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Systemic Fragility In The Indonesian Textile Industry: A Vuca-Based Analysis Of Corporate Collapse

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Abstract

The Indonesian textile industry has entered a period of unprecedented disruption, marked by widespread factory closures, mass layoffs, and a sharp decline in production capacity between 2022 and 2024. This study aims to analyze the structural vulnerabilities of major textile firms in Indonesia by employing the Volatility, Uncertainty, Complexity, and Ambiguity (VUCA) framework. Specifically, the research investigates how global shocks and domestic weaknesses interacted to accelerate the collapse of five leading corporations: Sritex Group, Asia Pacific Fiber, Agungtex, Kusuma Group, and Chingluh Indonesia. The study applied a qualitative exploratory design with thematic analysis of secondary data, including industry reports, international trade statistics, academic literature, and credible news sources. Data were coded according to the four VUCA dimensions and synthesized to identify recurring patterns of vulnerability. The findings reveal that volatility in raw material prices and exchange rates significantly raised production costs, while regulatory inconsistency and market unpredictability deepened uncertainty. Supply chain fragmentation and multi-stakeholder dynamics exacerbated complexity, and the absence of clear policy direction created ambiguity in strategic decision-making. The interaction of these factors produced systemic fragility, with large firms unable to withstand shocks despite their scale and market experience. This study extends the application of the VUCA framework to the context of large corporations in developing economies, highlighting how external disruptions intersect with weak domestic preparedness to produce industrial decline. The results confirm that resilience cannot be built by addressing individual dimensions of VUCA in isolation but requires integrated strategies that link corporate adaptation with coherent policy support. At the policy level, a national textile roadmap, regulatory stability, fiscal incentives, and upstream industry strengthening are essential. The study concludes by suggesting future research on longitudinal resilience strategies, development of a VUCA-based industrial risk index, and comparative analyses with other textile-exporting nations.

Keywords: VUCA, Textile Industry, Resilience, Supply Chain, Indonesia

1. Introduction

The textile and apparel industry has long been a strategic driver of Indonesia's national economy, both in terms of employment generation and export contribution (Sarasi et al., 2024). Historically, the sector has

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supported millions of jobs while accounting for a significant share of manufacturing output and foreign exchange earnings (Jolly et al., 2023). However, in recent years the industry has entered a period of severe disruption, marked by the closure of factories, large-scale layoffs, and a sharp contraction in production capacity. Between 2022 and 2024, at least 60 Indonesian textile firms including leading players such as Sritex, Asia Pacific Fiber, Agungtex, Kusuma Group, and Chingluh either shut down operations or underwent bankruptcy proceedings. This decline has not only increased unemployment but also undermined the resilience of Indonesia's industrial base and exposed the fragility of national competitiveness in the face of global turbulence (Anas et al., 2022). Several interrelated forces have contributed to this downturn. On the global front, the dominance of low-cost competitors such as Vietnam, Bangladesh, and China has intensified, eroding Indonesia's comparative advantage in labor-intensive production. The rise of digital technologies and the growing importance of sustainability standards in global supply chains have further reshaped the industry, rewarding firms that can swiftly adopt new technologies and comply with green production requirements (Feng et al., 2022). At the same time, the shift in consumer demand towards fast fashion and e-commerce has increased the pressure on firms to innovate rapidly, operate with greater efficiency, and manage supply chains with higher levels of agility.

Unfortunately, many Indonesian textile companies have remained reliant on outdated technologies, conventional business strategies, and a high degree of import dependency for raw materials, leaving them vulnerable to volatility in global prices, exchange rate fluctuations, and policy shifts. The collapse of multiple firms in such a short time span underscores not only the magnitude of global disruptions but also the structural weaknesses in corporate governance and industrial policy within Indonesia (Larionova, 2023). The World Trade Organization (2023) reported a 5.9% contraction in global textile exports in 2023, alongside an almost 10% decline in clothing exports (Estrades et al., 2023). Yet, while these figures point to the severity of global headwinds, the depth of Indonesia's textile crisis indicates a particular lack of preparedness and adaptive capacity at the national and firm level. Without swift transformation, Indonesia risks further deindustrialization, increasing dependence on imports, and the erosion of its longstanding position as a major textile exporter in Southeast Asia.

Scholarly interest in the volatility and uncertainty of global industries has grown substantially in the last decade, particularly under the conceptual framework of Volatility, Uncertainty, Complexity, and Ambiguity (VUCA). Originally developed by the U.S. military to describe the unpredictable dynamics of modern warfare, the VUCA framework has been increasingly applied to business and management studies. Syamsir et al. (2025) emphasized that VUCA contexts demand new forms of leadership, organizational adaptability, and systemic resilience. In the Indonesian context, recent studies have begun to highlight the significance of VUCA in shaping organizational responses. For example, Ahmad et al. (2024) demonstrated that small and medium-sized enterprises (SMEs) in Indonesia survive VUCA pressures by embracing digitalization, product innovation, and strategic partnerships. Similarly, Coşkun & Erturgut (2024) examined the agro-industry and found that supply, demand, and technological uncertainties are central to firm survival, suggesting parallels to the challenges faced by the textile sector. In the broader international literature, Durugbo et al. (2020) emphasized the importance of supply chain resilience in volatile environments. Their Delphi-based study showed that companies need to construct systems capable of absorbing shocks and anticipating risks across global supply chains. In line with this, Trihastuti et al. (2024) applied the DEMATEL method to the Indonesian textile industry and highlighted the vital role of sustainable supply chain integration for surviving environmental uncertainty. Meanwhile, Sarasi et al. (2024) analyzed the Balinese textile sector using SWOT and supply chain management approaches, underscoring the necessity of digital transformation and supply chain coordination in Industry 4.0.

