

# THE ROLE OF AGILITY IN INCREASING BUSINESS RESILIENCE THROUGH REVENUE DIVERSIFICATION AND RISK MANAGEMENT

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## Abstract

**How to cite this paper:** Bunyamin, B., Mauludin, H., & Maryana, V. M. N. (2026). The role of agility in increasing business resilience through revenue diversification and risk management. *Corporate and Business Strategy Review*, 7(2), 61–71. <https://doi.org/10.22495/cbsrv7i2art6>

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**ISSN Online:** 2708-4965

**ISSN Print:** 2708-9924

**Received:** 13.08.2025

**Revised:** 12.11.2025; 24.02.2026

**Accepted:** 02.03.2026

**JEL Classification:** M21

**DOI:** 10.22495/cbsrv7i2art6

This study examines how business agility enhances organizational resilience through revenue diversification and risk management. Business agility reflects a firm's ability to adapt to environmental changes while maintaining value creation rapidly (Mrugalska & Ahmed, 2021). Agility enables companies to respond effectively to uncertainty and sustain competitiveness (Yusuf et al., 2022). Using data from 260 firms listed on the Indonesia Stock Exchange (IDX) from 2022 to 2023, this research employs partial least squares structural equation modelling (PLS-SEM) to analyze causal relationships. The results indicate that revenue diversification has an insignificant adverse impact on risk management, whereas agility has a significant adverse effect. However, agility strengthens the positive interaction between diversification and risk management, enhancing resilience. The findings contribute to the understanding of how agility and diversification jointly enhance strategic adaptability in volatile markets, providing practical implications for firms seeking to strengthen their long-term resilience.

**Keywords:** Business Agility, Revenue Diversification, Risk Management

**Authors' individual contribution:** Conceptualization — B.B. and H.M.; Methodology — B.B., H.M., and V.M.N.M.; Software — H.M. and V.M.N.M.; Validation — B.B. and H.M.; Formal Analysis — B.B. and H.M.; Investigation — B.B. and H.M.; Resources — V.M.N.M.; Data Curation — H.M.; Writing — Original Draft — B.B., H.M., and V.M.N.M.; Writing — Review & Editing — B.B.; Visualization — B.B. and H.M.; Supervision — B.B.; Project Administration — H.M. and V.M.N.M.; Funding Acquisition — B.B. and H.M.

**Declaration of conflicting interests:** The Authors declare that there is no conflict of interest.

**Acknowledgements:** The Authors thank Malangkuçewara College of Economics for their support and for providing the facilities needed to conduct this research.

## 1. INTRODUCTION

Adopting business agility is essential for companies to stay competitive (Ginocchio, 2023). This dynamic environment demands a fundamental shift in

organizational strategy and operations (van Lieshout et al., 2021), making business agility not only a competitive advantage but a strategic imperative for survival and sustainable growth (Hutter et al., 2025). Business agility refers to an organization's

ability to respond rapidly and effectively to market shifts, changing customer needs, and emerging technologies (Al-Darras & Tanova, 2022), while still delivering value. It is not just about speed; it is about flexibility, effective collaboration, and continuous improvement efforts (Mrugalska & Ahmed, 2021). This human-centered approach is reshaping organizational success by breaking down silos, encouraging collaboration, and promoting a culture of learning and innovation. By embracing agility, companies can more rapidly handle technological disruptions, meet changing customer expectations, strengthen resilience to unforeseen risks, and achieve a competitive advantage through increased speed and flexibility in the market. A study by Jian and Regua (2024) demonstrates that the company can integrate agility into strategic decision-making, thereby enhancing its resilience to market shocks and other disruptions. Business agility enables companies to mitigate the negative impact of uncertainty in the current business environment, enabling them to respond to changes more quickly and effectively (Ubiparipović et al., 2023; Yusuf et al., 2022). However, a company's ability to remain agile must be accompanied by strong financial management, particularly in terms of revenue diversification and risk management, all of which are essential for maintaining business resilience in the long term (Lisdiono et al., 2022).

Along with business agility, companies should adopt revenue diversification and risk management strategies to enhance resilience during market volatility (Agustia et al., 2020). Revenue diversification, which involves expanding sources of income beyond a single major product or market, serves as a financial safety net, reducing dependency and minimizing financial risk when a single revenue stream declines (Molla et al., 2025; Pertiwi & Suhartini, 2022). This not only enhances business stability and unlocks new growth opportunities but also enables the optimal utilization of existing resources to reach a broader market segment. In line with diversification, proactive risk management is an essential pillar in maintaining business stability and sustainability amid uncertainty (Chen & Wu, 2022; Yazzo-Cabuya et al., 2024). This process follows systematic steps, beginning with the identification of potential risks from both external and internal sources, and then evaluating the impact and likelihood of each risk (Tušer & Oulehlová, 2021). Integrating revenue diversification and risk management enables organizations to withstand economic shocks, achieve sustainable growth, and stay competitive in a changing business environment (Jeon & Kang, 2020; Akbar & Shahid, 2023).

