurance Company 15 Djasa Rahardja. c. Decree of the Minister of Finance Number KEP 750/MK/IV/11/1970 dated 18 November 1970 concerning Statement regarding the State Company (PN) Djasa Rahardja Loss Insurance as a State Enterprise as intended in paragraph (2) of Article of Law No. 9 of 1969. d. Government Regulation Number 39 of 1980 concerning Transfer of the Form of Jasa Raharja Loss Insurance General Company to a Limited Liability Company (Persero). e. Deed Number 49 dated 28 February 1981 made before Imas Fatimah, Bachelor of Laws, Notary in Jakarta, which has been amended and supplemented several times, most recently with Deed Number 18 dated 2 October 2009 made before Yulius Purnawan, SH. MSi., Jakarta Notary.
Business activities	Carry out accident insurance for passengers of public transportation equipment and general insurance and legal liability insurance for third parties as regulated in Law no. 33 and 34 of 1964 and their implementing regulations.
Office Network	PT Jasa Raharja has 28 Branch Offices, 61 Representative Offices, 50 PT Jasa Raharja Service Offices (KPJR) and 978 Samsat Joint Offices, spread throughout Indonesia.

Source: Result of Data Processing, 2024

4.2.2 Vision and mission PT. Jasa Raharja (Persero).

1. Vision PT. Jasa Raharja (Persero)

To become a leading company in the insurance sector by prioritizing the implementation of social insurance and mandatory insurance programs in line with community needs.

2. Mission PT. Jasa Raharja (Persero)

The mission of PT Jasa Raharja (Persero) or known as Catur Bakti Eka Karsa PT Jasa Raharja (Persero) includes.

1. Service to the Community by prioritizing basic protection and excellent service in line with community needs.
2. Service to the State by realizing the best performance as the organizer of the Social Insurance and Compulsory Insurance Programs as well as State-Owned Enterprises.
3. Service to the Company by creating a balance of interests so that productivity can be achieved optimally for the Company's sustainability.
4. Service to the environment by empowering potential resources for environmental balance and sustainability.

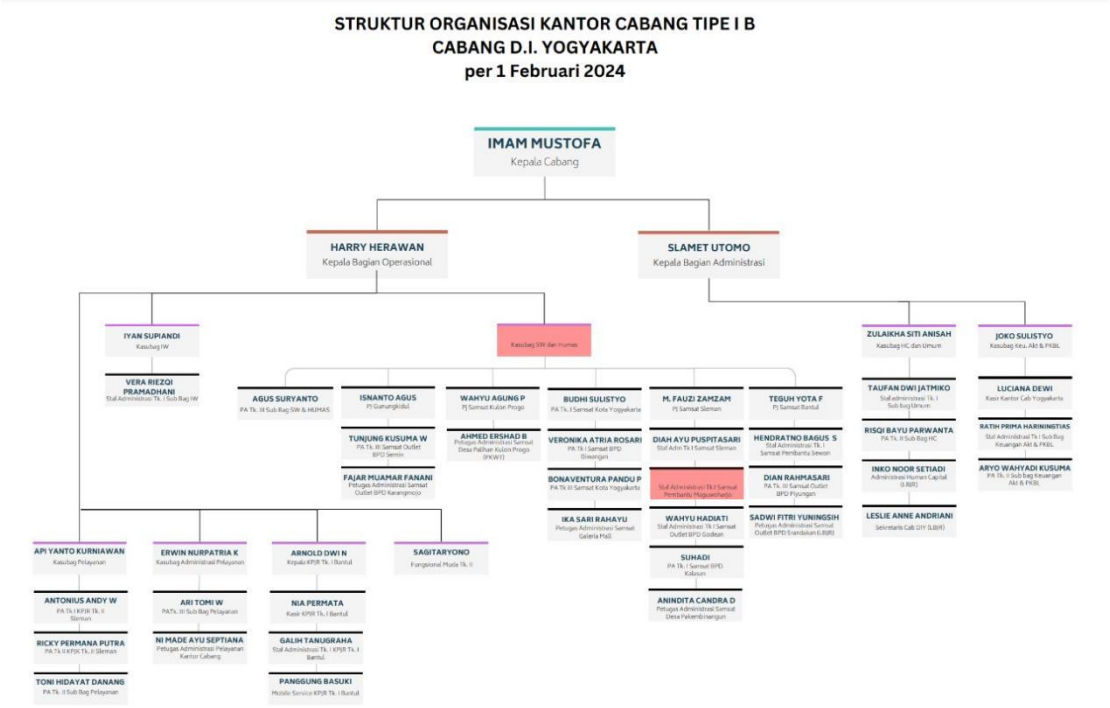
The meaning of Catur Bakti Eka Karsa PT. Jasa Raharja (Persero) is a taken from the first few main words, "Catur Bakti", which means four devotions to achieve one company goal. Then the word "Eka Karsa" means a desire to achieve the Company's goal, namely supporting national economic development, especially development in the insurance sector. Lastly, PT. Jasa Raharja is the enthusiasm and will to do good deeds for the sake of creating a prosperous society.

4.2.3 Organizational structure of PT Jasa Raharja (Persero) D.I Yogyakarta Branch.

In carrying out its activities, the company fosters good cooperation between people within the company to achieve certain goals. The more things are done in an organization, the more complex the relationships in the implementation of these activities. To describe the cooperative relationship between each activity or function, an organizational structure is created so that the boundaries of authority and responsibility of each section are clear according to their position. The form of organizational structure at Jas Raharja Company D.I Yogyakarta Branch is to use a bureaucratic type of organizational structure. So that decision-making follows the chain of command and centralized authority. This type of organization is a combination of an organization with staff whose job is to provide advice. The delegation of authority takes place vertically and completely from the highest leadership to the units below. Organizations are structured according to needs in carrying out their business to achieve goals,

where work units support each other to form a good work system. In general, the organizational structure of PT Jas Raharja D.I Yogyakarta Branch is depicted in Figure 4.1.

Figure 4. 1 Organizational structure of branch office type 1 B PT Jasa Raharja (Persero) D.I Yogyakarta Branch



Source: PT Jasa Raharja (Persero) D.I Yogyakarta Branch, 2024

4.2 Respondent description

4.2.1 Classification of respondents based on gender.

Respondent data based on gender in employees at the D.I Yogyakarta Branch of the Raharja Services Company, consisting of men and women, can be seen in the table below:

Table 4. 2 Classification of Respondents Based on Gender

DESCRIPTION	AMOUNT	PERCENTAGE (%)
Male	30	67,4%
Female	14	32,6%

TOTAL	**44**	**100%**

Source: Result of Data Processing, 2024

Based on Table 4.2, a total of 46 respondents were obtained, consisting of 30 male respondents (67.4%) and 14 female respondents (32.6%). The number of male respondents is higher than that of female respondents. In this study, it can be concluded that employees at the D.I Yogyakarta Branch of the Raharja Services Company are more dominated by men than women.

4.2.2 Classification of Respondents Based on Position.

Respondent data based on positions for employees at the Yogyakarta Branch of the Raharja Services Company who have filled out questionnaires in this study.

Table 4. 3 Classification of Respondents Based on Position

POSITION	**AMOUNT**	**PERCENTAGE (%)**
Head of Branch	1	2,3%
Head of Division	2	4,6%
Head of Subdivision	6	13,6%
Staff	35	79,5%
TOTAL	**44**	**100%**

Source: Result of Data Processing, 2024

Based on table 4.3, the total number of employees in the Raharja Services Company, D.I Yogyakarta Branch is 44 respondents consisting of 1 respondent as Branch Head (2.3%), 2 respondents as Head of Section (4.6%), 6 respondents as Head of Subdivision (13.6%), and 35 respondents as Staff (79.5%). The author can conclude in this study that the majority of the position status of the respondents in this study are respondents with staff positions, totaling 35 out of 44 employees at the Yogyakarta Branch of the Raharja Services Company.

4.2.3 Classification of respondents based on employment status.

Respondent data based on employee status at the Yogyakarta Branch of the Raharja Services Company can be seen in the table below.

Table 4. 4 Classification of Respondents Based on Employment Status

DESCRIPTION	AMOUNT	PERCENTAGE (%)
Permanent Employee	37	84,1%
PKWT	1	2,3%
Internship	6	13,6%
TOTAL	**44**	**100%**

Source: Result of Data Processing, 2024

Table 4.4 shows the results of the distribution of respondents based on employee status. There are 37 respondents (84.1%) who have been given the trust as permanent employees, 1 respondent (2.3%) who has worked as a PKWT, and finally 6 respondents (13.6%) who are interns. The results of the analysis show that the respondents in this study were almost 84.1% fulfilled by employees who had worked at the Yogyakarta Branch of the Raharja Services Company as permanent employees, as many as 37 respondents.

4.2.4 Classification of respondents based on education.

Respondent data based on the latest educational background taken by employees at the Raharja Services Company, D.I. Yogyakarta Branch who have filled out the questionnaire in this study.

Table 4. 5 Classification of Respondents Based on Education

DESCRIPTION	AMOUNT	PERCENTAGE (%)
SMU/equal	8	18,2%
D3	3	6,8%
S1	25	56,8%
S2	8	18,2%

TOTAL	**44**	**100%**

Source: Result of Data Processing, 2024

Based on table 4.5, the total number of employees at the Yogyakarta Branch of the Raharja Services Company who have studied their last education consists of 8 respondents who studied up to high school / equivalent (18.2%), 3 respondents who studied up to D3 (6.8%), 25 respondents who studied up to S1 (56.8%), and 8 respondents who studied up to S2 (18.2%). The author can conclude in this study, that the majority of respondents have taken their last education, namely S1 as many as 25 respondents.

4.3 Evaluation of the outer model of reflective measurement

The measurement model in this study consists of a reflective measurement model where the variables basic principles of risk management, culture and risk communication, risk management process, management and supervision, tools and techniques, risk management system are measured reflectively. The initial stage of calculation in PLS is to evaluate the outer model. Outer model is a stage to evaluate the validity and reliability of a construct. There are two validity tests as described in the previous chapter, namely convergent validity and discriminant validity. The outer model is evaluated using AVE, outer loading, community, cross loading, Cronbach's alpha and composite reliability.

4.3.1 Validity test.

The validity test aims to measure the extent to which the variables used actually measure what should be measured. The validity tests used in this study are convergency validity and discriminant validity. The validity test is used to measure whether a questionnaire is valid or not. A questionnaire is said to be valid if the questions on the questionnaire are able to reveal something that will be measured by the questionnaire.

1. Convergent validity dan measurement model, with reflective indicators can be seen from the correlation between the item score and the variable score. Convergent validity is determined using the loading factor parameter. Measurements can be categorized as having convergent validity if the loading factor value is> 0.7 and the Average Variance Extracted (AVE) value is> 0.5 (Hair. et al, 2021). By looking at the output results of the

calculation of the correlation between indicators and their variables using the SmartPLS application (v.4.1.0.3). the results of convergent validity testing are as follows.

