ABSTRACT

Purpose: The dynamics and complexity of governance in disaster management in Indonesia require disaster management through the implementation of GRC (Governance, Risk, Compliance) integrated. The aim of this research is to assess the readiness of GRC innovation in disaster management through risk management mitigation, supporting infrastructure, and developing an integrated GRC implementation development plan.

Theoretical reference and Method: Types of qualitative and quantitative research through surveys, distribution of questionnaires, collection of regulatory documents and GRC system policies in an integrated manner, reinforced by interviews with respondents, use of GRC system infrastructure design through infrastructure preparedness in facing disasters which are formulated in the form of policy proposal frameworks and guidelines that refer to against the ISO Handbook Integrated Use of Management System Standard, an action examination (PDCA) sample of 124 respondents.

Results and Conclusion: The research results can be explained: 1) The creation of risk management guidelines resulting from integrated GRC practices in disaster risk mitigation has not been standardized. 2) The infrastructure design resulting from a study regarding readiness to implement integrated GRC in government in disaster management in Indonesia has not been implemented in general. 3) Based on the results of the Delphi method, the implementation of GRC has not been integrated.

Implications of research: The implications of the research results can be used as recommendations for risk management stakeholders in making decisions based on the implementation of integrated G/R/C. Measuring the level of effectiveness uses a maturity model approach (Maturity Assessment) according to ISO standards.

Originality/value: Originality: This research contributes to the implementation of integrated GRC 1) risk management guidelines resulting from integrated GRC practices 2) Infrastructure design resulting from studies regarding disaster management in Indonesia. 3) Delphi method, GRC implementation is not yet integrated.
Keywords: innovation, risk management, governance, risk, compliance (GRC), disaster mitigation.

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A INNOVATION OF GOVERNMENT RISK MANAGEMENT MITIGATION FOR DISASTER MANAGEMENT IN INDONESIA

RESUMO

Objectivo: A dinâmica e a complexidade da governança na gestão de desastres na Indonésia exigem a gestão de desastres através da implementação de GRC (Governação, Risco, Conformidade). integrado. O objectivo desta investigação é avaliar a prontidão da inovação do GRC na gestão de desastres através da mitigação da gestão de riscos, apoio a infra-estruturas e desenvolvimento de um plano integrado de desenvolvimento de implementação do GRC.

Referencial teórico e Método: Tipos de pesquisas qualitativas e quantitativas por meio de pesquisas, distribuição de questionários, coleta de documentos regulatórios e políticas do sistema GRC de forma integrada, reforçada por entrevistas com os entrevistados, utilização do projeto de infraestrutura do sistema GRC por meio da preparação da infraestrutura no enfrentamento de desastres que são formulados na forma de estruturas e diretrizes de propostas de políticas que se referem ao Padrão de Uso Integrado do Sistema de Gestão do Manual ISO, uma amostra de exame de ação (PDCA) de 124 entrevistados.

Resultados e Conclusão: Os resultados da pesquisa podem ser explicados: 1) A criação de diretrizes de gestão de riscos resultantes de práticas integradas de GRC na mitigação de riscos de desastres não foi padronizada. 2) O desenho da infra-estrutura resultante de um estudo sobre a prontidão para implementar GRC integrado no governo na gestão de desastres na Indonésia não foi implementado em geral. 3) Com base nos resultados do método Delphi, a implementação do GRC não foi integrada.

Implicações da pesquisa: As implicações dos resultados da pesquisa podem ser usadas como recomendações para as partes interessadas na gestão de riscos na tomada de decisões com base na implementação de G/R/C integrados. A medição do nível de eficácia utiliza uma abordagem de modelo de maturidade (Avaliação de Maturidade) de acordo com os padrões ISO.

Originalidade/valor: Originalidade: Esta pesquisa contribui para a implementação de GRC integrado 1) diretrizes de gestão de risco resultantes de práticas integradas de GRC 2) Projeto de infraestrutura resultante de estudos sobre gestão de desastres na Indonésia. 3) Método Delphi, a implementação do GRC ainda não está integrada.

Palavras-chave: inovação, gestão de riscos, governança, risco, compliance (GRC), mitigação de desastres.

LA INNOVACIÓN DE LA MITIGACIÓN DE LA GESTIÓN DE RIESGOS GUBERNAMENTALES PARA LA GESTIÓN DE DESASTRES EN INDONESIA

RESUMEN

Propósito: La dinámica y la complejidad de la gobernanza en la gestión de desastres en Indonesia requieren una gestión de desastres mediante la implementación de GRC (Gobernanza, Riesgo, Cumplimiento). integrado. El objetivo de esta investigación es evaluar la preparación
de la innovación de GRC en la gestión de desastres a través de la mitigación de la gestión de riesgos, la infraestructura de apoyo y el desarrollo de un plan de desarrollo de implementación integrado de GRC.

