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Covid-19 Pandemic, Firm Characteristics, Supply Chain Resilience, and Financial and Market Performance: Evidence from Indonesian Listed Consumer Goods Companies

Intan Salsabilla Larasati[1], Ifah Rofiqoh[2]*

[1,2] Universitas Teknologi Yogyakarta

ABSTRACT

Purpose: This study examine the associations of the COVID-19 period, firm size, asset turnover, a sales-based proxy for supply chain resilience, and industry type with the financial and market performance of consumer goods companies listed on the Indonesia Stock Exchange (IDX) during 2018-2023**.**
Methodology: The study uses a quantitative approach and secondary data from annual reports and financial statements. The final sample comprises 126 firms observed over six years, yielding 756 firm year observations. Financial performance is measured by return on assets (ROA), whereas market performance is measured by price to book value (PBV). The reported analysis uses pooled multiple linear regression and is complemented by descriptive statistics and diagnostic tests.
Findings: Firm size and the sales based resilience proxy are positively and significantly associated with ROA, while industry type is significantly associated with ROA with a negative test statistic under the coding used. The COVID-19 period and asset turnover are not significantly associated with ROA. None of the explanatory variables is statistically significant in the PBV model. The ROA model is jointly significant, whereas the PBV model is not.
Implication: The findings indicate that accounting based performance is more closely related to internal resource capacity and the ability to maintain sales during disruption than to the pandemic period indicator itself. The week explanatory power for PBV suggests that market valuation may depend on factors not captured by the present model.
Originality: The study jointly considers firm characteristics, industry classification, a resilience related sales measure, and two performance dimensions across pre-pandemic, pandemic, and post-pandemic periods.
Keywords: COVID-19; firm size; asset turnover; supply chain resilience; financial performance; market performance

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Corresponding Author:
Ifah Rofiqoh
(ifah.rofiqah@uty.ac.id)

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1. Introduction

The COVID-19 pandemic created an exceptional disruption to business activity, supply networks, consumer behavior, and capital markets. After the first reported cases in late 2019, mobility restrictions and public-health measures affected production, distribution, and demand in many countries, including Indonesia. The economic consequences, however, were not uniform across firms or industries. Some companies experienced severe operational constraints, while others were able to preserve demand, adjust distribution channels, and maintain business continuity.

The consumer goods sector provides a useful setting for examining these differences. Products in this broad sector remain closely connected to household consumption, but firms vary in demand sensitivity, resource capacity, asset utilization, and exposure to supply-chain disruption. During a crisis, differences in internal resources and operating flexibility may therefore help explain why some firms preserve profitability better than others. At the same time, accounting performance and market performance need not respond in the same way. Return on assets (ROA) reflects the firm's ability to generate earnings from its asset base, whereas price-to-book value (PBV) reflects market valuation relative to accounting book value and may incorporate expectations beyond current operating results.

Prior studies have documented that the pandemic affected firm performance, although the magnitude and direction differed across countries and corporate characteristics(Hu & Zhang, 2021; Shen et al., 2020). Research on organizational resilience further emphasizes the capacity to absorb shocks, adapt operations, and restore performance under disruption (Lengnick-Hall et al., 2011).Supply-chain research similarly highlights continuity, adaptability, and recovery as central features of resilience (Ivanov & Dolgui, 2020; Wieland & Wallenburg, 2013) These perspectives suggest that the impact of a major external shock cannot be understood solely from the shock itself; firm-specific resources and adaptive capacity also matter.

Nevertheless, three issues remain relevant. First, many pandemic studies focus on either accounting performance or market outcomes rather than examining both dimensions in the same model. Second, firm size and asset turnover capture resource capacity and operating efficiency, while a resilience related sales measure captures a different aspect of performance preservation during disruption; considering them jointly may provide a more integrated view. Third, the 2018–2023 observation window enables comparison across pre-pandemic, pandemic, and post-pandemic phases rather than limiting the analysis to a before-versus-during design.

Accordingly, this study examines whether the COVID-19 period, firm size, asset turnover, a sales-based proxy for supply chain resilience, and industry type are associated with financial performance (ROA) and market performance (PBV) among consumer goods companies listed on the Indonesia Stock Exchange. The study contributes by distinguishing accounting-based and market-based outcomes and by assessing whether firm-specific characteristics and resilience-related conditions have similar implications for the two forms of performance.

