The 1st ASEAN School of Business Network International Conference 2024

www.aseansbn.org August 8-10, 2024 Yogyakarta, Indonesia

Exploring the Impact of Resilient Supply Chains on Performance: Sustainability's Mediating Role

Dessy Isfianadewi
Universitas Islam Indonesia, Indonesia
Corresponding author: dessy.isfianadewi@uii.ac.id

ABSTRACT

This study aims to determine the impact of supply chain resilience on supply chain performance and the mediating effect of sustainability. This study formulates ten hypotheses to be tested. This study measures supply chain resilience from three dimensions: flexibility, supply chain risk management, and recovery capability, and measures sustainability from social, environmental, and economic dimensions. This research uses a quantitative approach. The sample is a member of the Batik SME cooperative included in the creative industry craft sector, with the owner or manager as the respondent. The sampling technique used was purposive sampling with the criteria already paying attention to environmentally friendly supply chains and producing green products. The primary data is collected through distributing questionnaires directly or online through Google Forms. Each statement in the questionnaire is measured using a Likert scale of 6 (1 = strongly disagree to 6 - strongly agree). The data analysis technique used is the Structural Equation Model (SEM) with SmartPLS software. The results of this study indicate that of the ten hypotheses tested, five are supported and significant, and five are not supported. Thus, supply chain resilience has a favorable and substantial impact on supply chain performance. Furthermore, a noteworthy and affirmative correlation exists between supply chain performance and social and environmental sustainability. Moreover, the relationship between supply chain performance and resilience might be mediated by social sustainability. In contrast, the resilience and performance of the supply chain concerning environmental and economic sustainability are not immediately impacted by economic sustainability. The influence of supply chain resilience on supply chain performance cannot be mitigated by environmental or economic sustainability.

Keywords: Supply chain resilience, Supply chain performance, Sustainability, SME's

Citation:
Isfianadewi, D. (2024). Conference Proceedings Paper: Exploring the Impact of Resilient Supply Chains on Performance: Sustainability's Mediating Role. *Proceedings of ASBN International Conference 2024* (pp. 629-641), Yogyakarta, Indonesia. ASEAN School of Business Network.

DOI: https://doi.org/10.64458/asbnic.v1.47

INTRODUCTION

Modern supply chains are now formally recognized as national strategies, which shows how important it is to promote green supply chains, create global supply chains, and raise the security of existing global supply chains (Jüttner & Maklan, 2011; Seville, 2015). Supporting green supply chains helps supply chains become more sustainable and helps businesses understand that, to grow, they must consider the effects on the economy, society, and environment and how to strengthen their sustainable competitiveness (Zhu & Wu, 2022). The industry will suffer if a company's supply chain is not resilient enough. This condition required companies to adapt quickly in the face of disruption. Disruption comes

from internal or external sources that the company cannot control (Akbar & Isfianadewi, 2023). A supply chain's ability to function smoothly may be impacted by a variety of dynamics brought on by disruption, which can raise the risk of failure for individual business actors as well as have a broad effect on many other business aspects (Bhamra et al., 2011; McKinnon 2014; Adobor & McMullen, 2018; Al Naimi et al., 2020).

Supply chain resilience is the ability of the supply chain to return to its original state or more after being exposed to disruption and avoid failure. Supply chain resilience can be an organizational resource that can help the company adapt to the environment and benefit its growth. It can be achieved through flexibility, supply chain risk management, and recovery capability. Supply chain resilience can improve company performance (Lee, 2004; Christopher & Peck, 2004; Carvalho et al., 2012; Carvalho et al., 2014; Scholten & Schilder, 2015; Abeysekara et al., 2019; Kumar & Anbanandam, 2019; Zhu & Wu, 2022) and influence the company's supply chain performance (Zhu & Wu, 2022).

Businesses must recover immediately to reduce disruption-related losses. Flexibility, supply chain risk management, and recovery competence are essential to expediting an organization's recovery and reorganization. (Blackhurst et al., 2009; Jüttner & Maklan, 2011; Blos et al., 2015; Chowdhury & Quaddus, 2015; Kamalahmadi & Mellat Parast, 2015; Ali et al., 2017; Abeysekara et al. 2019; Li et al., 2020; Zhu & Wu, 2022). To determine if businesses have correctly adopted supply chain resilience and understand how to create effective firm and sustainable supply chain performance, companies must identify how they cope with disruptions and learn from them (van der Vorst & Beulens, 2002; Wieland & Wallenburg, 2013; Tukamuhabwa et al. 2015; Tukamuhabwa et al. 2017; Chopra & Sodhi, 2014; Jhonson & Templar, 2011; I Musa & I Nyoman, 2018: Zhu & Wu, 2022). Social, political, and economic risk elements affect a company's success. Resilient supply chains significantly impact business performance and help reduce disruptions when unexpected events arise (Ji & Zhu, 2008; Abeysekara et al., 2019; Kumar & Anbanandam, 2019; Zhu & Wu, 2022).