This study examines the relationship between business agility and corporate resilience, utilizing a comprehensive framework that encompasses revenue diversification and risk management. Although previous research has addressed these variables individually, few studies have examined how their combination within a single framework relates to business agility. Existing literature suggests that combining revenue diversification and risk management can significantly enhance business resilience (Lestari et al., 2024; Nguyen et al., 2023; Sanusi et al., 2023). While the importance of agility in maximizing the impact of both factors is evident, this research adopts a framework that examines how

agility serves as a mediating variable. The study aims to provide actionable insights to help business practitioners develop responsive and adaptive strategies in the face of global uncertainty. This research examines how agility, achieved through revenue diversification and effective risk management, enhances a company's resilience. By considering these factors together, the study pinpoints strategies companies can use to navigate complex business challenges. The findings contribute to the theory and offer practical guidance for organizations seeking resilience and adaptive strategies in uncertain times.

The rest of this paper is structured as follows. Section 2 reviews relevant literature and theoretical foundations. Section 3 explains the research methodology. Section 4 presents the empirical results. Section 5 presents an analytical discussion. Section 6 concludes the study by highlighting implications, limitations, and suggestions for future research.

## 2. LITERATURE REVIEW

### 2.1. Dynamic capabilities theory

The dynamic capabilities theory, developed by Teece et al. (1997), explains how firms achieve and sustain a competitive advantage in rapidly changing environments. Dynamic capabilities are defined as a firm's ability to integrate, build, and reconfigure internal and external competencies in response to environmental changes. According to Teece (2016), these capabilities are manifested through three core activities: sensing, seizing, and transforming. Sensing involves recognizing market opportunities and threats; seizing refers to mobilizing resources to capitalize on those opportunities; and transforming denotes the continuous renewal and realignment of assets to maintain competitiveness. This framework extends the resource-based view (RBV) by emphasizing adaptability rather than static ownership of resources.

Within this theoretical lens, dynamic capabilities are not merely operational routines, but rather higher-order processes that enable firms to sense shifts in the environment, seize opportunities for diversification, and reconfigure their structures to manage risk effectively (Nguyen et al., 2024). Consequently, business agility, revenue diversification, and risk management can be conceptualized as manifestations of dynamic capabilities contributing to organizational resilience.

### 2.2. Business agility as a dynamic capability

Business agility is one of the most concrete expressions of dynamic capabilities (Teece, 2018). It reflects a firm's ability to rapidly sense environmental changes, make timely decisions, and realign resources without losing operational stability (Mrugalska & Ahmed, 2021). Agile firms demonstrate learning capacity, flexible structures, and cross-functional coordination. According to Jian and Regua (2024), agility enables companies to transform uncertainty into strategic opportunities through swift adaptation and knowledge-based responses.

From the dynamic capability perspective, agility represents the "sensing and responding" dimension,

in which firms continuously monitor shifts in customer demand, technological disruption, and competitive pressure, then adjust strategies accordingly (Yusuf et al., 2022). High agility not only improves responsiveness but also underpins resilience by allowing firms to recover and adapt more effectively in turbulent environments (Csiszárík-Kocsir & Varga, 2024).

### 2.3. Revenue diversification as a seizing mechanism

Within the dynamic capabilities framework, revenue diversification serves as a seizing capability, a mechanism through which firms exploit identified opportunities to create new value. Diversification reduces reliance on a single market or product, enabling firms to balance risk and enhance growth. According to Molla et al. (2025), diversified firms can leverage synergies between business segments to achieve financial stability and sustainability.

However, Teece (2018) cautions that the ability to seize opportunities depends on complementary capabilities such as leadership vision, governance mechanisms, and organizational flexibility. Excessive diversification without adequate coordination can lead to inefficiency and control problems (Doshi et al., 2022). Hence, agility moderates the benefits of diversification by ensuring strategic coherence and effective resource deployment across diversified portfolios. Diversification thus enhances resilience when combined with agile decision-making and reconfigurable structures.

### 2.4. Risk management as a transforming mechanism

Risk management represents the transforming or reconfiguring capability in the dynamic capabilities framework (Teece, 2016). It involves continuously restructuring processes and resources to minimize exposure to threats while maintaining strategic flexibility (Pescaroli et al., 2023). Effective risk management allows firms to adapt proactively rather than reactively, thereby ensuring long-term stability (Eichholz et al., 2024).

Risk management aligns with the transforming dimension because it requires firms to institutionalize learning from past disruptions, develop contingency systems, and redesign operations in response to external shocks (Chen & Wu, 2022). When combined with agility and diversification, risk management strengthens resilience by enabling faster recovery and continuity during crises (Bambang Gunawan, 2024; Yazo-Cabuya et al., 2024).

