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RELATIONSHIP BETWEEN DYNAMIC CAPABILITY VIEW AND ORGANIZATIONAL RESILIENCE: FINDINGS FROM A SYMMETRIC APPROACH

Abstract

The COVID-19 outbreak has underscored the importance of strengthening an organization's resilience and adaptive capability. In emerging and uncertain conditions, firms must adopt new capabilities to develop and survive unstable and unforeseen crises. The purpose of this study is to examine the difference between organizational resilience and the antecedents that are validated using a quantitative survey. The respondents consist of 157 top employees from 21 private service firms at the managerial level in Bangladesh. The proposed relationship is measured using the partial least squares structural equation modeling (PLS-SEM), a symmetric approach, using SmartPLS 4 software. The findings help to produce the path coefficient with organizational resilience that can lead to sustainable environments in highly turbulent conditions. The PLS-SEM analysis indicates that the antecedents of flexibility, agility, and redundancy have a strong and meaningful association with organizational resilience in response to disruptions. Therefore, this paper shows evidence that the measurement scales more effectively account for uncertainty in achieving resilience, supporting the role of the dynamic capability view.

Keywords dynamic capability view, PLS-SEM, organizational resilience, symmetric approach

JEL Classification D24, L25, L23

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INTRODUCTION

Research on organizational resilience has expanded extensively over the decades and scholars and researchers are showing special attention because of its substantial impact on business performance and sustainability. This attention presents some unpredictable crises form within the organizations or the external sources for instance, natural hazards, political instability, economic volatility, and others (Kamalahmadi & Parast, 2016). Firms are particularly susceptible due to these crises, which has affected corporate industry activity, especially firms and project organizations, in emerging nations (Modgil et al., 2022). This global crisis compelled numerous companies to shut down or scale back their activities (Simonet et al., 2015). However, some firms maintained or even grew due to the companies' resilience (Eggert & Hartmann, 2023).

Opinions on how to operationalize and conceptualize organizational resilience to create sustainable settings diverge. Despite numerous research studies, the comprehension of the factors contributing to organizational competencies from practical and management perspectives during disruptions is limited. Research indicates that pre-pandemic sustainable-oriented strategies have made companies less vulnerable,

but they need to fully explain the benefits or determinants of resilience in maintaining sustainability. While many theoretical factors contribute to organizational resilience, it is crucial to consider elements that ensure sustainability in organizational resilience by employing a symmetrical framework.

1. LITERATURE REVIEW AND HYPOTHESES

The unstable circumstances of the COVID-19 crisis have led several scientific sectors to focus their research on understanding how disruptions affect organizational resilience (Ambrogio et al., 2022; Sharma et al., 2022). Companies need to be more resilient because they cannot always avoid risks like natural disasters, financial crises, cyber risks, terrorist attacks, or global epidemic outbreaks (Amankwah-Amoah, 2020). In this context, resilience is defined as the mechanism by which organizations overcome adversity to achieve effective outcomes or as a system to foster positive thinking through adaptive strategies after disruptions (Hillmann & Guenther, 2021). Others viewed resilience as the capacity of organizations to foresee, evade, and adapt to environmental shocks (Ortiz-de-Mandojana & Bansal, 2016) and handle rapid and unexpected environmental changes (McCann et al., 2009). It is not just about handling change but also learning to improve and align its structures and functions through adversity (Ortiz-de-Mandojana & Bansal, 2016).

Studies show that more resilient companies experienced less economic loss and recovered faster, thereby showing greater resistance to the adverse impact of the pandemic. Resilience enables firms to swiftly adjust to challenges while continuing their business activities and safeguarding personnel, resources, and corporate responsibility (Simonet et al., 2015).

Several elements influence the growth of organizational resilience and its responsiveness to external setbacks while maintaining sustainable growth. The phrase "Antecedents of resilience" denotes the organizational competencies that forecast and enhance resilience. The literature outlines essential components of organizational resilience. Collaboration, redundancy, adaptability, and flexibility are among the factors that researchers emphasized (Kamalahmadi & Parast, 2016; Shekarian & Mellat Parast, 2021). Others include information sharing, technological adaptation, partner cooperation, risk assessment and sharing, visibility, risk management culture, and adaptability (Um & Han, 2021). Wang et al. (2023) emphasize risk management culture alongside flexibility, collaboration, and redundancy. Empirical studies, like Dubey et al. (2021), identify data analytics proficiency and organizational adaptability as particularly influential factors.