Increasing supply chain resilience and sustainability can improve supply chain performance, but more research is needed to understand how these two factors relate. The relationship between supply chain resilience, supply chain sustainability, and supply chain performance must be thoroughly investigated to ascertain the role that supply chain resilience plays in supply chain sustainability. This study aims to analyze the impact of supply chain resilience on supply chain performance and the moderating effect of sustainability. Research on this topic has not been conducted on Batik artisans, so it is essential and interesting to conduct research, considering that Batik businesses and products are highly affected by environmental and technological changes. Whether Batik artisans can survive and anticipate risks for the sustainability of their business, it is expected that the results of this study can provide an overview of strategies for SMEs to survive in the event of disruption and uncertainty.

LITERATURE REVIEW

Supply Chain Resilience & Supply Chain Sustainability

Increasing supply chain resilience and sustainability can improve supply chain performance, but more research is needed to understand how these two factors relate. The relationship between supply chain resilience, supply chain sustainability, and supply chain performance must be thoroughly investigated to ascertain the role that supply chain resilience plays in supply chain sustainability.

There is tremendous uncertainty because of the increasing complexity of the supply chain environment. These risks or disruptions harm the regular operation of the supply chain. In response to interruptions, specific countries or non-governmental organizations have established emergency response teams to manage emergencies and guarantee the continuation of life and economic activity. The creation of a sustainable supply chain is the main issue. Marchese et al. (2017) found that in an unstable environment, resilience can improve sustainability.

Regarding supply chain management problems, supply chain resilience helps boost the chain's ability to withstand risk and ensure its continuous functioning. Furthermore, due to environmental changes, fewer resources are becoming available, which drives up the supply chain's operating expenses. The expansion of supply chains across various industries must be accelerated by new technologies, which will require a shift away from resource pullers and towards technology drivers. Human-oriented thinking will remarkably affect supply chain operations because humans are essential to this process as technology carriers. The company's supply chain must also improve regarding the social benefits generated. Improving the supply chain's resilience is crucial to improving its sustainability. As a result, the following theory can be developed:

H1: Supply chain resilience has a positive effect on social sustainability.
H2: Supply chain resilience has a positive effect on environmental sustainability.
H3: Supply chain resilience has a positive effect on economic sustainability.

Supply Chain Sustainability & Supply Chain Performance

As the world economy has grown more interconnected, competition between companies has gradually evolved into competition across supply chains. At the same time, the industrial structure has changed from resource-intensive to technology-intensive in reaction to the negative consequences on the economy, environment, and society. Consequently, pursuing economic gains alone is no longer consistent with sustainable development. Businesses have social, environmental, and economic obligations to uphold. Furthermore, corporate sustainability seeks to build a more adaptable organization by integrating the social, ecological, and economic systems (Banerjee, 2001). Therefore, it will be more conducive to effectively considering environmental and social goals while accomplishing economic goals in a sustainable environment. Thus, the following hypothesis can be formulated:

H4: Social sustainability has a positive effect on supply chain performance.
H5: Environmental sustainability has a positive effect on supply chain performance.
H6: Economic sustainability has a positive effect on supply chain performance.

Supply Chain Resilience & Supply Chain Performance

Unpredictable demand, an imbalance between supply and demand, and other disruptions can all harm the supply chain's capacity to manage risk, be flexible, and recover quickly. Supply networks need to be able to act fast in these kinds of circumstances. To build a resilient business, which can enhance business performance, one must have responsive supply chains and integrated management capabilities (Chopra & Sodhi, 2014; Rajesh & Ravi, 2015; Abeysekara et al., 2019; Zhu & Wu, 2022).

The flexibility of the supply chain, which can lessen the damaging effects of unforeseen disruptions, is referred to as supply chain resilience. It is possible to control the spread of disruptions and take prompt, efficient action to restore normal operations by maintaining the management of supply chain structures and functions (Kamalahmadi & Mellat Parast, 2016). Put another way, the capacity to control risks and adjust to disruptions should be included in the components of supply chain resilience. Supply chain organizations can adapt quickly during a disruption, allowing them to either enhance or return to their pre-disturbance performance level.

Some supply chain businesses look for ways to cut expenses and improve revenues, which could make the supply chain more vulnerable and risky. Prior studies have demonstrated that resilience helps enhance supply chain coordination, quality, and on-time delivery to adjust to market changes and raise customer service standards quickly (Li et al., 2020). Furthermore, research indicates that supply chain, internal, and customer resilience enhance an organization's operational and financial performance (Abeysekara et al., 2019; Akbar & Isfianadewi, 2023). Thus, the following hypothesis can be formulated:

H7: Supply chain resilience has a positive effect on supply chain performance.