### 2.5. Business resilience as an outcome of dynamic capabilities

Business resilience is the outcome of well-developed dynamic capabilities (Ahachmi & Lahfidi, 2025). It reflects a firm's capacity to absorb, adapt, and transform in response to shocks while sustaining performance (Eichholz et al., 2024). Resilient firms exhibit agility in sensing threats, diversify their revenue to seize opportunities, and manage risk through reconfiguration (Stanislavyk & Zamlynski, 2023). According to Lisdiono et al. (2022), these combined capabilities enable organizations to maintain stability and pursue sustainable growth amid uncertainty.

Resilience is therefore not a static trait but a dynamic state achieved through continuous learning and adaptation (Lestari et al., 2024; Nguyen et al., 2024). Within the Teece (2016) framework, resilience emerges when sensing, seizing, and transforming capabilities operate in harmony, producing sustainable competitive advantage even under crisis conditions.

### 2.6. Theoretical synthesis and research gap

Prior studies have examined agility, diversification, and risk management independently, yet few have integrated them under the dynamic capabilities perspective. Recent research by Corrales-Estrada et al. (2021) and Ratten (2024) suggests that agility moderates the relationship between diversification and risk management, strengthening resilience. However, empirical evidence remains scarce in emerging markets such as Indonesia, where environmental volatility and institutional uncertainty are high.

This study addresses that gap by developing an integrated model grounded in Teece's dynamic capabilities theory. It posits that business agility enhances the effectiveness of revenue diversification in improving risk management, ultimately fostering organizational resilience. By linking these constructs under a single theoretical umbrella, this research contributes to both theoretical refinement and practical applications in dynamic environments.

### 2.7. Hypotheses development

#### 2.7.1. Business agility and revenue diversification

Within the dynamic capabilities framework, business agility represents a firm's ability to sense market changes and reconfigure resources to sustain competitiveness under uncertainty (Teece, 2016). In the context of revenue diversification, agile firms are better positioned to identify emerging income opportunities, shift toward alternative revenue streams, and reduce dependence on a single source of income. This capability enables firms to respond proactively to market volatility by reallocating assets, adjusting product portfolios, and exploring new business models (Mrugalska & Ahmed, 2021). Business agility supports revenue diversification by enhancing organizational flexibility in experimenting with new markets and monetization channels, thereby spreading financial risk. Nevertheless, agility that is not supported by adequate structural coordination and governance may lead to fragmented strategic initiatives, inefficiencies, and increased operational risk (Yusuf et al., 2022).

*H1: Business agility affects revenue diversification.*

#### 2.7.2. Revenue diversification and risk management

Revenue diversification serves as a seizing capability, enabling firms to exploit new opportunities and reduce reliance on a single market (Teece, 2018). By spreading income sources, firms can cushion against industry-specific risks (Molla et al., 2025). Yet, diversification may introduce managerial and operational complexity if not accompanied by effective governance (Doshi et al., 2022). Thus, the effectiveness of diversification in risk reduction depends on dynamic coordination capabilities.

*H2: Revenue diversification affects risk management.*

### 2.7.3. Business agility and business resilience

Dynamic capabilities theory posits that agility enhances organizational resilience by allowing firms to sense threats and adapt strategies promptly (Teece, 2018). Agility promotes rapid decision-making, process innovation, and flexible leadership, all of which strengthen a firm's capacity to absorb shocks and sustain performance (Jian & Regua, 2024). Empirical evidence supports that agile firms recover faster and maintain strategic coherence during crises (Csiszárík-Kocsir & Varga, 2024).

*H3: Business agility affects business resilience.*

### 2.7.4. Revenue diversification and business resilience

Within the dynamic capabilities lens, diversification allows firms to seize multiple growth avenues and stabilize cash flows, which supports resilience (Fernandes Rodrigues Alves et al., 2023). A well-diversified revenue portfolio provides flexibility to reallocate resources when one sector faces disruption. Therefore, diversification contributes to organizational resilience by enhancing adaptive and financial capacity.

*H4: Revenue diversification affects business resilience.*

### 2.7.5. Risk management and business resilience

Risk management represents a transforming mechanism in the dynamic capabilities framework. It ensures that firms continuously evaluate and redesign processes to withstand disruptions

(Pescaroli et al., 2023). Effective risk management strengthens resilience by embedding preparedness and learning within organizational routines (Eichholz et al., 2024). Hence, firms with robust risk management systems are better equipped to sustain operations under volatile conditions.