Referencia teórica y Método: Tipos de investigación cualitativa y cuantitativa a través de encuestas, distribución de cuestionarios, recopilación de documentos regulatorios y políticas del sistema GRC de manera integrada, reforzada con entrevistas a los encuestados, uso del diseño de infraestructura del sistema GRC a través de la preparación de la infraestructura para enfrentar desastres que se formulan en forma de propuestas de políticas, marcos y directrices que se refieren al Manual ISO sobre el uso integrado del estándar del sistema de gestión, una muestra de examen de acción (PDCA) de 124 encuestados.

Resultados y Conclusión: Los resultados de la investigación se pueden explicar: 1) No se ha estandarizado la creación de lineamientos de gestión de riesgos resultantes de prácticas integradas de GRC en la mitigación del riesgo de desastres. 2) El diseño de infraestructura resultante de un estudio sobre la preparación para implementar GRC integrado en el gobierno en la gestión de desastres en Indonesia no se ha implementado en general. 3) Con base en los resultados del método Delphi, no se ha integrado la implementación de GRC.

Implicaciones de la investigación: Las implicaciones de los resultados de la investigación se pueden utilizar como recomendaciones para las partes interesadas en la gestión de riesgos al tomar decisiones basadas en la implementación de G/R/C integrado. Para medir el nivel de eficacia se utiliza un enfoque de modelo de madurez (Maturity Assessment) según las normas ISO.

Originalidad/valor: Originalidad: Esta investigación contribuye a la implementación de GRC integrado 1) directrices de gestión de riesgos resultantes de prácticas integradas de GRC 2) Diseño de infraestructura resultante de estudios sobre gestión de desastres en Indonesia. 3) Método Delphi, la implementación de GRC aun no está integrada.

Palabras clave: innovación, gestión de riesgos, gobernanza, riesgo, cumplimiento (GRC), mitigación de desastres.

1 INTRODUCTION

With the integration of Governance, Risk Management and Compliance (GRC) it is hoped that the implementation of each component will become more efficient and effective and be able to support the development of disaster management in Indonesia, the allocation of regional disaster management. Facts about events in Indonesia in 2020 disaster events during the 2020 period there have been 2,925 natural disaster events which were dominated by hydro-meteorological natural disasters (floods, flash floods, landslides, tornadoes, droughts to forest and land fires (karhutla), and the number Disaster events in Indonesia according to the data are as follows:
The picture shows disaster events consisting of floods, tornadoes, landslides, forest & land fires, tidal waves & abrasion, earthquakes, droughts, technological failures, and transportation accidents in Indonesia from the disaster events for the period 1 January - 15 July 2021.

As part of the number of disaster events according to the figure above, it is necessary to first assess the readiness of the Government in Indonesia in implementing integrated GRC mitigation innovations. With the assessment conducted, it is hoped that the identified research gaps in the current integrated GRC implementation in Government in Indonesia, especially in disaster management, can be described so that appropriate formulas can be formulated to support implementation in disaster management in Indonesia. GRC is an acronym for Governance, Risk and Compliance which was later adopted to become the acronym GRG (Governance, Risk and Compliance) in Indonesia. The term Governancy is used to replace the term governance to accommodate a wider scope. The National Committee on Governance Policy - KNKG (2019) states that the term governance has a narrower meaning which only regulates the relationship between internal parties in the organization. Meanwhile, the term governance refers to the regulation of a wider variety of stakeholders (internal and external). Conceptually, the idea of GHG was first proposed in 2003 by the Open Compliance and Ethic Group (OCEG). Based on the definition issued by OCEG,

The Open Compliance & Ethics Group (OCEG) (2019) conducted a GRC Maturity Survey (GRC Maturity Survey) found that 14% of respondents had fully or substantially integrated GRC processes and technologies, while 23% still had silos of
GHG, while the rest do not yet have an adequate GRC maturity level. The survey results indicate that the implementation of GRC is gradually.

However, with the emerging dynamics and needs, it is deemed necessary to have a mechanism that is able to integrate Governance, Risk Management and Compliance practices into practices that are intertwined and synergistic. With the integration of Governance, Risk Management and Compliance (GRC) it is hoped that the implementation of each component will be more efficient and effective and able to support the development of BNPB and Partners as institutions that have high credibility and provide value for the people. As part of this initiative, it is necessary to first assess readiness for implementing integrated GRC. With the assessment carried out, it is hoped that the identified gaps in partner implementation can be described so that the right formula can be formulated to support integrated GRC implementation in government through BNPB and Partners.

Based on the phenomena occurring with the VUCA situation faced by various organizations in various sectors, the goal of implementing integrated GRC is to achieve principled performance through handling uncertainty and acting with integrity which forms the basis of the organization based on the background of the theme entitled Innovation of government risk management mitigation in disaster management.