The Role of Multi-Mediation in Supply Chain Sustainability

Supply chain resilience is not a virtual condition, as its extent demonstrates. Nevertheless, it covers a wide range of topics, including supply chain performance, human resources, financial stability, and the condition of supply network organizations. A company's ultimate purpose is to maximize profits, which also applies to the supply chain; that is, the whole supply chain is considered when maximizing profits. When a risk materializes, it will affect supply chain participants upstream and downstream to differing degrees, making it challenging for the business to return to its pre-risk performance level. As a comprehensive supply chain management strategy, resilience helps increase vulnerabilities, decrease potential risks, and enhance company and economic sustainability (Malindretos & Binioris, 2014; Lee and Lee, 2016). Thus, the following hypothesis can be formulated:

H8: Economic sustainability mediates the effect of supply chain resilience on supply chain performance.

Workers are an essential part of the business and a link in the supply chain. Improving staff members' capacity for innovation can help the company perform better overall and improve supply chain management. When all involved organizations collaborate, the supply chain can realize maximum benefits, with the ultimate goal taking precedence over all other goals. Employee participation in supply chain management practices improves several outcomes, including risk identification and control, supply chain enterprises' capacity for innovation and development, customer awareness, the "people-oriented concept," and the sustainability of supply chain performance in social management (Lee & Lee, 2016). As a result, the following theory can be developed.:

H9. Social sustainability mediates the effect of supply chain resilience on supply chain performance

As environmental problems worsen, it is now irreversible to improve ecological supervision (Lee & Lee, 2016). On the other hand, when it comes to supply chains, the most significant risk is not oversight per se but rather the financial problems that arise when supply chain businesses undergo a metamorphosis due to shifting environmental concerns. Cutting expenses, raising the chain's performance bar, advancing energy conservation, low-carbon development, and environmental preservation are critical concerns for supply chain enterprises. Thus, the ability to choose supply chain partners with flexibility and the significance of green performance to alter supply chain companies' conventional business models, encourage green development, and enhance the sustainability of their operations are prerequisites for supply chain companies to achieve sustainable operations and improve their performance. Thus, the following hypothesis can be formulated:

H10. Environmental sustainability mediates the effect of supply chain resilience on supply chain performance

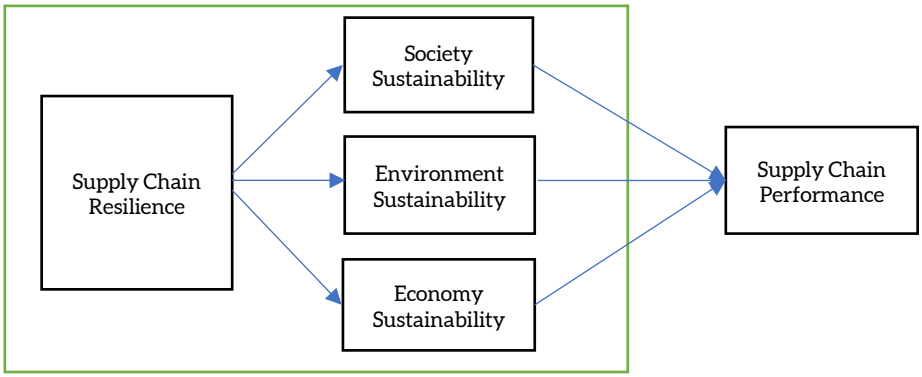

Figure 1. Research Model

METHOD

This research uses a quantitative approach. The sample used is Batik SMEs, with owners or managers as respondents. The sampling technique used purposive sampling with the following criteria:

1. Member of the Batik SME cooperative included in the creative industry craft sector.
2. Serves as owner or manager

The significant data is gathered online using Google Forms or by handing out surveys. The following criteria determine the minimal sample size: According to Hair et al. (2021), the minimum sample size is 31 x 5 = 155 respondents due to the number of indicators x 5 to 10. A Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree) will be used to rate each statement and question in the questionnaire; the midpoint is left out to prevent social desirability bias (Nadler et al., 2015).

The variables used in this study consist of supply chain performance as the dependent variable of supply chain resilience, which consists of three dimensions: flexibility, supply chain risk management, recovery capability as an independent variable, and sustainability as a mediating variable. Each variable is measured using the items in Table 1. The data analysis technique used in this research is the Structural Equation Model (SEM) with Smart PLS software.

There are two stages in the Smart PLS as follows (Heir et al. 2021):

1. Conducting measurement model tests is to test the reliability and construct validity of each indicator.
2. Use the PLS t-test to perform a structural model test to determine whether the variables under test influence one another.

Table 1. Variable & Measurement

No	Variable & Measurement
	Flexibility (Zhu & Wu, 2022)
1	We improve the production time of market needs
2	We adapt to customers
3	We made adjustments to delivery reliability
4	We adapt to changes
	Supply Chain Risk Management (Chowdhury, 2016)
5	We share supply chain members' risks
6	We have a supply chain continuity team
7	Our supply chain continuity team works to identify and assess the risks
8	When making decisions, we keep the risks in mind
	Recovery Capability (Chowdhury, 2016)
9	You and your partners continue to learn essential information over time.
10	You and your partners can swiftly assess and comprehend the shifting market demands for your technology.
11	You and your associates are continually improving the current operational procedures.
	Sustainability of the Economy (Lee & Lee, 2016)
12	We exchange timely and pertinent information.
13	We offer managerial and technical support.
14	Our company solves problems together
15	Our company trusts each other
16	Our partners see us as long-term partners
	Sustainability of the Society (Lee & Lee, 2016)
17	To evaluate social performance, we employ a formal procedure.
18	Audit social issues concerning labor, ethics, and community relations regularly.
19	We offer practical guidance on how to adhere to social norms.
20	We offer financial, managerial, and technical support to address social issues.
21	Our businesses collaborate to anticipate, prepare for, and address potential societal challenges.
	Sustainability of the Environment (Lee & Lee, 2016)
22	We use a rigorous, green procurement approach to evaluate our environmental performance.
23	We put in place an environmental management framework.
24	We regularly carry out environmental audits.