*H5: Risk management affects business resilience.*

### 2.7.6. The moderating role of business agility

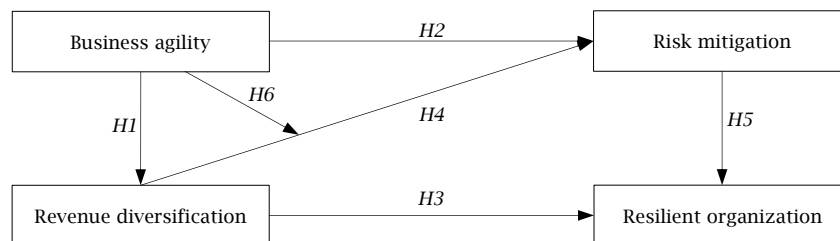
The interplay of sensing (agility) and seizing (diversification) capabilities shapes a firm's capacity to manage risk effectively (Teece, 2018). Agility enables firms to coordinate and integrate diversification initiatives into their strategic framework, improving the control of emerging risks (Rugaya & Welly, 2024). Agile firms are better positioned to align diversified operations with risk mitigation practices.

*H6: Business agility moderates the relationship between revenue diversification and risk management.*

## 2.8. Conceptual framework

Based on Teece's dynamic capabilities theory, this study conceptualizes business agility (sensing-transforming), revenue diversification (seizing), and risk management (transforming) as interrelated mechanisms that collectively enhance business resilience. Agility not only directly influences risk management and resilience but also enhances the impact of diversification on risk mitigation. Figure 1 illustrates the proposed conceptual framework integrating these relationships.

Figure 1. Research model



## 3. RESEARCH METHODOLOGY

This research employs a quantitative explanatory design to test the causal relationships among business agility, revenue diversification, risk management, and business resilience. The analytical framework is grounded in the dynamic capabilities theory (Teece, 2016; Teece et al., 1997), which explains how sensing, seizing, and transforming capabilities interact to strengthen organizational resilience. The study employs a cross-sectional approach, utilizing secondary data from company reports.

The population includes all companies listed on the Indonesia Stock Exchange (IDX) that published annual reports in 2022 and 2023. The study applied purposive sampling to ensure that only firms meeting specific analytical requirements were selected. The inclusion criteria were as follows: 1) Firms with more than one revenue segment, indicating income diversification; 2) Firms that published annual reports for both 2022 and 2023, allowing the measurement of agility through revenue growth; 3) Firms with positive retained earnings,

representing long-term business resilience; 4) Firms with positive operating cash flow, reflecting effective risk management.

Based on these criteria, 260 companies were selected as the final sample. This number is considered adequate for partial least squares structural equation modelling (PLS-SEM) analysis, as it exceeds the minimum requirement of 10 times the most significant number of structural paths directed at any latent construct (Hair et al., 2021). With six latent variables and one moderating effect, the recommended minimum sample size is approximately 120 observations. Therefore, 260 observations ensure sufficient statistical power and generalizability.

The use of purposive sampling is justified because the study focuses on firms that can provide reliable, complete, and comparable financial data to operationalize the constructs under investigation. This approach aligns with similar studies in strategic management using PLS-SEM to explore firm-level dynamic capabilities (Hair et al., 2021; Putra et al., 2024).

**Table 1.** Operational definitions, variables, and indicators

Variable	Operational definition	Indicators	Reasoning
<i>Agility</i>	The company's ability to revise and react swiftly and efficiently to the business environment (Mrugalska & Ahmed, 2021; Rugaya & Welly, 2024)	Year-over-year (YoY) revenue growth (Lavdari & Lavdari, 2024)	Demonstrate the company's adaptability to market changes by comparing its performance to the same period last year
<i>Business durability</i>	A company's capacity to survive, adapt, and thrive is critical to its long-term success, even when facing external challenges and disruptions (Budiantini, 2024; Wulandari et al., 2024)	Profit retention ratio (Budiantini, 2024) Formula = $\frac{\text{Retained earnings}}{\text{Net profit}}$	The company retains most of its profits for reinvestment, supporting long-term growth
<i>Risk management</i>	We employ a structured approach to identify and mitigate risks that may impact our business objectives and long-term sustainability (Korkmaz, 2022)	Operating cash ratio (Karyawati et al., 2024) Formula = $\frac{\text{Total operating cash flow}}{\text{Total liabilities}}$	Please provide documentation demonstrating that the association has sufficient liquidity to meet its short-term obligations and mitigate the risk of default
<i>Income diversification</i>	Companies employ this strategy to generate income from multiple business lines, thereby reducing their reliance on a single source and enhancing financial stability (Chemirbayeva et al., 2020)	Total revenue of the company segment (Heengama, 2019)	Reviewing total revenue by segment helps determine if the company relies too heavily on specific areas

This study uses PLS-SEM through SmartPLS 4.0 software. The PLS-SEM technique was chosen for its flexibility in handling complex causal models, including mediation and moderation, and for its ability to analyze non-parametric data with small-to-medium sample sizes (Hair et al., 2021; Putra et al., 2024).