Table 4. 6 Preliminary Calculation Loading Factor Values

Variable	Measurement Item	Indicator	Loading Factor	Description
Basic Principles of Risk Management	BPRM1	Integrating risk management with strategy, planning, and all processes	0,755	Valid
	BPRM2	Risk management becomes a continuous and repeatable process	0,947	Valid
	BPRM3	Identifying all types of risks	0,372	Not Valid
	BPRM4	Risk portfolio management and risk-return optimization	0,853	Valid
Culture and Risk Communication	CRC1	Good internal communication regarding risk	0,912	Valid
	CRC2	Appropriate organizational culture promoting risk awareness	0,948	Valid
	CRC3	A qualified, experienced, and competent team responsible for risk management	0,863	Valid
	CRC4	Openness, willingness to talk about problems and negative events	0,761	Valid
	CRC5	Commitment, awareness, and responsibility for risk management among employees	0,910	Valid
	CRC6	Clearly defined system of values, views, and goals in the organization	0,893	Valid
	CRC7	Risk training and workshops for employees and managers	0,872	Valid
	CRC8	Good external communication regarding risk	0,848	Valid
	CRC9	Rewarding a conscious approach to risk, correct attitudes and actions	0,864	Valid
	CRC10	Testing risk communication, monitoring risk culture implementation	0,878	Valid
Risk Management Process	RMP1	Methodical risk identification, considering sources and consequences	0,421	Not Valid
	RMP2	Designating risk owners	0,434	Not Valid
	RMP3	Risk assessment	0,673	Not Valid
	RMP4	Managing all main risks	0,614	Not Valid
	RMP5	Selecting optimal risk response, considering costs and benefits	0,534	Not Valid
	RMP6	Preparing for possible crisis	0,901	Valid
	RMP7	Proper selection of risk management tools and methodology	0,681	Not Valid
	RMP8	Management responsible for monitoring and assessing risk management	0,520	Not Valid
	RMP9	Improving risk management continuously	0,544	Not Valid

Variable	Measurement Item	Indicator	Loading Factor	Description
	RMP10	Verifying and updating the risk register regularly	0,614	Not Valid
	RMP11	Analyzing historical events and drawing conclusions from them	0,907	Valid
	RMP12	Identifying opportunities	0,935	Valid
	RMP13	Creating appropriate documentation supporting risk management	0,586	Not Valid
	RMP14	Awareness and preparation for the “black swans”	0,690	Not Valid
	RMP15	Graphical representation of the effects of a risk assessment	0,575	Not Valid
	RMP16	Including manager's subjective, rational assessment in risk management	0,367	Not Valid
	RMP17	Listing obligations regarding risk management in managers' contracts	0,694	Not Valid
	RMP18	Developing alternative strategies for managing the main risks	0,855	Valid
Management and Supervision	MS1	Management awareness of current risk exposure and risk decisions.	0,664	Not Valid
	MS2	Managers commitment, awareness, and knowledge regarding risk management.	0,512	Not Valid
	MS3	Manager's responsibility for risk culture is a good example of behavior.	0,632	Not Valid
	MS4	Involving management at all levels in risk management.	0,565	Not Valid
	MS5	Right selection of employees, division of roles, and tasks related to risk management.	0,567	Not Valid
	MS6	Consider the impact of risk when making all decisions.	0,694	Not Valid
	MS7	Providing adequate resources and conditions for risk management.	0,698	Not Valid
	MS8	Establishing official risk-based decision-making procedures.	0,910	Valid
	MS9	Maintaining risk at a level corresponding to risk appetite and tolerance.	0,902	Valid
	MS10	Establishing risk management structures, and fitting them into the existing structures.	0,484	Not Valid
	MS11	Risk manager with adequate resources and capabilities.	0,675	Not Valid
	MS12	The functioning of the risk committee.	0,699	Not Valid
	MS13	Preparing key employees and managers for succession.	0,664	Not Valid
	MS14	Accepting additional costs related to risk management.	0,905	Valid
	MS15	Considering and preventing biases.	0,938	Valid
Tools and	TT1	Improving planning and forecasting processes.	0,983	Valid

Variable	Measurement Item	Indicator	Loading Factor	Description
Techniques	TT2	Simplicity of the models and solutions used.	0,976	Valid
	TT3	Adjusting risk management to the organization and conditions in which it operates.	0,623	Not Valid
	TT4	Using qualitative risk management methods.	0,634	Not Valid
	TT5	Creating an incident database.	0,477	Not Valid
	TT6	Using indicators supporting risk management.	0,475	Not Valid
	TT7	Using quantitative risk management methods.	0,680	Not Valid
Risk Management System	RMS1	Improving the quality of business management	0,055	Not Valid
	RMS2	Adapt better to environmental changes	0,655	Not Valid
	RMS3	Improving and stabilizing financial results	0,881	Valid
	RMS4	Meet stakeholder requirements	0,901	Valid
	RMS5	Protect company assets and reputation	0,386	Not Valid
	RMS6	Meet legal requirements	0,811	Valid
	RMS7	Limiting the impact of crises and disaster events	0,777	Valid
	RMS8	Reduce the number of complaints and fines	0,679	Not Valid
	RMS9	Increase company value	0,404	Not Valid
	RMS10	Improve company image	0,469	Not Valid
	RMS11	Reduce insurance costs	0,498	Not Valid

Source: Result of Data Processing, 2024

Based on the calculations that have been carried out six times, the results are in accordance with the data presented in Table 4.6 above, showing that there are 38 indicators of loading factor values that do not meet the requirements> 0.70. These indicators are BPRM3, RMP1, RMP2, RMP3, RMP4, RMP5, RMP7, RMP8, RMP9, RMP10, RMP13, RMP14, RMP15, RMP16, RMP17, MS1, MS2, MS3, MS4, MS5, MS6, MS7, MS10, MS11, MS12, MS13, TT3, TT4, TT5, TT6, TT7, RMS1, RMS2, RMS5, RMS8, RMS9, RMS10, and RMS11 which only have outer loading values of 0.372, 0.421, 0.434, 0.673, 0, 614, 0,534, 0,681, 0,520, 0,544, 0,614, 0,586, 0,690, 0,575, 0,367, 0,694, 0,664, 0,512, 0,632, 0,565, 0,567, 0,694, 0,698, 0,484, 0,675, 0,699, 0,664, 0,623, 0,634, 0,477, 0, 475, 0.680, 0.055, 0.655, 0.386, 0.679, 0.404, 0.469, 0.498 which means

that the indicator points are invalid so recalculation must be done by deleting these points. The values resulting from the seventh calculation are as follows.

Table 4. 7 Final Calculation Loading Factor Value

Variable	Measurement Item	Indicator	Loading Factor	Description
Basic Principles of Risk Management	BPRM1	Integrating risk management with strategy, planning, and all processes	0,755	Valid
	BPRM2	Risk management becomes a continuous and repeatable process	0,947	Valid
	BPRM4	Risk portfolio management and risk-return optimization	0,853	Valid
Culture and Risk Communication	CRC1	Good internal communication regarding risk	0,912	Valid
	CRC2	Appropriate organizational culture promoting risk awareness	0,948	Valid
	CRC3	A qualified, experienced, and competent team responsible for risk management	0,863	Valid
	CRC4	Openness, willingness to talk about problems and negative events	0,761	Valid
	CRC5	Commitment, awareness, and responsibility for risk management among employees	0,910	Valid
	CRC6	Clearly defined system of values, views, and goals in the organization	0,893	Valid
	CRC7	Risk training and workshops for employees and managers	0,872	Valid
	CRC8	Good external communication regarding risk	0,848	Valid
	CRC9	Rewarding a conscious approach to risk, correct attitudes and actions	0,864	Valid
	CRC10	Testing risk communication, monitoring risk culture implementation	0,878	Valid
Risk Management Process	RMP6	Preparing for possible crisis	0,901	Valid
	RMP11	Analyzing historical events and drawing conclusions from them	0,907	Valid
	RMP12	Identifying opportunities	0,935	Valid
	RMP18	Developing alternative strategies for managing the main risks	0,855	Valid
Management and Supervision	MS8	Establishing official risk-based decision-making procedures.	0,910	Valid
	MS9	Maintaining risk at a level corresponding to risk appetite and tolerance.	0,902	Valid
	MS14	Accepting additional costs related to risk management.	0,905	Valid
	MS15	Considering and preventing biases.	0,938	Valid
Tools and	TT1	Improving planning and forecasting processes.	0,983	Valid

Variable	Measurement Item	Indicator	Loading Factor	Description
Techniques	TT2	Simplicity of the models and solutions used.	0,976	Valid
Risk Management System	RMS3	Improving and stabilizing financial results	0,881	Valid
	RMS4	Meet stakeholder requirements	0,901	Valid
	RMS6	Meet legal requirements	0,811	Valid
	RMS7	Limiting the impact of crises and disaster events	0,777	Valid

Source: Result of Data Processing, 2024

Table 4.7 shows that all loading factors have a value of> 0.7, so that the indicators for all variables have not been eliminated from the model. Thus, it can be concluded that all indicators have met the criteria for convergent validity.

Table 4. 8 Average Variance Extracted Value

	Average Variance Extracted (AVE)
Basic Principles of Risk Management	0,732
Culture and Risk Communication	0,768
Risk Management Process	0,810
Management and Supervision	0,835
Tools and Techniques	0,959
Risk Management System	0,712

Source: Result of Data Processing, 2024

Convergent validity is established when items converge to some extent to represent the underlying construct. AVE is calculated as the mean square of the loading of each indicator on the construct. Statistically, convergent validity is formed when the average variance extracted Average Variance Extracted (AVE) > 0.50. Table 4.8 shows that all AVE values for each variable have passed the threshold value that has been determined, therefore convergent validity is acceptable.

2. Discriminant validity, discriminant validity relates to the principle that measures of different variables should not be highly correlated. Discriminant validity is determined by several methods by looking at the fornell larcker criterion value, cross loading, and HTMT (Heterotrait Monotrait Ratio). The fornell larcker criterion and cross loading

values for each variable are greater than other variables, meaning that the latent variable can predict indicators better than other variables and if the HTMT value is <0.90, the discriminant validity criteria are achieved (Hair. et al, 2021).

Table 4. 9 Fornell Larcker Criterion Value

	BPRM	CRC	MS	RMP	RMS	TT
BPRM	0,855					
CRC	0,381	0,876				
MS	0,157	0,277	0,914			
RMP	0,330	0,335	0,370	0,900		
RMS	-0,202	-0,329	-0,346	-0,383	0,844	
TT	0,239	0,273	0,581	0,469	-0,504	0,979

Source: Result of Data Processing, 2024

From Table 4.9, for each bolded number is the Fornell-Larcker criterion value of each construct. From the table above, it can be seen that the Fornell-Larcker criterion value of each construct has the highest value in each latent variable tested from other latent variables, meaning that each question indicator is able to be predicted well by each latent variable and the numbers that are not bolded are the correlation values between constructs and other constructs.