No	Variable & Measurement
25	We offer financial, managerial, and technological support to address environmental issues.
26	Our business collaborates to create eco-friendly products.
	Supply Chain Performance (Chowdhury, 2016)
27	We have a sales target in mind.
28	We have cheaper production expenses than our rivals.
29	We can meet our profit goals.
30	Our clients are happy with the services we provide.
31	We fulfill client orders promptly.

RESULTS AND DISCUSSION

Profile Respondent

The characteristics and profiles of respondents in this study are described in terms of education and income. The description of the respondent's characteristics is as follows:

Table 2. Characteristics and Profile of Respondents

Characteristics		Frequency	Percentages
Gender	Male	101	50.5%
	Female	99	49.5%
Age	20 – 30 years	41	20.5%
	31 – 40 years	56	28.0%
	41 – 50 years	84	42.0%
	> 50 years	19	09.5%
Education	S1	91	45.5%
	SMA	109	54.5%
Position	Owner	58	29.0%
	Manager	142	71.0%
Total		200	100%

Source: Processed Data

Male respondents have 50.0%, while female respondents have 49.5%, according to Table 2. Additionally, 84 respondents, or 42.0% of the total respondents, were between the ages of 41 and 50 for the most part. Regarding recent education, the majority of research participants—54.5%—have completed their most recent high school education, while the smallest percentage—7.5%—have earned an undergraduate degree. Regarding the position element, the study's respondents held the most significant managerial roles (71.0%).

The outcome indicates that the influence between variables can be ascertained by employing route coefficients and bootstrapping. The t-statistical and significant value (P-value) is the foundation for the PLS method's decision to accept or reject a hypothesis. The bootstrapping test results are shown in the following figure 2 with a significance level of 5% ($\alpha = 0.05$).

Tables 3 and 4 display the results of the PLS analysis. Table 3 presents the indicators' loadings and cross-loadings, which were used to Assess the measurement model's convergent and discriminant validity. Every indication loads higher on the relevant construct than on any other variable, indicating the discriminant validity of the constructs (Hair et al., 2021). Moreover, according to Hair et al. (2021), most individual factor loadings were more significant than 0.707, except the Sec2 factor loading, which decreased and varied between 0.682 and 0.921. Convergent validity was guaranteed.