Model evaluation includes two stages: 1) Measurement model, tested for reliability (Cronbach's alpha, composite reliability) and validity (average variance extracted, outer loadings); and 2) Structural model, tested using path coefficients ( $\beta$ ), t-statistics, and p-values (< 0.05 for significance). Predictive relevance was assessed using Q<sup>2</sup> values (Som & Goel, 2022).

To verify the robustness of findings, bootstrapping with 5,000 subsamples was conducted. Alternative methods, such as covariance-based SEM (CB-SEM) or hierarchical regression, could also be applied. However, PLS-SEM was preferred for this study because it accommodates non-normal data distributions, formative constructs, and complex interaction effects, making it more suitable for

exploratory research in dynamic business environments (Hair et al., 2021).

All data used in this study were publicly available and sourced from official financial disclosures. No confidential or personal data was used. The study adheres to the ethical standards in academic research and ensures the transparency and replicability of its findings.

#### 4. RESULT

The results of this study were obtained through SEM using the SmartPLS software. Before testing the hypotheses, both the measurement model and the structural model were evaluated to ensure validity, reliability, and model fit. This preliminary evaluation helps confirm that the indicators accurately represent their constructs and that the relationships among variables can be interpreted meaningfully. The descriptive statistics and PLS-SEM results are presented below, followed by detailed interpretations and discussions.

**Table 2.** Descriptive analysis

Variable	Measurement	Average
<i>Agility</i>	YoY revenue growth	25%
<i>Income diversification</i> (in millions of rupiah)	Revenue per business segment	28,198,097
<i>Risk management</i>	Operating cash ratio	43.44%
<i>Business durability</i>	Profit retention ratio	378.66%

Table 2 presents key indicators of the company's business resilience. Positive annual revenue growth demonstrates *agility* in changing market conditions. Diversified revenue streams across business segments enhance stability and financial resilience. A favorable operating cash ratio indicates effective liquidity management, supporting operational needs and emergency response. The profit retention ratio shows the company is retaining earnings to strengthen its capital structure and financial foundation. Adaptation and innovation enhance resilience.

The feasibility test of the research model yielded a combined Q-square value of 0.999, demonstrating a strong capacity to explain variations in the observed dependent variables. This result indicates that 99.9% of the variation in

the dependent variable is attributable to the independent variable.

**Table 3.** Q-square

Variable	Q-square
<i>Business durability</i>	0.769
<i>Income diversification</i>	0.836
<i>Risk management</i>	0.980

$$Q^2 = 1 - [(1 - Q_1)^2 * (1 - Q_2)^2 * (1 - Q_3)^2]$$

$$Q^2 = 1 - [(1 - 0.769)^2 * (1 - 0.836)^2 * (1 - 0.980)^2]$$

$$Q^2 = 1 - [0.000000574]$$

$$Q^2 = 0.999$$
(1)

The next stage is to test the quality of the relation between latent variables based on the path coefficient value and the p-value, as presented in Table 4.

**Table 4.** Relationships between variables

<i>Relationships</i>	<i>Original sample</i>	<i>Sample mean</i>	<i>Std. dev.</i>	<i>T-statistics</i>	<i>p-values</i>
<i>Agility → income diversification</i>	0.915	0.916	0.014	67.522	0.000
<i>Risk management → agility</i>	-0.885	-0.982	0.116	7.603	0.000
<i>Income diversification → business durability</i>	0.321	0.330	0.082	3.903	0.000
<i>Income diversification → risk management</i>	-0.038	0.055	0.121	0.316	0.752
<i>Risk management → business durability</i>	1.077	1.097	0.075	14.447	0.000
<i>Agility → risk management → income diversification</i>	0.337	0.308	0.098	3.432	0.001

Table 4 demonstrates that *agility* significantly increases *income diversification* (coefficient = 0.915, p-value = 0.000), indicating that more agile organizations tend to diversify their revenue sources. In contrast, *agility* is significantly and negatively related to *risk management* (coefficient = -0.885, p-value < 0.001), suggesting that increased *agility* may reduce the effectiveness of *risk management*. *Income diversification* is positively linked to *business durability* (coefficient = 0.321, p-value = 0.000), supporting the view that diversified income streams enhance resilience. *Income diversification* has no significant direct effect on *risk management* (coefficient = -0.038, p-value = 0.752). *Risk management* has a strong and positive influence on *business durability* (coefficient = 1.077, p-value = 0.000), underscoring its importance in managing uncertainty. *Agility* plays a crucial role in determining how *income diversification* affects *risk management* (coefficient = 0.337, p-value = 0.001), indicating that *agility* can help offset the negative association between these variables and improve adaptability.