2. Literature Review and Hypotheses

Resource-Based and Dynamic Capability Perspectives

The resource-based view argues that firms differ in performance because they possess heterogeneous resources and capabilities. Valuable and difficult-to-replicate resources can support competitive advantage and performance (Barney, 1991). In the present context, firm size represents resource capacity, while asset turnover reflects the efficiency with which the asset base is converted into sales. Larger firms may have broader financing access, more diversified operations, and greater flexibility to reallocate resources when external conditions change.

Dynamic capability thinking complements the resource-based perspective by emphasizing the capacity to reconfigure resources under rapidly changing conditions(Eisenhardt & Martin, 2000; Teece et al., 1997). During the COVID-19 disruption, firms were required to adjust sourcing, logistics, production, and distribution. A firm's ability to preserve sales despite these disruptions can therefore provide an indirect indication of operational resilience, although sales change is not a complete measure of supply chain resilience. This distinction is important for interpreting the empirical proxy used in this study.

Covid-19 Pandemic and Performance

The pandemic represented an external shock that altered operating conditions and investor

expectations. Organizational resilience theory suggests that firms with stronger adaptive capabilities are better positioned to withstand such shocks (Lengnick-Hall et al., 2011).At the market level, information about corporate vulnerability and resilience can be incorporated into valuation as investors revise expectations (Fama, 1970; Ding et al., 2021). Because the net effect can differ across firms and periods, this study formulates non-directional hypotheses for the COVID-19 period:

H1a: The COVID-19 period is significantly associated with financial performance (ROA).

H1b: The COVID-19 period is significantly associated with market performance (PBV).

Firm Size and Performance

Firm size reflects the scale of resources available to an organization. Larger firms may have greater financing access, stronger bargaining power, broader markets, and more capacity to absorb temporary shocks. Prior evidence indicates that firm size can be associated with profitability and other corporate-finance outcomes (Lee, 2009). From a resource-based perspective, greater resource capacity should support operating performance and may also provide a favorable signal to the market. Therefore:

H2a: Firm size is positively associated with financial performance (ROA).

H2b: Firm size is positively associated with market performance (PBV).

Asset Turnover and Performance

Asset turnover measures the efficiency with which a firm's assets generate sales. Higher asset turnover can indicate more effective asset utilization and may support profitability when sales are converted into earnings. Prior research shows that changes in asset turnover can provide information about future profitability and firm value (Fairfield & Yohn, 2001;Soliman, 2008).Accordingly:

H3a: Asset turnover is positively associated with financial performance (ROA).

H3b: Asset turnover is positively associated with market performance (PBV).

Supply Chain Resilience and Performance

Supply chain resilience refers to the capacity to anticipate, respond to, and recover from disruptions while maintaining or restoring operational continuity. Prior studies connect resilient supply networks with organizational performance and the ability to respond to uncertainty (Chowdhury et al., 2019;Ivanov & Dolgui, 2020;Wieland & Wallenburg, 2013). The present study does not observe a multidimensional resilience construct directly. Instead, it uses year-to-year sales change as a sales-based proxy, based on the premise that firms able to preserve or recover sales during disruption may exhibit stronger operational continuity. Because sales change can also be influenced by demand, prices, marketing, and other factors, the proxy should be interpreted cautiously. The hypotheses are:

H4a: The sales-based supply chain resilience proxy is positively associated with financial performance (ROA).

H4b: The sales-based supply chain resilience proxy is positively associated with market performance (PBV).

Industry Type and Performance

Industry characteristics shape demand conditions, competitive intensity, and exposure to external shocks. The importance of industry effects for differences in profitability has long been recognized (Rumelt, 1991). Within consumer goods, cyclical and non-cyclical firms may face different demand sensitivity during periods of economic disruption. Since industry type is categorical, the hypotheses are stated in terms of association rather than a generic positive effect:

H5a: Industry type is significantly associated with financial performance (ROA).

H5b: Industry type is significantly associated with market performance (PBV).