In addition, adaptability can be constructed, measured, and attained through diverse activities, perspectives, and connections (Sreenivasan et al., 2023). While some studies understood resilience as a single concept, others viewed it as multi-dimensional. It is widely considered a multifaceted concept that encompasses both stable and evolving perspectives (Massari et al., 2023). The static perspective views a system as resilient if it can withstand shock and return to its initial equilibrium state while sustaining its fundamental operations (Bhamra et al., 2011). While being efficient, this common ability is relatively resistant to environmental changes and global competitiveness. Conversely, dynamic capability focuses on the system's capacity to transform and adapt to new, more beneficial states of balance (Carvalho et al., 2012). Over time, resilience research has adopted this viewpoint.

For over a decade, the dynamic capabilities view has been a crucial theoretical approach in corporate adaptability research (Ozanne et al., 2022). Previous research defined this as the ability to react to unexpected situations, restore normal operating conditions, revert to the original state, or shift to a more advantageous condition after experiencing disruptions (Peck, 2006). Sustainable resilience relies on effectively mobilizing and reconfiguring resources to overcome challenges (Felin & Hesterly, 2007). While ordinary capabilities are rigid and lack creativity, dynamic capabilities help firms identify customer needs, seize technological opportunities, innovate, and restructure resources to address disruptions (Zhao et al., 2023).

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Dynamic capabilities are not a universal solution; instead, they vary depending on organizational goals and a range of psychological, structural, and strategic factors (Dell'Era et al., 2020). Past studies on organizational resilience have explored the capabilities, strategies, and resources needed to build resilient firms without imposing disruptive strategies (Tukamuhabwa et al., 2015). It is found that strategies for resilience involve improved organizational agility, visibility and flexibility, handling disruptions, and interdependence (Chowdhury & Quaddus, 2017). This strategy aims to overcome disruptions and restore or improve the previous condition (Brandon-Jones et al., 2014). However, Micheli et al. (2019) describe the design-led innovation tools as an adaptive proficiency, yet they do not specify the selection, timing, or integration of these tools.

Thus, this study seeks to investigate the antecedents of enterprise resilience through a dynamic perspective to achieve sustainability. To better understand and effectively integrate organizational resilience elements, it is necessary to identify crucial elements of organizational resilience to achieve a sustainable organizational environment that is commonly examined and encompassed in previous studies.

Organizational agility entails swiftly adapting to environmental changes through resource adjustments, process modifications, and forming alliances (Abeysekara et al., 2019). Empowering firms in decision-making strengthens resilience, allowing for rapid response to changes in the environment without higher management consultations (Martínez-Córcoles & Vogus, 2020). This empowerment enhances the organization's competitive advantages and overall resilience (Kahn et al., 2018). Notably, resilient organizations support employees with ample resources and decision-making power, leveraging individual and team agility (Taylor et al., 2019).

Previous studies have been employing agility over different levels of operations, for instance, project organizations, supply chains, and corporate firms (Zhou et al., 2019). However, management theories favor centralizing decisions during disruptions, leading most organizations to need to empower their resources and capabilities to deal with strategic and tactical events (Sherf et al., 2019). It is claimed that corporate organizations must build agility at the operational level to quickly respond to disruptive events, which is the determinant of dynamic capability and building organizational resilience. The capability to respond quickly and effectively to dynamic environments facilitates firm sustainability through agility, which correlates with organizational resilience during disruptive environments (Baramichai et al., 2007). Additionally, agility promotes a culture of continuous improvement and learning. Agile organizations are more likely to refine their processes and adapt their strategies based on lessons learned from past disruptions, thus improving their overall resilience (Pacheco-Cubillos et al., 2024). Thus, agility integrates organizations' partners to attain better organizational resilience capacities that thrive on responding swiftly during turbulent environments.

Flexibility in firms refers to their ability to adjust their operations, such as speed, volume, and location, in response to market changes, deploying resources effectively to enhance resilience and stability (Piprani et al., 2022; Srinivasan & Swink, 2018). It also ensures sustainability by reconfiguring organizations to optimize current assets and structures (Mackay et al., 2020). The concept emphasizes throughout the firm's interconnected value chain to achieve balanced resilience (Queiroz et al., 2024). Integrated functional and operational flexibility is crucial for organizational sustainable resilience in a volatile business environment (Jin et al., 2014).

