

## **Risk Management Practices and Enterprise Resilience - The Mediating Role of Alliance Management Capabilities**

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**Abstract**— Enterprises face several obstacles in an interconnected world with dynamic and uncertain business climates. Volatility has become one of the greatest threats to the resiliency of companies but might also offer an opportunity. They must exert effort to be resilient by implementing proactive risk management. This study investigates the influence of Risk Management Practices (RMP) on Enterprise Resilience (ER) across state-owned companies (SOEs) in Indonesia, as well as the moderating role of alliance management capabilities (AMCs) on the relationship between RMP and ER. The Indonesian SOEs would be the units of analysis of the study due to their importance to the Indonesian economy and the scarcity of research on resilience and risk management in SOEs in emerging economies. The research utilized online surveys of SOE board members. Three hundred twenty-two valid responses are analyzed using PLS-SEM. The study indicated that RMP has a significant effect on ER. Leadership Capabilities (LC) mediates the link between RMP and ER. This research contributes to limited literature that integrates AMCs, RMPs, and ER through the perspective of dynamic capability theory and is done using a unique sample of SOEs from emerging countries. The results offer policymakers and SOE management recommendations for enhancing SOEs' sustainability.

**Keywords:** Alliance Management Capabilities, Enterprise Resilience, Indonesia, Risk Management Practices, State-Owned Enterprises, Project Management

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**Journal of Advances in Humanities Research**

**ISSN: 2948-4863**



**Vol. 1, No.2, 2022**

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**How to cite this article:** Lisdiono, P., Said, J., Yusoff, H., A. Hermawan, A., & Binti Abdul Manan, D. (2022). Risk Management Practices and Enterprise Resilience - The Mediating Role of Alliance Management Capabilities. *Journal of Advances in Humanities Research*, 1(2), 77-91. <https://doi.org/10.56868/jadhur.v1i2.21>

## I. INTRODUCTION

Theoretical and empirical studies indicate that enterprise resilience describes why organizations successfully overcome challenges (Chen, Xie, & Liu, 2021). There is ample proof that resilient businesses can adapt to business transitions and will be more able to stay relevant and suitable for changes in the market (Hamel & Välikangas, 2003; Vogus & Sutcliffe, 2007). Some studies have even linked resilience to the sustainability of an organization (Sawalha, 2015). Somers (2009) for instance, defined organizational resilience as an enterprise's capacity to adopt proactive actions in response to a disaster. Thus, enterprise resilience research is essential for establishing new theoretical views and aiding firms, including SOEs, to withstand calamities and hardships.

Organizations and academics devote efforts to finding solutions to ensure long-term operations and performances in a changing environment (Sin & Ng, 2013). Businesses must compete in the marketplace to survive and thrive. Unfortunately, most firms lack crisis response plans when facing various crises. Enterprise risk management could help prevent disasters and improve a business's resilience (Hudakova & Lahuta, 2020). Enterprises recognize that strategies to be long-term viable and resilient are crucial. It is done by preparing firms to deal with internal or external issues, identify opportunities, and examine internal and external risks and dangers that could damage their future. Scholars and professionals emphasize the necessity for firms to manage risk and disruption in today's unpredictable and uncertain climate (Ivanov, Tsipoulanidis, & Schönberger, 2019; Shekarian & Mellat Parast, 2020; Parast & Shekarian, 2019).

Businesses must respond quickly and adequately to minimize damage. All strategies should consider the risk (Wildgoose, Brennan, & Thompson, 2012). The necessity of enterprise-wide risk management has led to a comprehensive and integrated strategy, including strategic business, financial, and commercial risks and operational and technology risks (Hopkins, 2017). Enterprise Risk Management (ERM) is a set of standards and guidance or a group of innovative features relevant to a specific domain (Bogodistov & Wohlgemuth, 2017). The limitless risks an enterprise has to cope with and its inability to forecast threats are also problems. Therefore, a company must have risk management capabilities in a complex and dynamic business environment. In this regard, risk management has a dynamic capabilities notion (Bogodistov & Wohlgemuth, 2017).