## 5. DISCUSSION

### 5.1. The effect of agility on income diversification

The study identified a strong correlation between organizational agility and income diversification, as indicated by a sample correlation coefficient of 0.915 and a p-value of 0.000. This result suggests that organizations demonstrating rapid adaptation to market changes tend to achieve greater income diversification (Hsu et al., 2019; Yusuf et al., 2022). Organizational agility refers to the ability to quickly adapt to changes in factors such as technology, market conditions, or customer needs. Companies demonstrating agility often identify and integrate emerging opportunities into their business models, which diversifies revenue sources and mitigates reliance on a single income stream (Pratiwi et al., 2022). Agility is crucial for businesses to stay competitive in today's volatility, uncertainty, complexity, and ambiguity (VUCA) world, where conditions are often volatile, uncertain, complex, and ambiguous (Munteanu et al., 2020). Companies with agility capacity are better able to adjust their portfolios and switch to new, more profitable market segments when the market experiences economic fluctuations or uncertainty (Clauss et al., 2021). This keeps the business from relying on one or two revenue streams that are prone to loss.

In addition, previous research has shown that agility is closely related to innovation (Al Taweel & Al-Hawary, 2021; Asseraf et al., 2019; Deshati, 2023; Miceli et al., 2021). More agile companies are more likely to create business models that allow for income diversification (Sohl et al., 2020). According to Rugaya and Welly (2024). Agility also enables companies to adapt to changing business

environments more quickly, allowing them to diversify their revenue streams more effectively. It is also related to the company's ability to develop a business model. The diversification of revenue generated from agility not only allows companies to survive crises but also protects them from potential risks arising from dependence on one sector (Miceli et al., 2021). Revenue streams from other sectors can maintain the company's financial stability if one sector experiences a decline or disruption. Thus, broader income diversification expands the company's risk base. Additionally, income diversification enables businesses to capitalize on growth opportunities in various markets. With agility capabilities, businesses can quickly enter new market segments, respond to changing consumer trends, and capitalize on opportunities that arise as a result of technological or regulatory changes (Yusuf et al., 2022). This enables businesses to remain relevant in a constantly changing and evolving market.

Ultimately, a company's ability to be flexible, supported by the capacity to diversify its revenue sources, ensures that it is more resilient to market volatility, changes in regulations, economic shocks, and volatile market dynamics. Agility is essential for companies to survive and thrive, as it enables them to adapt quickly to market changes and opportunities, which ultimately results in increased financial stability through income diversification (Dickler et al., 2022). Therefore, *H1* that business agility has a significant positive influence on diversification is accepted.

From a theoretical standpoint, this finding reinforces Teece's dynamic capabilities theory, particularly the sensing and seizing dimensions. The positive influence of agility on diversification highlights how firms with strong dynamic capabilities can sense emerging opportunities and capitalize on them through the strategic reconfiguration of resources. By embedding agility into their decision-making processes, organizations can dynamically adjust their structures to capitalize on new markets and technologies, transforming environmental turbulence into diversified sources of value creation. Thus, the evidence supports the view that agility functions as a dynamic capability that facilitates income diversification in uncertain environments.

### 5.2. The effect of agility on risk management

Agility in relation to risk management indicates a significant adverse effect. This suggests that as organizational agility increases, the quality of risk management tends to decrease. While agile organizations focus on responding quickly to market changes (Morton, 2023), excessive agility may lead to higher risk-taking without adequate mitigation. As a result, companies may overlook essential risk identification, assessment, and control measures needed for long-term stability.

In the implementation of agility, companies need to strike a balance between the speed of adaptation and effective risk management (Lestari et al., 2024). While agility allows companies to respond to market changes agilely, this flexibility needs to be balanced with proper risk controls and mitigation (Khan, 2020; Olaniyi et al., 2023). Without balanced management, agility can leave companies vulnerable to both external and internal threats. Therefore, risk management must remain an integral part of a company's agility strategy, enabling organizations to maintain the resilience of their business, both in the short and long term. Companies that can integrate risk management into their agility strategy will be better able to maintain the sustainability of their business amid changing market dynamics (Miceli et al., 2021; Shakil et al., 2024). This analysis confirms that agility can hurt risk management. While being agile helps companies respond quickly to change, it may also impact how well they manage risks. Companies should strike a balance between agility and robust risk management to support long-term stability and resilience. While the theory highlights sensing and seizing as essential for opportunity recognition and exploitation, the present finding underscores the importance of the transforming dimension, reconfiguring internal processes to prevent agility from devolving into instability. In other words, agility alone does not guarantee resilience unless supported by dynamic risk governance mechanisms. This finding refines Teece's framework by demonstrating that excessive agility, without structural transformation and risk alignment, may weaken the firm's adaptive capacity rather than strengthen it.

