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Agility and Resilience in Cement Industry Supply Chains: Investigating Their Roles in Enhancing Financial Performance

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ABSTRACT
This study aims to analyze the influence of Supply Chain Management on Financial Performance, with Supply Chain Agility and Resilience as the moderation variables. This study uses a quantitative approach using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method, and involves 200 respondents from cement manufacturing companies in the Bogor area. The analysis showed that only one of the three hypotheses proved significant, namely the direct influence of Supply Chain Management on Financial Performance (significance value p = 0.024). Meanwhile, the Supply Chain Agility variable did not significantly moderate the relationship between Supply Chain Management and Financial Performance (p = 0.482), nor did the combination of Supply Chain Agility and Resilience (p = 0.345). These findings emphasize the importance of optimizing supply chain management practices to improve a company's financial performance. On the other hand, the effectiveness of the moderation of agility and resilience requires stronger support through technology integration, adaptive information systems, and the development of human resources that are responsive to change, especially in the context of the relatively stable cement industry.

Keywords: Supply Chain Management, Supply Chain Agility, Supply Chain Resilience, Corporate Financial Performance.

I. Introduction

In an era of increasingly dynamic global competition, supply chain management is one of the key factors determining a company's success. The supply chain includes a complex network that connects suppliers, manufacturers, distributors, and end consumers. Effective management of the flow of goods, information, and finance in this chain is critical to improving operational efficiency and maintaining competitive advantage (Tufan et al., 2024). In recent years, the business world has faced increased uncertainty due to globalization, accelerating digital transformation, and disruptive external events. For example, the COVID-19 pandemic disrupted the distribution of goods globally, while Russia's invasion of Ukraine in 2022 triggered an international energy and food supply crisis. Multinational companies such as Unilever and Nestlé must adjust their procurement strategies quickly to maintain operational continuity (Gölgeci & Gligo, 2022). This condition confirms that the supply chain can no longer be managed as a rigid and linear system. On the other hand, today's supply chain must be agile, which means it must adapt quickly to market changes and

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resilient, namely able to survive and recover from various forms of disruption. It is said that the agility and resilience of the supply chain are two important components in building a responsive and sustainable supply chain system. Integrating these two aspects is believed to strengthen the relationship between supply chain management and the company's financial performance, especially in the face of increasing uncertainty (Heizer et al., 2020). However, the effectiveness of both variables may differ depending on the characteristics of the industry. As one of the sectors that tends to be stable and capital-intensive, the cement industry has challenges that differ from those of the highly dynamic retail or technology industry. Therefore, it is necessary to research further how the role of supply chain agility and resilience can moderate the influence of supply chain management on financial performance in the context of the cement industry.

II. Literature Review and Hypothesis Development

Supply chain management is a strategic approach designed to manage the flow of goods, information, and finance in an integrated manner from suppliers to end customers. This approach aims to improve operational efficiency and strengthen the company's competitive position through close coordination between elements in the supply chain. In a business environment full of uncertainty, the effectiveness of supply chain management depends heavily on its ability to adapt to rapid changes and deal with potential unforeseen disruptions. According to integration, supply chain agility and resilience are key elements to ensure that companies remain resilient and responsive in changing global market dynamics. Therefore, companies must actively develop strategies combining operational efficiency, flexibility, and resilience to external risks (Hsieh et al., 2023; Tufan et al., 2024). Karl et al. (2018) also mention that agility allows companies to adapt quickly to market volatility, while resilience helps organizations absorb external shocks without losing core capabilities. This is reinforced by research showing that synergies between agile and resilient supply chains strengthen a company's financial resilience by lowering the risk of lost revenue, increasing recovery speed, and maintaining cash flow. Therefore, the modern Supply Chain Management strategy must adopt the principles of (Ivanov & Dolgui, 2020) design for resilience and adaptive capability as the basis for operations, not just cost efficiency.

Supply chain agility is an organization's capacity to respond quickly, flexibly, and appropriately to changing market conditions, customer demand, and other external disruptions. Agility also includes making strategic adjustments quickly without losing efficiency (Y. Yusuf et al., 2022). Agility in the supply chain has four main dimensions, according to Alfalla-Luque et al. (2022), such as:

1. Responsiveness is the ability to detect and respond to market signals in real-time.
2. Competency is the expertise in managing information and running supply chain processes efficiently.
3. Flexibility is the adaptation to variations in demand or supply without significant disruption.
4. Quickness is speed in decision-making and product distribution.