Despite these valuable contributions, several research gaps remain. First, most existing studies focus either on micro-level strategies (such as SMEs' adoption of digital tools) or on general discussions of supply chain management. Few studies have systematically applied the VUCA framework to analyze the collapse of large-

scale textile firms in Indonesia. Second, while global comparisons are available, research that explicitly connects global VUCA dynamics with local responses in emerging economies remains limited. Third, previous studies often concentrate on prospective strategies for firms but lack diagnostic insights into why major players failed despite their size and market experience. Therefore, a deeper exploration of how volatility, uncertainty, complexity, and ambiguity interact to exacerbate systemic weaknesses in Indonesia's textile industry is urgently needed. This study addresses these gaps by employing a thematic analysis of secondary data covering the period 2022–2024. By focusing on five prominent firms that experienced severe crises, the research investigates the specific vulnerabilities that led to industrial decline and situates these within the broader VUCA framework. In doing so, the study offers both theoretical enrichment of VUCA-based analyses in developing country contexts and practical recommendations for industry resilience. Theoretically, this study contributes to the growing literature on crisis management, industrial resilience, and VUCA analysis in emerging economies. By applying the VUCA framework to a real-world industrial collapse, the research provides diagnostic insights into the interplay of global and local factors in shaping firm outcomes. Unlike previous studies that focus primarily on SMEs or theoretical models, this paper expands the empirical scope by analyzing large-scale corporations and their systemic failures. This extension enriches our understanding of how established firms can falter when adaptive strategies are insufficient.

2. Literature Review

The purpose of this literature review is to critically examine existing studies related to industrial disruption, organisational resilience, and adaptive strategies within volatile business environments. Specifically, it aims to contextualise the collapse of Indonesia's textile industry between 2022 and 2024 within broader scholarly debates on the Volatility, Uncertainty, Complexity, and Ambiguity (VUCA) framework. While the textile industry has been widely studied in relation to globalisation, competitiveness, and supply chain dynamics, relatively little research has systematically applied the VUCA lens to diagnose structural vulnerabilities in emerging economies. This section therefore reviews relevant theoretical foundations and empirical studies, evaluates their contributions and limitations, and identifies the research gap that this paper seeks to address. The concept of VUCA originated in military strategy during the late twentieth century, before being adapted to the field of management to describe the increasingly unstable conditions of global business (Barrera, 2024). Each of its four dimensions represents a distinct challenge: volatility refers to the speed and magnitude of change, uncertainty reflects the difficulty of predicting outcomes, complexity indicates the multiplicity of interconnected variables, and ambiguity captures the lack of clarity in interpreting events or policies. The framework has since been used to analyse leadership, strategic planning, and risk management across diverse contexts (Ho et al., 2023).

From a theoretical standpoint, VUCA is closely aligned with resilience theory, which emphasises the capacity of systems to absorb shocks, adapt, and transform in response to crises (Syamsir et al., 2025). In industrial settings, resilience is often operationalised through supply chain management, financial risk mitigation, and organisational learning. Studies on crisis management also highlight the importance of scenario planning, diversification, and stakeholder coordination in navigating disruptive environments (Boonlua et al., 2023). These theoretical strands collectively provide a foundation for applying VUCA analysis to industries facing global shocks, such as textiles. In recent years, scholars have increasingly applied the VUCA framework to analyse the survival strategies of firms. Sudirman (2025) examined Indonesian SMEs and found that adopting digitalisation, product innovation, and strategic partnerships were key strategies for maintaining competitiveness in VUCA environments. This study is notable for its emphasis on small-scale enterprises; however, its insights may not fully capture the systemic vulnerabilities of large corporations such as Sritex or Asia Pacific Fibres.

Oktavina et al. (2014) explored agro-industrial uncertainty in Indonesia, demonstrating that volatility in supply, demand, and technology posed major risks to firms. Although not focused on textiles, the study provides useful parallels in highlighting the role of supply chain flexibility in mitigating VUCA challenges.

Similarly, Durugbo et al. (2020) conducted a Delphi-based international study on supply chain resilience, concluding that firms must construct systems capable of absorbing and anticipating shocks. Their findings are particularly relevant to industries with globalised value chains, such as textiles and garments. Specific studies on the textile sector in Indonesia include Trihastuti et al. (2024), who applied the DEMATEL method and input–output analysis to design sustainable supply chains. Their research highlighted that managing resources holistically and integrating supply chain structures are vital in environments characterised by uncertainty. Meanwhile, Sri (2019) studied the Balinese textile industry using SWOT and supply chain management approaches, revealing the centrality of digital transformation and coordination for maintaining continuity in the era of Industry 4.0. Globally, research on textile disruptions also underscores the importance of resilience. Studies of Bangladesh's garment industry, for example, illustrate how cost competitiveness, labour relations, and compliance with sustainability standards shape resilience in global markets (Alamgir & Banerjee, 2019). In Vietnam, digitalisation and government support have been identified as critical to maintaining export performance despite global volatility (Nham & Bao, 2023). These cases provide comparative insights into how emerging economies manage VUCA challenges differently, depending on institutional contexts and policy frameworks.