Table 4. 10 Cross-Loading Value

	BPRM	CRC	MS	RMP	RMS	TT
BPRM1	0,755	0,280	0,004	0,334	-0,050	0,085
BPRM2	0,947	0,357	0,097	0,240	-0,235	0,253
BPRM4	0,853	0,334	0,268	0,378	-0,134	0,193
CRC1	0,346	0,912	0,309	0,226	-0,349	0,398
CRC10	0,351	0,878	0,100	0,406	-0,174	0,072
CRC2	0,359	0,948	0,348	0,266	-0,332	0,372
CRC3	0,337	0,863	0,158	0,351	-0,237	0,075
CRC4	0,273	0,761	0,502	0,226	-0,320	0,462
CRC5	0,343	0,910	0,361	0,286	-0,286	0,313
CRC6	0,347	0,893	0,117	0,316	-0,282	0,169
CRC7	0,284	0,872	0,158	0,278	-0,237	0,010
CRC8	0,349	0,848	0,142	0,326	-0,323	0,130
CRC9	0,346	0,864	0,064	0,329	-0,241	0,172
MS14	0,065	0,271	0,905	0,299	-0,373	0,657
MS15	0,116	0,270	0,938	0,344	-0,337	0,550

	BPRM	CRC	MS	RMP	RMS	TT
MS8	0,168	0,183	0,910	0,356	-0,257	0,438
MS9	0,263	0,273	0,902	0,370	-0,271	0,424
RMP11	0,326	0,288	0,355	0,907	-0,331	0,450
RMP12	0,329	0,348	0,407	0,935	-0,346	0,507
RMP18	0,144	0,196	0,216	0,855	-0,244	0,294
RMP6	0,341	0,338	0,327	0,901	-0,415	0,410
RMS3	-0,225	-0,402	-0,401	-0,450	0,881	-0,579
RMS4	-0,115	-0,082	-0,351	-0,228	0,901	-0,435
RMS6	-0,187	-0,289	-0,221	-0,263	0,811	-0,363
RMS7	-0,102	-0,265	-0,052	-0,266	0,777	-0,140
TT1	0,269	0,305	0,523	0,510	-0,527	0,983
TT2	0,194	0,223	0,623	0,401	-0,455	0,976

Source: Result of Data Processing, 2024

From the results of the cross-loading estimation in Table 4.10, it shows that the loading value of each indicator item of a latent variable has the greatest loading value on other latent variables, so it can be concluded that all latent variables already have better discriminant validity than indicators in other blocks.

Table 4. 11 HTMT Value

	BPRM	CRC	MS	RMP	RMS	TT
BPRM						
CRC	0,417					
MS	0,203	0,268				
RMP	0,398	0,354	0,394			
RMS	0,174	0,326	0,327	0,384		
TT	0,223	0,261	0,601	0,486	0,486	

Source: Result of Data Processing, 2024

Henseler et al. (2015) suggested HTMT because its discriminant validity measure is more sensitive and accurate in detecting discriminant validity. The recommended threshold value is 0.90 or <0.90. The test results in Table 4.11 show that all HTMT values for each variable are below 0.90, so discriminant validity is acceptable. The variable divides the variation of the measurement item against the item that measures it more strongly than dividing the variance in other variable items.

4.3.1 Reliability test.

Hair et al (2021) said the reliability test is a test used to determine and ascertain whether the tools used for data collection show the level of determination and accuracy in collecting certain data. To test the level of reliability, an evaluation of the composite reliability value and Cronbach's alpha of each variable contained in the research instrument is carried out. In PLS, the reliability test is carried out by looking at the composite reliability. A variable can be said to have high reliability or be reliable if the composite reliability value and Cronbach's alpha> 0.70 (Hair et al, 2021).

Table 4. 12 Composite Reliability and Cronbach's Alpha Value

	Cronbach's alpha	Composite reliability	Description
Basic Principles of Risk Management	0,841	0,890	Reliable
Culture and Risk Communication	0,966	0,971	Reliable
Risk Management Process	0,923	0,945	Reliable
Management and Supervision	0,936	0,953	Reliable
Tools and Techniques	0,958	0,979	Reliable
Risk Management System	0,871	0,908	Reliable

Source: Result of Data Processing, 2024

The results of data analysis in Table 4.12 can explain that all composite reliability values for each variable are above 0.7, which indicates that all variables are reliable and have met the criteria. Furthermore, the Cronbach's alpha value, in the table above, shows that all Cronbach's alpha values are more than 0.7, which indicates that the level of reliability of the variables in terms of the Cronbach's alpha value has also met the criteria. Because all variables in this research this time the reliability test is acceptable.

4.4 Inner evaluation of the reflective structural model

Structural model evaluation is related to hypothesis testing between research variables. The structural model evaluation check is carried out in three stages, namely first checking the absence of multicollinearity between variables with the Inner VIF (Variance Inflated Factor) measure. Inner VIF values below 5 indicate no multicollinearity between variables (Hair et all,

2021). The second stage is hypothesis testing between variables by looking at the t statistical value or p-value. If the t statistic calculated is greater than 1.96 (t-table) or the p-value of the test results is smaller than 0.05, there is a significant influence between the variables (Hair et all, 2021). In addition, it is necessary to convey the results and 95% confidence interval of the estimated path coefficient parameters. The last stage is the f square value, namely the effect of direct variables at the structural level with criteria (f square 0.02 low, 0.15 moderate, 0.35 high) (Hair et all, 2021).

Table 4. 13 Inner VIF Value

	Risk Management System
Basic Principles of Risk Management	1,245
Culture and Risk Communication	1,280
Risk Management Process	1,431
Management and Supervision	1,566
Tools and Techniques	1,719

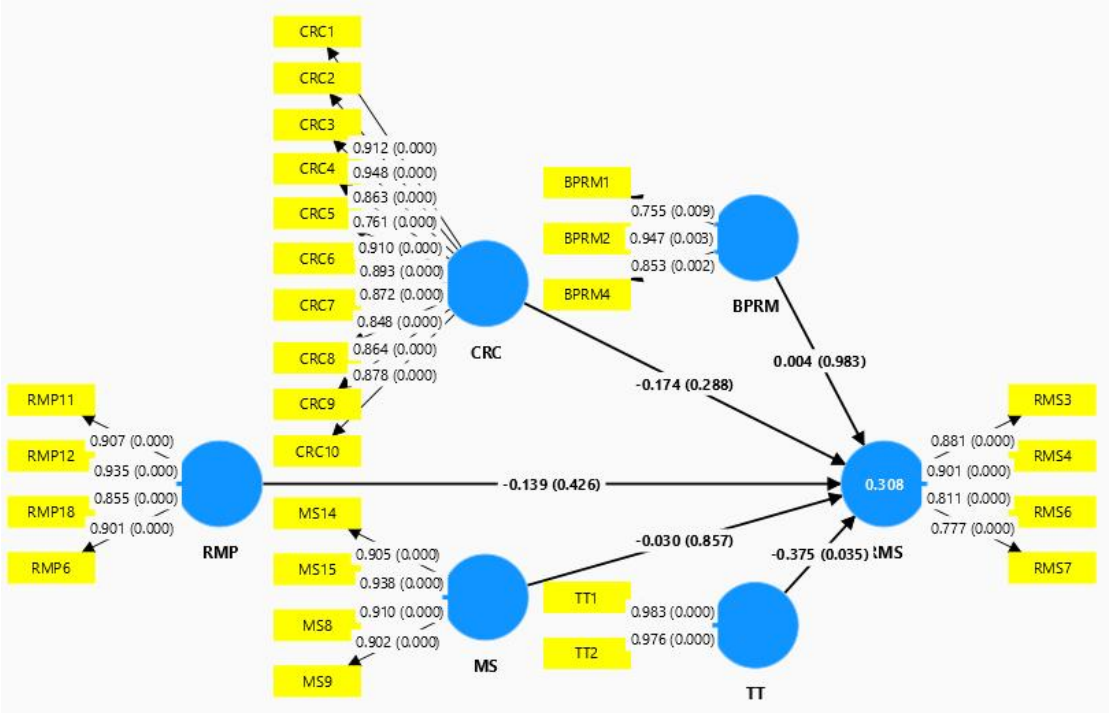
Source: Result of Data Processing, 2024

Before testing the hypothesis of the structural model, it is necessary to see whether there is multicollinearity between variables, namely with the inner VIF statistical measure. The estimation results in Table 4.12 show that all inner VIF values are <5, so the level of multicollinearity between variables is low. These results strengthen the results of parameter estimation in SEM PLS is robust (unbiased).

4.4.1 Hypothesis Test.

The next step is to test the hypothesis that has been built in this study. To test the hypothesis by conducting a bootstrapping test to solve the problem of abnormal data, especially if the sample is small (Juliandi, 2018). In hypothesis testing, the value analyzed is the t-statistic value generated from the PLS output by comparing it with the t-table value. The output of the PLS Bootstrapping results to test the research hypotheses (H1 to H5) is as follows.

Figure 4. 2 Bootstrapping Results in SEM PLS



Source: Result of Data Processing, 2024

The next test is to see the significance of the influence of constructs on path coefficients. The results of data processing are presented in the following table.

Table 4. 14 Hypothesis test

Hypothesis	Parth Coefficient	T-Statistics	P-Value	95%Path Coefficient Confidence Interval		F-Square
				Lower Limit	Upper Limit	
H1. BPRM→ RMS	0,004	0,021	0,983	-0,384	0,390	0,000
H2. CRC → RMS	-0,174	1,063	0,288	-0,490	0,152	0,034
H3. RMP→ RMS	-0,139	0,797	0,426	-0,438	0,245	0,020
H4. MS → RMS	-0,030	0,180	0,857	-0,367	0,277	0,001
H5. TT → RMS	-0,375	2,103	0,035	-0,699	0,026	0,118

Source: Result of Data Processing, 2024

Based on the results of hypothesis testing conducted through SmartPLS v.4.1.0.3 above in table 4.13, it is known as follows.