The problems to be answered in this study include six questions regarding:

1) How is the handling of Governance Risk Management in Disaster Management by BNPB and Partners?
2) How is the integration of Risk-Based Governance for Disaster Management of BNPB and Partners?
3) How is compliance in handling Risk Management in Handling Disasters of BNPB and Partners?
4) How is the Integration of GRC Application (Governance, Risk Management, Compliance) in BNPB and Partners Disaster Management?
5) How to apply SIMRISK Government Infrastructure Risk Management in BNPB and Partners disaster management?
6) How is the Standardization of Risk Management Based on Disaster Management Implementation of BNPB and Partners?

The objectives of the research implementation researchers include:
1) Implementation of Risk Management Governance in Disaster Management
2) Integrated Disaster Management Risk-Based Governance implementation
3) Implementation of compliance in dealing with Risk Management in Handling Disasters
4) Implementation of Integrated Implementation of GRC (Governance, Risk Management, Compliance) In Disaster Management
5) The implementation of SIMRISK Government Infrastructure Risk Management in disaster management
6) Implementation of Standardization of Disaster Based Risk Management handling

2 OBJECTIVES

2.1 THEORY AGENCY

Jensen and Mackling's Agency Theory (1976) (Sugiyanto and Ety 2019) states a relationship or contract between the principal and the agent, where the principal agent employs agents to perform tasks in order to fulfill the interests of the principal. Agency theory perspective is the basis used to understand the issues of corporate governance and earnings management. Agency theory results in an asymmetrical relationship between owners and managers. To avoid this asymmetrical relationship, a concept is needed, namely the concept of Governance which aims to make the company healthier. The implementation of corporate governance is based on agency theory, namely agency theory can be explained by the relationship between management and owners, management as an agent is morally responsible for optimizing the profits of the owners (principals) and in return will receive compensation in accordance with the contract.

Different interests within the company where each party seeks to achieve the desired prosperity, so that information asymmetry arises between management and owners which can provide opportunities for managers to carry out earnings management in order to mislead owners about the company's economic performance. Researchers argue using agency theory as a grand theory related to governance because one of the main assumptions of agency theory is that the goals of the principal and the goals of the different agents can lead to conflict because company managers tend to pursue personal
goals, this can result in the tendency of managers to focus on projects and investing in companies that generate high profits in the short term rather than maximizing shareholder wealth through investing in projects that are profitable in the long term.

2.2 INTEGRATED GRC

Integrated GRC is an acronym for Governance, Risk and Compliance which was later adopted to become the acronym GRC (Governance, Risk and Compliance) in Indonesia. The term Governancy is used to replace the term governance to accommodate a wider scope. The National Committee on Governance Policy - KNKG (2019) states that the term governance has a narrower meaning which only regulates the relationship between internal parties in the organization. Meanwhile, the term Governancy refers to the regulation of a wider variety of stakeholders (internal and external). Conceptually, the idea of GRC was first proposed in 2003 by the Open Compliance and Ethic Group (OCEG). Based on the definition issued by OCEG, the goal of integrated GRC implementation is to achieve principled performance through handling uncertainty and acting with integrity which is the foundation of the organization. Even though it looks like a simple concept, integrated GRC implementation in an organization is more than a three-letter translation: G, R, C. In practice in organizations, GRC implementation needs to go beyond the boundaries between the Governancy, Risk Management and Organizational Compliance functions. The practical application of GRC will cover other key areas, including: Internal audit, Legal, Finance, Information Technology (IT), Human Resources (HR), Line of business, Executive Board and Supervisory Board. Therefore, integrated GHG is a collection of various capabilities (HR, process, technology and information) that are integrated to achieve business goals in a reliable way (governance), overcome uncertainty (risk), and act with integrity (compliance).

2.3 ISO-BASED INTEGRATED GRC

In practice, organizations often experience difficulties in integrating the GRC concept. Often organizations have various reference systems/guidelines/guidelines (which could be a regulatory requirement). For that, GRC integration is a must.
Based on the spirit that an integrated GRC system will provide added value to the organization where the system/guidelines/guidelines can be more effective and efficient. One of the references that can be used as a reference for integrating GRC systems is ISO (International Organization for Standardization)-based integration. In the context of GHG implementation, ISO has released ISO/DIS (Document For International Standard) 37000:2020 Governance of Organizations, ISO 31000:2018 Risk Management Principles and Guidelines, and ISO 37301:2021 Compliance Management System. Although they can be used independently and separately, the three ISO references within the GRC scope are basically compatible with each other and therefore become a cohesive reference for implementing integrated GRC (Alijoyo, 2021). The ISO-based GRC scope standards are compatible because each standard or guideline has a similar generic structure based on the PDCA (Plan-Do-Check-Act) four-phase cycle. Alijoyo (2021) integrates ISO-based GRC standards as shown in the following figure:

**Figure 2**

*ISO-based Integrated GRC*

Based on Figure 2, it can be shown that the clauses in Standard ISO/DIS 37000 as a reference for implementing organizational governance, ISO 31000 as a reference for implementing organizational risk management, and ISO 37301 as a reference for implementing organizational compliance management are interconnected and therefore support GRC integration. It can also help organizations to choose the option of starting with ISO standards/guidelines for a certain GRC scope and then start integrating with ISO...
standards/guidelines for other GRC scopes. The use of an ISO-based integrated GRC system will provide many benefits to organizations including (Alijoyo, 2021): states:

1. Helping organizations provide clarity regarding the working relationship between the Governancy, Risk Management and Compliance functions so that integrated GRC practices are more effective and efficient;
2. Every ISO-based standard/guideline can be implemented as a management system so it can be measured, determined, tracked, and partially audited. This will enable organizations to choose the most effective and efficient entry point towards integrated GRC;
3. Each ISO-based standard/guideline is well recognized as an international reference compared to country/regulation-specific references. This will allow organizations to communicate integrated GHG practices in an easier way to all interested parties, whether internal employees or partners from anywhere in the world.
4. In building human competence, it is easy for organizations to find training and development partners as there are many providers offering ISO related training services.
5. In obtaining independent assurance, it is easy for organizations to engage ISO auditors and independent consultants either for certification purposes or for internal purposes.
6. ISO keeps updating their standards/guidelines regularly. Therefore, ISO users can have assurance that their references (in this case the GRC scope) are up-to-date, contextual and relevant from time to time.
7. There are many adopters of ISO-based series in the world, it is much easier and practical for organizations to benchmark either to get a faster learning curve or to enrich continuous improvement.

3 DEVELOPMENT

This research methodology uses phenomenological research methods where qualitative methods can be interpreted as methods based on postpositivism philosophy used in object conditions, where researchers are key instruments, data collection techniques are carried out by triangulation (combined) Creswell 2009 (Sugiyanto 2017: 24). The methodology in this study uses 3 stages, namely:
3.1 FIRST STAGE: INTEGRATED GRC PRACTICES GAP ANALYSIS

In stage 1, a gap analysis was carried out on integrated GRC practices at BNPB and Partners. Gap analysis is carried out to obtain information on BNPB readiness in implementing integrated GRC which will be used as a basis for preparing Integrated GRC Guidelines and Integrated GRC Implementation Roadmap. This readiness consists of: 1). Preparedness of integrated GRC guideline/manual documents. 2). Readiness of BNPB personnel for integrated GRC implementation. 3). Leadership readiness and vision for integrated GRC implementation.

3.1.1 Gap analysis in stage 1 were obtained through

Documents review to assess the readiness of the integrated GRC guideline/manual document. The integrated GRC system document review framework is carried out through the following framework:

**Figure 3**

*Integrated GRC Implementation Readiness Document Review Framework*

![Integrated GRC Implementation Readiness Document Review Framework](image)

The review of documents (Policies, Guidelines, SOPs, Work Instructions, and other relevant documents) related to integrated GRC implementation is divided into four phases of integrated GRC implementation, namely Plan-Do-Check-Act.
3.1.1.1 Perception questionnaire to assess the readiness of BNPB and Partners in implementing integrated GHG

Questionnaires were given to all BNPB and Partner personnel with 30 questions to obtain information on the perceptions of BNPB and Partner personnel regarding integrated GRC practices. The structure of the questionnaire consists of several question topics that concern:

**Figure 4**

*Integrated GRC Questionnaire Question Structure*

<table>
<thead>
<tr>
<th>PENERAPAN GRC TERINTEGRASI</th>
<th>ASPEK GOVERNANSI</th>
<th>ASPEK MANAJEMEN RISIKO</th>
<th>ASPEK KEPATUHAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Pertanyaan</td>
<td>8 Pertanyaan</td>
<td>5 Pertanyaan</td>
<td>4 Pertanyaan</td>
</tr>
</tbody>
</table>

**MONITORING & REVIEW**

<table>
<thead>
<tr>
<th>INFORMASI TERDOKUMENTASI</th>
<th>KAPABILITAS SDM ORGANISASI</th>
<th>KETAHANAN DAN KEBERLANJUTAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Pertanyaan</td>
<td>5 Pertanyaan</td>
<td>2 Pertanyaan</td>
</tr>
</tbody>
</table>

Source: Alijoyo, 2021

3.1.1.2 Interview with leaders to get an overview of the leadership's readiness and commitment to integrated GRC implementation

After the documents are collected, the data is then analyzed using the following approach:
3.2 SECOND STAGE: INTEGRATED GRC SYSTEM INFRASTRUCTURE DESIGN

Based on the results of the study on the readiness of integrated GRC implementation at BNPB and Partners, a policy concept & guidelines for integrated GRC implementation will be formulated. The conceptual framework of policies and guidelines contained in the Integrated GRC Guidelines proposal document, refers to the interconnections between clauses in the ISO Management System Standard (MSS) regarding G/R/C, in accordance with the provisions of the ISO Handbook Integrated Use of Management System Standard proposed by Alijoyo (2021), as well as the Delphi Method to obtain a deal.