While the existing literature provides valuable insights, several limitations and inconsistencies emerge upon closer scrutiny. First, the application of the VUCA framework remains uneven. Many studies reference VUCA conceptually but do not operationalise its four dimensions systematically. For instance, Gunasekaran et al. (2015)highlight organisational responses to uncertainty and volatility but provide limited analysis of complexity and ambiguity. Similarly, studies on supply chain resilience often focus narrowly on logistics or procurement, without fully considering the interplay between policy ambiguity, regulatory inconsistency, and managerial decision-making. Second, there is a bias towards SMEs and general industries, with relatively few analyses of large-scale firms in emerging economies. This is a significant omission, given that large firms such as Sritex and Asia Pacific Fibres possess substantial market share and their collapse has widespread implications for employment and exports. Understanding how these firms failed to adapt despite their scale can provide crucial insights into systemic weaknesses. Third, the empirical methods employed vary considerably, leading to fragmented findings. While DEMATEL and Delphi methods provide robust insights into supply chain dynamics, they often lack contextual depth in explaining firm-level decision-making. Conversely, qualitative case studies provide rich descriptions but are sometimes limited in generalisability. This methodological imbalance underscores the need for thematic analysis that integrates multiple data sources to generate a more holistic picture. Fourth, much of the literature fails to link global dynamics with local responses. International studies emphasise global supply chain shocks, while local studies in Indonesia often focus on domestic challenges such as outdated technology or labour regulations.

Few studies explicitly connect these scales to show how global volatility interacts with national vulnerabilities to produce crises. This lack of integration represents a crucial research gap that the present study seeks to fill. Finally, while sustainability and digital transformation are increasingly recognised as critical strategies for resilience, the literature often treats these themes as future-oriented solutions rather than examining why firms have struggled to adopt them in practice. This absence of diagnostic analysis limits the explanatory power of existing research and highlights the need for studies that interrogate both failure and adaptation. The literature on VUCA, resilience, and industrial disruption provides a rich theoretical and empirical foundation for examining crises in the textile sector. Key themes include the necessity of digital transformation, the importance of supply chain resilience, and the role of policy frameworks in shaping firm responses. Comparative studies from Bangladesh and Vietnam demonstrate that institutional support and adaptive strategies can mitigate global volatility. However, the Indonesian context remains underexplored, particularly with regard to the collapse of major firms between 2022 and 2024.

A critical analysis of the existing literature reveals four significant research gaps. First, there has been limited systematic application of all four dimensions of the VUCA framework, with many studies emphasising volatility and uncertainty while neglecting complexity and ambiguity. Second, scholarly

attention has largely focused on small and medium-sized enterprises, resulting in a lack of research on large-scale firms in emerging economies, even though their collapse has far-reaching implications for employment and competitiveness. Third, methodological approaches remain fragmented, with qualitative studies providing depth but lacking generalisability, while quantitative analyses offer broader insights but often fail to capture contextual nuances. Finally, there is insufficient integration of global and local perspectives in examining industrial decline, leaving unexplored how global market turbulence interacts with domestic structural weaknesses to shape firm outcomes. By addressing these gaps, the present study makes two key contributions. Theoretically, it extends the application of the VUCA framework to diagnose the collapse of major firms in a developing country context. Practically, it provides policymakers and business leaders with diagnostic insights into the vulnerabilities that undermine resilience, as well as strategies for adaptive transformation. The findings will not only enrich academic debates but also inform industrial policy and managerial practices aimed at revitalising Indonesia's textile industry in an increasingly turbulent global environment.

3. Method

This study employed a qualitative exploratory design with the primary aim of examining the intersection between global VUCA (Volatility, Uncertainty, Complexity, Ambiguity) dynamics and the local responses of Indonesian textile firms. Given the complexity of the phenomenon and the lack of systematic empirical investigation in previous studies, an exploratory design was deemed appropriate to generate in-depth insights and diagnostic understanding. The research was conducted by applying a thematic analysis to secondary data, enabling the identification of recurrent patterns, themes, and vulnerabilities that characterised the decline of major textile firms between 2022 and 2024. The units of analysis in this study consisted of five major textile corporations in Indonesia that experienced severe operational crises or bankruptcy during the period under review. These included PT Asia Pacific Fibres Karawang, which faced difficulties due to heavy reliance on imported raw materials; the Sritex Group, once a flagship textile giant in Southeast Asia that ultimately entered bankruptcy proceedings; the Agungtex Group, which suffered significant production declines and workforce reductions; the Kusuma Group, which managed several interrelated textile companies but struggled with complex internal and external challenges; and PT Chingluh Indonesia, a large footwear and textile manufacturer that encountered mass layoffs amid shrinking global orders. Together, these firms provide a representative picture of how structural vulnerabilities, management weaknesses, and external disruptions converged to trigger widespread decline within Indonesia's textile sector.

These firms were purposively selected because of their substantial size, significant contribution to employment, and prominent role within the national textile industry. The collapse of these corporations not only disrupted production processes but also triggered far-reaching socio-economic consequences, making them highly relevant cases for examining industrial vulnerability under VUCA conditions. To conduct this analysis, the study relied exclusively on secondary data gathered from a range of credible sources in order to ensure both breadth and triangulation. These sources comprised industry news reports from established national media outlets such as Bisnis Indonesia, Katadata, CNBC Indonesia, and Kompas, which documented factory closures, mass layoffs, and production crises. In addition, official publications from international organisations, including the World Trade Organization (WTO), the World Bank, and the Asian Development Bank (ADB), provided data on global trade dynamics, commodity price fluctuations, and market volatility. Complementing these were academic articles published in peer-reviewed national and international journals, which offered critical insights into the textile industry, supply chain resilience, crisis management, and applications of the VUCA framework. Together, these diverse sources formed a robust evidence base for exploring the systemic challenges facing Indonesia's textile sector. The analytical stage followed the thematic analysis approach. After repeated reading to achieve data familiarisation, descriptive codes were generated for salient units of meaning, with particular attention to markers of volatility (e.g., price swings and currency movements), uncertainty (policy or market unpredictability), complexity (multi-layered supply chains), and

ambiguity (unclear regulations or strategies). Related codes were then clustered into candidate themes aligned to the four VUCA dimensions and reviewed across the five case companies to ensure coherence and reliability.