1. The first hypothesis (H1) is **rejected**, namely that there is no significant effect on BPRM on RMS, with a p-value (0.983), which means that it exceeds the safe limit of p-value of 0.05. Likewise, the t-statistic value (0.021) is still below the t-table value of 1.96, so that the latent variable from BPRM (Basic Principle Risk Management) does not have a significant effect on the implementation of the RMS (Risk Management System).
2. The second hypothesis (H2) is **rejected**, namely that there is no significant effect on CRC on RMS, with a p-value (0.288), which means it exceeds the limit of the p-value of 0.05. Likewise, the t-statistic value (1.063) is still below the t-table value of 1.96, so that the latent variable from CRC (Culture and Risk Communication) does not have a significant effect on the implementation of the RMS (Risk Management System).
3. The third hypothesis (H3) is **rejected**, namely that there is no significant effect on RMP on RMS, with a p-value (0.426), which means that it exceeds the safe limit of p-value of 0.05. Likewise, the t-statistic value (0.797) is still below the t-table value of 1.96, so that the latent variable of RMP (Risk Management Process) does not have a significant effect on the implementation of the RMS (Risk Management System).
4. The fourth hypothesis (H4) is **rejected**, namely that there is no significant effect on MS on RMS, with a p-value (0.857), which means it exceeds the limit of the p-value of 0.05. Likewise, the t-statistic value (0.180) is still below the t-table value of 1.96, so that the latent variable from MS (Management and Supervision) does not have a significant effect on the implementation of the RMS (Risk Management System).
5. The last or fifth hypothesis (H5) is **accepted**, namely the significant effect of TT on RMS, with a path coefficient (-0.375) and p-value (0.035 <0.05). Any change in TT (Tools and Techniques) will increase the application of the RMS (Risk Management System). In the 95% confidence interval, the effect of TT in increasing RMS lies between 0 to 0. However, the existence of TT in improving RMS has a low influence or close to medium/moderate at the structural level (f square = 0.118). The need for a TT program is considered very important, if a company hold a policy in increasing TT, the RMS will increase up to 0.026.

4.5 Evaluation of Goodness of Fit And Model Fit

PLS is a variant-based SEM analysis with the aim of testing models that focus on prediction studies. Therefore, several measures were developed to declare the proposed model acceptable, such as R square, Q square (Hair et al, 2019a).

Table 4. 15 R dan Q square Value

	R-square	Q-square	SRMR
Risk Management System	0,308	0,222	0,10

Source: Result of Data Processing, 2024

For R-square statistics, it describes the amount of variation in endogenous variables that can be explained by other exogenous variables in the model. According to Chin (1998) that the qualitative interpretation value of R square is 0.19 (low influence), 0.33 (moderate influence), and 0.66 (high influence). Based on the results of the data processing above in Table 4.14, it can be said that the magnitude of the influence of BPRM, CRC, RMP, MS, and TT on the implementation of the risk management system is 30.8% (low influence or close to moderate). Q square describes a measure of predictive accuracy, namely, how well each change in exogenous variables is able to predict endogenous variables. This measure is a form of validation in PLS to state the suitability of model predictions (predictive relevance). The q-square value above is 0.222 in Hair et al. (2019a), which stated that the Q-square interpretation value is 0 (low influence), 0.25 (moderate influence), and 0.50 (high influence). So that the processing results above the Q square value of the BPRM, CRC, RMP, MS, and TT variables are close to 0.222, which means that the prediction accuracy is low or close to moderate. SRMR is Standardized Root Mean Square Residual in Mohd Yamin (2023) states that this value is a model fit, namely the difference between the data correlation matrix and the estimated model correlation matrix. According to Hair et al. (2021), an SRMR value below 0.08 indicates a suitable fit model. However, in Krain Schmelleh et al. (2003), it is slightly different from the previous one; he stated that the SRMR value is between 0.08 - 0.10, which indicates an acceptable fit model. The model estimation result is 0.10, which means that the model has an acceptable fit. Empirical data can explain the influence of variables in the model.

CHAPTER V
DISCUSSIONS

5.1 Discussions of the results of demographic data analysis.

The description of the demographic profile of the respondents who are the object of this research explains the profile of respondents from all employees at PT Jasa Raharja (Persero) Yogyakarta Branch who have implemented the Risk Management System. Respondent demographics are an important factor that can influence consumer behavior. Demography is the science of human populations regarding size, location, density, age, gender, race, livelihood, and other statistics (Suleman, 2018). Respondent characteristics are classified based on gender, position, employment status, and education in implementing the Risk Management System. Based on the results of analyzing the demographic information of the respondent's profile, the author discusses the results of the analysis that the author obtained in the previous chapter.

5.1.1 Discussions of the classification of respondents based on gender.

Based on the previous chapter in Table 4.2, it was found that of the 44 respondents who had been collected, 30 respondents were male, with a percentage of 67.4%, and the remaining 14 respondents were female, with a percentage of 32.6%. In this finding, it can be clearly concluded that the number of respondents who are male is higher than those who are female. This shows that employees at PT Jasa Raharja (Persero) Yogyakarta Branch are dominated by male employees. This is not surprising from the population data of the Central Bureau of Statistics on the percentage of the population in Indonesia in 2023, it is known that 50.08% of the population is male. As for the occupation of the population in Indonesia in 2023, in line with the percentage in the study, it is dominated by male employees at 38.63%, which is a higher percentage of the population working as laborers/employees/than women.

5.1.2 Discussions of classification of respondents based on position.

Based on the previous chapter in table 4.3, the total number of employees in the Yogyakarta Branch of the Raharja Services Company is 44 respondents consisting of 1 respondent as Branch Manager (2.3%), 2 respondents as Head of Section (4.6%), 6 respondents as Head of Subdivision (13.6%), and 35 respondents as Staff (79.5%). The author can conclude in this research that the majority of the level of position entrusted to the respondents of this study are respondents with staff positions, 35 out of 44 employees in the Raharja Services Company, Yogyakarta Branch. This means that this research will be largely influenced by the results of the points of view of the experience of respondents with staff positions in assessing the success of the implementation of the risk management system implemented by PT Jasa Raharja (Persero) in general and specifically at Jasa Raharja Branch D.I Yogyakarta. Therefore, the results obtained are able to have a significant impact on being a picture of companies that want to implement a risk management system, for Jasa Raharja itself can make evaluation material in improving the risk management system towards a more productive direction to achieve the company's vision and mission.

5.1.3 Discussions of classification of respondents based on employment status.

In the previous chapter, it was found that information related to respondent data based on employee status at the D.I Yogyakarta Branch of the Raharja Services Company is summarized in Table 4.4. These results provide an overview of the results of the distribution of respondents based on employee status which consists of 3 categories, including 37 respondents with a percentage of 84.1% who have been given the trust of permanent employees, 1 respondent with a percentage of 2.3% who have worked as PKWT, and the last 6 respondents with a percentage of 13.6% who are apprentices. The results of the analysis show that the respondents in this study were almost 84.1% fulfilled by employees who had worked at the Yogyakarta Branch of the Raharja Services Company as permanent employees, as many as 37 respondents. Therefore, one of the objectives of the author was to choose the purposive sampling technique so that the results of this study were able to answer the objectives of the study. A person to get to the status of a permanent employee is assumed to

have a lot of experience that has been gained in one job, so as to be able to provide an accurate view regarding the successful implementation of the risk management system implemented by the Raharja Services Company, Yogyakarta Branch.

5.1.4 Discussions of classification of respondents based on education.

The last respondent demographic is the classification of respondents based on the last education they have completed. Based on Table 4.5, the total number of employees at the Yogyakarta Branch of the Raharja Services Company who have completed their last education consists of several classifications. There are 8 respondents who studied up to high school / equivalent with a percentage of 18.2%, then for 3 respondents who studied up to D3 with a percentage of 6.8%, then 25 respondents who studied up to S1 with a percentage of 56.8%, and the last 8 respondents who studied up to S2 with a percentage of 18.2%. The author can conclude in this study that the majority of respondents have taken their last education, namely S1, as many as 25 respondents. These results will affect the hypothesis in this study. Because the biggest influence among others is respondents who have taken a bachelor's degree, so they are assumed to be more up to date regarding the development of corporate management science. Therefore, the results of this study, namely the successful implementation of the risk management system, need to be considered as the overall picture of the implementation that has been carried out by PT Jasa Raharja (Persero) Yogyakarta Branch.

5.2 Discussions of the Results of The Hypothesis Analysis

In the previous chapter, the results of the measurement model analysis conducted by the author, the final results of the analysis show that the measurement model of this research model has met the requirements and has good characteristics so it is feasible to proceed to the model structure analysis stage to test the structural model of this research model. Hypothesis testing can be seen in Table 4.14, the authors use the Inner Model, which aims to test the effect of the relationship between variables. The results of the model structure analysis are path coefficient (β), coefficient of determination (R2), t-test using the bootstrapping method, effect size (f2), predictive relevance (Q2), and relative impact (q2). The influence of the basic

principle of risk management (BPRM), culture and risk communication (CRC), risk management process (RMP), management and supervision (MS), and tools and techniques (TT) variables can be seen from their significance level on the risk management system (RMS).

A. *H1: The Basic principles of risk management applied will have a positive effect on success in implementing the risk management system.*

In this study, the basic principle of risk management variable is measured by 4 indicators. After calculating using SmartPLS v.4.1.0.3, 3 valid indicators were produced with outer loading of 0.755-0.947 (Table 4.7), which means that all of these indicators are valid, which reflects the measurement of the latent variable of basic principal risk management. The level of variable reliability is acceptable as indicated by Cronbach's alpha and composite reliability above 0.70 (reliable) in Table 4.12. The level of convergent validity shown by the AVE value of 0.732> 0.50 (Table 4.8) has met the requirements for good convergent validity. Overall, the variation of measurement items contained by the variable reaches 73.2%. Among the three measurement indicators, the BPRM2 measurement indicator, namely risk management, becomes a continuous and iterative process that has the highest outer loading of 0.947. This is in accordance with theory and previous research, which states that the process of the risk management system must be implemented in an organization and dynamically adapt to changes in the internal and external environment (ISO, 2018). For a risk management system to function properly, it must manage all major risks faced by an organization or company on a continuous and recurring basis (Lam, 2017; FERMA, 2003).

Management should identify all types of risks (strategic, operational, financial, reputational, legal, etc.) associated with all company functions (Decker & Galler, 2013; Cook, 2018; Olson & Wu, 2020). In addition, it is important to create the most comprehensive worst-case scenario model to minimize the range of unpredictable scenarios ("black swan"; Taleb, 2007; Decker & Galler, 2013). One factor that has a significant impact on the effectiveness of the risk management system is the management of risks collectively as a risk portfolio. Risk portfolio management considers the common characteristics of risks and the interdependencies that may exist between them (COSO, 2017; Cook, 2018).

Based on the results of the hypothesis testing carried out, readers can see the results of the hypothesis testing that has been carried out using SmartPLS v.4.1.0.3 above in Table 4.14, it is known that the first hypothesis (H1) is rejected. This means that there is no significant effect on the basic principle of risk management (BPRM) on the implementation of the risk management system (RMS). Because the p-value of the basic principle of risk management variable, which is 0.983, means that it exceeds the safe p-value limit of 0.05. Likewise, the t-statistic value of 0.021 is still below the t-table value of 1.96. Therefore, it can be interpreted that the latent variable of basic principal risk management does not have a significant influence on the implementation of the risk management system.