Agile companies generally rely on digital technologies, such as big data analytics, Internet of Things (IoT), and integrated ERP to improve visibility and decision-making. In the context of SCM, agility is also often manifested in the form of, according to Ivanov & Dolgui (2022), such as:

1. Dynamic production planning.
2. Multi-sourcing strategy.
3. Cloud-based information systems that connect with suppliers and customers.

Agility is essential for companies in the environment of high-velocity markets, such as FMCG and electronics. Nevertheless, this element remains relevant in stable industries such as cement, especially when facing supply crises or fluctuations in raw material prices (Chopra & Sodhi, 2022). Meanwhile, supply chain resilience is the ability of companies to effectively anticipate, absorb, adapt, and recover from disruptions, so

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that the supply chain continues to run despite extreme pressures (Pettit et al., 2013). The main components of resilience, according to Ponomarov & Holcomb (2009), include:

1. Redundancy is the existence of capacity and stock reserves.
2. Flexibility, which is an alternative distribution channel, supplier, and product design.
3. Visibility is comprehensive monitoring of the supply chain.
4. Collaboration is close communication and coordination with partners.
5. Risk management culture is a proactive attitude towards potential risks.

In the cement industry, where disruptions can be caused by infrastructure limitations or logistical delays in construction projects, resilience is important to maintain operational stability. Supplier diversification and logistics integration are often implemented to strengthen this resilience (Ivanov, 2018). Financial performance reflects how well a company manages its resources to achieve economic and operational goals, which is typically measured through indicators such as net profit, profit margin, logistics cost efficiency, and profitability ratios such as ROA and ROE. In an era of high business uncertainty, companies must be operationally efficient but also responsive and resistant to disruption risks. This demonstrates that companies with resilient and adaptive supply chains can reduce supply disruption costs, improve delivery accuracy, and maintain customer loyalty, all impacting financial performance improvement. This is in line with the findings of the study, which emphasized the importance of an organization's ability to mitigate risk, respond quickly, and recover after a crisis as a determinant of long-term financial success (Ivanov & Dolgui, 2020b; Chowdhury & Quaddus, 2016).

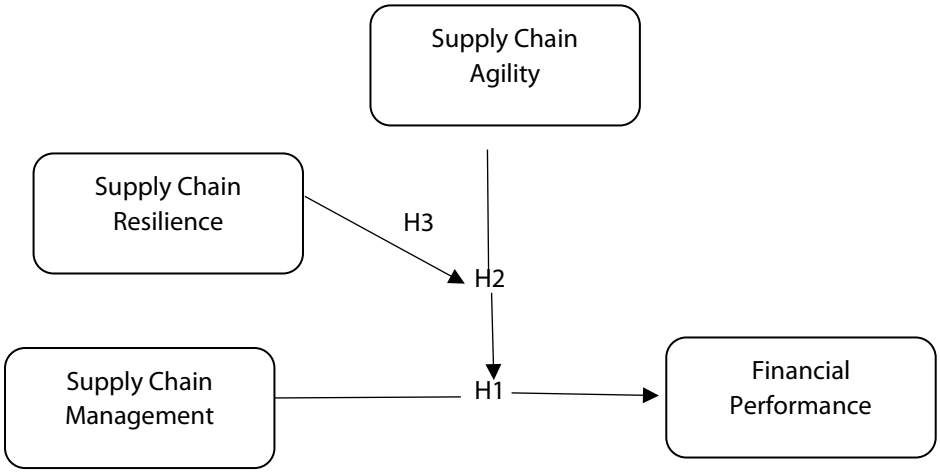

Figure 1. Conceptual Framework and Hypothesis

H1: Supply Chain Management has a positive effect on Financial Performance

Effective supply chain management (SCM) significantly improves the company's financial performance through process optimization, reducing inefficiencies, and strengthening synergies between business functions. With good coordination from upstream to downstream, SCM allows companies to increase visibility of the flow of goods and information, minimizing lead times and lowering logistics and operational costs. It also emphasizes that superior SCM practices improve financial indicators such as return on assets (ROA), return on equity (ROE), and gross profit margin, primarily through cost efficiency and service level improvements. Supply chain risk management also plays an important role, as risks such as supply fluctuations or distribution delays directly impact income and cash flow stability (Hsieh et al., 2023; Tufan et al., 2024;