4. Result and Discussion

4.1. General Description of Findings

The analysis results show that the Indonesian textile industry crisis during the 2022–2024 period significantly impacts the five major companies that are the backbone of this sector, namely PT Asia Pacific Fiber Karawang, Sritex Group, Agungtex Group, Kusuma Group, and PT Chingluh Indonesia. The five companies experienced similar turmoil, characterized by a decline in production capacity, partial or complete shutdown of factory operations, and large-scale layoffs. PT Asia Pacific Fiber Karawang, for example, was forced to halt operations due to a surge in the cost of importing polyester raw materials such as MEG and PTA amid the weakening Rupiah. Meanwhile, Sritex Group, which was previously a national textile icon, experienced a contraction in global demand along with a debt burden of Rp14–32 trillion, ultimately leading to bankruptcy proceedings. Agungtex Group was also hit by a decline in export orders, which led to approximately 2,000 workers being furloughed and production capacity shrinking drastically. Kusuma Group, which consists of several entities such as PT Pamor, PT Kusuma Putra, and PT Kusuma Hadi, is facing factory closures and layoffs of around 1,500 workers due to a sharp decline in export demand. On the other hand, PT Chingluh Indonesia, as part of the global footwear supply chain, also lost supply contracts from international brands, forcing them to lay off approximately 2,400 employes. These findings confirm that global volatility not only puts pressure on industrial competitiveness in general but also reveals the fragility of the internal resilience of large companies that were previously considered stable. This phenomenon serves as evidence that a combination of external factors and internal managerial weaknesses directly contributed to the collapse of national production capacity, ultimately increasing unemployment rates and deepening the vulnerability of the Indonesian textile industry.

4.2. Thematic Analysis Results per VUCA Dimension

Volatility

Thematic analysis shows that volatility is the dominant factor accelerating the crisis in the Indonesian textile industry. Fluctuations in the prices of imported raw materials such as Mono Ethylene Glycol (MEG) and Purified Terephthalic Acid (PTA), which are the main components in polyester production, as well as the weakening of the Rupiah exchange rate, create extremely high production cost pressures for companies. PT Asia Pacific Fiber Karawang is the most concrete example, where the surge in import material prices combined with the depreciation of the Rupiah made the polyester factory's operations no longer efficient, ultimately leading to production ceasing. Sritex Group also faced similar pressure, with production costs continuing to rise while global demand declined sharply, leading the company to face liquidity difficulties that resulted in bankruptcy proceedings. Meanwhile, Agungtex Group was directly impacted by the decline in export orders due to the contraction of the global market, leading to a decrease in production capacity and the furloughing of thousands of workers.

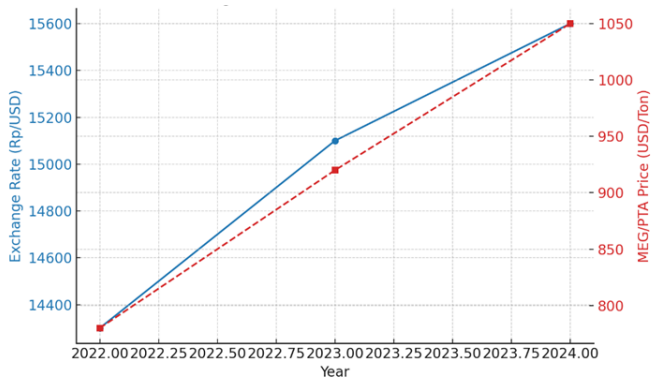

Fig. 1. Trends in Exchange Rate and MEG/PTA Prices (2022-2024)

The image shows the fluctuating trend of the Rupiah exchange rate against the US Dollar (Rp/USD) and the prices of major textile raw materials, namely Mono Ethylene Glycol (MEG) and Purified Terephthalic Acid (PTA), during the period 2022–2024. On the left axis (blue), it can be seen that the Rupiah exchange rate experienced a gradual depreciation from around Rp14,300 per USD in 2022, to Rp15,100 per USD in 2023, and further weakened to Rp15,600 per USD in 2024. This train signifies an increase in the import burden for textile companies that are heavily reliant on foreign raw materials. Meanwhile, on the right axis (red), the price of MEG/PTA in USD per ton shows a significant increase from USD 780/ton in 2022 to USD 920/ton in 2023, and reaching USD 1,050/ton in 2024. This price surge illustrates the high volatility of the global textile raw material market. Simultaneously, the combination of the Rupiah's depreciation and the rising prices of MEG/PTA creates double cost pressure for Indonesian textile companies. This explains why large companies like PT Asia Pacific Fiber and Sritex Group are struggling to maintain liquidity and production efficiency, even leading to operational shutdowns and bankruptcy. These findings indicate that Indonesian textile companies are highly dependent on the global market and imported materials, making them very vulnerable to external volatility. The absence of mitigation mechanisms such as forward contracts, hedging strategies, or market diversification makes the company unable to respond quickly to exchange rate fluctuations or international demand. This reveals a fundamental weakness in financial risk management and adaptive strategies, which should be essential elements for navigating an unstable business environment.