### 5.3. The effect of income diversification on resilience

Income diversification significantly enhances a company's resilience during market fluctuations and uncertainty, especially in VUCA environments, by reducing dependence on any single sector or product (Kancs, 2024). They can generate various revenue streams through different markets and products or services. Companies with diversified revenue can survive in volatile market situations (Tokbolat & Le, 2022). In the highly dynamic and unpredictable modern business world, income diversification is increasingly important in the context of VUCA. Relying on a single revenue stream makes companies vulnerable to market disruptions, while diversification into other industries helps them stay afloat and benefit from change. According to research (Goschin, 2019), businesses that diversify their revenue sources are more resilient and better equipped to navigate uncertainty. Key benefits of diversification include greater flexibility to manage risks related to fluctuating market demand, shifts in technology, and changes in external factors. Diversification also supports ongoing investment in innovation and new product development, enabling businesses to remain competitive and stay ahead in the market.

The fourth hypothesis is confirmed: income diversification strengthens company resilience. Offering a range of products or services enables adaptation to changing consumer needs and market trends, providing a competitive advantage.

Diversification enhances financial stability by reducing dependence on a single income source and supporting steady cash flow during downturns. In uncertain environments, companies with diverse revenue streams are more likely to survive and grow. Overall, income diversification reduces risk and supports long-term sustainability.

From a theoretical standpoint, this finding aligns with Teece's dynamic capabilities theory, particularly the dimensions of seizing and transforming. Diversification reflects a firm's ability to seize new opportunities by reconfiguring resources across different market domains. Through dynamic reallocation and recombination of assets, organizations can transform their operational structures to support multiple revenue streams. This capability allows firms not only to adapt to environmental turbulence but also to shape their strategic trajectories proactively. Therefore, income diversification serves as an operational manifestation of dynamic capabilities, reinforcing resilience by balancing the exploitation of existing competencies with the exploration of new growth avenues.

### 5.4. The effect of income diversification on risk management

The analysis revealed that income diversification had a coefficient of -0.038 and a p-value of 0.752 for risk management, indicating a weak and statistically insignificant relationship. Therefore, income diversification does not directly impact risk management, but it may still influence risk management capabilities in specific contexts. According to another study conducted by Jin (2019), income diversification does not automatically lower risk, especially if robust risk management is lacking. Without a deep understanding of risks across various industries or markets, diversification can introduce more complex challenges. In VUCA environments, greater diversification increases difficulty in identifying and managing diverse risks. Additionally, income diversification complicates the allocation of resources (Sohl et al., 2020). Companies operating in multiple fields often face challenges in effectively managing resources, particularly in finance, technology, and operations. This diversification also complicates risk management, as it requires addressing risks unique to each sector (Pertiwi & Suhartini, 2022; Darmansyah et al., 2025). Although these findings are insignificant, income diversification can still be an integral part of a broader risk management approach. Diversification may not affect risk management directly, but if used in conjunction with a proactive approach to identifying and managing risks, it can help companies become more flexible and responsive to the changing challenges facing companies (Sabu, 2024). In conclusion, when paired with robust risk management, income diversification reduces corporate risk. This integration enhances resilience, enabling companies to manage risks and capitalize on opportunities in volatile markets effectively.

These results refine Teece's dynamic capabilities theory by emphasizing that diversification alone does not constitute a dynamic capability. Instead, it requires sensing to detect risk variations across markets and transforming to

realign internal processes accordingly. Firms that diversify without adaptive learning and process reconfiguration may fail to convert diversification into genuine risk control. Therefore, the insignificant relationship found in this study supports the argument that dynamic capabilities, not structural diversification, determine the firm's effectiveness in managing complex risk environments.

### 5.5. The effect of risk management on agility

Risk management significantly enhances business agility, as shown by a coefficient of 1.077 and a p-value of 0.000. By identifying, analyzing, and addressing risks from sources such as market shifts, new regulations, technological advancements, or price fluctuations, companies become more resilient and adaptable to change and uncertainty. Given the unpredictability of the business environment, robust risk management is essential for long-term success. According to research by Sabu (2024), a good risk management strategy makes businesses more durable and better prepared to face challenges in the global market. This is because this strategy enables businesses to be more responsive to threats. A good risk mitigation strategy enables companies to mitigate the negative impact of unforeseen risks and continue operating with minimal disruption. Risk management is essential in a VUCA environment to maintain business stability (Ginocchio, 2023). Companies that can effectively manage the risks associated with supply chain disruptions or fluctuations in raw material prices are more likely to survive in an unstable economy. They can immediately adjust their operating plan to minimize losses or capitalize on new opportunities that arise from unexpected market changes (Teoh & Cheah, 2025). Companies can better capitalize on opportunities if they have good risk management.

Therefore, a fifth hypothesis is accepted, which states that effective risk management contributes to increasing the resilience of companies. Companies that manage risk effectively can capitalize on opportunities that competitors may overlook due to the inherent risks in specific markets. This capability enables companies to be more flexible and efficient in their operations, even in uncertain situations. In the long run, a robust risk management framework helps companies become more resilient in the face of various external changes. With a reliable risk management strategy, companies not only enhance their resilience to external disruptions but also establish a solid foundation for sustainability in the face of the challenges of a complex and unpredictable business environment.