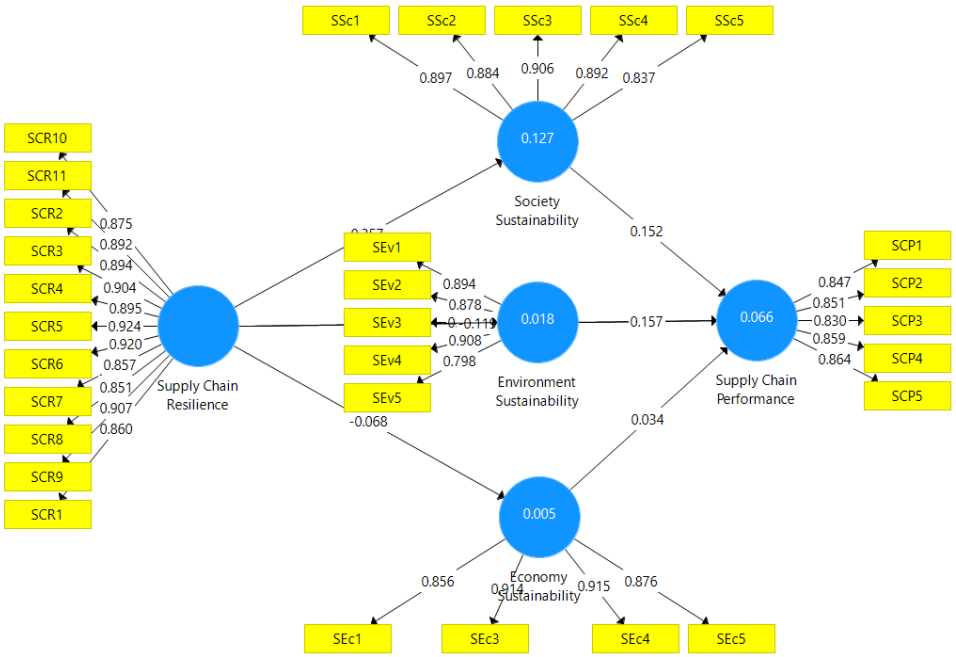

Figure 2. Path coefficients; *Source:* Processed Data

Table 3. Indicator Validity Test

Variable	Indicator	Loading Factor	Validity
Supply Chain Resilience	SCR1	0.860	Valid
	SCR2	0.894	Valid
	SCR3	0.904	Valid
	SCR4	0.895	Valid
	SCR5	0.924	Valid
	SCR6	0.920	Valid
	SCR7	0.857	Valid
	SCR8	0.851	Valid
	SCR9	0.907	Valid
	SCR10	0.875	Valid
	SCR11	0.892	Valid
Society Sustainability	SSc1	0.897	Valid
	SSc2	0.884	Valid
	SSc3	0.906	Valid
	SSc4	0.892	Valid
	SSc5	0.837	Valid
Environment Sustainability	SEv1	0.894	Valid
	SEv2	0.878	Valid
	SEv3	0.914	Valid
	SEv4	0.908	Valid
	SEv5	0.798	Valid
Economy Sustainability	SEc1	0.856	Valid
	SEc2	0.413	Not Valid (Drop)
	SEc3	0.914	Valid
	SEc4	0.915	Valid
	SEc5	0.876	Valid
Supply Chain Performance	SCP1	0.847	Valid
	SCP2	0.851	Valid
	SCP3	0.830	Valid
	SCP4	0.859	Valid
	SCP5	0.864	Valid

Source: Processed Data

Table 4 presents reliability data. With composite reliabilities ranging from 0.900 to 0.941 (2021), the measures outperform the recommended cut-off value of 0.700 proposed by Hair et al. Table 3 displays the findings of the validity test. Our measures' convergent validity was confirmed by the average variance extracted (AVE) of each measure reaching the threshold of 0.5 established by Hair et al. (2021). Cronbach's alpha (α) and composite reliability (C.R.) are measures used to assess an item's dependability. Hair et al. (2021) suggest that these metrics' values should exceed 0.70. According to Table 4's results, the measures' validity and reliability are sufficient.

Table 4. Construct Validity and Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Economy Sustainability	0.915	0.968	0.939	0.793
Environment Sustainability	0.927	0.947	0.944	0.773
Society Sustainability	0.930	0.930	0.947	0.781
Supply Chain Performance	0.905	0.915	0.929	0.723
Supply Chain Resilience	0.973	0.976	0.976	0.791

Source: Processed Data

The final validity test examines the Heterotrait-Monotrait Ratio (HTMT) value. According to Hair et al. (2021), the HTMT ratio must be less than one to satisfy the requirements of the discriminant validity assessment.

Table 5. Discriminant Validity Heterotrait-Monotrait Ratio

	Economy Sustainability	Environment Sustainability	Society Sustainability	Supply Chain Performance	Supply Chain Resilience
Economy Sustainability					
Environment Sustainability	0.081				
Society Sustainability	0.052	0.456			
Supply Chain Performance	0.054	0.217	0.193		
Supply Chain Resilience	0.069	0.132	0.372	0.054	

Source: Processed Data

The study model created using the five variables above is valid because none of the Heterotrait-Monotrait Ratio values in Table 5 are more significant than one (Hair et al. 2021).

Fig. 2 and Table 6 display the PLS analysis findings for the study model. The standard errors and t-values of the path coefficients were assessed using bootstrapping with 200 samples (Hair et al., 2014). The findings shown in Figure 2 and Table 6 demonstrate a direct and statistically significant correlation between supply chain performance and the sustainability of the environment (path coefficient = 0.157, P<0.05) and society (path coefficient 0.152, P<0.05). Thus, H4 and H5 are supported by the data. Accordingly, enhancing environmental and social sustainability benefits will supply chain efficiency.

In addition, the correlations between supply chain performance and sustainability (H7, path coefficient -0.119, P < 0.05) and between supply chain resilience and society's sustainability (H1, path coefficient 0.357, P < 0.05) were hypothesized to be positive. Enhancing supply chain resilience also benefits supply chain performance and society's sustainability. Nevertheless, no paths between supply chain resilience and environmental sustainability (H2, path coefficient 0.134, P > 0.05), economy sustainability and supply chain performance (H6, path coefficient 0.034, P > 0.05), or supply chain resilience and economic sustainability (H3, path coefficient -0.068, P > 0.05) are statistically significant.

Table 6. Hypothesis Testing

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P-Values	Remark
Economy sustainability → Supply Chain Performance	0.034	0.021	0.109	0.315	0.753	Not supported
Environment sustainability → Supply Chain Performance	0.157	0.168	0.080	1.976	0.049	Supported
Society Sustainability → Supply Chain Performance	0.152	0.159	0.077	1.969	0.050	Supported
Supply Chain Resilience → Economy Sustainability	-0.068	-0.070	0.071	0.956	0.340	Not supported
Supply Chain Resilience → Environment Sustainability	0.134	0.136	0.075	1.777	0.076	Not supported
Supply Chain Resilience → Society Sustainability	0.357	0.360	0.066	5.411	0.000	Supported
Supply Chain Resilience → Supply Chain Performance	-0.119	-0.121	0.059	2.020	0.044	Supported

Source: Processed Data

Additional evidence supporting the intermediate effect of supply chain sustainability is included in Table 7, and the findings indicate a substantial indirect relationship (H9, P < 0.05) between supply chain performance and resilience through societal sustainability. The relationship between supply chain resilience and supply chain performance through environmental sustainability (H10, P > 0.05) and between supply chain resilience and supply chain performance through economic sustainability (H8, P > 0.05) does not, however, exhibit a mediation effect.