Uncertainty

Thematic analysis shows that regulatory and market uncertainty are significant factors influencing the sustainability of the Indonesian textile industry in the 2022–2024 period. The Sritex Group is the most prominent example, where the company faced significant pressure due to a debt burden of Rp 14–32 trillion, while the court canceled the Debt Payment Postponement (PKPU) process. This condition worsened the company's internal uncertainty, as there was no clarity on a restructuring mechanism that could save operations. Uncertainty also exists at the fiscal and labor policy levels, where regulatory changes are happening rapidly without a consistent roadmap, making it difficult for companies to formulate medium-term plans. On the other hand, PT Chingluh Indonesia faced global market uncertainty when major international brands like Nike and Adidas suddenly terminated or reduced supply contracts. This unexpected change in demand patterns has caused the company to lose revenue certainty, trigger layoffs for thousands of workers, and disrupt production line continuity. The lack of fiscal incentives or price protection from the government further deepens uncertainty, as companies do not receive adequate support to survive amidst global pressure.

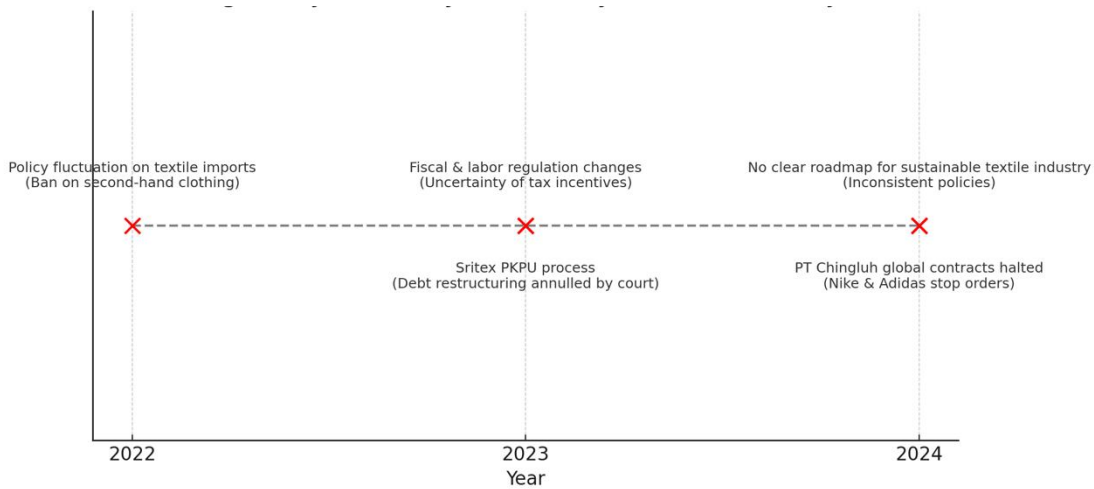

Fig. 2. Timeline of Regulatory and Policy Unvertainty in Textile Industry (2022-2024)

These findings confirm that regulatory and market uncertainty has created unstable conditions for textile companies. The absence of consistent and predictable policies, coupled with weak relationships between industry players and regulators, has caused companies to lose strategic direction in managing production, financing, and labor. This shows that amidst the tide of globalization, national policy stability and market certainty are crucial keys to the resilience of labor-intensive industries like textiles.

Complexity

The analysis results show that the complexity of the supply chain and multi-stakeholder relationships is one of the crucial factors worsening the condition of the Indonesian textile industry. PT Asia Pacific Fiber Karawang is highly dependent on imports of key raw materials such as MEG and PTA, so when global supply disruptions and a weakening Rupiah occur, the company is unable to maintain production continuity. Reliance on international suppliers makes the company vulnerable to logistical delays and increased transportation costs. Kusuma Group, which consists of several different entities (PT Pamor, PT Kusuma Putra, and PT Kusuma Hadi), faces more complex management challenges due to the need to synchronize operational decisions across different units, amidst local government intervention and demands from local labor. This adds a layer of bureaucracy and slows down the decision-making process when factories need to be closed or workers face mass layoffs. Meanwhile, Agungtex Group faces complexities from a regulatory perspective, particularly regarding labor, tax, and environmental regulations that are not always aligned. Regulatory disharmony makes it difficult for companies to adjust their operational burdens to changing legal requirements. This complexity not only hinders the efficiency of internal management but also weakens the company's ability to adapt to the dynamics of the global market.

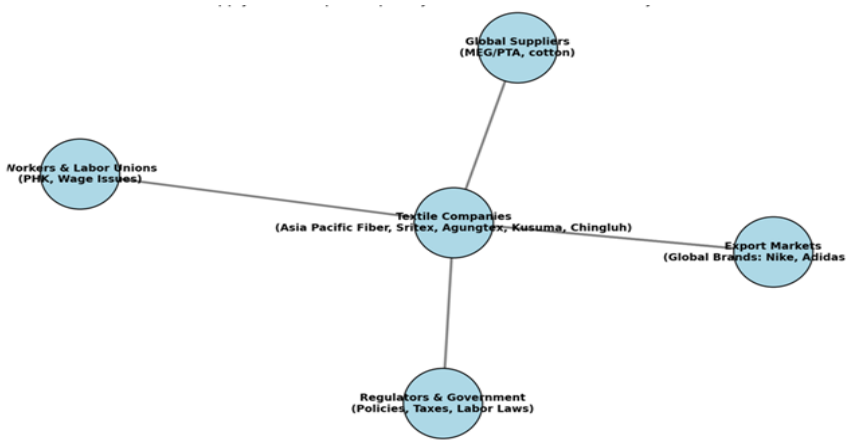

Fig. 3. Supply Chain Map: Complexity in Indonesia Textile Industry

These findings confirm that complexity in the supply chain and multi-stakeholder management slows down companies' response to crises. The absence of an integrated supply chain management system (such as ERP or digital SCM) and weak coordination between entities make textile companies in Indonesia increasingly vulnerable to global pressure. Thus, complexity is not just a technical issue, but also a structural weakness that reduces the competitiveness of industries amidst increasingly fierce international competition.