Moreover, companies operating in dynamic and volatile environments need to enhance their capacity to assess internal risks, such as operational, systematic, and labor risks, while prioritizing sustainable resilience (Piprani et al., 2022). Additionally, flexibility promotes enhanced coordination amid uncertain environmental conditions, although vertical integration limits flexibility in responding to environmental changes (Manuj & Mentzer, 2008). It also facilitates the efficient reallocation of resources, allowing organizations to shift resources where they are most needed during disruptions (Son et al., 2024). This efficient use of resources helps maintain operational effectiveness and reduce crises' impact (Son et al., 2024; Rogerson et al., 2024).

Redundancy, a critical factor in resilience, facilitates keeping resources and capabilities for employing the emergency stock and additional capacities in the realm of necessity during turbulent environments of corporate firms (Schroeder & Hatton, 2012). It involves preparing for potential disruptions by maintaining extra capacity, safety stock, multiple suppliers, and backup sites (Sheffi & Rice, 2005). This strategy aims to ensure that the system can continue functioning despite the failure of specific components, thereby enhancing the ability to respond to disruption through strategic use of additional resources (Mackay et al., 2020).

Organizations mitigate supplier disruption risks by adopting various sourcing strategies for inputs, such as having multi-skilled workers, multi-functional technology, and multi-suppliers (Behzadi et al., 2017; Hohenstein et al., 2015). This capability ensures continued delivery even if one supplier encounters issues, thereby enhancing system robustness and resilience for a specific timeframe (Sheffi & Rice, 2005). Redundancies may incur additional fixed costs without benefiting the system if disruptions do not occur (Chowdhury & Quaddus, 2017). In fact, redundancy initiatives are costly and not feasible for all firms (Shishodia et al., 2019). However, in the event of a disruption, redundant resources can be rapidly deployed to replace or support affected systems (Ambrogio et al., 2022). This additional capacity facilitates quicker recovery and minimizes downtime, contributing to overall resilience (Xie et al., 2024). Redundancy in a sustainable environment ensures the long-term viability of an organization by guaranteeing that it can sustain performance and service levels even in the face of environmental or operational difficulties (Karanam et al., 2024). This enhances the organization's capacity to maintain its operations and bounce back from any disturbances.

Visibility, facilitated by information technology, enhances organizational transparency and situation awareness (Fiksel, 2015). Visibility allows organizations to manage and evaluate operational actions and build resilience benefits, thereby strengthening the efficiency of overall performance during disruptive conditions (Chowdhury & Quaddus, 2017; Scholten & Schilder, 2015). Access to accurate and timely visibility aids in sensing and forecasting disruptions, enhancing operational integration, and mitigating risks through shared information (Ali et al., 2017; Chowdhury & Quaddus, 2017). Accordingly, visibility proposes an adaptive capability of resilient firms to gain competitive benefits, such as knowledge sharing, inventory management, and fund administration (Liu et al., 2018).

To achieve visibility as a determinant of dynamic capability-building organization resilience, corporate firms must ensure quick response and necessary customer feedback, thereby facilitating repose to turbulent conditions (Ciampi et al., 2021). High visibility allows organizations to effectively monitor and understand their internal and external environments (Chowdhury & Quaddus, 2017). This improved situational awareness enables them to anticipate potential disturbances and take proactive measures, thereby enhancing their resilience (Odimarha et al., 2024). Increased visibility allows organizations to detect problems and disruptions early (Liu et al., 2018). By identifying issues before they escalate, organizations can implement corrective measures in a timely manner, reducing the impact of disruptions on their operations (Sharma et al., 2022; Sudan et al., 2023). Additionally, visibility connects physical objects to the digital world, offering real-time insights to create strategic value despite multiple security risks (Zhao et al., 2023). Thus, visibility is essential for learning from feedback from disruptions and developing better plans, enhancing sustainable organizational resilience (Ponomarov & Holcomb, 2009).

Therefore, this study aims to analyze the relationship between the antecedents of dynamic capability view and organizational resilience in turbulent environments. The antecedents of the dynamic capability view are regarded as influencing factors (agility, flexibility, redundancy, and visibility) to achieve organizational resilience during severe crises in the firms. The following hypotheses are formulated:

H1: Agility positively relates to organizational resilience.

H2: Flexibility positively relates to organizational resilience.

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H3: Redundancy positively relates to organizational resilience.

H4: Visibility positively relates to organizational resilience.

2. METHODOLOGY

This study quantifies the hypotheses through survey questionnaires for participants from the corporate industry in Bangladesh. Accordingly, this study covers the inflected firms who are facing crises during disruptive events; they are the target respondents to measure the hypotheses. The survey was administered over two and a half months in 2023. Survey questionnaires were distributed by using Google Forms, and 157 completed questionnaires were collected from 21 private firms providing private services in Bangladesh. The target participants consisted of top employees working at the managerial level in different departments who were directly dealing with disruptive events in the firms. A convenience sampling technique was utilized in this study.