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Junaedy & Pattiasina, 2023). Logistics-Supply-Chain-Management compress (2018) expands on this argument by explaining that integrating risk management into an SCM strategy can produce an efficient and adaptive supply chain structure. Added that the digitization of SCM and the integration of information technologies (such as ERP and SC visibility systems) drive real-time data-driven decisions, accelerating the response to market uncertainty and minimizing errors in procurement. In addition, recent research shows that organizations with mature SCM systems tend to have a competitive advantage in terms of customer satisfaction and operational continuity during crises, which directly contributes to the achievement of solid financial performance (Bezawada & Agarwal, n.d.; Scholten et al., 2020).

H2: Supply Chain Agility Moderates the Positive Influence of Supply Chain Management on Financial Performance

Supply chain agility is a moderating factor that strengthens the relationship between supply chain management and a company's financial performance. In a business environment full of uncertainty, organizations must be highly adaptable to survive and grow. Agility is a key capability that allows companies to respond quickly and efficiently to market changes, fluctuations in demand, and supply chain disruptions. Agile companies are more resilient in exploiting market opportunities quickly and adapting their operational strategies flexibly, which has a direct impact on increased revenue and profitability (Tufan et al., 2024)

According to the article, strong collaboration in the supply chain strengthens agility and creates a competitive advantage through increased response to market changes and reduced risk of missing sales opportunities. Cross-functional collaboration enables the creation of faster, data-driven decision-making processes and effective coordination in the distribution of goods and production adjustments. This is important to maintain operational continuity and financial stability. It added that agility is directly correlated positively with competitive advantage and financial performance, especially in sectors with high levels of competition and fluctuating customer demand, such as the manufacturing, retail, and logistics industries. Agility allows companies to deliver the right products at the right time at minimal cost (Scholten & Painter, 2015; Y. Y. Yusuf et al., 2001).

Barhmi (2019) added that supply chain agility also acts as a risk mitigation instrument that can reduce the company's exposure to supply disruptions and fluctuations in raw material prices, thereby preventing cost spikes that can disrupt cash flow and profitability. In a stable industry such as cement, agility remains relevant to the needs of large-scale infrastructure projects that are often sudden or seasonal. Agility allows companies to adjust production schedules, shift raw material sources, or accelerate deliveries to project sites without incurring a decrease in efficiency. Agility should be integrated into the design of supply chain systems by utilizing technologies such as big data, IoT, integrated ERP, and predictive demand management systems. Thus, agility supports adaptive operations and becomes a key driver of a company's financial performance by creating efficiency, increased service speed, and high customer satisfaction (Ivanov & Dolgui, 2021).

H3: Supply Chain Agility and Supply Chain Resilience Moderate the Positive Influence of Supply Chain Management on Financial Performance

Supply chain agility and resilience are two dynamic capabilities that complement each other and can simultaneously strengthen the influence of supply chain management on financial performance. Supply chain resilience helps companies maintain operational continuity despite facing various forms of disruption in supply, distribution, natural disasters, and market fluctuations. Meanwhile, agility plays a role in accelerating responses to market opportunities or threats with quick and efficient adaptation. The combination of these two capabilities creates a supply chain structure that is resilient and flexible, allowing companies to remain efficient and competitive even amid external pressures such as pandemics, energy crises, or geopolitical disruptions.

Research has stated that the synergy between agility and supply chain resilience can improve financial stability, drive cost efficiency, and maintain financial performance during times of crisis. Emphasizing

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the importance of supply chain systems that can operate adaptively and sustainably in highly volatile environments. This model combines the principles of digitalization, adaptive responsiveness, and predictive systems to ensure the continuity of the flow of goods, information, and finance in the long term. In this case, resilience allows for quick recovery from disruptions, while agility accelerates the decision-making process and implementation of alternative strategies (Tufan et al., 2024; Hsieh et al., 2023; Ivanov, 2022). Yu et al (2018) also reinforce this argument by stating that a resilient supply chain has a proactive strategic approach to managing risk, using a flexible approach to procurement and distribution, and prioritizing long-term relationships with suppliers and distributors. This reduces the likelihood of market losses, increases customer confidence, and strengthens the company's reputation, which impacts achieving more stable and sustainable financial performance.