3.3 THE THIRD STAGE: INTEGRATED GRC IMPLEMENTATION PLAN

The formulation of integrated GRC goals and work plans is a follow-up to the operationalization of the Integrated GRC Roadmap in line with the integrated GRC policies and Integrated GRC Guidelines. Based on the strategic initiatives for 2021 proposed in the Integrated GRC Roadmap, an analysis is carried out on each integrated GRC policy item to obtain information on specific matters that can be developed in 2021. The results of the analysis form the basis for developing integrated GRC targets and work plans for 2021.
3.3.1 Types and data collection techniques

1) This type of research uses qualitative and quantitative research methods which can be interpreted as research methods based on the philosophy of positivism, used to examine certain populations or samples, collecting data using research instruments, data analysis is quantitative statistics, with the aim of testing what has been determined. (Sugiyanto: 2016: 8).

2) Collected data collection techniques on integrated GRC practices at BNPB and Partners, studied the gaps with integration analysis criteria according to the ISO Handbook Integrated Use of Management System Standard for ISO/DIS 37000 (Governance of Organization), ISO 31000 (Risk Management Guidelines), and ISO standards 37301 (Compliance Management System) and using the Delphi Method to obtain a proposal agreement.

4 FORMULAS AND EQUATION

Based on the research results, the discussion of the first phase of the study is:

1. Review of Documents Review of documents (Policies, Guidelines, SOPs, Work Instructions, and other relevant documents) related to integrated GRC implementation is divided into four phases of integrated GRC implementation, namely Plan-Do-Check-Act, which is tested by criteria for each phase.

   Based on the results of a review of available documents, namely:

   1). BNPB Concerning Compliance Policy, Implementation of Good Corporate Governance, Code of Ethics, and Integrity Pact of BNPB and Partners;
   3). BNPB regarding Corporate Risk Management Guidelines;
Based on the results of the document review as shown in table 1 shows that:

1) Various regulations at BNPB regarding the implementation of Governance, Risk Management and Compliance (G/R/C) at present, do not yet provide a policy umbrella for integrated GRC practices according to the criteria of the ISO Handbook Integrated Use of Management System Standard, in this case which includes standards ISO/DIS 37000 (Organizational Governance), ISO 31000 (Risk Management), and ISO 37301 (Compliance Management);

2) Considering that the analysis is only carried out on documents containing regulations regarding the implementation of Governance, Risk Management and Compliance (G/R/C), it is possible that there are G/R/C practices that are integrated in the field, which are developing in order to meet the demands BNPB needs Therefore, practices like this need to be immediately given a policy umbrella so that their implementation has clear legitimacy and is more controlled and measurable.

4.1 RESULTS OF THE PERCEPTION QUESTIONNAIRE

Questionnaires were given to all BNPB and IKN supporting partners in East Kalimantan, Kutai Kertanegara, and Yogyakarta Special Region, Bantul, Sleman with 20 questions to obtain information on the perceptions of BNPB and Partners regarding integrated GRC practices. The results of collecting questionnaires are as follows:
Figure 6

*Questionnaire Results – Integrated GRC Aspects*

![Pie chart showing responses to the Questionnaire regarding Integrated GRC Aspects.]

Based on Figure 6, most respondents believe that integrated GRC practices are well developed (48%) and even mature (17%). However, only a small number of respondents (7%) admitted that Integrated GHG had actively contributed to the creation of principled performance at Partner. On the other hand, there are still quite a lot of respondents (15%) who think that Integrated GRC practices are just starting to develop, and there are even many respondents (12%) who don't know about Integrated GRC at BNPB and Partners. It can be concluded that although Integrated GRC practices are believed to have developed and matured, they are still unable to provide significant benefits.

Figure 7

*Questionnaire Results - Aspects of Governance*

![Pie chart showing responses to the Questionnaire regarding Aspects of Governance.]

Based on figure 6, the majority of respondents believe that integrated GRC practices are well developed (48%) and even mature (17%). However, only a small
proportion of respondents (7%) acknowledged that Integrated GRC had actively contributed to the creation of principled performance at Patner. On the other hand, there are still quite a number of respondents (15%) who think that Integrated GRC practices are just starting to develop and even many respondents (12%) do not know about Integrated GRC at BNPB and Partners. It can be concluded that although the Integrated GRC practices are believed to have developed and matured, they are still unable to provide significant benefits.