In a close-knit business setting, handling and interacting with business partners is vital (Kohtamäki, Rabetino, & Möller, 2018). Alliance management influences a company's capacity to produce and capture value through others, invent, and serve buyers and sellers (Sluyts, Matthyssens, Martens, & Streukens, 2011). Alliance is a relationship between two entities or corporations that involves exchanging, sharing, or co-creating abilities and capacities to achieve collective advantages (Kale & Singh, 2009). Since few corporations have all of the resources to compete successfully, they

require collaborating partners (Ireland, Hitt, & Vaidyanath, 2002). Alliance capabilities allow firms, including SOEs, to develop, transmit, and utilize alliance knowledge (Abdullah & Said, 2015).

Studies on the vulnerabilities and resilience of enterprises in growing economies in the face of change are scarce (Ishak & Williams, 2018; Menéndez Blanco & Montes-Botella, 2017; Parker & Ameen, 2017), especially those based on the dynamic capability theory (Ishak & Williams, 2018; Nachbagauer & Schirl-Boeck, 2019; Slagmulder & Devoldere, 2018). Most study results analysing the effects of dynamic capability, risk management, or enterprise resilience focused on publicly traded companies due to the limited availability of data (Bromiley, McShane, Nair, & Rustambekov, 2015). They are concentrated on theoretical studies and focused on large firms in developed markets (Bracci & Tallaki, 2021; Van der Vegt, Essens, Wahlström, & George, 2015). There is also currently a paucity of modern academic literature on the SOEs (Bruton, Peng, Ahlstrom, Stan, & Xu, 2015; Oeij, Dhondt, Gaspersz, & Van Vuuren, 2017). Given the importance of state-owned enterprises to economic growth in developed and developing countries, research on resilience and risk management in SOEs is crucial (Hu & Wu, 2016). Thus, this study aims to elaborate on the effect of risk management practices on enterprise resilience and the mediating role of alliance management capabilities in the relationship between risk management practices and enterprise resilience. The hypotheses were proposed to answer research questions: 1) Do RMPs influence ER; 2) Do AMCs influence ER ; 3) Do RMPs influence AMCs, and 4) Do AMCs mediate the relationship between RMPs and ER?

## **II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

RMPs are the ability to continuously avoid, handle, transfer, or embrace hazards during dynamic changes. RMPs help a firm create value by lowering possible risks (Bogodistov & Wohlgemuth, 2017). Resilient firms should serve their clients despite risks. Ready, adaptability, and robustness are achieved by adjusting performance reactively, contemporaneously, and proactively (Hollnagel, Paries, Woods, & Wreathall, 2010). Resilience is the ability to handle unforeseen threats (Wildavsky, 1988). Several experts have proposed that an organization should proactively plan for unforeseen, dire circumstances to survive, be resilient, and thrive (Albers, Wohlgezogen, & Zajac, 2013; Chakravarthy, 1982). Risk management must be synchronized with a company's dynamic capability. Dynamic capabilities could improve risk management by preventing incidents and building organizational resilience (Bromiley & Rau, 2016).

### ***Risk Management Practices and Enterprise Resilience***

Dynamic capability comprises the ability to seize an opportunity and adjust the firm's resource base (Teece, Pisano, & Shuen, 1997). Dynamic capabilities go beyond risk prediction by enabling the company to be dynamic. Risk management and coordination practices have boosted the resilience (Leat & Revoredo-Giha, 2013). Resilience is a system's ability to regain its original structure or adapt to a

more desired state after a disturbance (Christopher & Peck, 2004). The definition implies adaptability and flexibility. Resilience is a risk management process that identifies, evaluates, implements, and reviews risk controls (Manuele, 2005).