Pettit et al. (2013) state that actively developing a combination of redundancy (operational backup) and flexibility (alternative distribution channels) will better prepare them to face sudden disruptions. Meanwhile, resilience reduces recovery time and damage costs, directly affecting financial efficiency and business continuity. In the context of the cement industry, the need for a combination of agility and resilience has become increasingly important given the high dependence on infrastructure projects that are volatile and often time sensitive. Strategies that integrate flexible production planning, supplier diversification, and digitizing supply chain visibility can be key to maintaining long-term financial performance. (Karl et al., 2018)

III. Research Method

This study uses a quantitative approach with a hypothesis testing design to analyze the influence of Supply Chain Management on Financial Performance and the role of Supply Chain Agility and Resilience moderation. The underlying theory is Dynamic Capabilities (Teece et al., 2004), which describes the ability of companies to adapt quickly in the face of changing environments. Primary data was collected through an online questionnaire shared with employees, supervisors, managers, and directors in cement manufacturing companies, with at least one year of work experience in the supply chain field. The questionnaire was compiled based on previous research, validated by experts, and tested on a limited number of respondents. Secondary data are obtained from scientific literature. The sampling technique used is purposive sampling, with respondents' criteria including experience and work positions relevant to the supply chain process. The number of samples was determined based on the formula, namely the number of indicators (33) multiplied by 6, so a minimum of 198 respondents were obtained, with 200 data collected from 200 respondents. (Hair et al., 2019) The data analysis method used is Partial Least Squares-Structural Equation Modeling (PLS-SEM) through SmartPLS 3.0 software, according to the model evaluation, which includes reliability and validity tests (Cronbach's Alpha, CR, AVE), as well as structural tests with (Hair et al., 2019) R-square values and path coefficients. The significance test was performed by bootstrapping with 5000 subsamples, and the hypothesis decision was based on a p-value of 0.05

IV. Results and Discussion

4.1. Respondent Characteristics

This study targeted 198 respondents, but after the questionnaire was distributed, 200 respondents were obtained who were managers and employees of large cement manufacturing companies located in the Bogor area. Based on gender, most respondents were men, as many as 132 people, and the rest were women, as many as 68. Based on age group, respondents were dominated by 122 people aged 31–40 years (61.0%), followed by 41 people (20.5%) in the 20–30 years age group, and 37 people aged 41–50 years (18.5%). This data shows that most respondents are at a productive age relevant to the company's decision-making and operational activities.

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When viewed from the length of work, respondents with a working period of 6–10 years dominated with a total of 100 people (50.0%), followed by 59 people (29.0%) with a working period of 1–5 years, then 11–15 years with 39 people (19.5%), and more than 15 years with only two people (1.0%). Based on the latest education level, the majority of respondents were 138 S1 graduates (69.0%), then 30 S2 graduates (15.0%), D1-D4 diploma 26 holders (13.0%), five high school/equivalent holders (2.5%), and one S3 1 holder (0.5%). As for position, as many as 95 respondents (47.5%) are employees, 77 people (38.5%) serve as managers, 22 people (11.0%) are supervisors, and six people (3.0%) are directors. These characteristics reflect the diversity of respondents' backgrounds, which can provide a comprehensive perspective on the research topic.