From a theoretical perspective, this result reinforces Teece's dynamic capabilities theory by illustrating how risk management functions as a foundational mechanism for developing sensing and transforming capabilities. Through continuous monitoring of environmental signals and the adaptive reconfiguration of resources, firms transform potential threats into learning opportunities and actions that enhance their agility. Thus, risk management not only protects firms from uncertainty but also strengthens their ability to dynamically adjust strategies in response to changing external conditions. This finding advances Teece's framework by demonstrating that structured risk management is a critical enabler of organizational agility within dynamic capability systems.

### 5.6. Agility that moderates income diversification against risk management

Agility mitigates the risks associated with income diversification, particularly in VUCA environments. With a coefficient of 0.337 and a significant p-value of 0.001, agility clearly enhances companies' responsiveness to sudden market changes. Income diversification helps reduce reliance on a single revenue source, but it can also create new challenges in risk management. Expanding into new market segments may introduce unforeseen risks, such as product-market misalignment or greater operational complexity. Companies lacking agility may struggle to manage these emerging risks effectively (Patnaik et al., 2023). With sufficient agility, companies can respond to challenges more effectively, adjust their strategies quickly, and enhance their risk management. Agility can mitigate the risks associated with income diversification by enabling organizations to adapt to changing market conditions (Ratten, 2024). Agility enables companies to address risks from market uncertainty and shifting trends more quickly than their less agile competitors. In a VUCA environment, agile companies can better respond to external disruptions, such as regulatory or technological changes, impacting their diversified portfolios.

Agate to research conducted by Suresh et al. (2020), businesses with diversified income are more resilient to regulatory uncertainty and market changes, as they have more options to mitigate external risks. Companies that pair agility with revenue diversity can quickly react and deploy broad resources during challenges. When revenue comes from different sectors or products, companies can shift focus and resources to those less affected by risk, allowing them to continue operating without significant damage (Corrales-Estrada et al., 2021). Additionally, these findings demonstrate that income diversification is important and that the practical application of agile principles enhances risk management. Agility enables companies to innovate, identify opportunities, and mitigate potential losses efficiently. Therefore, companies that combine a diversification strategy with strong agility are more successful in dealing with market uncertainty and mitigating diversification risks.

In conclusion, agility is essential for managing the risks associated with income diversification and enhancing corporate resilience in volatile markets. These findings underscore the importance of flexibility and rapid adaptation in risk management, particularly in light of the increasing impact of VUCA conditions. The results confirm that agility significantly strengthens risk management related to income diversification. These results extend Teece's dynamic capabilities theory by demonstrating agility's integrative role in connecting diversification and risk management. Within this framework, agility encompasses the sensing of market changes, seizing new opportunities across diverse domains, and transforming organizational structures to maintain control amid complexity. As a moderating capability, agility allows firms to continuously reconfigure and balance their diversified activities, aligning them with evolving external conditions. Therefore, agility functions as a dynamic stabilizer, transforming diversification-related risks into opportunities for learning, adaptation, and long-term resilience.

## 6. CONCLUSION

This study demonstrates that organizational agility plays a central role in enhancing income diversification, risk management, and business resilience. Firms that adapt quickly to market fluctuations and integrate agile principles into their operations are better positioned to sustain growth in VUCA environments. The results also show that agility strengthens the interaction between diversification and risk management, highlighting the importance of flexibility and dynamic adjustment in ensuring long-term stability.

From a theoretical perspective, the findings extend Teece's dynamic capabilities theory by providing empirical evidence on how agility functions as an integrative capability that connects sensing, seizing, and transforming processes. By linking diversification and risk management within a unified framework of agility, this research advances the understanding of how dynamic capabilities operate in emerging market contexts, where uncertainty and volatility are more pronounced.

From a managerial perspective, firms should prioritize developing systems that foster continuous

innovation, proactive risk governance, and strategic flexibility. Managers must embed agility into financial and operational decisions, enabling rapid resource reallocation, real-time market sensing, and cross-functional coordination. Integrating agility with financial strategies such as diversification and risk management will enhance firms' adaptive capacity and resilience.

Despite these contributions, the study has several limitations. It focuses on a two-year dataset (2022-2023) and does not capture long-term dynamics or sectoral variations. Future research could extend this analysis by using longitudinal data to examine how agility and diversification evolve. Additionally, incorporating qualitative insights could help explore managerial perceptions of agility and risk alignment in greater depth.

In summary, this study emphasizes that agility is not merely a reactive mechanism but a dynamic strategic capability that enables firms to transform uncertainty into opportunity. When aligned with diversification and effective risk management, agility becomes the foundation of organizational resilience and sustainable competitiveness.

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