Saeidi et al. (2019, 2020) have studied risk management practices on Iranian financial and non-financial firm performance. They found that risk management practices improve organizational performance. COSO (COSO, 2020) describes ERM as the culture, capabilities, and practices organizations use to manage risk in creating, conserving, and realizing value. ERM emphasizes creating, preserving, and realizing value. It helps companies confidently pursue new value-creation opportunities (COSO, 2020). Risk management improves decision-making by anticipating what could happen how and how it could affect the overall goal (Buganova & Simickova, 2020). The resilience team identifies, assesses, and reduces risks, which could boost risk management and enterprise resilience. Having a risk management system in place helps a business's owners. It improves strategic management, stability, and market response time while reducing errors and fraud (Buganova & Simickova, 2020; Shekarian & Mellat Parast, 2020).

**Hypothesis 1 (H1):** Risk Management Practices have a significant influence on Enterprise Resilience

### *Alliance Management Capabilities and Enterprise Resilience*

In today's demanding and changing business environment, a company's ability to sustain itself is crucial (Duong, 2020). It is essential to cultivate dynamic critical capacities (Teece, 2007). Alliance management capabilities may be selected as the capabilities that should be developed to improve performance results (Kohtamäki et al.2018). Alliance capabilities are crucial for enhancing the adaptability and resiliency of businesses in unstable business environments (Camarinha-matos, 2015; Ramezani & Camarinha-Matos, 2020). Most alliance achievements derive from a company's capabilities to effectively execute its partnership, also known as its alliance management capability (Sluyts et al., 2011).

Strategic alliances are a substantial source of assets, expertise, and competitiveness (Gulati, 1999; Ireland et al., 2002). Alliance capabilities are considered a crucial process that enables businesses to remain agile and resilient in volatile business contexts (Camarinha-matos, 2015; Ramezani & Camarinha-Matos, 2020). According to Kurtz & Varvakis (2016), resilient companies will always find a way to capitalize on opportunities and make the most of advantageous conditions. Alliance is a possible method of operation. This assertion is corroborated by Inigo, Ritala, & Albareda (2020), who discovered a good correlation between alliance proactiveness and sustainability. They identified a positive relationship between Alliance proactiveness and sustainability. The previous studies demonstrate that partnerships and cooperation actions impact resiliency (Medel, Kousar, & Masood,

2020; Scholten & Schilder, 2015). Businesses should have sufficient resources to support the formation of resilience capabilities, such as solid alliances (Gittell, Cameron, Lim, & Rivas, 2006; Välikangas & Romme, 2012). In conclusion, alliance management capabilities allow firms to attain more sustained competitiveness, which may lead to resilience.

**Hypothesis 2 (H2):** Alliance Management Capabilities have a significant influence on Enterprise Resilience

### ***Risk Management Practices and Alliance Management Capabilities***

Alliance management capabilities are defined as the ability and capability of a company to efficiently arrange its alliance portfolio (Rothaermel & Deeds, 2006). Heimeriks & Duysters (2007) describe alliance management capabilities as the competence of an organization to acquire, share, distribute, and utilize alliance management knowledge. Bodnaruk, Manconi, & Massa (2016) discovered that when the risk of a partnership is high, corporations choose to employ alliances rather than M&A. When the risk is low, they use M&A. Nwogugu (2015) found that organizations with ineffective risk management have poor alliance outcomes. Before entering a partnership, an inventory of the risks unique to an alliance should be anticipated and the types of risks typically evaluated by the management (Anderson, Christ, Dekker, & Sedatole, 2013).

The number of trained employees, logistical costs, information sharing, partner trust, and IT support for operations all contribute to the continuity of the partnership (Rambo, 2012). Alliances are a high-risk tactic. Therefore, to avoid failure, all stakeholders must understand potential risks and reduce them from the outset. Alliance management is a challenging technique containing numerous hazards, such as relational and performance risks (Das & Teng, 2000).