4.2. Prerequisites Test

According to the statement, a variable is a factor that, as a whole, represents different or varying values. That value has a time variation for the same object or the same time for a variable object. (Sekaran & R Bougie, 2013)

Table 1. Validity Test

	Question Items	Factor Loadings	Decision
Collaboration with Suppliers			
1	The company affirms the openness of communication with the leading suppliers.	0.817	
2	The company deals with its suppliers on a partnership basis.	0.754	Valid
3	The company works to involve basic suppliers in the process of developing its products and services.	0.482	
Customer Relationship Management			
1	Customer satisfaction is the primary goal.	0.411	
2	A special division for customer service.	0.470	Valid
3	Survey customer satisfaction effectively.	0.403	
Logistics			
1	The company responds to orders from inception to delivery and handles payments and financial records.	0.472	
2	The company's system ensures the accuracy and completeness of orders to avoid returns	0.507	Valid
3	Logistics management in a company includes planning, scheduling, production, and monitoring.	0.622	
4	Enterprise logistics management includes all levels of planning and implementation (executive and tactical strategy	0.690	
Information Flow and Knowledge Sharing			
1	The company has an electronic system to speed up the internal exchange of information.	0.752	
2	The company uses electronic systems to exchange information with customers.	0.772	Valid
3	The company uses electronic systems to exchange information with suppliers.	0.455	
Supply Chain Agility			
1	The ability to respond to changes in demand without overstock or lost sales.	0.760	Valid
2	A company's supply chain can predict market demand and respond appropriately.	0.655	Valid

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	Question Items	Factor Loadings	Decision
3	The company cooperates with suppliers in purchasing, production, and logistics.	0.622	Valid
4	Integrating information with suppliers, logistics service providers, and customers in the supply chain is essential.	0.432	Valid
5	The company is making improving the level of service a high priority.	0.594	Valid
6	Improving delivery reliability is a high priority.	0.622	Valid
7	Improving the response to changing market needs is a high priority.	0.599	Valid
8	Inventory and demand levels can be seen throughout the supply chain.	0.73	Valid
	Supply Chain Resilience		
1	Ability to cope with changes caused by supply chain disruptions.	0.814	
2	Able to adapt to supply chain disruptions with ease.	0.844	
3	Companies can respond to supply chain disruptions quickly.	0.726	Valid
4	Companies can always maintain high situational awareness.	0.709	
	Financial Performance		
1	Over the past three years, the company's financial performance has improved.	0.735	
2	Over the past three years, the company's financial performance has been superior to its competitors.	0.816	
3	Over the past three years, the company's sales growth has been excellent.	0.662	Valid
4	The company has been more profitable than its competitors in the last three years, with higher profit margins.	0.681	
5	Over the past three years, sales growth has been higher than that of competitors,	0.780	

The validity test results showed that most of the indicators in this study had a loading factor value above 0.40, so it was declared valid and could be used for future testing. However, some indicators do not meet the value of the loading factor and have been removed from the model to improve the accuracy and conformity of SEM standards. After removal, all remaining indicators are declared valid and ready for analysis at the next stage of reliability testing.

Table 2. Average Variance Extracted (AVE) Value

	Average Variance Extracted (AVE)
Supply Chain Management	0.606
Supply Chain Resilience	0.555
Financial Performance	0.543
Supply Chain Agility	0.436

Based on the results in Table 2, it can be seen that most constructs have AVE values above 0.5, such as Supply Chain Management (0.606), Supply Chain Resilience (0.555), and Financial Performance (0.543), so they can be declared valid convergently. However, the Supply Chain Agility construct has an AVE value of 0.436, below the significance value. This shows that the value has not met the requirements for optimal

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convergent validity, although this value is still acceptable; further attention is needed to the measurement items on the variable, either by re-evaluating the indicators used or considering the instrument's revision in the following study.

Table 3. Discriminating Validity Test

	Supply Chain Agility	Supply Chain Resilience	Financial Performance	Supply Chain Management
Supply Chain Agility	0.663			
Supply Chain Resilience	0.593	0.744		
Financial Performance	0.613	0.619	0.786	
Supply Chain Management	0.662	0.387	0.498	0.778

Based on these results, the discriminant validity test is fulfilled because each construct has a higher AVE value (diagonal value) than the correlation value between other constructs. For example, the root value of the AVE of Supply Chain Agility is 0.663, greater than its correlation with other constructs such as Supply Chain Resilience (0.593), Financial Performance (0.613), and Supply Chain Management (0.662). The same applies to other constructs as well. This means that each variable in the model is pretty different from the others, so it can be considered a discriminant valid construct in this research model.