COVID-19 Period	→	**Financial Performance (ROA)** **Market Performance (PBV)**
Firm Size	→	
Asset Turnover	→	
Sales-Based SCR Proxy	→	
Industry Type	→	

Figure 1. Conceptual framework

Source: Results of secondary data processing, 2026

3. Methodology

Research Design, Population, and Sample

This study uses a quantitative design based on secondary data obtained from the financial statements and annual reports of consumer goods companies listed on the Indonesia Stock Exchange (IDX) for 2018–2023. The population consists of listed consumer goods companies within the study scope. Based on the sampling process reported in the original dataset, 145 companies were excluded because of incomplete data, leaving 126 companies. The six-year observation window produces 756 firm-year observations.

Because the same firms are observed repeatedly across years, the dataset has a panel structure. The reported statistical output, however, is based on pooled multiple linear regression. Consequently, the results in this manuscript are presented as associative evidence from the reported model rather than as definitive causal estimates. Diagnostic results are reported transparently, and the implications of heteroskedasticity and autocorrelation are acknowledged in the limitations.

Table 1. Sampling Details

No.	Sample Selection Criteria	
1.	Total consumer companies	271
2.	Incomplete data	145
3.	Sample testing	126
4.	Observation period	6 years
	Total number of samples in the study	**756**

Source: Results of secondary data processing, 2026

Variable Measurement

Financial performance is measured using return on assets (ROA), calculated as net income after tax divided by total assets (Brigham & Houston, 2004).Market performance is measured using price-to-book value (PBV), defined as the market price per share relative to book value per share (Sutrisno, 2013). Firm size is measured as the natural logarithm of total assets, and asset turnover is net sales divided by average total assets. The resilience-related variable is measured as year-to-year sales change, calculated as (Sales_t − Sales_t−1)/Sales_t−1. Industry is coded 1 for Consumer Non-Cyclicals and 2 for Consumer Cyclicals. The COVID-19 period variable is coded 1 for pre-COVID, 2 for COVID, and 3 for post-COVID; this coding represents an ordered period indicator and should not be described as a binary dummy variable.

Table 2. Operationalization of variables

Variable	Role	Measurement / coding	Interpretation
ROA	Dependent	Net income after tax / Total assets	Accounting-based financial performance
PBV	Dependent	Market price per share / Book value per share	Market valuation
COVID-19 period	Independent	1 = Pre-COVID; 2 = COVID; 3 = Post-COVID	Ordered period indicator
Firm size	Independent	Ln (Total assets)	Resource capacity / firm scale
Asset turnover	Independent	Net sales / Average total assets	Asset-utilization efficiency
Sales-based SCR proxy	Independent	(Sales_t − Sales_t−1) / Sales_t−1	Indirect resilience-related sales measure

Industry type	Independent	1 = Consumer Non-Cyclicals; 2 = Consumer Cyclicals	Industry classification

Source: Results of secondary data processing, 2026

Model Specification and Statistical Analysis

The reported models estimate the association between the five explanatory variables and each performance measure. The empirical specifications are:

$$ROA = \alpha + \beta_1 COVID + \beta_2 SIZE + \beta_3 ATO + \beta_4 SCR + \beta_5 INDUSTRY + \varepsilon$$

$$PBV = \alpha + \beta_1 COVID + \beta_2 SIZE + \beta_3 ATO + \beta_4 SCR + \beta_5 INDUSTRY + \varepsilon$$

The analysis includes descriptive statistics, multicollinearity testing, residual normality testing, heteroskedasticity testing, autocorrelation testing, partial t-tests, the model F-test, and the coefficient of determination. Statistical significance is evaluated at the 5% level. Because the available regression table reports t-statistics and p-values but not coefficients or standard errors, the discussion focuses on statistical significance and the direction indicated by the test statistic. This reporting limitation should be addressed in a future re-estimation by presenting full coefficient tables.

4. Results and Discussion

4.1. Results

Descriptive Statistics

The study contains 756 valid firm-year observations. Firm size has a mean of 27.06 and a standard deviation of 3.63. Asset turnover averages 1.05 (SD = 0.89), while the sales-based SCR proxy has a mean of 0.098 (SD = 0.463). The industry variable has a mode of 2, indicating that Consumer Cyclicals dominate the coded sample. ROA has a mean of −0.637 (SD = 2.432), showing substantial variation in accounting performance, whereas PBV has a mean of 0.478 (SD = 0.435).