Ambiguity

The analysis results show that information ambiguity and policy direction are exacerbating the crisis experienced by Indonesian textile companies. Agungtex Group and Kusuma Group do not have adequate access to or utilization of market data to support strategic decision-making. The absence of a data-driven monitoring system keeps companies reliant on conventional production methods and short-term contracts, leaving them unprepared to pivot when global trends shift rapidly. PT Chingluh Indonesia faces further ambiguity due to pressure from global brands like Nike and Adidas, without clarity on whether the company should shift supply to new original equipment manufacturers (OEMs) or seek product diversification. At the policy level, ambiguity is becoming increasingly apparent due to the government's inconsistency in setting rules. For example, the ban on used clothing imports was implemented without clear guidelines, while the roadmap for digital transformation and sustainability in the textile industry was never consistently published. This situation makes the company lose its grip on designing long-term strategies, leading to decisions that are reactive and only focused on short-term survival.

Table 2. Comparison of Available Market Data vs. Decision-Making Needs in the Textile Industry

Company	Available Market Data	Decision-Making Needs	Resulting Ambiguity
Agungtex Group	Basic export orders and short-term contracts	Long-term demand forecasting, digital market intelligence	Unable to adjust strategy when global demand shifts
Kusuma Group	Fragmented local market information	Integrated supply-demand analytics, strategic roadmap	Dependent on traditional production, lacks clear pivot strategy
PT Chingluh Indonesia	Limited information from global brand partners	Clear guidance on contract continuity, diversification opportunities	Uncertainty whether to shift to OEM or diversify product lines

Source : collected by Author 2025

These findings confirm that ambiguity in market information and policy direction creates uncertainty in the strategic management of textile companies. The lack of accurate market data, transparent policies, and a clear digital transformation roadmap prevents companies from anticipating changes in global trends. As a result, long-term adaptive capacity is weakened, and the strategies implemented actually worsen the structural vulnerability of Indonesia's textile sector.

4.2. Synthesis of Findings

The synthesis of the thematic analysis results shows that the five major textile companies are PT Asia Pacific Fiber Karawang, Sritex Group, Agungtex Group, Kusuma Group, and PT Chingluh Indonesia. These companies have different vulnerabilities, but all are simultaneously affected by the four dimensions of VUCA. The VUCA diagram shows that Sritex Group is the most vulnerable because it scores high across all dimensions, reflecting systemic weaknesses in terms of volatility, uncertainty, complexity, and ambiguity. PT Asia Pacific Fiber stands out in the volatility and complexity dimensions due to its high dependence on imported raw materials and global supply chains. Agungtex is more vulnerable to volatility and uncertainty due to declining export orders and weak fiscal policy protection. Kusuma Group faces internal complexities due to its multi-entity structure and local regulatory ambiguity, while PT Chingluh is pressured by global market uncertainty and strategic ambiguity resulting from contract changes by international brands. Based on this vulnerability map, the analysis also produced a table of recommended adaptive strategies and government policy interventions. Adaptive strategies that companies need to pursue include implementing hedging systems and forward contracts to address volatility, actively participating in industry associations to reduce uncertainty, digitizing the supply chain and conducting logistics risk audits to reduce complexity, and utilizing AI-based market data to reduce ambiguity. From the government's perspective, the recommended policy interventions include energy subsidies and access to locally denominated export financing, consistent issuance of a national textile industry roadmap, investment in upstream fiber and yarn industries, and support for digital transformation and green certification.

Table 3. Corporate-Level VUCA Analysis Matrix: Impact of the Indonesian Textile Industry Crisis (2022–2024)

Company	VUCA Dimension	Key Impact (Specific Findings)	Vulnerability Rating (Relative Score from Figure 4)
Sritex Group	Volatility	Production cost hikes due to fluctuations in imported raw material prices (MEG/PTA) and Rupiah depreciation, exacerbated by contracting global demand.	Highest (Highly vulnerable across all dimensions)
	Uncertainty	Severe internal uncertainty after the court annulled the Debt Payment Postponement (PKPU) process, coupled with a massive debt burden of Rp14–32 trillion.	
	Complexity	Systemic vulnerability due to scale and debt, requiring decision synchronization across	multi-stakeholders (creditors, workers, global market).
	Ambiguity	Inadequate adaptive strategies; reliance on short-term survival without clear policy direction.	
PT Asia Pacific Fiber Karawang	Volatility	Most vulnerable to volatility. Forced to halt operations due to a surge in imported raw material prices (MEG/PTA) combined with Rupiah depreciation.	High (Dominant in Volatility & Complexity)
	Uncertainty	Absence of financial risk mitigation mechanisms (such as hedging or forward contracts) to respond to exchange rate fluctuations.	
	Complexity	Highly vulnerable to complexity. High reliance on global suppliers and an imported raw material supply chain (MEG/PTA).	
	Ambiguity	Not explicitly mentioned, but vulnerability centers on failures in financial risk and supply chain management.	
Agungtex Group	Volatility	Directly impacted by a decline in export orders due to global market contraction, leading to a drastic reduction in production capacity.	Medium-High (Dominant in Volatility & Uncertainty)
	Uncertainty	Declining export orders and weak fiscal policy protection deepened market uncertainty.	