**Figure 8**

*Questionnaire Results – Aspects of Risk Management*

![Pie chart showing questionnaire results for aspects of risk management.](chart.png)

Based on Figure 8, most of the respondents believe that Risk Management practices are well developed (51%) and even mature (18%). However, only a small proportion of respondents (7%) acknowledged that Risk Management had actively contributed to the creation of principled performance at BNPB and Partners. Apart from parties, there are still quite a number of respondents (13%) who think that Risk Management practices are just starting to develop and there are even respondents (8%) who do not know about Risk Management practices at BNPB. It can be concluded that although the practice of Risk Management is believed to have developed and matured, it still has not provided significant benefits for the creation of principled performance at BNPB and Partners.
Figure 9

*Questionnaire Results - Compliance Aspect*

Based on Figure 9, the majority of respondents believe that Compliance Management practices are well developed (36%) and even mature (19%). However, only a small proportion of respondents (7%) acknowledged that Compliance Management had actively contributed to the creation of principled performance at BNPB and Partners. On the other hand, there are also many respondents (30%) who think that the practice of Compliance Management is just starting to develop, and there are even respondents (8%) who do not know about the practice of Compliance Management at BNPB and Partners. It can be concluded that there are doubts regarding the development of Compliance Management practices at BNPB and Partners so this must be clarified again. Another thing that also needs attention is that Compliance Management practices are considered to still not provide significant benefits for the creation of principled performance at BNPB and Partners.
Figure 10

*Questionnaire Results – GRC Monitoring & Review Aspects*

Based on figure 10, the majority of respondents (45%) believe that monitoring & review activities in the context of GRC have developed at BNPB and Partners. However, only 7% feel that the monitoring & review process in the context of GRC has actively contributed to improving and creating principled performance at BNPB. In addition, there were 17% of respondents who stated that monitoring & review activities in the context of GRC were just running, and another 11% stated that they did not know about monitoring & review activities in GRC implementation. This shows that there are inconsistencies in implementation monitoring & review activities in the context of GRC are carried out so that a clear mechanism is needed regarding monitoring & review activities in order to improve and create principled performance.

Figure 11

*Questionnaire Results - Aspects of HR Development*

Based on figure 11, most of the respondents (43%) believe that there is already a human resource development mechanism in the GRC sector that is implemented at BNPB
and Partners. However, only 12% felt that human resource development in the GRC sector had actively contributed to achieving principled performance. 19% of respondents stated that human resource development activities in the GRC sector had just begun. In addition, there were still 9% of respondents who stated that they did not know about HR development in the GRC sector. This needs to be a concern because HR development is one of the keys to successful integrated GRC implementation. Therefore, there is a need for careful HR planning to support the effectiveness of integrated GRC implementation at BNPB and Partners.

Figure 12
Questionnaire Results - Information Communication Aspects

Based on Figure 12, the majority of respondents (44%) believe that there is an adequate mechanism for documenting and distributing information in the context of GRC. However, only 4% feel that the process of documenting and distributing information has actively contributed to improving and creating principled performance at BNPB and Partners. Quite a lot of respondents (32%) believe that documentation activities and distribution of information in the context of GRC is just starting, and about 7% expressed ignorance and felt it was not applicable. This needs to be a concern because in the implementation of management systems, the process of documenting and distributing information is one of the fundamental aspects that must be realized so that consistency is formed in the implementation of an integrated GRC system.
Based on Figure 13, the majority of respondents (40%) believe that there is a resilience and sustainability mechanism implemented at BNPB and Partners. However, only 4% feel that the GRC process has actively contributed to aspects of resilience and sustainability. 28% of respondents believe that GRC activities are just starting to contribute to increasing organizational resilience and sustainability. In addition, there were still 13% of respondents who stated that they did not know about the aspects of resilience and sustainability. This needs to be a concern because resilience and sustainability are one of the results of integrated GRC implementation. Therefore, there is a need for an understanding regarding the benefits and results of GRC implementation for the organization so that integrated GHG implementation is not seen as just an additional task. Overall it can be concluded that the results of the questionnaire show that both BNPB and Partner leaders and personnel have a strong motivation to implement GRC in an integrated manner. However, in order to be more controllable and measurable, it needs to be carried out in a systematic and structured manner and based on a standardized and standardized management system.

5 MARKER

5.1 GAP ANALYSIS RESULTS RECOMMENDATIONS

After the data has been collected from the results of the document review, the results of the perception questionnaire, and interviews with the leadership, the recommendations for implementing integrated GRC at Partners are as follows:
Table 3

Recommendations based on Gap Analysis results

<table>
<thead>
<tr>
<th>PHASE</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1: Plan</td>
<td>1. It is necessary to determine the clarity of structure, accountability, authority and responsibility in integrated GRC implementation</td>
</tr>
<tr>
<td></td>
<td>2. There is a need for alignment of business models and target setting that can accommodate integrated GRC policies (achievement of principled performance)</td>
</tr>
<tr>
<td></td>
<td>3. There is a need to develop guidelines, targets, and an integrated GRC system implementation plan</td>
</tr>
<tr>
<td></td>
<td>4. It is necessary to determine Human Resorche qualifications that support integrated GRC implementation</td>
</tr>
<tr>
<td></td>
<td>5. There is a need for an assessment of the need for information technology support in supporting integrated GRC implementation</td>
</tr>
<tr>
<td>Phase 2: Do</td>
<td>6. Conducting a review of the risk universe based on the context and sources of the latest risks faced by the organization</td>
</tr>
<tr>
<td></td>
<td>7. It is necessary to prepare an Human Resorche development plan to support integrated GRC implementation</td>
</tr>
<tr>
<td></td>
<td>8. It is necessary to prepare an information technology development plan that supports integrated GRC implementation</td>
</tr>
<tr>
<td>Phase 3&amp;4: Check &amp; Act</td>
<td>9. There needs to be periodic evaluation of integrated GRC implementation so that it can support continuous improvement</td>
</tr>
</tbody>
</table>

6 RESULTS OF INTEGRATED GHG ROADMAP

All recommendations resulting from the gap analysis (gap analysis) are grouped based on 3 components of integrated GRC excellence according to the Guidebook for Achieving GRC Excellence (2020), namely:

a. PROCESS ASPECT (Process and Capability).

b. PEOPLE ASPECTS (HR and Competence).

c. ASPECT TOOLS (Methodology and Information Systems).