Table 3. Descriptive Statistics

Variable	N	Mean / Mode	Standard deviation
Firm size	756	27.060	3.626
Asset turnover	756	1.047	0.893
Sales-based SCR proxy	756	0.098	0.463
Industry type	756	Mode = 2	—
ROA	756	−0.637	2.432
PBV	756	0.478	0.435

Source: Results of secondary data processing, 2026

Regression Diagnostics

The diagnostic tests indicate that multicollinearity is not a major concern: all VIF values range from 1.007 to 1.096 and all tolerance values exceed 0.90. The Kolmogorov–Smirnov tests report $p < 0.001$ for both models, indicating non-normal residuals under the formal test. With a large sample, formal normality tests can be highly sensitive, but the result should still be reported. More importantly, the Glejser results contain several p-values below 0.05, indicating evidence of heteroskedasticity in both models. The run tests also produce $p < 0.05$ for ROA and PBV, indicating serial dependence/autocorrelation under the reported procedure. These violations mean that conventional pooled-OLS inference should be interpreted cautiously.

Table 4. Summary of diagnostic tests

Diagnostic	ROA model	PBV model	Interpretation
Residual normality	K–S $p < 0.001$	K–S $p < 0.001$	Formal test indicates non-normal residuals
Multicollinearity	VIF 1.007–1.096	VIF 1.007–1.096	No serious multicollinearity
Heteroskedasticity	Several Glejser $p < 0.05$	Several Glejser $p < 0.05$	Evidence of heteroskedasticity
Autocorrelation	Run test $p < 0.001$	Run test $p = 0.004$	Evidence of autocorrelation

Source: Results of secondary data processing, 2026

Hypothesis Tests

Table 5 summarizes the reported partial tests. For ROA, firm size is statistically significant and positive in direction ($t = 2.851$, $p = 0.004$), supporting H2a. The sales-based SCR proxy is also significant and positive ($t = 4.646$, $p < 0.001$), supporting H4a. Industry type is significant ($t = -3.231$, $p = 0.001$), supporting the non-directional H5a. Given the coding 1 = Consumer Non-Cyclicals and 2 = Consumer Cyclicals, the negative test statistic is consistent with lower ROA for the higher-coded cyclical category, holding the other variables constant. The COVID-19 period and asset turnover are not significant for ROA, so H1a and H3a are not supported.

For PBV, none of the explanatory variables reaches the 5% significance level. The p-values are 0.285 for COVID-19, 0.083 for firm size, 0.467 for asset turnover, 0.692 for the sales-based SCR proxy, and 0.669 for industry type. Therefore, H1b, H2b, H3b, H4b, and H5b are not supported by the reported estimates.

Table 5. Partial significance tests

Variable	ROA t	ROA p	PBV t	PBV p
Constant	−1.217	0.123	3.631	<0.001
COVID-19 period	−1.691	0.091	−1.071	0.285
Firm size	2.851	0.004	1.739	0.083
Asset turnover	−1.209	0.227	0.727	0.467
Sales-based SCR proxy	4.646	<0.001	−0.396	0.692
Industry type	−3.231	0.001	0.427	0.669

Table 6. Model-level tests

Model	F	p-value	Adjusted R^2
ROA	8.809	<0.001	0.049
PBV	0.991	0.422	0.000

At the model level, the ROA regression is jointly significant ($F = 8.809$, $p < 0.001$), but the PBV regression is not ($F = 0.991$, $p = 0.422$). The adjusted R^2 for ROA is 0.049, indicating that the explanatory variables account for approximately 4.9% of the observed variation in ROA. The adjusted R^2 for PBV is 0.000, indicating essentially no explanatory power for market performance in the reported specification.