	Complexity	Faced regulatory complexity regarding labor, tax, and environmental regulations that were not always aligned, hindering operational adjustments.	
	Ambiguity	Lack of utilizing adequate market data for long-term planning, leading to an inability to adjust strategy when global demand shifts.	
Kusuma Group	Volatility	Experienced factory closures and lay-offs of	± 1,500 workers due to a sharp decline in export demand.
	Uncertainty	Vulnerability to inconsistent labor policies and regulations, making medium-term planning difficult.	
	Complexity	Faced complex management challenges due to its multi-entity structure (e.g., PT Pamor, PT Kusuma Putra) and local labor demands, slowing decision-making.	
	Ambiguity	Reliance on traditional production methods and fragmented local market information, lacking a clear pivot strategy.	
PT Chingluh Indonesia	Volatility	Lost supply contracts from international brands amid global market contraction.	Medium-High (Dominant in Uncertainty & Ambiguity)
	Uncertainty	Global market uncertainty triggered by the sudden termination or reduction of supply contracts by major international brands (Nike, Adidas).	
	Complexity	Operating in the global footwear supply chain, faced with mass layoff management amid contract dynamics.	
	Ambiguity	Faced pressure from global brands without strategic clarity on whether to shift supply to new Original Equipment Manufacturers (OEMs) or pursue product diversification.	

Source: Data collected by the author, 2025

The Corporate-Level VUCA Analysis Matrix reveals that the structural failures of Indonesia's major textile firms were not caused by a single factor, but by a synergistic interaction of the four dimensions. Volatility in raw material prices and the depreciating Rupiah was the primary shock for firms like PT Asia Pacific Fiber, whose high reliance on imports made it acutely vulnerable. This external volatility translated into severe market and regulatory. Uncertainty for firms like PT Chingluh Indonesia, whose sudden loss of global brand contracts triggered mass layoffs. Meanwhile, multi-entity structures and regulatory disharmony created. Complexity for the Kusuma Group and Agungtex Group, slowing their crisis response. The absence of clear policy direction and data-driven intelligence led to pervasive. Ambiguity, forcing companies into reactive, short-term decisions. Ultimately, the collapse of a diversified giant like. Sritex Group which scored highest on all four dimensions underscores that scale is no guarantee of resilience when adaptive strategies and policy support are absent. The synthesis of these findings confirms that the resilience of the Indonesian textile industry cannot be built by addressing only one dimension of VUCA, but rather thru an integrative approach that connects corporate adaptive strategies with public policy support. The combination of strategic responses at the corporate level and stable regulations from the government is expected to reduce systemic vulnerability and strengthen the competitiveness of the national textile sector amidst global dynamics full of uncertainty.

4.3. Discussion

The findings of this research reveal that the systemic vulnerability of the Indonesian textile industry cannot be separated from the interaction of the four VUCA dimensions. The volatility of imported raw material prices and fluctuations in the Rupiah exchange rate directly increase production costs and put pressure on company cash flow. This condition is exacerbated by regulatory and market uncertainty, where inconsistent policy changes and a lack of fiscal incentives reduce companies' ability to plan medium-term strategies. On the other hand, the complexity of long supply chains, involving numerous actors and cross-sectoral regulations, slows down companies' responses to crises (Arslan et al., 2021). This complexity interacts closely with the ambiguity of market information and policy direction, causing companies to lose clarity in determining adaptive strategies. Thus, each dimension of VUCA not only has a separate impact but also mutually reinforces each other (Syamsir et al., 2025). For example, raw material price volatility increases market uncertainty, while bureaucratic complexity and supply chains exacerbate ambiguity in strategic decision-making. In line with the research objectives, the results of this analysis confirm that the crisis affecting the Indonesian textile industry is not only triggered by external factors such as the global economic slowdown or fluctuations in raw material markets, but also by weak internal and structural preparedness. Identifying vulnerabilities thru the VUCA framework allows for a sharper mapping of a company's weak points, whether from a financial, managerial, or operational perspective. Thus, this research successfully achieved its main objective, which was to uncover the sources of structural vulnerability and formulate relevant adaptive strategies for the textile industry. These findings also highlight that corporate failures are not solely due to external pressures, but are the result of the absence of integrated risk mitigation strategies, delays in digital transformation, and a lack of consistent domestic policy support.

The results of this study are substantially consistent with previous literature that emphasizes the importance of digitalization and supply chain resilience in enhancing the competitiveness of labor-intensive industries. Nham & Bao (2023) and Trihastuti et al. (2024) show that the digitalization of logistics management and the utilization of information technology can shorten the supply chain, reduce operational costs, and strengthen companies' adaptability to global market fluctuations. This finding is confirmed by cases in Indonesia, where the absence of supply chain digitalization actually increases vulnerability to delays in raw material distribution and the disruption of export markets. Furthermore, the use of the VUCA framework as a diagnostic tool is also consistent with the findings of Barrera (2024), who stated that the dimensions of volatility, uncertainty, complexity, and ambiguity are key determinants in mapping the strategic risks of manufacturing companies in the era of global disruption. Thus, the results of this study not

only confirm the validity of VUCA as an analytical framework but also extend its application to the context of the Indonesian textile industry.

However, this research also offers important differences compared to previous literature. Most previous studies have focused on textile SMEs and survival strategies at the micro level, while this study highlights large companies that have experienced structural failure despite having greater capital capacity and global market networks. The focus on analyzing the failure of large companies makes a significant theoretical contribution, as it shows that business scale is not a guaranty of resilience if adaptive strategies and policy support are not integrated. Additionally, previous research tended to emphasize short-term resilience strategies, such as market diversification or raw material substitution, whereas the results of this study demonstrate the need for long-term structural transformation, including a digitalization roadmap, integration of green production, and strengthening data-driven risk management. Thus, this research not only reinforces previous findings but also provides conceptual added value by applying the VUCA framework to the analysis of large-scale industrial failures and linking it to the need for more systematic public policy. This enriches the academic discourse on adaptation strategies for the manufacturing industry in developing countries, particularly in the face of globalization challenges, supply chain crises, and the transition toward a sustainable economy.