Table 7. Indirect Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Remark
Supply Chain Resilience → Economy Sustainability → Supply Chain Performance	-0.002	-0.002	0.010	0.225	0.822	Not supported
Supply Chain Resilience → Environment sustainability → Supply Chain Performance	0.021	0.023	0.017	1.204	0.229	Not supported
Supply Chain Resilience → Society Sustainability → Supply Chain Performance	0.054	0.055	0.027	2.019	0.044	Supported

Source: Processed Data

The new findings conflict with certain earlier efforts while being supported by others. Marchese et al. (2017) and Zhu & Wu's (2022) findings attest that supply chain resilience, flexibility, risk management, and recovery capacity significantly impact sustainability. According to Zhu & Wu (2022) and Banerjee (2001), social and economic sustainability strongly impacts supply chain effectiveness. On the other hand, supply chain resilience and environmental sustainability have little effect on supply chain performance.

The impact of supply chain resilience on supply chain performance is then confirmed by Chopra & Sodhi (2014), Rajesh & Ravi (2015), Abeysekara et al. (2019), Li et al. (2020), Abeysekara et al. (2019); Akbar & Isfianadewi (2023). Supply chain resilience does not significantly impact supply chain

performance, in contrast to Zhu & Wu (2022). According to Malindretos & Binioris (2014), Lee and Lee (2016), and Zhu & Wu (2022), supply chain resilience is mediated by economic sustainability and society. Environmental sustainability does not moderate the impact of supply chain resilience on supply chain performance, as Zhu & Wu (2022) have confirmed.

CONCLUSION & IMPLICATION

The empirical results show that supply chain resilience benefits social sustainability (H1 holds). Supply chain resilience did not substantially impact Environmental and economic sustainability (H2 and H3 were rejected). Furthermore, supply chain resilience directly affects supply chain performance, whereas economic sustainability has no direct positive benefits on supply chain performance (H6 was rejected) (H7 is established). Supply chain performance is positively impacted by sustainability, including social and environmental sustainability (H4 and H5 are based). A supply chain's resilience has indirectly affected its performance through supply chain sustainability (social sustainability); this is the basis for H9; nevertheless, supply chain sustainability (economic and environmental sustainability) has not been affected (H8 and H10 were rejected).

The total effect of the model indicates a direct association between supply network resilience and social sustainability, with path coefficients of 0.357 for the direct influence of supply chain resilience on social sustainability. The results indicate that social and environmental sustainability directly influence supply chain performance, as indicated by their respective path coefficients of 0.152 and 0.157. Supply chain resilience directly reduces supply chain performance, as noted in the path coefficients of the direct effects of supply chain resilience on performance (-0.119, respectively).

Supply chain managers should consider social and environmental sustainability to increase supply chain performance and resilience. In other words, managers must build a robust supply chain that prioritizes environmental and social sustainability. However, as the current study discovered no relationship between economic sustainability and supply chain performance, researchers are asked to reevaluate the effects of supply chain resilience on economic sustainability and reevaluate the impact of economic sustainability on supply chain performance.

LIMITATION AND FUTURE RESEARCH

The study includes only a sample of supply chain resilience from the craft sector of the creative industry. It looks into how supply chain resilience impacts supply chain performance's three aspects: flexibility, risk management, and recovery capability. Therefore, more research is required to examine the relationship between supply chain resilience and performance, considering other factors, including agility, redundancy, and collaboration. This study will collect data from extra samples from different businesses.

Acknowledgments

The authors would like to thank the Management Department of the Faculty of Business and Economica UII for the financial sponsorship of the ASBN research project 2023/2024.

REFERENCES

Abeysekara, N., Wang, H., & Kuruppuarachchi, D. (2019). Effect of supply-chain resilience on firm performance and competitive advantage. *Business Process Management Journal, 25*(7), 1673–1695. https://doi.org/10.1108/bpmj-09-2018-0241

Adobor, H., & McMullen, R. S. (2018). Supply chain resilience: a dynamic and multidimensional approach. *The International Journal of Logistics Management, 00*(0), http://dx.doi.org/10.1108/IJLM-04-2017-009

Akbar, H. M., & Isfianadewi, D. (2023). The role of supply chain resilience to relationships supply chain risk management culture and firm performance during disruption. *International Journal of Research in Business & Social Science, 12*(2), 643-652. https://doi.org/10.20525/ijrbs.v12i2.2392