**Hypothesis 3 (H3):** Alliance Management Capabilities have a significant influence on Risk Management Practices

### ***Risk Management Practices, Alliance Management Capabilities, and Enterprise Resilience***

In today's volatile world, it has become complex and risky for businesses to sustain competitiveness with only one alternative. According to Jain, Kashiramka, & Jain (2019), business flexibility is the strategic ability to access numerous alternatives or optional mechanisms in the context of freedom of choice on various processes. That is among the reason for making alliances. Mechler et al. (2018) studied the role of partnership and alliances among stakeholders in implementing risk management in the context of natural catastrophes in Peru and Nepal that can assist the community's resilience. Research has indicated that built-on trust and dependable interconnected alliances can function as an effective system for mitigating partnership risks that will then support teamwork, promote communication and knowledge transfer, and produce positive outcomes among alliance partners (Zhou & Xu, 2012; Lavie, Haunschild, & Khanna, 2012).

**Hypothesis 4 (H4):** Alliance Management Capabilities mediate the relationship between Risk Management Practices and Enterprise Resilience

### III. RESEARCH METHODOLOGY

This section of the research presents the methodology, instrument, data collection instrument, and sampling procedures used to examine the relationship between Risk Management Practices and Enterprise resilience. This study employs Alliance Management Capabilities as a mediating role in the context of State-owned Enterprises in Indonesia.

A survey method using a questionnaire is used as a strategy to collect data with a cross-sectional time horizon. The research tool consisted of four sections: Section 1, demographics; this section captures the profiles of responders. Section 2, Risk Management Practices (RMP). Section 3, Enterprise Resilience (ER). Section 4, Alliance Management Capabilities (AMC). The closed-ended questionnaire is intended to assure participants' objectivity. The questionnaire consists of a seven-point Likert scale ranging from very strongly disagree to very strongly agree, with values ranging from 1 to 7. The instrument was adapted from prior research. The questionnaire was contextually modified based on the interaction with experts and the pilot study results.

This research focuses on SOEs in Indonesia since SOEs play a significant role in Indonesia's economy. Due to limits imposed by the Covid 19 epidemic and the difficulty in obtaining time from the Board of Directors and top management of SOEs to respond directly, online surveys were utilized. Google Forms, email, and WhatsApp were used to distribute questionnaires to Indonesia's SOEs and their subsidiaries. We also employ a snowball strategy through WhatsApp to collect sufficient samples. As of June 2020, 114 SOEs are listed on the official website of the Indonesia Ministry of SOE (Kementerian Badan Usaha Milik Negara ([bumn.go.id](http://bumn.go.id))); and 530 subsidiaries which the list is taken from the annual report of each SOE or each SOE official website. The chosen respondents are members of the Board of Directors (all functions of directors, with the name and position, might be different for each company. For example, they are Chief Operating Officer, Chief Financial Officer, Chief Operating Officer, Chief Risk Officer, Chief Human Capital Officer, Chief Legal Officer, and others) or the member of Senior Manager (a direct subsidiary of the Board of Directors, for example, finance manager, corporate secretary, head of internal audit division, head of risk division, head of investor relation division).

Questionnaires are sent (via official email of the company, corporate secretaries, WhatsApp of Boards of Directors that are known by authors and then snowballing effect) to 644 companies to be filled in by informants. There could be more than one person from each company to fill out the questionnaire to address the bias problem and ensure the adequacy of responses. There were 388 responses received, with 333 valid responses. The total number of companies that responded to the

inquiry was 237 out of 644, or 36.8%. This response rate is still in the range of sufficient response (Baruch & Holtom, 2008). They assessed 1607 survey research published between 2000 and 2005 in 17 peer-reviewed scientific publications, which included 490 unique surveys. The average response rate for research gathered data from organizations was 35.7 percent, with an 18.8 standard deviation. Response rates have been relatively stable over the last decade, according to a study by Baruch (1999). The problem with an online survey is the low response rate. Thus, the authors must make several attempts, by email or WhatsApp, to remind the respondents to fill in and send the responses.