4.2. Discussion

COVID-19 Period and Firm Performance

The COVID-19 period is not statistically significant in either the ROA or PBV model. This result means that, after accounting for the other variables included in the reported specification, the ordered pandemic-period indicator does not provide sufficient evidence of an association with either accounting or market performance at the 5% level. The finding should not be interpreted as evidence that the pandemic had no economic consequences. Rather, it suggests that variation across pre-COVID, COVID, and post-COVID phases, as represented by the current coding, does not independently explain the two performance measures in this sample. One plausible interpretation is that heterogeneous firm responses and differences in consumer demand reduced the ability of a single period indicator to capture the full effect of the disruption, but this explanation requires further testing.

Firm Size and Performance

Firm size is positively and significantly associated with ROA but not with PBV. The ROA result is consistent with the resource-based view: firms with a larger asset base may have more financial and operational capacity to absorb shocks, adjust production and distribution, and maintain profitability (Barney, 1991). The finding is also consistent with evidence that firm size is related to corporate performance (Lee, 2009). The insignificant PBV result, however, indicates that firm scale alone does not explain market valuation in this sample. PBV reflects market expectations and may incorporate information that is not captured by total assets or current operating outcomes.

Asset Turnover and Performance

Asset turnover is not significantly associated with either ROA or PBV. Although asset turnover is a conventional measure of operating efficiency, higher sales relative to assets do not necessarily translate into higher profit when margins are compressed by operating, logistics, or procurement costs. The absence of a significant PBV association likewise suggests that the market did not price asset-turnover differences strongly within the reported model. This contrasts with the information content documented in prior work (Fairfield & Yohn, 2001;Soliman, 2008). Indicating that the relationship may be context-dependent during a period of major disruption.

Sales-Based Supply Chain Resilience Proxy and Performance

The sales-based resilience proxy is positively and significantly associated with ROA but not with PBV. This is consistent with the idea that firms that are better able to preserve or restore sales during disruption may also be better able to maintain profitability. Supply-chain research emphasizes continuity, adaptation, and recovery as mechanisms that support performance under uncertainty (Chowdhury et al., 2019;Ivanov & Dolgui, 2020;Wieland & Wallenburg, 2013). Nevertheless, the measure used here is an indirect proxy. Sales growth can reflect demand shifts, pricing, marketing, product mix, and macroeconomic conditions in addition to supply-chain resilience. The result should therefore be interpreted as evidence regarding a resilience-related sales outcome rather than a complete measurement of supply-chain capability.

Industry Type and Performance

Industry type is significantly associated with ROA but not with PBV. The negative ROA test statistic, together with the coding of 1 for Consumer Non-Cyclicals and 2 for Consumer Cyclicals, is consistent with lower profitability for the cyclical category relative to the non-cyclical category, conditional on the other variables. This pattern is economically plausible because non-cyclical products may face more stable demand during periods of uncertainty. The result is consistent with the broader argument that industry conditions contribute to differences in firm profitability (Rumelt, 1991). The insignificant PBV association indicates that industry classification alone does not explain market valuation within the model.

Financial versus Market Performance

A central finding is the contrast between ROA and PBV. The ROA model is jointly significant, and three explanatory variables show significant associations. In contrast, the PBV model is not jointly significant and has an adjusted R^2 of zero. This divergence reinforces the distinction between accounting-based performance and market-based valuation. Internal resources and the ability to maintain sales may be reflected more directly in current profitability, while market valuation may depend on expectations, risk, growth prospects, financing structure, macroeconomic conditions, and investor sentiment that are not included in the present model. These possibilities are proposed as directions for further research rather than as tested explanations.

5. Conclusion, Implications, and Limitations

This study examines 126 Indonesian listed consumer goods companies over 2018–2023, producing 756 firm-year observations. The reported results show that firm size and the sales-based supply chain resilience proxy are positively and significantly associated with ROA, while industry type is significantly associated with ROA. The COVID-19 period and asset turnover are not significantly associated with ROA. For PBV, none of the explanatory variables is statistically significant. The ROA model is jointly significant, whereas the PBV model is not and has essentially no explanatory power.

The findings suggest that internal resource capacity and the ability to preserve sales during disruption are more closely related to accounting profitability than to market valuation. For managers, the results emphasize the importance of resource flexibility, continuity of operations, and the ability to sustain revenue-generating activity under uncertainty. For investors and researchers, the weak PBV model indicates that market performance should be studied using a broader set of determinants than those included here.