The basic principle of risk management is defined as rules, guidelines, and basic steps of the risk management system to direct the behavior and decisions of the organization or company so as to gain a deeper understanding of the organization's reasons for making these choices. The results of this study, indeed, do not have an influence on the key to the successful implementation of the risk management system, but can still be considered to be considered. Because one of the basic foundations of the risk management approach in this modern era is to integrate all aspects of the risk management system (Rebelo, Silva, Santos, 2017). Risk management covers all processes in an organization or company, including strategy setting and strategic planning (Fraser & Simkins, 2016; Beasley & Frigo, 2010; Frigo & Anderson, 2011) and business planning (COSO, 2017). The goal of a risk management system is to balance the risk portfolio and keep overall risk at a level consistent with the risk appetite of stakeholders (Frigo & Anderson, 2011). Risk should not be regarded as a problem to be mitigated. Instead, companies need to optimize their risk levels by viewing risk not only as a threat but also as a competitive advantage (Bromley et al., 2015). The characteristics of a risk management system program are that it covers both negative and positive risks (ISO, 2018; FERMA, 2003).

B. H2: Culture and risk communication applied will have a positive effect on success in implementing the risk management system.

In this study, the culture and risk communication variable is measured by 10 indicators. After calculating using SmartPLS v.4.1.0.3, all indicators are said to be valid with outer loading 0.761-0.948 (Table 4.7), which means that all of these indicators are valid, which reflects the

measurement of the latent variable of culture and risk communication. The level of variable reliability is acceptable as indicated by Cronbach's alpha and composite reliability above 0.70 (reliable) in Table 4.12. The level of convergent validity shown by the AVE value of 0.768> 0.50 (Table 4.8) has met the requirements of good convergent validity. Overall, the variation of measurement items contained by the variable reaches 76.8%. Among the ten measurement indicators, the CRC2 measurement indicator, namely the right organizational culture encourages risk awareness, has the highest outer loading of 0.948. Organizational culture is very important for risk management.

A strong risk culture encourages every employee to seek out risks and consider their impact on the business. Therefore, effective risk management must be embedded in an organization's culture and become part of its structure (Boultwood & Dominus, 2014; COSO, 2017). Also required is a strong commitment to risk management among all employees and managers (Althonayan, 2012; Boultwood & Dominus, 2014). Based on the results of the hypothesis testing carried out, readers can see the results of the hypothesis testing that has been carried out using SmartPLS v.4.1.0.3 above in Table 4.14, it is known that the second hypothesis (H2) is said to be rejected. This means that there is no significant effect on culture and risk communication (CRC) on the implementation of the risk management system (RMS). Because the p-value of the culture and risk communication variable of 0.288 means that it exceeds the limit of the p-value of 0.05. Likewise, the t-statistic value of 1.063 is still below the t-table value of 1.96. Therefore, it can be interpreted that the latent variables of culture and risk communication do not have a significant influence on the implementation of the risk management system.

Culture and risk communication are defined as the values, beliefs, knowledge, and understanding of risk shared by the organization for a common goal, so as to increase understanding and awareness of various specific problems that must be solved by the parties involved. The results of this study, indeed, do not have an influence on the key to the successful implementation of the risk management system, but can still be considered. One of the most important elements needed to develop effective risk management is to define the company's values, goals, views, and priorities (Kaplan, 2016). Knowledge and awareness of employees and managers are equally important (Brooks, 2010), especially supported by appropriate training and workshops (Fraser & Simkins, 2016; Lam, 2017).

Promoting risk awareness is a major challenge for organizations (Archer, 2002). As the core of ERM, responsibility for risk in every workplace should be part of any effectively functioning risk management system (Krysiak, 2011; Boultwood & Dominus, 2014). The literature also draws attention to the importance of proper risk communication within the company. For communication to work well, management must create a common risk language for the entire organization, which influences the way employees think and improves the atmosphere for discussions about risk (Althonayan et al., 2012; Boultwood & Dominus, 2014). This should also include defining risks and creating taxonomies to develop a common understanding of identified risks (Etges et al., 2019). Additionally, of great importance is the awareness of the possibility of human error and mistakes, as well as biases (Kaplan, 2016; COSO, 2017; Hunziker, 2019), both in identifying and solving problems. Any human-based system will work better if the strengths and weaknesses of the system are considered (Mikes, Oyon, & Jeitziner, 2017).

C. *H3: The risk management process implemented will have a positive effect on the success in implementing the risk management system.*

In this study, the risk management process variable is measured by 18 indicators. After calculating using SmartPLS v.4.1.0.3, 4 indicators are said to be valid with outer loading 0.855-0.935 (Table 4.7), which means that all of these indicators are valid, which reflects the measurement of the latent variable of the risk management process. The level of variable reliability is acceptable as indicated by Cronbach's alpha and composite reliability above 0.70 (reliable) in Table 4.12. The level of convergent validity shown by the AVE value of 0.810> 0.50 (Table 4.8) has met the requirements for good convergent validity. Overall, the variation of measurement items contained by the variables reaches 81.0%. Among the four measurement indicators, the RMP12 measurement indicator, namely the graphical representation of the impact of risk assessment, has the highest outer loading of 0.935.

Based on the results of the hypothesis testing carried out, readers can see the results of the hypothesis testing that has been carried out using SmartPLS v.4.1.0.3 above in Table 4.14, it is known that the third hypothesis (H3) is said to be rejected. This means that there is no significant effect on the risk management process (RMP) on the implementation of the risk management system (RMS). Because the p-value of the culture and risk communication

variable of 0.426 means that it exceeds the safe limit of the p-value of 0.05. Likewise, the t-statistic value of 0.797 is still below the t-table value of 1.96. Therefore, it can be interpreted that the latent variable of the risk management process does not have a significant influence on the implementation of the risk management system. Risk management process is defined as a technical step in implementing a risk management system, which includes implementing policies, procedures, and practices to carry out context setting, risk identification, risk analysis, risk evaluation, risk handling, monitoring and review, and communication and consultation.

The results of this study, indeed, do not have an influence on the key to the successful implementation of the risk management system, but can still be considered to be considered. An effective risk management process is considered one of the most important elements of RMS because it allows risks to be understood, monitored, and controlled. The risk management process should be continuous and iterative (Frigo & Anderson, 2011; Cormican, 2014; ISO, 2018), but its stages and actions should adapt to the organization, its structure, processes, and objectives (Shortread, 2010). There are many standards and recommendations for the risk management process and its various stages. Regardless of who describes it, the process usually consists of similar steps. First, identification of the context, the internal and external environment in which the organization or company operates (ISO, 2018). The next step is risk identification (Fraser & Simkins, 2016; COSO, 2017; Kline & Hutchins, 2017), which considers the potential causes and consequences of risks (Green, 2016). The next step is risk analysis. This aims to understand the causes and sources of each risk and assess the likelihood of an event occurring and its consequences (both negative and positive) (ISO 2018). Develop an individual risk management strategy based on the information obtained from the risk analysis. This stage identifies possible risk controls, selecting and implementing the most suitable solution (Shortreed, 2010). The key is to measure the cost of risk control and compare it with the cost of realizing the risk itself (FERMA, 2003; COSO, 2017).

When implementing a risk response, ensure that appropriate resources are allocated to implement the selected measures and that those responsible for the management and monitoring of each risk are identified (FERMA, 2003; Kline & Hutchins, 2017; ISO, 2018). It should be noted that the designation of a risk owner responsible for each risk is always required (Lundqvist, 2014; Etges et al., 2018; ISO, 2018). We continuously monitor and control risks to keep track of identified risks and actions taken and evaluate the effectiveness of responses taken (Cormican, 2014; ISO, 2018). Furthermore, the risk management process

requires the creation of communication and reporting systems for the exchange of information between participants in the risk management process (Malinowska, 2011; Marchetti, 2012; ISO, 2018).

D. H4: The management and supervision applied will have a positive effect on success in implementing the risk management system.

In this study, the management and supervision variable is measured by 15 indicators. After calculating using SmartPLS v.4.1.0.3, 4 indicators are said to be valid with outer loading 0.902-0.938 (Table 4.7), which means that all of these indicators are valid which reflects the measurement of the latent variable of management and supervision. The level of variable reliability is acceptable as indicated by Cronbach's alpha and composite reliability above 0.70 (reliable) in Table 4.12. The level of convergent validity shown by the AVE value of 0.835> 0.50 (Table 4.8) has met the requirements for good convergent validity. Overall, the variation of measurement items contained by variables reaches 83.5%.

Among the four measurement indicators, the RMP15 measurement indicator of considering and preventing bias has the highest outer loading of 0.938. Management and oversight are key elements of a successful RMS. We must establish the right organizational structure, define the structure of the RMS, and divide the authority and responsibility related to risk management appropriately (FERMA, 2003; COSO, 2017). Managers' attitudes have a significant impact on risk management-related decisions and activities, while effective leadership is considered one of the key factors affecting the survival of the firm (Ahmed & Manab, 2016). Many researchers point out the need for strong commitment and support of managers to risk management, without which ERM cannot function properly (Cormican, 2014; ISO, 2018). Such support is necessary to create the right motivation and dedication and to secure the necessary resources to implement RMS (Frigo & Anderson, 2011).

Based on the results of the hypothesis testing carried out, readers can see the results of the hypothesis testing that has been carried out using SmartPLS v.4.1.0.3 above in Table 4.14, it is known that the fourth hypothesis (H4) is said to be rejected. This means that there is no significant effect on management and supervision (MS) on the implementation of the risk management system (RMS). Because the p-value of the management and supervision variable of 0.857 means that it exceeds the limit of the p-value of 0.05. Likewise, the t-statistic value

of 1.180 is still below the t-table value of 1.96. Therefore, it can be interpreted that the latent variable of management and supervision does not have a significant influence on the implementation of the risk management system.

Management and supervision are defined as the top party responsible for achieving a good risk management system in its application in the organization or company. The results of this study, indeed, do not have an influence on the key to the successful implementation of the risk management system, but can still be considered to be considered. Because an important role in risk management is played by the management board, which is responsible for setting organizational strategies and priorities, as well as approving and implementing applicable policies and programs (Benjamin, 2017; ISO, 2018), including those related to risk management. Management awareness, knowledge, and commitment are key to risk management (FERMA, 2003). Commitment to the risk management process should not be limited to the management board. All managers and employees of the company should be involved in this process (Młodzik, 2014; ISO, 2018). Also instrumental in assessing efficiency and proposing improvements in risk management is internal audit (Młodzik, 2014), which provides reliable information on the effectiveness of risk management, internal control processes, and organizational governance (Lam, 2017).