Figure 14

Integrated GHG Excellence Components

Based on the integrated GHG excellence components as shown in Figure 14, the Integrated GRC Roadmap is designed as follows:
The preparation of an integrated GRC implementation roadmap which includes setting targets, strategies and milestones has taken into account the recommendations from the gap analysis. The roadmap starts in 2022 and is targeted for completion in 2023. The proposed roadmap is presented as follows:

Table 3

<table>
<thead>
<tr>
<th>DESIGN</th>
<th>ACHIEVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>2023</td>
</tr>
<tr>
<td>TARGET</td>
<td>Implementation of integrated GHG implementation that supports the creation of principled performance through handling uncertainty and acting with integrity.</td>
</tr>
<tr>
<td>STRATEGY</td>
<td>Establishment of BNPB and Partners regulations regarding integrated GRC implementation.</td>
</tr>
<tr>
<td></td>
<td>Development of technology to support the integration of GRC applications.</td>
</tr>
<tr>
<td></td>
<td>Application of integrated GRC in a planned, controlled and measurable manner in accordance with applicable BNPB regulations.</td>
</tr>
</tbody>
</table>

Based on the 9 points of recommendation resulting from the gap analysis, development has been carried out into 26 strategic initiatives which will start in 2022 and are targeted for completion in 2023, presented as follows:

Table 4

<table>
<thead>
<tr>
<th>DESIGN</th>
<th>ACHIEVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>2023</td>
</tr>
<tr>
<td>PROCESS</td>
<td>Implementation of models business for creation principled performance through early detection risk, prevention, and quick response on occurrence risk includes risk obedience.</td>
</tr>
<tr>
<td></td>
<td>GRC implementation Maturity Assessment for feedback about inflection point for improvement GRC maturity levels.</td>
</tr>
<tr>
<td></td>
<td>Plan Design Development evaluation process performance achievement supported by principled ones business for integrated ones achievement triggered interrupts</td>
</tr>
<tr>
<td></td>
<td>System implementation integrated GRC based on the guidelines apply. warning system risk-based early.</td>
</tr>
<tr>
<td></td>
<td>Development transformation programme GRC system innovative demands form of adaptation, by the VUCA condition.</td>
</tr>
<tr>
<td>PEOPLE</td>
<td>DESIGN</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Assessment and source mapping-source of risk influence reliability every business processes to achieve BNPB vision and mission.</td>
<td>Implementation program development system competency Integrated GRC for leadership top, management, and employees.</td>
</tr>
<tr>
<td>Development structure as well determination accountability, authority, and responsibility in the GHG system integrated.</td>
<td>Assessment and development reinforcement program the GRC culture aligned with system requirements Integrated GRC</td>
</tr>
<tr>
<td>PEOPLE</td>
<td>DESIGN</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Planning development competency for leadership, top, management, and that employee integrated with plan system implementation Integrated GRC.</td>
<td>Test execution eligibility for leader and employees too external partners to guarantee work behavior dare to take risks but still integrity.</td>
</tr>
</tbody>
</table>
6.1 RESULTS AND DISCUSSION OF THE SECOND PHASE OF THE STUDY

Based on the results and recommendations in stage 1, the policy proposal framework and guidelines are contained in the integrated GRC manual/guidance document referring to the ISO Handbook Integrated Use of Management System Standard, the mapping of each clause refers to the PDCA cycle proposed by Alijoyo (2021), and Delphi Method to obtain a proposal agreement. The integrated GRC manual/guidelines are prepared systematically.

6.2 RESULTS AND DISCUSSION OF THE THIRD PHASE OF THE STUDY

After the integrated GRC guideline/manual document has been formulated in the second stage, in the third stage the integrated GRC target is formulated along with a plan for achieving it by taking into account the current conditions at BNPB and Partners.