Table 4. Reliability Test

	Cronbach's alpha	Composite reliability (rho_a)	Information
Supply Chain Agility	0.793	0.803	Reliable
Supply Chain Resilience	0.734	0.739	
Financial Performance	0.789	0.801	
Supply Chain Management	0.87	0.874	

The reliability test results of the variables of Supply Chain Management, Supply Chain Agility, Supply Chain Resilience, and Financial Performance showed that Cronbach's Alpha value was greater than >0.60. Thus, all variables were declared reliable, and all indicators of the variables of this study were feasible or reliable.

4.3. Goodness of Fit Test

Table 5. Goodness Of Fit Test

	Criterion	Estimated model	Information
Chi-square	942.076	939.76	Poor Fit
NFI	0.614	0.615	Poor Fit
SRMR	0.098	0.098	Good Fit
d_G	0.996	0.996	Good Fit
d_ULS	2.442	2.421	Good Fit

Based on the Goodness of Fit test in Table 3, the results showed variations in the research model's suitability level. The SRMR value of 0.098 is still considered good because the value is close to the maximum

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recommended limit of 0.10. In addition, the values of d_G (0.996) and d_ULS (2.442) also indicate that the model adequately matches the analyzed data, by the standards applied in the SEM method.

However, the Chi-square value of 942.076 and the Normed Fit Index (NFI) of 0.614 are considered low compared to the ideal value, generally in the range of 0.90 and above. This indicates that the model has not fully demonstrated a strong overall structural fit. However, most primary fit measures still perform well, so the model can still be used in the hypothesis testing phase, considering potential future model improvements. The following is the framework used for hypothesis testing:

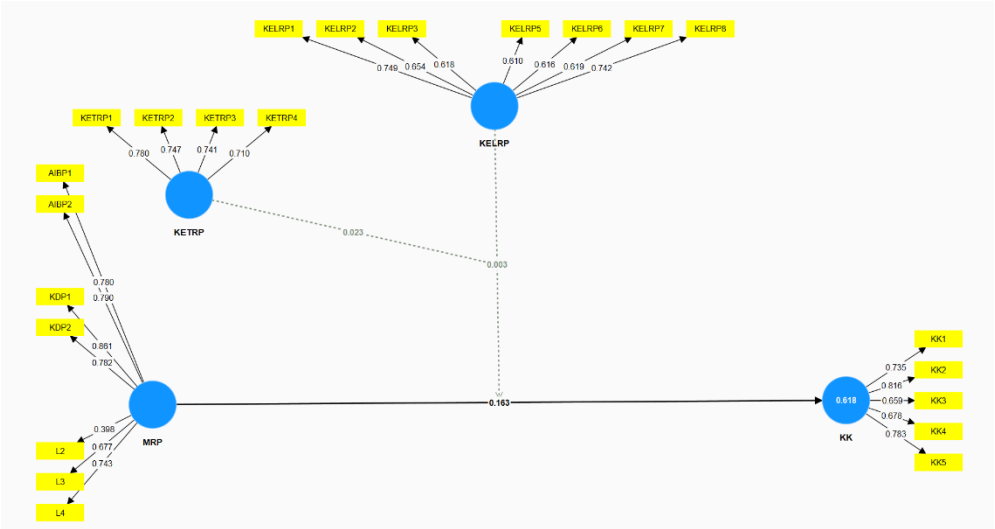

Figure 2. SmartPLS Result

4.4. Hypothesis Test

Table 4. Hypothesis Test Results

Hypothesis	Original Sample (O)	T statistics	P value
Supply Chain Management has a positive effect on Financial Performance.	0.163	1.971	0.024
Supply Chain Agility moderates the positive influence of Supply Chain Management on Financial Performance.	0.003	0.045	0.482
Supply Chain agility and resilience moderate the positive influence of Supply Chain Management on the Company's Financial Performance.	0.023	0.40	0.345

Hypothesis 1 in this study examines whether Supply Chain Management positively affects the company's Financial Performance. The analysis showed that the estimated value of the relationship was 0.163 with a P-value of 0.024. Since this value is below the significance level of 0.05, the hypothesis is statistically significant. This means that the better the implementation of supply chain management, the better the company's financial performance in managing raw material procurement, distribution, logistics, and coordination between units, the greater the positive impact on profitability and cost efficiency. In addition, the cement industry is known to have a high fixed cost structure, so efficiency in supply chain processes can provide significant cost savings, for example, through optimization of distribution routes, inventory