The final sample addressed a wide range of demographic characteristics, such as gender, age, position, and education in the firm, which provides a comprehensive insight into quantifying the antecedents of a dynamic capability view to build organizational resilience. Considering the age scale, 15.9% were between the ages of 21-30; 81.5%, 0.6%, and 1.9% were within the age scales of 31-40, 41-50, and 50+, respectively. Regarding the gender scale, 76.9% were male, while 23.1% were female. Most participants (51.0%) were postgraduate, while 45.2% and 3.8% hold graduate and higher secondary degrees. The position level composed 5.7% of managing directors; 15.9%, 18.5%, 28.7%, and 31.2% were senior managers, managers, executives, and others, respectively (Table 1).

The dependable variable of organizational resilience was assessed with a four-item scale by Ambulkar et al. (2015). The independent variable of agility was measured using a five-item scale from Swafford et al. (2006), Blome et al. (2013), and Abeysekara et al. (2019). Flexibility was scaled with a five-item scale from Chowdhury and Quaddus (2017). Redundancy was measured with a three-item scale (Chowdhury & Quaddus, 2017). Visibility was assessed with a four-item scale from Chowdhury and Quaddus (2017). Respondents were required to rate the items on a 5-point Likert leveling from 5 (strongly agree) to 1 (strongly disagree).

Table 1. The distribution of the target respondents' characteristics

Characteristics	Frequency	Percentage
Age		
≤21-30	25	15.9
31-40	128	81.5
41-50	1	.6
>50	3	1.9
Gender		
Male	123	76.9
Female	34	23.1
Education		
Post Graduate	80	51.0
Graduate	71	45.2
Higher Secondary	6	3.8
Position		
Managing Director	9	5.7
Senior Manager	25	15.9
Manager	29	18.5
Executives	45	28.7
Others	49	31.2

The study employed PLS-SEM using SmartPLS 4 to measure the total effects of agility, flexibility, redundancy, and visibility on organizational resilience. The PLS-SEM approach consists of two parts, including model (Figures 1 and 2) estimation (McLeay et al., 2022). The measurement and structural models used SmartPLS 4.0 software to assess the PLS-SEM approach (McLeay et al., 2022). To attain that, the study adopted the symmetric analysis, which is particularly relevant for this investigation as it estimates various path correlations between endogenous variables and one or more independent variables (Sarstedt et al., 2021).

3. RESULTS AND DISCUSSION

In this study, construct reliability, convergent validity, and discriminant validity were all measured by the measurement score of all latent variables. Accordingly, reliability was measured by addressing Cronbach's Alpha (CA) and composite reliability (CR). The convergent validity was estimated by employing the average variance extracted (AVE).