E. H5: The tools and techniques applied will have a positive effect on success in implementing the risk management system

In this study, the tools and techniques variables are measured by 7 indicators. After calculating using SmartPLS v.4.1.0.3, 2 indicators are said to be valid with outer loading 0.976-0.983 (Table 4.7), which means that all of these indicators are valid, which reflects the measurement of the latent variable of tools and techniques. The level of variable reliability is acceptable as indicated by Cronbach's alpha and composite reliability above 0.70 (reliable) in Table 4.12. The level of convergent validity shown by the AVE value of 0.959> 0.50 (Table 4.8) has met the requirements for good convergent validity. Overall, the variation of measurement items contained by the variables reaches 95.9%. Among the two measurement indicators, the TT2 measurement indicator, namely improving the planning and forecasting process, has the highest outer loading of 0.983. Managers must formalize some elements and principles of risk management in the organization or company.

Researchers emphasize the need to clearly define strategies (Hopkin, 2010) and risk management policies (Lundqvist, 2014; Hodgins, Stokdyk, & Trotter, 2015). In addition, we must establish formal rules regarding the risk management system. For this purpose, existing risk management standards tailored to the specific company can be used (Lundqvist, 2014; Fraser & Simkins, 2016). Risk management procedures are another important element of the risk infrastructure (Krysiak, 2011). Based on the results of the hypothesis testing carried out, readers can see the results of the hypothesis testing that has been carried out using SmartPLS v.4.1.0.3 above in Table 4.14, it is known that the fourth hypothesis (H5) is said to be accepted. This means that there is a significant influence on tools and techniques (TT) on the implementation of the risk management system (RMS). Because the p-value of the tools and techniques variable of 0.035 means that it does not exceed the safe p-value limit of 0.05. Likewise, the t-statistic value of 2.103 has passed the threshold of the t-table value of 1.96. Therefore, it can be interpreted that the latent variable of tools and techniques has a significant influence on the implementation of the risk management system. Any change in the TT variable will increase the application of the RMS. In the 95% confidence interval, the effect of TT in increasing RMS lies between -0.699 to 0.026. However, the existence of TT in improving RMS has a low influence or close to medium/moderate at the structural level (f square = 0.118). The need for a TT program is considered very important, where when there is a company policy in increasing TT, the increase in RMS will increase to 0.026.

Tools and techniques (TT) are defined as ways or steps taken in managing and analyzing risks that will be the basis for decision making. Quantitative and qualitative risk management techniques are useful in correctly identifying and assessing risks, making decisions, and allocating resources (Kaplan, 2016). All analysis of the risk management system should be done in a simple and functional way so that the data obtained can be easily understood, interpreted, and processed (Duckert, 2011). An integral element of the RMS should also be the development of appropriate solutions to keep the level of risk at an acceptable level for a given organization. The tools used to do this are risk tolerance and risk appetite (Lundqvist, 2014; Hodgins et al., 2015; COSO, 2017; Lam, 2017). The tools used to measure and control individual risk levels, which help organizations to react to emerging risks as early as possible, are key risk indicators (KRIs) and early warning indicators (Duckert, 2011).

CHAPTER VI
CONCLUSION AND SUGGESTION

6.1 Conclusion

Based on research conducted at PT Jasa Raharja (Persero) Yogyakarta Branch in the identification of key success factors for the successful implementation of the enterprise risk management system. This research was conducted in several stages, namely literature review, in-depth interviews, and questionnaires distributed to all employees. There are 44 respondents, as well as employees at PT Jasa Raharja (Persero) Yogyakarta Branch. The data from the distribution of questionnaires will be processed using the structural equation model (SEM) method through SmartPLS v. 4.1.0.3 software. The final results in this study, using statistical calculations and data analysis that have been carried out, are obtained as follows.

1. The author divides there are five factors that are key in the successful implementation of the risk management system, namely the basic principle of risk management, culture and risk communication, risk management process, management and supervision, and tools and techniques. In the previous discussion, it can be concluded that of these five variables, only tools and techniques have an influence on the successful implementation of the risk management system.
2. In this study, the tools and techniques factor is the most significant factor influencing the successful implementation of the risk management system because it has the largest t-statistic value. Moreover, the tools and techniques factor can also be a reference for companies to be considered when wanting to implement a risk management system, and also to further improve the quality and performance of the company. Because of the factor of variable tools and techniques, as a way or step taken in managing and analyzing risks, that will be a major influence in decision making. Meanwhile, there are four variables that do not affect the key to the successful implementation of the risk management system in this study, namely the

basic principle of risk management, culture and risk communication, risk management process, and management and supervision. The influence of these four variables does not have an influence, but some of the indicators need to be considered in increasing the influence of the risk management system. Because the influence of the basic principle of risk management factors as rules, guidelines, and basic steps of the risk management system to direct the behavior and decisions of the organization or company, to gain a deeper understanding of the organization's reasons for making these choices. Likewise, the influence of culture and risk communication factors as values, beliefs, knowledge, and understanding of risk shared by the organization for a common goal, so as to increase understanding and awareness of various specific problems that must be solved by the parties involved. Then, for the influence of the risk management process as a technical step in implementing a risk management system, which includes the application of policies, procedures, and practices to carry out context setting, risk identification, risk analysis, risk evaluation, risk handling, monitoring and review, and communication and consultation. Finally, what must also be considered is the factor of management and supervision as the top party responsible for achieving a good risk management system in its application in the organization or company.

6.2 Suggestion

In this section the author will explain the suggestions related to this research specifically on this topic. Apart from the contribution made by this research, in the context of further improvement. The author intends to submit several suggestions both for the company as well as for future authors or researchers so that this research can develop better and strive to achieve perfection, which is described as follows:

A. Suggestions for PT Jasa Raharja (Persero) D.I Yogyakarta Branch.

1. Based on research, it needs to be said that in the future, it must maintain or maximize the tools and techniques factor in the risk management system. As well as providing guidance and direction to employees in efforts to achieve company goals. Then for the basic factors of principal risk management, culture and risk communication, risk management process, and management and supervision, based on statistical

calculations, it results that these four factors do not have a significant influence on the implementation of the risk management system. It is necessary for PT Jasa Raharja (Persero) Yogyakarta Branch to improve these factors in order to minimize losses that occur in the company and be able to have a positive impact on the implementation of the risk management system.

2. Employees at Jasa Raharja Yogyakarta Branch consider the successful implementation of the risk management system as a company's effort to achieve the vision, mission, and goals of the company depends on the factor of using the right tools and techniques. This can be an input for companies, especially PT Jasa Raharja (Persero) Yogyakarta Branch, to maintain, focus, and develop the tools and techniques factor towards the successful implementation of the risk management system. Based on research, it needs to be said that in the future, the tools and techniques factor in the risk management system must be maintained or maximized. As well as providing guidance and direction to employees in efforts to achieve company goals. Furthermore, for the basic factors of principal risk management, culture and risk communication, risk management process, and management and supervision based on statistical calculations, it results that these four factors do not have a significant influence on the implementation of the risk management system. PT Jasa Raharja (Persero) Yogyakarta Branch must improve these factors in order to minimize losses that occur in the company and be able to have a positive impact on the implementation of the risk management system implemented.

B. Suggestions for future authors or researchers

1. In the process of distributing questionnaires, it is better to do it directly without distributing them online. So that respondents can directly explain the items of the existing statement when filling out the questionnaire, in order to avoid misunderstanding the statements in the questionnaire even if the number of samples is the same as this study.
2. The data collected in this study were not in large numbers and were only conducted at PT Jasa Raharja (Persero) Yogyakarta Branch. To get better results in the future, it is expected that future researchers will get more data and be able to represent.

3. In further research, it is hoped that it can add variables or modify the model, which is based on input or suggestions from experts, so that the assessment and needs for using the system are more detailed.

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APPENDICES

A- In-depth interview regarding the implementation of the risk management system

A.1- Interview Results

Respondent : Ari Tomi Wibilaksono, S.I.Kom., CRMO.
Position : Pelaksana Administrasi Tk. II Sub Bagian Administrasi Satunan
Interviewer : Said Muhamad Alfaruq
Date : 19 Febuary 2024
Place : Jasa Raharja (persero) D.I Yogyakarta Branch

1. Apa sudut pandang dari perusahaan terkait manajemen risiko ?, Mengapa perusahaan akhirnya menerapkan manajemen risiko ?, dan sudah berapa lama perusahaan menerapkannya ?

2. Apakah selama menerapkan RMS dalam proses bisnis perusahaan berpengaruh positif terhadap keberlangsungan perusahaan ?

3. Apa kendala selama ini atau evaluasi apa saja yang harus ditingkatkan lagi dalam penerapan manajemen risiko ?

4. Apa-apa saja faktor kunci keberhasilan dalam penerapan manajemen risiko yang telah dijalankan ?

A.2- Documentation



B- Research questionnaire

Key Factors for Success in the Implementation of a Risk Management System
1. About the Questionnaire
The purpose of this questionnaire is to identify the key factors for successful implementation of a risk management system from the perspective of Jasa Rahaja D.I Yogyakarta Branch. The questionnaire is divided into the following segments: 1.1 General Information 1.2 Select the main objective of implementing risk management. 1.4 Assess the impact of implementing risk management for each key success factor. 1.5 Assess the level of achievement of implementation objectives. This questionnaire contains 8 questions and takes no more than 15 minutes to complete. Your answers are completely anonymous.