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management, and production scheduling. If the company can manage all these aspects synergistically, it will increase profit margins and Return on Assets (ROA). Research also reinforces these results, which state that internally and externally coordinated supply chain management practices can improve operational efficiency, lower logistics costs, and improve customer satisfaction and overall financial performance. (Hsieh et al., 2023) (Tufan et al., 2024)

Hypothesis 2 tests whether Supply Chain Agility moderates the positive influence of Supply Chain Management on a company's Financial Performance. The analysis showed that this relationship was not statistically significant, with an estimated value of 0.003 and a p-value of 0.482, well above the general significance limit of 0.05. Supply chain agility has not been shown to strengthen or weaken the relationship between supply chain management and financial performance, so hypothesis 2 is unsupported. These results do not align with research, which states that supply chain agility is important in strengthening the relationship between supply chain management practices and financial performance achievement, especially in fast-moving and dynamic industries. However, these results align with the findings affirming that agility will not have a meaningful impact if the support of sophisticated information technology systems and solid integration of internal and external processes does not accompany it. In the context of the cement industry, this result is understandable given that supply chains in this sector tend to be stable and planned. Cement demand is generally fixed and is not much affected by short-term fluctuations. Therefore, adapting quickly or flexibly may not be a significant factor in supporting financial performance. Instead, the company relies more on measured production planning, efficient logistics management, and certainty of supply of raw materials such as limestone and clinker. (Tufan et al., 2024) (Eslami et al., 2021)

Hypothesis 3 tests whether Supply Chain Agility and Supply Chain Resilience moderate the positive influence of Supply Chain Management on a company's Financial Performance. The test results showed that the moderation relationship was not statistically significant, with an estimated value of 0.023 and a p-value of 0.345, which is still above the general significance limit of 0.05. This means that the combination of agility and supply chain resilience has not been proven to strengthen or weaken the influence of supply chain management on the company's financial performance. These results are not aligned with the findings, which emphasize that a combination of agility and resilience is essential for maintaining competitiveness and financial performance in a dynamic business environment. However, these results instead support the findings, which emphasize that the moderating influence of the two variables is highly contextual, depending on the type of industry and market dynamics faced. (Tufan et al., 2024) (Gölgeci & Gligor , 2022) (Altay et al., 2018) confirms that companies with consistent operational structures tend to obtain higher financial returns through distribution stability and sound risk management . These findings emphasize that the selection of SCM strategies must be adjusted to the dynamics and characteristics of the industrial sector to impact financial performance significantly. In the context of the cement industry, such as those run by large companies, the characteristics of the supply chain tend to be more stable and standardized. The cement production process is generally large-scale, with an organized distribution network and relatively predictable demand based on infrastructure and construction projects. Therefore, extreme flexibility or the ability to recover from disruptions quickly (as a reflection of agility and resilience) may not be a key need in supply chain management in the industry. On the contrary, the reliability of raw material supply, distribution efficiency, and price stability are more crucial. This explains why the moderation effect of agility and resilience does not appear significant on financial performance in a cement company setting. These findings emphasize the importance of a specific supply chain strategy, given the character of the industrial sector.

V. Conclusion

Supply Chain Management has a positive effect on the company's Financial Performance. This shows that increasing effectiveness in supply chain management, such as raw material procurement, supplier management, and distribution of goods, will directly impact the company's efficiency and profitability. These

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findings are supported by research showing that coordinated SCM practices internally and externally can improve cost efficiency and financial performance. (Tufan et al., 2024),

Supply Chain Agility does not play a role as a moderation variable in the relationship between supply chain management and financial performance. A company's ability to respond to market changes has not been optimal enough to strengthen the relationship. These results align with the findings that agility does not necessarily have a significant impact if it is not supported by a strong technology and integration system (Eslami et al., 2021). The combination of Agility and Supply Chain Resilience has not been shown to moderate the positive relationship of supply chain management to financial performance. The study corroborates these findings by stating that the role of Supply Chain Agility and Supply Chain Resilience as a moderator is highly dependent on the context and characteristics of the industry, and does not always show statistically significant effects (Gölgeci & Gligor, 2022).

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