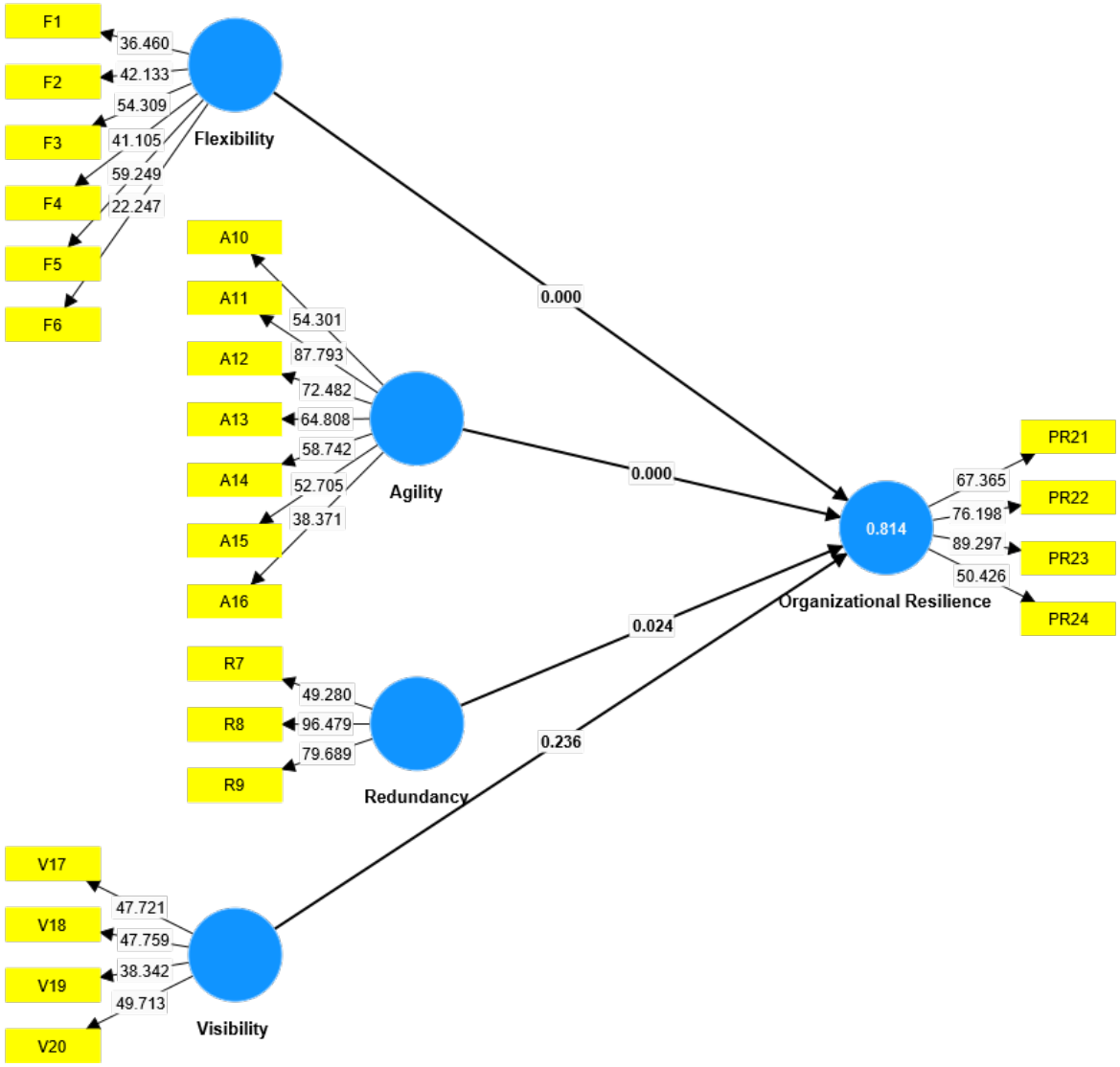

Figure 1. Presentation of the alpha and factor loading scores

The Cronbach's Alpha and composite reliability assessments of each latent variable were higher than the cutoff score of 0.7, while the average variance extracted assessments for all latent variables were higher than the threshold value of 0.5 (Hair et al., 2020). These findings reveal that the proposed framework meets the requirements of reliability and convergent validity (Table 2). The discriminant validity was tested using Fornell-Larcker criteria (Fornell & Larcker, 1981). The result of the Fornell-Larcker (FL) criterion meets the cutoff value of all constructs. According to Table 2, each latent variable's AVE (square root) is greater than the maximum coefficients of any other variables (Sarstedt et al., 2021). Therefore, regarding the requirement of discriminant validity, the criteria can be considered to meet the proposed model (Figure 1).

The study sample size for the symmetric analysis (PLS-SEM) met the criteria for all benchmarks to proceed to the next step of analysis. Therefore, the study examined the measurement model first to assess its reliability and validity, then measured the structural model's path coefficient. The estimations of the structural model are reported, where the path coefficient (β), the variance inflation factor (VIF), the coefficient of dependable