#### IV. FINDINGS AND ANALYSIS

##### *Demographics*

The descriptive statistics of the participants who contributed to the study are shown in Table 1. Male participants contributed more than female participants. More than 85 percent of participants were male, whereas only 15 percent were female. In addition, it is crucial to know the respondents' ages. Nearly 49 percent of respondents are older than 50. With 37.2%, the age group between 41 and 50 had the highest participation rate. The BOD made the most significant contribution to the study with a 66.7 % participation rate. In addition, 77.5 percent of enterprises are older than ten years. The size of the enterprise with average revenue in the last three years (in Billion IDR) less than IDR1,000B is 48.1 percent, IDR1000-10,000 is 35.4 percent, and more than IDR10,000 is 16.5 percent.

**Table 1. Demographics**

PROFILE	ITEM	FREQUENCY (N:333)	%
Enterprise Age	Less than ten years	75	22.5
	10 - 50 years	168	50.5
	More than 50 years	90	27.0
Average revenue in the last three years (in Billion IDR)	Less than 1,000	160	48.1
	1,000– 10,000	118	35.4
	More than 10,000	55	16.5
Respondent Gender	Male	284	85.3
	Female	49	14.7
Respondent Age	Below 30 years	4	1.2
	30 – 40 years	42	12.6
	41 – 50 years	124	37.2
	Above 50 years	163	48.9
Respondent Position	CEO	101	30.3
	Finance & Risk Director	63	18.9
	Others Director	58	17.4
	Senior Manager	111	33.3

##### *PLS-SEM Measurement*

Examining measurement models is the initial step in evaluating PLS-SEM results. If the measurement models satisfy all the necessary criteria, then researchers must assess the structural model

(Hair Jr, Hult, Ringle, & Sarstedt, 2017).

All indicator loadings above 0.70 in a reflective measurement model evaluation indicate that the construct explains more than fifty percent of the indicator's variance, thereby providing acceptable item reliability. Table 2 shows the assessment of the measurement model. The reliability and validity values are satisfactory.

**Table 2. Measurement Model Assessment**

	<b>Cronbach's Alpha</b>	<b>Composite Reliability</b>	<b>Average Variance Extracted (AVE)</b>
AMC	0.936	0.947	0.666
ER	0.940	0.948	0.567
RMP	0.942	0.950	0.634

Another step is to assess discriminant validity, the extent to which a construct is empirically distinct from other constructs in the structural model. The HTMT value is below the threshold of 0.90 (Henseler, Ringle, & Sarstedt, 2015). Collinearity must be examined before assessing structural relationships to ensure that it does not bias the regression results. The VIF values are below 3; there is no collinearity issue.

Table 3 exhibits the result of the structural model assessment. The  $R^2$  measures the variance, which is explained in each endogenous construct. Therefore a measure of the model's explanatory power (Shmueli & Koppius, 2011) and also referred to as an in-sample predictive power (Rigdon, 2012).  $R^2$  of AMC and ER is considered moderate. Meanwhile, the effect size ( $f^2$ ) value depicts a moderate to large (Cohen, 1988). Another way to assess the predictive accuracy of the PLS path model is to calculate the value of  $Q^2$ . The results illustrate the moderate predictive relevance of the PLS pathway model (8).

**Table 3. Structural Model Assessment**

	<b><math>R^2</math></b>	<b><math>f^2</math></b>	<b><math>Q^2</math></b>
AMC	0.523		0.345
ER	0.695		0.385
RMP → ER		0.099	
RMP → AMC		1.095	
AMC → ER		0.627	

A bootstrapping option has been used to determine the path coefficient's statistical significance and calculate the t-values in this study. All calculated values are shown in table 3. All four hypotheses are accepted, as shown in Table 4.