2. Terms Used in this Questionnaire
2.1 Key success factors an element of an organization's activities that is critical to future success, key success factors may change over time, and may include factors such as product, manufacturing flexibility, and brand awareness. 2.2 Risk Management The process of understanding and managing the risks that an organization inevitably faces when trying to achieve its corporate goals. For management purposes, risks are usually divided into categories such as operational, financial, legal compliance, information, and personnel. 2.3 Culture The core beliefs, values, norms, and social customs that govern the way individuals act and behave within an organization. 2.4 Organizational Structure A framework that defines reporting relationships between various positions in an organizational structure facilitates delegation of authority, resource allocation, and decision making within the organization.
3. Part 1: General Information
1. Name : …….. 2. .Gender : …….. 3. Position : …….. 4. Employee Status : …….. 5. Last Education : ……..
4. Part 2: Select the main objective of implementing risk management

6. Please give your opinion from the statements below :

Improving the quality of business management	☐
Adapt better to environmental changes	☐
Improving and stabilizing financial results	☐
Meet stakeholder requirements	☐
Protect company assets and reputation	☐
Meet legal requirements	☐
Limiting the impact of crises and disaster events	☐
Reduce the number of complaints and fines	☐
Increase company value	☐
Improve company image	☐
Reduce insurance costs	☐

5. Part 3: Assess the impact of implementing risk management for each key success factor

7. Please fill in each KSF that you think has an impact on the implementation of risk management in your company :

	Very Unimportant	Not important	Neutral	Important	Very important
Integrate risk management with strategy, planning and all processes	☐	☐	☐	☐	☐
Risk management becomes a continuous and repeatable process	☐	☐	☐	☐	☐
Identify all types of risks	☐	☐	☐	☐	☐
Risk portfolio management and risk return optimization	☐	☐	☐	☐	☐
Good internal communication regarding risks	☐	☐	☐	☐	☐
The right organizational culture encourages risk awareness	☐	☐	☐	☐	☐
A qualified, experienced and competent team responsible for risk management	☐	☐	☐	☐	☐
Openness, willingness to talk about problems and negative events	☐	☐	☐	☐	☐
Commitment, awareness and responsibility for risk management among employees	☐	☐	☐	☐	☐
A clearly defined system of values, views and goals within the organization	☐	☐	☐	☐	☐
Risk training and workshops for employees and managers	☐	☐	☐	☐	☐
Good external communication regarding risks	☐	☐	☐	☐	☐
Appreciate a conscious approach to risk, correct attitudes and actions	☐	☐	☐	☐	☐
Test risk communication, monitor implementation of risk culture	☐	☐	☐	☐	☐
Identify risks methodically, considering their	☐	☐	☐	☐	☐

sources and consequences					
Appoint risk owners	☐	☐	☐	☐	☐
Risk assessment (size and likelihood of occurrence)	☐	☐	☐	☐	☐
Manage all major risks	☐	☐	☐	☐	☐
Select optimal risk responses, considering costs and benefits	☐	☐	☐	☐	☐
Preparing for possible crises (e.g. action plans, crisis communications)	☐	☐	☐	☐	☐
Verify and update the risk register regularly	☐	☐	☐	☐	☐
Analyze historical events and draw conclusions from them	☐	☐	☐	☐	☐
Identify opportunities	☐	☐	☐	☐	☐
Create appropriate documentation to support risk management	☐	☐	☐	☐	☐
Awareness and preparation for “black swans”	☐	☐	☐	☐	☐
Graphical representation of the impact of risk assessment	☐	☐	☐	☐	☐
Develop alternative strategies to manage key risks	☐	☐	☐	☐	☐
Selection of appropriate risk management tools and methodologies	☐	☐	☐	☐	☐
Management is responsible for monitoring and assessing risk management	☐	☐	☐	☐	☐
Continuously improve risk management	☐	☐	☐	☐	☐
Including managers' subjective and rational judgments in risk management	☐	☐	☐	☐	☐
Include obligations regarding risk management in the manager's contract	☐	☐	☐	☐	☐
Management awareness of current risk exposures and risk decisions.	☐	☐	☐	☐	☐
Managers' commitment, awareness and knowledge regarding risk management.	☐	☐	☐	☐	☐
Managers' responsibility for risk culture is an example of good behavior.	☐	☐	☐	☐	☐
Involve management at all levels in risk management.	☐	☐	☐	☐	☐
Selection of appropriate employees, division of roles, and tasks related to risk management.	☐	☐	☐	☐	☐
Consider the impact of risks when making all decisions.	☐	☐	☐	☐	☐
Provide adequate resources and conditions for risk management.	☐	☐	☐	☐	☐
Establish formal risk-based decision-making procedures.	☐	☐	☐	☐	☐
Maintain risk at a level appropriate to risk appetite and tolerance.	☐	☐	☐	☐	☐
Determine the risk management structure, and adapt it to the existing structure.	☐	☐	☐	☐	☐
Risk manager with adequate resources and capabilities.	☐	☐	☐	☐	☐

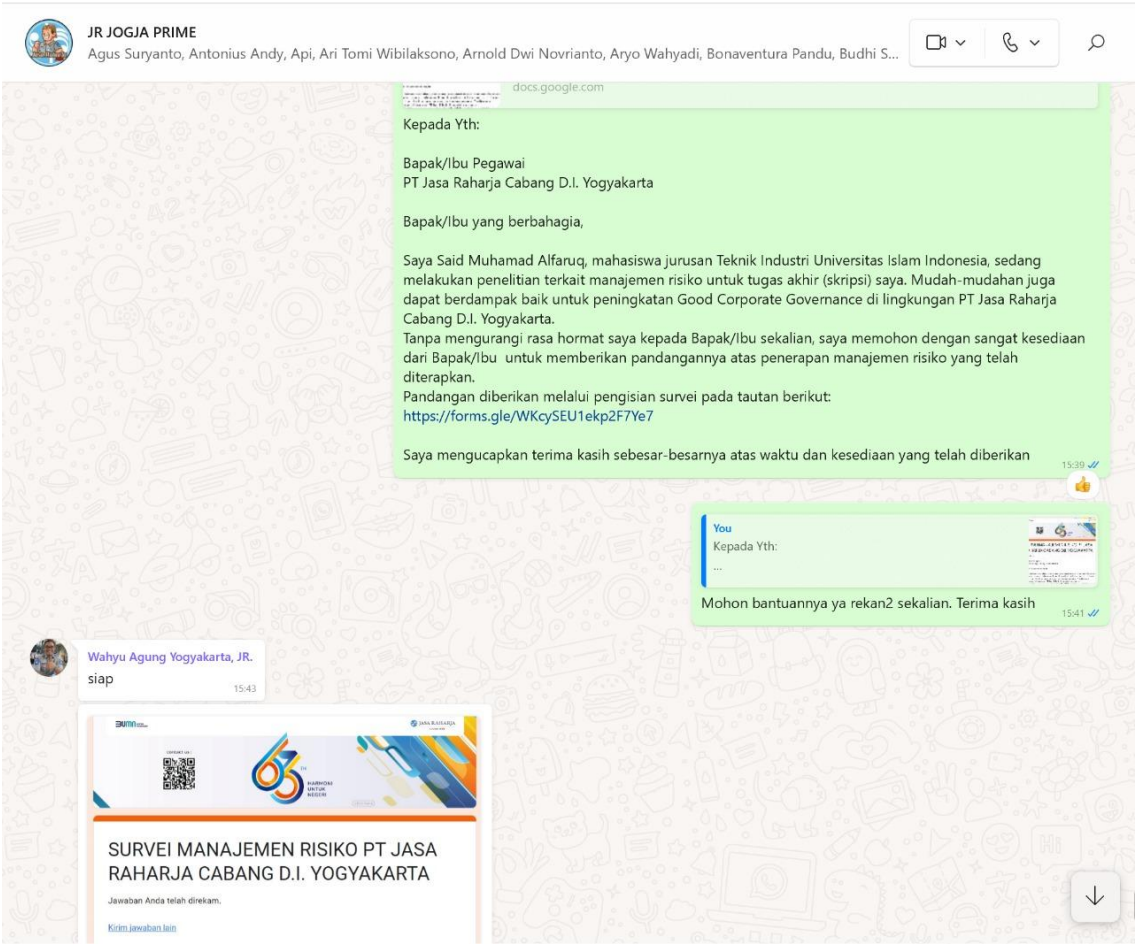
Functions of the risk committee.	☐	☐	☐	☐	☐
Prepare key employees and managers for succession.	☐	☐	☐	☐	☐
Accept additional costs related to risk management.	☐	☐	☐	☐	☐
Consider and prevent bias.	☐	☐	☐	☐	☐
Improve planning and forecasting processes.	☐	☐	☐	☐	☐
Simplicity of the model and solution used.	☐	☐	☐	☐	☐
Adapt risk management to the organization and the conditions in which it operates.	☐	☐	☐	☐	☐
Using qualitative risk management methods.	☐	☐	☐	☐	☐
Create an incident database.	☐	☐	☐	☐	☐
Using indicators that support risk management.	☐	☐	☐	☐	☐
Using quantitative risk management methods.	☐	☐	☐	☐	☐

6. Part 4: Assessing the level of achievement of risk management implementation objectives

8. Determine how much of the risk management implementation objectives are stated to have been achieved in your company, (0 = risk management implementation objectives were not achieved at all, 1 = Not achieved, 2 = no response, 3 = slightly achieved, 4 = moderately achieved, 5 = fully achieved)

	0	1	2	3	4	5
Successful implementation of risk management	☐	☐	☐	☐	☐	☐

C- Distribution of questionnaires



D- Data results from filling out the questionnaire

D.1- Tabulation of Data from Respondent 1 to Respondent 22

Respondent / Indicator	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
BPRM1	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	5	5	5	3	5	5	5
BPRM2	5	4	5	5	5	5	4	4	5	4	4	5	4	5	4	5	5	5	3	5	5	3
BPRM3	5	4	5	4	5	5	4	4	5	4	5	4	4	5	5	4	3	5	3	5	3	5
BPRM4	5	4	5	4	5	5	4	4	5	4	4	4	4	5	4	4	4	5	3	4	5	5
CRC1	5	4	5	4	5	4	4	4	5	4	5	5	4	5	4	4	4	5	4	5	5	3
CRC2	5	4	5	4	5	4	4	4	5	4	5	5	4	5	4	4	4	5	4	5	5	4
CRC3	5	4	5	4	5	5	4	4	5	5	5	5	4	5	4	5	4	5	4	5	5	5
CRC4	5	4	5	4	5	4	4	4	5	4	5	5	4	5	4	3	4	5	4	5	5	5
CRC5	5	4	5	4	5	4	4	4	5	4	5	5	4	5	4	4	4	5	4	5	5	5
CRC6	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	5	4	5	4	5	5	3
CRC7	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	5	4	5	5	5	5	5
CRC8	5	4	5	4	5	5	4	4	5	5	4	5	4	5	4	5	4	5	4	5	5	4
CRC9	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	5	4	5	4	5	5	3
CRC10	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	5	4	5	4	5	5	5
RMP1	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	5	4	4	2	5	5	5
RMP2	5	4	5	4	5	5	4	4	4	4	5	5	4	5	4	5	4	4	5	5	4	5
RMP3	5	4	5	4	5	5	4	4	4	4	3	5	4	5	4	5	4	4	2	5	5	5