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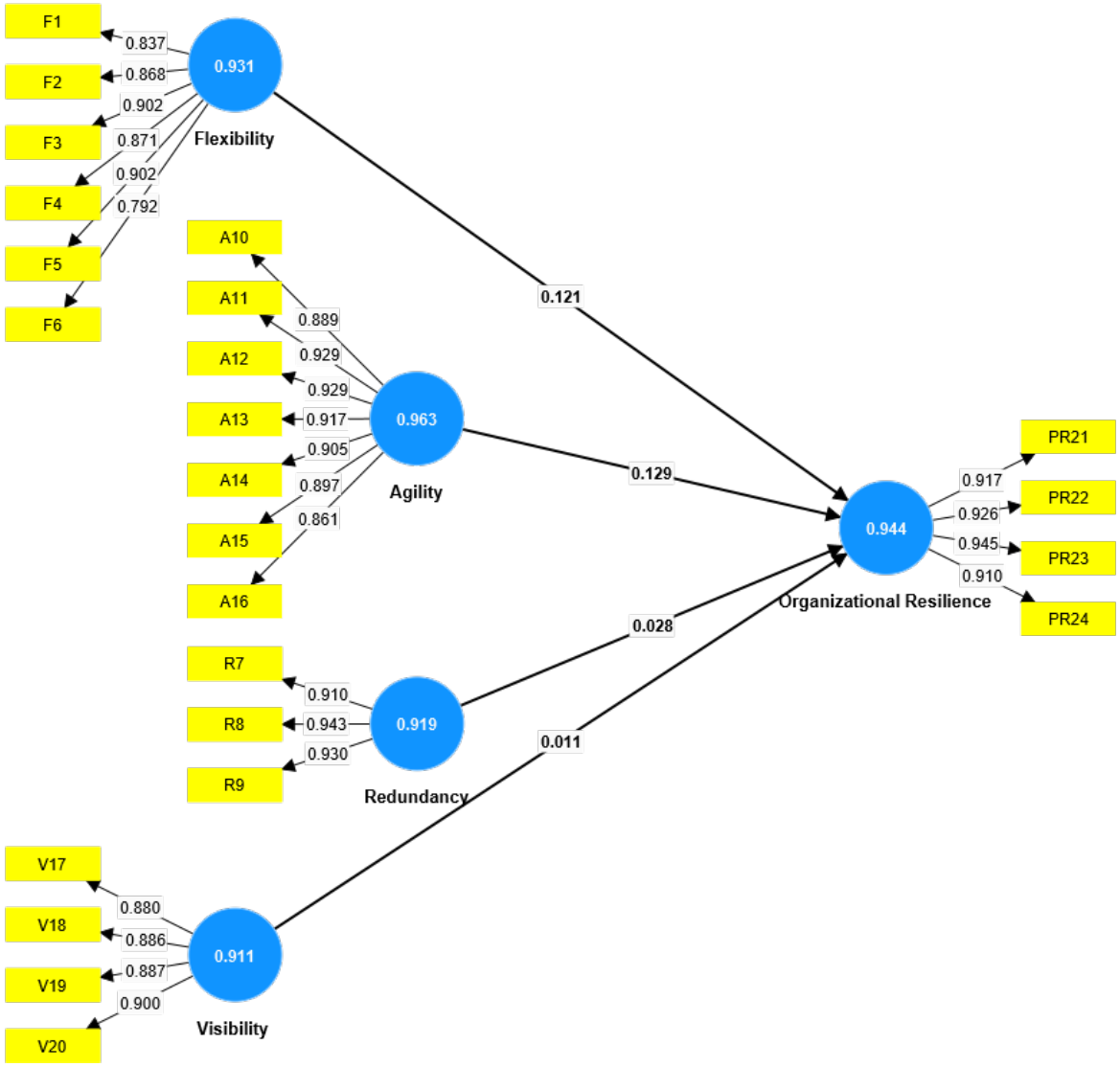

Figure 2. Presentation in SmartPLS 4 of hypotheses estimation values

Table 2. Measures of the scale using construct reliability and validity

Reliability and convergent validity				Discriminant validity				
AVE	CR	Cronbach's a		AGI	FLX	OR	RED	VIS
0.817	0.969	0.963	Agility	0.904				
0.745	0.946	0.931	Flexibility	0.827	0.863			
0.855	0.959	0.944	Organizational Resilience	0.852	0.865	0.925		
0.860	0.949	0.919	Redundancy	0.779	0.853	0.804	0.928	
0.789	0.937	0.911	Visibility	0.866	0.850	0.823	0.739	0.888

Table 3. Hypotheses testing

Path Coefficient	β	t value (Bootstrap)	p-value	Test	VIF	f^2
Agility → Organizational Resilience	0.342	4.290	0.000	Accepted	4.898	0.129
Flexibility → Organizational Resilience	0.370	3.694	0.000	Accepted	6.114	0.121
Redundancy → Organizational Resilience	0.144	2.252	0.024	Accepted	3.977	0.028
Visibility → Organizational Resilience	0.106	1.184	0.236	Rejected	5.000	0.011
Construct		R^2			R^2 Adjusted	
Organizational Resilience		0.814			0.809	

Table 4. PLS-predict for measuring predictive errors

	Q^2 predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
OR 1	0.599	0.833	0.614	0.869	0.658
OR 2	0.714	0.744	0.605	0.790	0.623
OR 3	0.723	0.596	0.440	0.637	0.486
OR 4	0.693	0.658	0.493	0.698	0.532

variables (R^2), p-values (significance), and t-values (significance) are considered (Table 3) (Hair et al., 2020). Accordingly, the results reported that all the hypotheses were supported in the model. Agility was indicated to have a positive effect on organizational resilience (β = .342, t = 4.290, p = .000). Flexibility was indicated to have a positive effect on organizational resilience (β = .370, t = 3.694, p = .000).