The policies and objectives of the proposed integrated GRC implementation plan referring to the results of the study are as follows:
Table 5
The policies and objectives of the proposed integrated GRC implementation plan referring to the results of the study

<table>
<thead>
<tr>
<th>No.</th>
<th>POLICY</th>
<th>TARGET</th>
<th>PLAN WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The dynamics of the internal and external environment as a source of risks and opportunities for the creation of BNPB principled performance.</td>
<td>Availability of external and external environmental maps of BNPB and Partners within 1 month and approved by the leadership.</td>
<td>Facilitate BNPB personnel in making external and internal context maps for the formulation and execution needs of BNPB and Partners strategies using the PESTEL Analysis method, or other methods.</td>
</tr>
<tr>
<td>2.</td>
<td>Prioritize the needs and expectations of BNPB and Partner stakeholders.</td>
<td>Availability of a List of Stakeholders and their respective needs and expectations within 1 month and approved by the leadership.</td>
<td>Compile a Table of Stakeholder Needs and Expectations for the needs of BNPB and Partners strategy formulation and execution, using the Stakeholder Mapping Cube method or other methods.</td>
</tr>
<tr>
<td>3.</td>
<td>Business goals that meet SMART criteria and are congruent with the vision, mission and organizational values that apply to BNPB.</td>
<td>Availability of effective targeting procedures for target formulation needs within BNPB within 1 month and approved by the leadership.</td>
<td>Design targeting procedures that meet SMART criteria to be implemented within BNPB and Partners.</td>
</tr>
<tr>
<td>4.</td>
<td>Handling uncertainty in achieving business goals to ensure the creation of BNPB principled performance.</td>
<td>Availability of information on the current level of reliability of target achievement capabilities (processes-people-tools) so that we can be better prepared for the preparation of an integrated 2022.</td>
<td>(1). (1). Carrying out the GRC Maturity Assessment to assess the level of readiness for target achievement capabilities in the face of the integrated 2021 RKAT preparation period; (2). (2). Facilitate BNPB and Partner personnel in increasing readiness for the 2022 preparation in order to achieve objectives in a reliable manner as stipulated in the Integrated GRC Guidelines.</td>
</tr>
<tr>
<td>5.</td>
<td>Operates within the boundaries of applicable legal and regulatory corridors and BPNB regulations.</td>
<td></td>
<td>Designing an integrated information system architecture for G/R/C that meets the requirements of the GRC integrator platform as a supporting technology for Integrated GRC.</td>
</tr>
<tr>
<td>6.</td>
<td>Operate within the boundaries of the legal corridors and applicable BNPB regulations and regulations.</td>
<td>Availability of an integrated information system architecture for G/R/C practice that meets the requirements of the GRC integrator platform, within 3 months and approved by the leadership.</td>
<td>Designing and implementing periodic maturity self-assessment policy management.</td>
</tr>
<tr>
<td>7.</td>
<td>Integrated information that is relevant, reliable and timely about the performance of governance, risk management and compliance practices.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Measuring the performance and effectiveness of all applicable policies at BNPB and its operational partners.</td>
<td>Availability of information on the effectiveness of policy management as an indicator for good governance practices</td>
<td></td>
</tr>
</tbody>
</table>

ACKNOWLEDGEMENTS

Based on the results of the studies in stages 1, 2 and 3, several conclusions can be drawn as follows:

1. There is an adequate environment for integrated GRC implementation at BNPB and Partners. This is indicated by high perceptions (generally stating that they have developed) on various aspects of the GRC sector that currently exist at...
BNPB and Partners.

2. This necessary to take steps to increase the effectiveness of integrated GRC implementation through establishing clear accountability, setting targets, developing guidelines and manuals, improving infrastructure and resources, document and information distribution mechanisms, as well as regular monitoring & review mechanisms that ensure ongoing improvement activities.

This study has limitations in that within the scope of research in accordance with the Cooperation Agreement between BNPB and Partners, it does not include an assessment of the fulfillment and effectiveness of G/R/C implementation separately at BNPB and Partners at this time. The scope of the research study is limited to the readiness of BNPB and partners in GRC integration based on gap analysis through:

1) Compatibility of documents currently in BNPB with the requirements of the GRC integration clause;

2) Questionnaire/interview on the perceptions of leaders and volunteers, partners of BNPB regarding GRC integration.

3) The need for assistance in preparing infrastructure, framework, and measurement guidelines based on ISO 31000 2018.

4) The need for integrated SIMRISK for integrated communication.

Several assumptions and limitations in the research method need to be made which may have

**IMPLICATIONS RESEARCH**

The implications of the research results can be used as recommendations for risk management stakeholders in making decisions based on the implementation of integrated G/R/C. Measuring the level of effectiveness uses a maturity model approach (Maturity Assessment) according to ISO standards. implications for the possibility that the readiness assessment results do not fully describe the effectiveness and constraints of G/R/C implementation that currently exist at BNPB and Partners. Therefore, further studies are needed to assess the level of effectiveness of GRC implementation (both separately and in an integrated manner) using a maturity model approach (Maturity Assessment) to obtain a more comprehensive picture of integrated GRC implementation at BNPB and Partners.
REFFERENCES


Enas Amjed Alsaleem, Norhayati Mat Husin, (2024) It Governance And Audit Risk In Jordanian Companies: The Moderating Role Of Audit Quality v.18.n.4 p.1-16.

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