From a practical implications perspective, the findings of this study confirm the need for different adaptive measures at the industry, government, and working society levels. For the industry, the main recommended strategies are market diversification to reduce dependence on specific export segments, the implementation of financial instruments such as hedging and forward contracts to anticipate exchange rate fluctuations, and the digitalization of the supply chain based on information technology to make the distribution of raw materials and products more efficient. Additionally, companies need to build data-driven risk management to predict demand dynamics and prepare more measured responses to global market changes. For the government, policy intervention is needed in the form of developing a sustainable national textile industry roadmap with consistent regulations, fiscal incentives to support digital transformation, and encouragement for the adoption of green production as part of the sustainability agenda. The government is also expected to strengthen the domestic fiber and yarn upstream industries to reduce dependence on raw material imports. For society and workers, it is important to provide social safety nets and reskilling programs that enable the workforce to adapt to industrial transformation, both thru improving digital skills and diversifying competencies in other sectors. Thus, the practical implications of this research not only focus on corporate sustainability but also target broader socio-economic stability.

Although this research successfully provides a comprehensive overview of the textile industry's vulnerability within the VUCA framework, there are several limitations that need to be noted. First, this research is based on secondary data, such as media reports, industry publications, and official documents, and therefore does not include in-depth interviews or direct observations that could enrich understanding of the company's internal dynamics. Second, the research focuses on only five large companies, so the findings cannot be fully generalized to the entire national textile ecosystem, particularly for the SME sector, which has different characteristics. Third, the analysis period is limited to the range of 2018–2024, so it does not fully capture long-term dynamics or the ripple effects of global crises that may arise after that period. These limitations indicate that the research findings need to be interpreted with caution, and also serve as a basis for further, more in-depth, inclusive, and longitudinal research. As a follow-up, future research needs to be directed toward a more longitudinal approach to assess the effectiveness of companies' adaptive strategies before, during, and after a crisis. This approach will provide a more complete picture of how companies dynamically adapt to changes in the global environment. Additionally, it is important to develop a VUCA-based risk index that can quantitatively measure the vulnerability levels of companies and industries, providing a more precise analytical tool for policymakers and business actors. Further research can also be expanded thru cross-country comparative studies, for example, with Vietnam, Bangladesh, and India, all of which are major players in the global textile industry, in order to identify best practices that can be adapted

by Indonesia. No less important, future research needs to pay special attention to digital innovation, sustainability, and green production as long-term adaptive strategies, considering the direction of global industries is increasingly demanding technological integration, energy efficiency, and compliance with international environmental standards. Thus, the direction of further research not only complements the limitations of this study but also opens up broader opportunities for academic and practical contributions to strengthening the competitiveness of the Indonesian textile industry.

5. Conclusion

This study concludes that the collapse of Indonesia's major textile companies between 2022 and 2024 reflects both global shocks and deep-rooted structural weaknesses at the national and corporate levels. The application of the VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) framework demonstrates how each dimension not only affects firms individually but also interacts to amplify systemic vulnerabilities. Volatility in raw material prices and currency depreciation increased production costs and eroded liquidity. Uncertainty in regulatory and market conditions diminished firms' ability to design sustainable strategies. Complexity in supply chain management and multi-stakeholder relations slowed corporate responses, while ambiguity in policy direction and market information led to reactive, short-term decision-making. Together, these dynamics reveal that the failures of leading companies such as Sritex, Asia Pacific Fiber, Agungtex, Kusuma Group, and Chingluh were not solely driven by external competition but also by inadequate adaptive capacity, weak risk management, and the absence of consistent industrial policy. This research contributes to extending the VUCA framework beyond small-scale enterprises to large corporations in developing economies, enriching our understanding of industrial collapse under global turbulence. Practically, the findings provide diagnostic insights into the urgent need for integrated strategies that combine corporate adaptation with coherent public policy support. Without such a transformation, Indonesia risks further deindustrialization and the erosion of its competitiveness in the global textile market.

This study highlights several key recommendations for strengthening the resilience of Indonesia's textile industry. For industry, diversification of export markets is crucial to reduce overreliance on a few global buyers. Companies should also implement financial instruments such as hedging and forward contracts to mitigate currency volatility, while accelerating supply chain digitalization to enhance traceability, efficiency, and responsiveness. Investments in green production technologies are equally vital to align with international sustainability standards and secure long-term competitiveness. For government, the priority is to establish a sustainable national textile roadmap with clear and consistent policies. Regulatory stability is essential to reduce uncertainty, supported by fiscal incentives that promote digital transformation and environmentally friendly practices. Strengthening upstream industries, particularly fiber and yarn, will lessen dependence on imports, while improved inter-ministerial coordination can reduce regulatory complexity and ambiguity. For workers and society, stronger social safety nets are needed to protect households from the impact of mass layoffs. At the same time, reskilling and upskilling programs focused on digital literacy, supply chain management, and green technology should be expanded, enabling workers to adapt to industrial transformation and access more sustainable employment opportunities. For future research, longitudinal studies, a VUCA-based industrial risk index, and cross-country comparisons with Vietnam, Bangladesh, and India are recommended. Further exploration of digital innovation and sustainability will be central to shaping the future competitiveness of Indonesia's manufacturing sector

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