Redundancy was reported to positively affect organizational resilience (β = .144, t = 2.252, p = .024). However, visibility was revealed to affect organizational resilience negatively (β = .106, t = 1.184, p = 0.236). The values of VIF scaled from 3.977 to 6.114, which was lower than the cutoff score of 5 (Sarstedt et al., 2021). Therefore, the findings reported no collinearity issues in the proposed model.

After synthesizing the significance of the path coefficients, f^2, Q^2, and R^2 were assessed for in-sample prediction. The structural model indicates R^2 values as a variance scale of 81.4% for organizational resilience. These results show a predictive accuracy of the framework of outcome construct (Sarstedt et al., 2021). Table 3 reports two values, and the effect range for agility, flexibility, redundancy, and visibility indicates a small effect on organizational resilience. These results indicate that among all the endogenous constructs, agility→ organizational resilience (f^2 = 0.129) is a significant path for predicting organizational resilience, including flexibility → organizational resilience (f^2 = 0.121). Based on the predictive power, the results indicate that the proposed framework has sufficient predictive power in the sample (Figure 2) (Hair et al., 2020).

Finally, the PLS-predict analysis measured the predictive validity of the research model through out-of-sample predictive relevance. As reported in Table 4, the result of Q^2 assesses the prediction estimation through linear regression (LR) and partial least squares (PLS) to analyze the predictor errors in this model. The results show that all the indicators have higher predictor accuracy, indicating that all the indicators of organizational resilience had lower prediction errors than the causal threshold of the value. The predictive errors are measured through the RMSE, MAE, and MAPE scores in Table 4.

The findings line up with past studies highlighting the association between organizational resilience and dynamic capability view. Prior studies profoundly emphasized agility and flexibility as key variables that help the organization to adapt and recover from the crisis. Redundancy has a lesser impact, and visibility has no impact on resilience as per prior literature. It suggests that redundancy is beneficial but not the key to adapting drastically. Visibility, on the other hand, may create information overload and unnecessary interruptions, which is why it may negatively affect the ability to be resilient.

The contributions of this study are significant for managers and firms, government, and industry associations, particularly those in the corporate industry in Bangladesh and elsewhere. The results of this study demonstrate that managers take a dynamic capability view as an approach toward organizational resilience, allowing firms that can mitigate uncertainties and build dynamic, resilient environments to recover and respond swiftly from disruptive events. These results suggest that the antecedents of dynamic capability are a necessary construct for achieving organizational resilience. Organizations that want to enhance their performance are required to significantly measure the antecedents of the dynamic capability view to attain a high level of organizational resilience in turbulent environments.

The core finding shows the effect of antecedents of dynamic capability in resisting vulnerabilities during disruptive events. Changes in internal and external circumstances, for instance, economic

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recessions, political interventions, financial instability, and complexity of the organizational networks, can result in unforeseen organizational disruptions. The findings suggest that enhancing organizational sustainability in highly disruptive crises depends on building dynamic capabilities to achieve high organizational resilience. Organizations need to expand their capacities to foster dynamic resources and capabilities and forecast internal conditions during disruptive crises. Furthermore, managers can employ the measured items as dynamic tools to choose areas that need modifications to achieve organizational resilience. Therefore, firms need to recognize the necessary antecedents of dynamic capability, build an organizational resilience system associated with their development in disruptive environments, and control more profound dynamic settings.

CONCLUSION

This study highlights key determinants of organizational resilience in service-oriented organizations during disruptive periods. The results reveal that agility and flexibility are crucial for enhancing resilience, with agility showing a strong positive impact and flexibility contributing significantly. Redundancy, while beneficial, has a lesser effect on resilience. Firms should use technological design to frame and enhance organizational settings during crises. Thus, agility enables organizations to make quick decisions and flexible responses to changing situations, which are critical for maintaining normal operations during disruptions. Consecutively, flexibility is a necessary capability enabled by limited resources in achieving organizational resilience, which, in turn, has a core effect on organizational performance. Thus, *flexibility* is one of the key strengths that can customize their processes and structures to encounter new challenges arising from crisis. In addition, this result emphasizes the importance of reducing a firm's disruptive events. Redundancy helps corporate managers reduce the negative effects of corporate firms. Thus, redundancy can permit additional resources, and the concentration on resource configurations may get interrupted, as shown in sustainable organizations. Firms can provide supporting resources to potential stakeholders to minimize the redundancy barriers in the context of disruptive events. High visibility may expose the organization to external parties that can strain resources and shift the attention from core resilience initiatives, affecting resilience negatively. In contrast, visibility and organization are significantly related to achieving sustainable environments during severe crises. Visibility is one of the necessary antecedents of a dynamic capability view to achieve organizational resilience during turbulent environments.