Several limitations should be acknowledged. First, the analysis uses pooled multiple regression even though the data contain repeated observations of the same firms; panel-data models may better account for unobserved firm heterogeneity. Second, the diagnostic tests indicate heteroskedasticity and autocorrelation, so conventional significance tests should be interpreted cautiously. Future analysis should consider panel estimators and robust or clustered standard errors. Third, the COVID-

19 variable is coded as an ordered three-phase indicator rather than separate categorical dummy variables, which imposes a linear period structure. Future studies should model pre-COVID, COVID, and post-COVID phases using explicit dummy variables or year effects. Fourth, year-to-year sales change is only an indirect proxy for supply chain resilience and does not capture the multidimensional capabilities commonly associated with resilience. Future research should incorporate broader measures of supply-chain continuity, redundancy, visibility, flexibility, supplier diversification, and recovery. Finally, the focus on listed consumer goods companies limits generalizability to other sectors and non-listed firms.

Overall, the study provides evidence that financial and market performance respond differently to firm characteristics and disruption-related conditions. The distinction between ROA and PBV is therefore important when evaluating corporate resilience and performance around major external shocks.

References

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, *17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Brigham, E. F. ., & Houston, J. F. . (2004). *Fundamentals of financial management*. Thomson/South-Western.

Chowdhury, M. M. H., Quaddus, M., & Agarwal, R. (2019). Supply chain resilience for performance: role of relational practices and network complexities. *Supply Chain Management*, *24*(5), 659–676. https://doi.org/10.1108/SCM-09-2018-0332

Ding, W., Levine, R., Lin, C., & Xie, W. (2021). Corporate immunity to the COVID-19 pandemic. *Journal of Financial Economics*, *141*(2), 802–830. https://doi.org/10.1016/j.jfineco.2021.03.005

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, *21*(10–11), 1105–1121. https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E

Fairfield, P. M., & Yohn, T. L. (2001). Using Asset Turnover and Profit Margin to Forecast Changes in Profitability. *Review of Accounting Studies*, *6*(4), 371–385. https://doi.org/10.1023/A:1012430513430

Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal of Finance*, *25*(2), 383. https://doi.org/10.2307/2325486

Hu, S., & Zhang, Y. (2021). COVID-19 pandemic and firm performance: Cross-country evidence. *International Review of Economics & Finance*, *74*, 365–372. https://doi.org/10.1016/j.iref.2021.03.016

Ivanov, D., & Dolgui, A. (2020). Viability of intertwined supply networks: extending the supply chain resilience angles towards survivability. A position paper motivated by COVID-19 outbreak. *International Journal of Production Research*, *58*(10), 2904–2915. https://doi.org/10.1080/00207543.2020.1750727

Lee, J. (2009). Does Size Matter in Firm Performance? Evidence from US Public Firms. *International Journal of the Economics of Business*, *16*(2), 189–203. https://doi.org/10.1080/13571510902917400

Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review*, *21*(3), 243–255. https://doi.org/10.1016/j.hrmr.2010.07.001

Rumelt, R. P. (1991). How much does industry matter? *Strategic Management Journal*, *12*(3), 167–185. https://doi.org/10.1002/smj.4250120302

Shen, H., Fu, M., Pan, H., Yu, Z., & Chen, Y. (2020). The Impact of the COVID-19 Pandemic on Firm Performance. *Emerging Markets Finance and Trade*, *56*(10), 2213–2230. https://doi.org/10.1080/1540496X.2020.1785863

Soliman, M. T. (2008). The Use of DuPont Analysis by Market Participants. *The Accounting Review*, *83*(3), 823–853. https://doi.org/10.2308/accr.2008.83.3.823

Sutrisno. (2013). Financial management: Theory, concepts, and applications (9th ed.). *Ekonisia*.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *18*(7), 509–533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z

Wieland, A., & Wallenburg, C. M. (2013). The influence of relational competencies on supply chain resilience: a relational view. *International Journal of Physical Distribution & Logistics Management*, *43*(4), 300–320. https://doi.org/10.1108/IJPDLM-08-2012-0243