**Table 4. Hypothesis Testing**

<b>Hypothesis</b>	<b><math>\beta</math></b>	<b>SD</b>	<b>t-value</b>	<b>p-value</b>	<b>Decision</b>
H1: RMP-ER	0.254	0.068	9.773	0.000	Supported
H2: RMP-AMC	0.723	0.032	22.569	0.000	Supported
H3: AMC-ER	0.634	0.058	11.030	0.000	Supported
H4: RMP-AMC-ER	0.175	0.058	4.398	0.000	Supported

Significant p-value < 0.05



## **V. DISCUSSION**

This study's first hypothesis (H1) indicated that RMPs directly and significantly impact enterprise resilience. The outcome is consistent with prior research (Buganova & Simickova, 2020; Christopher & Peck, 2004; Leat & Revoredo-Giha, 2013; Saeidi et al., 2020, 2019; Shekarian & Mellat Parast, 2020). This result strengthens that the approach of a proactive strategy to prepare for the uncertain future will benefit the enterprises. With sound risk management practices, SOEs foresee the possible unknown adversities and be prepared that the adversities will not have a bad impact on the enterprise's operations and bottom line. This result supports the proposition that sound practice of risk management could create and enhance enterprise resilience.

The second hypothesis (H2) proposed that AMCs positively affect enterprise resilience. This result is in line with previous research (Camarinha-matos, 2015; Inigo et al., 2020; Kohtamäki et al., 2018; Medel et al., 2020; Ramezani & Camarinha-Matos, 2020). The findings confirm alliance management capabilities' positive and statistically significant effect on enterprise resilience. This result suggests that Indonesian state-owned enterprises (SOEs) and their subsidiaries could develop alliance management capabilities to leverage the alliance to enhance their resilience and resolve resource constraints. The result suggests that alliance management capabilities allow firms to attain more sustained competitiveness, which may lead to resilience. The result is promising for enterprises with insufficient resources to grow sustainably, create capabilities relating to alliance management, and engage in a sound alliance contract.

The third hypothesis (H3) proposed that RMPs directly and significantly influence AMCs. This result supports previous studies (Bodnaruk et al., 2016; Nwogugu, 2015). With strong RMPs, enterprises have a solid basis for developing new alliances and maintaining relationships with all partners to create and enhance resilience. The fourth hypothesis (H4) proposed that AMCs mediate the relationship between RMPs and Enterprise Resilience. This result is in line with previous studies (Jain et al., 2019; Lavie et al., 2012; Mechler et al., 2018; Zhou & Xu, 2012). The findings suggest that having proactive and robust RMPs, supported by solid AMCs, would help enterprises to develop and enhance their resilience and sustainability.

## **CONCLUSION**

This study aimed to investigate the connection between RMPs and enterprise resilience. Consequently, RMPs are one of the required and fundamental practices to create and improve enterprise resilience. In addition, the study demonstrated that AMCs serve as mediators between IT Capabilities and Enterprise Resilience. For future research, other dynamic capabilities (for example, leadership capabilities and information technology capabilities) could be suggested. In addition, the study

examines enterprise resilience from a new angle, focusing on dynamic capabilities in hybrid organizations, which are SOEs in emerging markets. This study helps policymakers understand the relationship between RMPs, AMC's and enterprise resilience for strategy development. AMC's could be implemented and developed further to complement the resources necessities and solve the problem of resource limitation to grow and be resilient. Future studies could compare the dynamic capabilities that create or improve enterprise resilience in private companies or SOEs in Indonesia or other countries. This study used perceptual data, which may have introduced bias. Future researchers can therefore utilize or complement alternative research methods, such as data from the published report, FGD with other stakeholders, used multiple informants, and longitudinal data. Moreover, the study centered on Indonesian SOEs. Given these variations between the public and private sectors, the results and conclusions of the research should be evaluated cautiously. However, this limitation could offer an avenue for comparative study. Hence, we suggest that future studies cover different countries and types of business ownership.

## ACKNOWLEDGMENT

Thank you to the Ministry of Higher Education Malaysia for HICoE Research Funding, Accounting Research Institute Universiti Teknologi MARA Malaysia, Research Management Center, Kolej University Poly-Tech Mara, Malaysia, and Faculty Economics and Business, Universitas Indonesia, Indonesia, for all support and resources.

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