Ali, A., Mahfouz, A., & Arisha, A. (2017). Analysing Supply Chain Resilience: Integrating the Constructs in a Concept Mapping Framework via a Systematic Literature Review. *Supply Chain Management: An International Journal, 22*(1), 16-39. http://dx.doi.org/10.1108/SCM-06-2016-0197

Al Naimi, M., Faisal, M. N., Sobh, R., & Uddin, S. M. F (2020). Antecedents and consequences of supply chain resilience and reconfiguration: an empirical study in an emerging economy. *Journal of Enterprise Information Management, ahead-of-print (ahead-of-print),* –. http://dx.doi.org/10.1108/JEIM-04-2020-0166

Banerjee, S. B. (2001). Managerial perceptions of corporate environmentalism: Interpretations from industry and strategic implications for organizations. *Journal of Management Studies, 38*(4), 489–513. http://dx.doi.org/10.1111/1467-6486.00246

Bhamra, R., Dani, S., & Burnard, K. (2011). Resilience: the concept, a literature review, and future directions. *International Journal of Production Research, 49*(18), 5375–5393. https://doi.org/10.1080/00207543.2011.563826

Blackhurst, J., Craighead, C. W., Elkins, D., & Handfield, R. B. (2005). An empirically derived agenda of critical research issues for managing supply-chain disruptions. *International Journal of Production Research, 43*(19), 4067-4081. https://doi.org/10.1080/00207540500151549

Blos, M. F., Da Silva, R. M., & Miyagi, P. E. (2015). Application of an Agent-based Supply Chain to Mitigate Supply Chain Disruptions. *IFAC-PapersOnLine, Conference Paper Archive 48*(3), 640–645. https://doi.org/10.1016/j.ifacol.2015.06.154

Carvalho, H., Azevedo, S. G., & Cruz-Machado, V. (2014). Supply chain management resilience: a theory-approach. *International Journal of Supply Chain and Operations Resilience, 1*(1), 3–27. https://doi.org/10.1504/ijscor.2014.065453

Carvalho, H., Barroso, A. P., Machado, V. H., Azevedo, S., & Crush-Machado, V. (2012). Supply Chain Resilience Using Simulation. *Computers & Industrial Engineering, 62*(1), 329-341. https://doi.org/10.1016/j.cie.2011.10.003

Cheng, J.-H., & Lu, K.-L. (2017). Enhancing effects of supply chain resilience: insights from trajectory and resource-based perspectives. *Supply Chain Management: An International Journal, 22*(4), 329–340. https://doi.org/10.1108/SCM-06-2016-0190

Christopher, M., & Peck, H. (2004). Building the Resilient Supply Chain. *The International Journal of Logistics Management, 15*(2), 1–14. https://doi.org/10.1108/09574090410700275

Chopra, S., & Sodhi, M. S. (2014). Reducing the risk of supply chain disruption, *MIT Sloan Management Review, 55*(3), 72–80. https://sloanreview.mit.edu/article/reducing-the-risk-of-supply-chain-disruptions/

Chowdhury, Md. M. H., & Quaddus, M. A. (2015). A multiple objective optimizations based QFD approach for efficient, resilient strategies to mitigate supply chain vulnerabilities: The case of garment industry of Bangladesh. *Omega: The International Journal of Management Science, 00*(0), 1-62. https://doi.org/10.1016/j.omega.2015.05.016

Chowdhury, M., & Quaddus, M. (2016). Supply chain readiness, response, and recovery for resilience. *Supply Chain. Management An International. Journal*, *21*(6), 709–731. http://dx.doi.org/10.1108/SCM-12-2015-0463

Hair, J.F. Jr, Hult, G.T.M., Ringle, C. M., Sarsted, M., Danls, N. P., & Ray, S. (2021), *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*, Springer Nature, Switzerland. file:///C:/Users/Asus/Downloads/9783030805197.pdf

I Musa & I Nyoman Pujawan (2018). The relationship among the resiliency practices in supply chain, financial performance, and competitive advantage in manufacturing firms in Indonesia and Sierra Leone. *IOP Conference Series: Materials Science and Engineering* 337, *International Conference on Industrial and System Engineering (IConISE), Indonesia*. http://dx.doi.org/10.1088/1757-899X/337/1/012029

Ji, G., & Zhu, C. (2008). Study on supply chain disruption risk management strategies and model. [IEEE 2008 International Conference on Service Systems and Service Management (ICSSSM 2008) - Melbourne, Australia (2008.06.30-2008.07.2)], *00*(0), 1–6. https://doi.org/10.1109/icsssm.2008.4598472

Jüttner, U., & Maklan, S. (2011). Supply chain resilience in the global financial crisis: an empirical study. *Supply Chain Management: An International Journal*, *16*(4), 246–259. https://doi.org/10.1108/13598541111139062

Kamalahmadi, M., & Mellat Parast, M. (2016). A Review of the Literature on the Principles of Enterprise and Supply Chain Resilience: Major Findings and Directions for Future Research. *International Journal of Production Economics*. https://doi.org/10.1016/j.ijpe.2015.10.023