RMP4	5	4	5	4	5	5	4	4	5	5	5	5	4	5	4	5	4	5	5	5	5	5
RMP5	5	4	5	4	5	5	4	4	4	4	4	5	4	5	4	4	4	4	5	5	5	5
RMP6	5	4	5	4	5	5	4	4	5	5	4	5	4	5	4	4	4	4	2	5	5	4
RMP7	5	4	5	4	5	5	4	4	5	5	5	5	4	5	4	4	4	4	2	5	4	4
RMP8	5	4	5	4	5	5	4	4	5	5	5	5	4	5	4	4	4	4	5	5	4	4
RMP9	5	4	5	4	5	5	4	4	5	5	5	5	4	5	4	4	4	4	5	5	5	4
RMP10	5	4	5	4	5	4	4	4	5	4	4	5	4	5	4	4	4	5	5	5	5	5
RMP11	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	5	2	5	5	4
RMP12	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	5	2	5	5	5
RMP13	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	4	5	5	5	5
RMP14	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	4	2	5	5	5
RMP15	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	4	5	5	4	5
RMP16	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	4	5	5	5	5
RMP17	5	4	5	4	5	4	4	4	5	4	4	5	4	5	4	4	4	4	2	5	5	5
RMP18	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	4	2	5	4	5
MS1	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	4	4	5	5	4	4	4
MS2	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	4	4	5	5	4	5	5
MS3	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	4	4	5	4	3	5	4
MS4	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	5	5	4	5	4
MS5	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	5	5	4	5	4
MS6	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	4	5	4	5	4
MS7	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	4	5	4	5	4
MS8	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	4	4	3	5	4
MS9	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	3	4	4	3	5	4
MS10	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	4	5	4	5	5
MS11	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	4	4	5	4	3	5	4
MS12	5	4	5	4	5	4	4	4	5	4	5	5	4	5	4	4	4	4	4	3	5	4
MS13	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	4	4	5	5	4	5	4
MS14	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	1	4	4	4	3	4	4
MS15	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	4	4	3	4	5
TT1	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	3	4	4	3	5	4	3
TT2	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	2	4	4	3	4	4	3
TT3	5	4	5	4	5	5	4	4	5	4	4	5	4	5	4	4	4	4	4	5	5	4
TT4	5	4	5	4	5	5	4	4	5	3	4	5	4	5	4	4	4	5	4	5	4	5
TT5	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	4	4	5	5	5	5	4
TT6	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	4	4	5	4	5	5	4
TT7	5	4	5	4	5	5	4	4	5	4	5	5	4	5	4	4	4	5	4	5	5	4
RMS1	5	5	5	5	5	5	4	5	4	4	5	5	5	5	5	4	4	5	5	5	5	5
RMS2	4	5	5	4	4	4	4	5	4	5	5	4	5	5	5	5	4	5	4	5	5	5
RMS3	4	5	5	4	4	5	5	5	4	4	5	4	5	4	5	5	4	4	5	4	5	5
RMS4	4	5	5	4	4	4	4	4	4	4	5	4	5	4	5	5	4	4	4	4	5	5
RMS5	5	5	5	4	4	5	5	5	5	5	5	4	5	4	3	5	4	4	5	4	5	5
RMS6	4	5	5	4	4	4	4	4	4	4	5	4	5	4	5	5	4	4	4	4	4	5
RMS7	5	5	5	4	4	4	5	4	4	4	5	4	5	4	5	4	4	4	4	4	5	5
RMS8	5	5	5	4	4	4	4	4	4	4	5	4	5	4	4	4	4	4	4	4	4	5
RMS9	5	5	5	4	5	4	5	4	4	4	5	5	5	4	4	5	5	4	5	5	5	5
RMS10	4	5	5	4	4	4	4	4	4	4	5	5	4	4	4	5	4	5	4	5	4	4
RMS11	4	5	4	4	4	4	4	4	4	5	5	4	4	4	4	4	4	4	5	4	4	4

D.1- Tabulation of Data from Respondent 23 to Respondent 44

Respondent / Indicator	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
BPRM1	5	3	4	5	5	4	4	3	4	3	5	4	2	4	3	2	5	5	5	4	4	4
BPRM2	4	5	5	5	3	4	4	5	4	3	5	3	2	3	3	2	5	4	5	4	4	4
BPRM3	4	5	5	5	5	5	5	5	5	5	5	5	5	4	4	3	5	5	5	5	5	5
BPRM4	4	3	4	4	3	4	4	5	4	3	4	3	2	2	4	2	4	5	4	4	5	4
CRC1	4	5	4	5	4	4	4	5	4	5	5	4	5	4	4	4	4	5	5	5	5	4
CRC2	4	5	4	5	4	4	4	5	4	5	5	4	5	4	4	4	4	5	5	5	5	4

CRC3	4	5	4	5	5	4	4	5	5	5	5	4	5	4	5	4	5	5	5	5	5	4
CRC4	4	5	4	5	4	4	4	5	4	5	5	4	5	4	3	4	3	5	5	5	5	4
CRC5	4	5	4	5	4	4	4	5	4	5	5	4	5	4	4	4	4	5	5	5	5	4
CRC6	4	5	4	5	5	4	4	5	4	5	5	4	5	4	5	4	5	5	5	5	5	4
CRC7	4	5	4	5	5	4	4	5	4	5	5	4	5	4	5	4	5	5	5	5	5	4
CRC8	4	5	4	5	5	4	4	5	5	5	5	4	5	4	5	4	5	5	5	5	5	4
CRC9	5	5	4	5	5	4	4	5	4	5	5	4	5	4	5	4	5	5	5	5	5	4
CRC10	5	5	4	5	5	4	4	5	4	5	5	4	5	4	5	4	5	5	5	5	5	4
RMP1	4	3	5	5	5	4	5	5	3	5	3	5	5	4	5	5	5	4	5	5	5	4
RMP2	4	5	4	5	5	4	5	4	4	4	5	4	5	4	5	4	5	5	5	4	5	4
RMP3	4	3	4	3	5	2	3	4	3	4	3	2	3	3	5	4	5	4	3	3	5	4
RMP4	4	5	4	5	5	4	4	5	5	5	5	5	5	4	5	4	5	5	5	5	5	4
RMP5	4	5	4	5	5	4	4	4	4	4	5	5	5	4	4	4	4	5	5	5	5	4
RMP6	5	3	5	3	5	2	3	5	3	5	5	4	4	3	4	3	4	4	5	5	3	5
RMP7	5	3	5	3	4	3	3	4	3	5	3	3	4	5	4	3	4	4	3	4	3	5
RMP8	5	3	5	3	4	3	4	4	4	5	3	3	5	4	4	4	4	5	5	4	5	4
RMP9	5	3	5	3	3	4	4	5	4	5	5	4	5	4	4	4	4	5	5	5	5	4
RMP10	4	5	4	5	4	4	4	5	4	5	5	4	5	4	4	5	4	5	5	5	5	4
RMP11	4	3	4	5	5	2	3	5	3	4	3	4	4	3	4	4	4	4	3	3	3	5
RMP12	4	3	4	5	4	2	3	5	3	4	5	4	4	4	4	4	4	4	3	5	3	5
RMP13	4	5	4	5	4	4	5	5	5	5	5	4	5	4	4	4	4	5	5	5	5	4
RMP14	4	3	5	5	5	5	4	4	3	5	5	4	3	4	4	4	4	4	5	5	5	5
RMP15	4	5	4	5	5	4	4	5	4	5	4	4	5	5	5	5	5	4	4	4	3	4
RMP16	5	5	5	5	5	4	4	5	5	5	4	5	5	5	5	5	5	5	5	5	3	5
RMP17	4	3	4	3	4	2	3	5	3	4	4	2	3	5	5	5	5	4	3	3	3	5
RMP18	4	3	4	3	5	2	3	5	3	4	4	2	4	5	5	5	5	4	4	4	3	5
MS1	3	5	4	5	5	4	4	5	4	5	5	4	5	4	4	4	4	5	5	4	5	4
MS2	4	5	4	5	5	5	5	4	4	5	5	5	5	5	4	5	5	4	4	5	5	5
MS3	3	5	4	4	5	4	3	4	4	4	3	3	5	5	2	5	5	4	5	3	4	4
MS4	5	5	3	5	5	5	3	5	4	5	3	4	5	4	5	4	4	5	5	5	5	4
MS5	5	4	3	4	5	3	3	5	4	5	4	4	5	5	5	4	4	5	5	5	5	4
MS6	3	5	4	5	5	4	4	5	4	5	4	4	5	4	4	4	4	5	5	5	5	4
MS7	3	5	4	5	5	4	4	5	4	5	5	5	3	4	4	4	4	5	5	5	5	4
MS8	3	5	4	3	5	4	3	5	4	4	5	5	4	4	2	4	3	4	3	3	5	4
MS9	3	5	4	3	5	4	3	5	4	4	5	4	4	4	2	3	3	4	3	3	5	4
MS10	5	5	4	5	5	5	5	5	4	5	5	5	5	4	5	5	4	5	5	5	5	5
MS11	3	5	4	4	5	4	3	5	5	5	3	4	4	5	2	4	5	5	5	5	5	4
MS12	3	5	4	4	4	4	3	5	5	5	3	5	5	4	2	4	5	5	5	5	5	4
MS13	3	5	4	5	5	4	4	5	5	5	3	4	4	4	4	4	5	5	5	5	5	4
MS14	3	4	4	4	3	4	3	5	4	5	5	4	5	4	2	4	2	5	3	4	5	4
MS15	3	4	4	4	3	4	3	5	4	5	5	4	5	4	2	4	2	5	3	4	5	4
TT1	4	3	4	4	3	4	3	5	4	4	5	4	5	4	3	4	3	3	3	4	3	4
TT2	4	3	4	4	3	4	3	5	4	4	4	4	5	4	2	4	2	3	3	4	3	4
TT3	4	5	4	5	5	4	4	4	4	5	5	4	4	4	4	4	4	5	5	5	3	4
TT4	5	5	4	5	5	4	4	4	3	5	5	4	4	5	4	4	4	5	5	4	3	5
TT5	4	5	4	5	5	5	5	5	5	4	5	5	5	5	5	4	4	5	5	5	5	5
TT6	4	5	5	5	5	5	5	5	5	4	5	4	5	5	5	5	4	5	5	4	5	5
TT7	4	5	4	5	5	4	4	5	4	5	4	4	5	5	4	4	4	5	5	5	5	5
RMS1	5	5	5	5	5	5	5	5	4	5	5	5	5	5	4	5	5	5	5	5	5	5
RMS2	5	5	5	5	4	5	5	5	5	4	4	5	5	5	5	5	5	5	5	5	5	5
RMS3	5	5	5	5	5	5	5	4	5	4	4	5	4	5	5	5	5	5	5	5	5	5
RMS4	5	5	4	5	4	4	4	4	5	4	4	5	4	5	5	5	5	5	5	5	5	5
RMS5	5	5	4	4	5	5	5	5	4	5	5	5	4	4	5	5	5	5	4	5	5	5
RMS6	5	5	4	4	4	4	4	4	5	4	4	5	4	5	5	5	5	5	4	3	5	5
RMS7	5	5	5	4	4	5	4	4	5	4	4	5	4	5	4	5	5	5	4	5	5	5
RMS8	5	5	5	4	4	4	4	4	4	4	4	5	4	4	4	5	5	5	4	3	5	5
RMS9	5	5	5	5	4	4	4	5	4	5	5	5	4	4	5	5	5	5	5	5	5	5
RMS10	5	5	5	4	4	5	4	5	4	5	5	4	4	4	5	5	5	5	5	3	5	5
RMS11	5	4	5	4	4	5	4	5	4	5	4	4	4	4	4	5	5	5	5	3	5	5