Kumar, S., & Anbanandam, R. (2019). Impact of risk management culture on supply chain resilience: An empirical study from Indian manufacturing industry. *Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability*, *00(0)*, 1-14. https://doi.org/10.1177/1748006X19886718

Lee, H. (2004) The triple-A supply chain, Harvard Business Review, *10*, 2–12. https://hbr.org/2004/10/the-triple-a-supply-chain

Lee, J. S., Kim, S. K., & Lee, S-Y. (2016). Sustainable Supply Chain Capabilities: Accumulation, Strategic Types and Performance. , *8*(6), 503. https://doi.org/10.3390/su8060503

Li, C., Wong, C. W. Y.; Yang, C-C., Shang, K-C., & Lirn, T-c. (2020). Value of supply chain resilience: roles of culture, flexibility, and integration. *International Journal of Physical Distribution & Logistics Management, 50(1), 80–100*. https://doi.org/10.1108/ijpdlm-02-2019-0041

Liu, C-L., Shang, K-C.,; Lirn, T-C., Lai, K-H., Lun, Y.H. V. (2017). Supply chain resilience, firm performance, and management policies in the liner shipping industry. *Transportation Research Part A: Policy and Practice*, http://dx.doi.org/10.1016/j.tra.2017.02.004

Malindretos, G., & Binioris, S. (2014). Supply Chain Resilience and Sustainability. Investment *Research & Analysis Journal*, *5*(1), 16–40.

Marchese, D., Reynolds, E., Bates, M. E., Morgan, H., Clark, S. S., & Linkov, I. (2018). Resilience and sustainability: Similarities and differences in environmental management applications. *Science of the Total Environment, 613-614*, 1275–1283. http://dx.doi.org/10.1016/j.scitotenv.2017.09.086

McKinnon, A. (2014). Building Supply Chain Resilience: a Review of Challenges and Strategies. *International Transport Forum*. Discussion Paper, 2014 06 http://dx.doi.org/10.13140/RG.2.1.3015.9603

Nadler, J. T., Weston, R., & Voyles, E. C. (2015). Stuck in the Middle: The Use and Interpretation of Mid-Points in Items on Questionnaires. *The Journal of General Psychology*, *142*(2), 71–89. http://dx.doi.org/10.1080/00221309.2014.994590

Rajesh, R., & Ravi, V. (2015). Supplier selection in resilient supply chains: a grey relational analysis approach. *Journal of Cleaner Production*, *86*(0), 343–359. https://doi.org/10.1016/j.jclepro.2014.08.054

Scholten, K., & Schilder, S. (2015). The role of collaboration in supply chain resilience. *Supply Chain Management: An International Journal*, *20*(4), 471–484. https://doi.org/10.1108/SCM-11-2014-0386

Sheffi, Y. (2005). Building a Resilient Supply Chain. Harvard Business Review. *Harvard Business School Publishing & MIT Center for Transportation & Logistics*, *1*(8), 1-3.

file:///C:/Users/Asus/Downloads/Documents/genmedia.buildingresilientsupplychain.pdf

Sheffi, Y. (2017), The Power of Resilience: How The Best Companies Manage The Unexpected, MIT Press, Cambridge, MA.

Sheffi, Y., & Rice, J. B. (2005). A supply chain view of the resilient enterprise. *MIT Sloan Management Review*, *47*(1), 41–48. https://www.proquest.com/openview/ab02ef85c43466ea1085994bc7340615/1?pq-origsite=gscholar&cbl=26142

Seville, E., Opstal V. D., and Vargo J. (2015). A Primer in resiliency: seven principles for managing the unexpected. Global Business and Organizational Excellence. *International Journal of Production Research*, *34*(3), 6-18. https://doi.org/10.1002/joe.21600

Tukamuhabwa, B. R., Stevenson, M., Busby, J., & Zorzini, M. (2015). Supply chain resilience: definition, review and theoretical foundations for further study. *International Journal of Production Research*, *53*(18), 5592–5623. https://doi.org/10.1080/00207543.2015.1037934

Tukamuhabwa, B., Stevenson, M., & Busby, J. (2017). Supply chain resilience in a developing country context: a case study on the interconnectedness of threats, strategies, and outcomes. *Supply Chain Management: An International Journal*, *00*(0), https://doi.org/10.1108/SCM-02-2017-0059

van der Vorst, J. G.A.J., & Beulens, A. J.M. (2002). Identifying sources of uncertainty to generate supply chain redesign strategies. *International Journal of Physical Distribution & Logistics Management*, *32*(6), 409–430. https://doi.org/10.1108/09600030210437951

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

Wilding, R. (2013). Supply Chain Temple of Resilience. *Logistics & Transport Focus*, *15*(11), 54-59. http://dspace.lib.cranfield.ac.uk/handle/1826/8308

Zhu, X., & Wu, Y. J. (2022). How Does Supply Chain Resilience Affect Supply Chain Performance? The Mediating Effect of Sustainability. *Sustainability*, *14*, 14626. https://doi.org/10.3390/su142114626