The dynamic capability view is instrumental in understanding and improving organizational resilience. This study extends the dynamic capability view framework to emphasize the role of dynamic capabilities in building resilience across the entire organization. Managerial implications stress the importance of adopting a dynamic capability view approach, focusing on agility, flexibility, and effective use of redundancy while being cautious of the potential drawbacks of high visibility. Organizations should develop dynamic capabilities to navigate disruptions effectively and enhance overall resilience.

AUTHOR CONTRIBUTIONS

Conceptualization: Ali Shojaee, László Vasa.
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Funding acquisition: László Vasa.
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Software: Ali Shojaee.

Supervision: László Vasa.
Validation: László Vasa.
Visualization: Ali Shojaee.
Writing – original draft: Ali Shojaee.
Writing – review & editing: Ali Shojaee, László Vasa.

REFERENCES

1. Abeysekara, N., Wang, H., & Kuruppuarachchi, D. (2019). Effect of supply-chain resilience on firm performance and competitive advantage: A study of the Sri Lankan apparel industry. *Business Process Management Journal, 25*(7), 1673-1695. https://doi.org/10.1108/BPMJ-09-2018-0241
2. 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, 22*(1), 16-39. https://doi.org/10.1108/SCM-06-2016-0197
3. Amankwah-Amoah, J. (2020). Stepping up and stepping out of COVID-19: New challenges for environmental sustainability policies in the global airline industry. *Journal of Cleaner Production, 271*. https://doi.org/10.1016/j.jclepro.2020.123000
4. Ambrogio, G., Filice, L., Longo, F., & Padovano, A. (2022). Workforce and supply chain disruption as a digital and technological innovation opportunity for resilient manufacturing systems in the COVID-19 pandemic. *Computers & Industrial Engineering, 169,* Article 108158. https://doi.org/10.1016/j.cie.2022.108158
5. Ambulkar, S., Blackhurst, J., & Grawe, S. (2015). Firm's resilience to supply chain disruptions: Scale development and empirical examination. *Journal of Operations Management, 33-34*, 111-122. https://doi.org/10.1016/j.jom.2014.11.002
6. Baramichai, M., Zimmers, E. W., & Marangos, C. A. (2007). Agile supply chain transformation matrix: An integrated tool for creating an agile enterprise. *Supply Chain Management, 12*(5), 334-348. https://doi.org/10.1108/13598540710776917
7. Behzadi, G., O'Sullivan, M. J., Olsen, T. L., Scrimgeour, F., & Zhang, A. (2017). Robust and resilient strategies for managing supply disruptions in an agribusiness supply chain. *International Journal of Production Economics, 191,* 207-220. https://doi.org/10.1016/j.ijpe.2017.06.018
8. 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
9. Blome, D., Schoenherr, T., & Rexhausen, C. (2013). Antecedents and enablers of supply chain agility and its effect on performance: A dynamic capabilities perspective. *International Journal of Production Research, 51*(4), 1295-1318. https://doi.org/10.1080/00207543.2012.728011
10. Brandon-Jones, E., Squire, B., Autry, C. W., & Petersen, K. J. (2014). A contingent resource-based perspective of supply chain resilience and robustness. *Journal of Supply Chain Management, 50*(3), 55-73. https://doi.org/10.1111/jscm.12050
11. Carvalho, H., Barroso, A. P., Machado, V. H., Azevedo, S., & Cruz-Machado, V. (2012). Supply chain redesign for resilience using simulation. *Computers & Industrial Engineering, 62*(1), 329-341. https://doi.org/10.1016/j.cie.2011.10.003
12. Chowdhury, M. M. H., & Quaddus, M. (2017). Supply chain resilience: Conceptualization and scale development using dynamic capability theory. *International Journal of Production Economics, 188,* 185-204. https://doi.org/10.1016/j.ijpe.2017.03.020
13. Ciampi, F., Demi, S., Magrini, A., Marzi, G., & Papa, A. (2021). Exploring the impact of big data analytics capabilities on business model innovation: The mediating role of entrepreneurial orientation. *Journal of Business Research, 123,* 1-13. https://doi.org/10.1016/j.jbusres.2020.09.023
14. Dell'Era, C., Magistretti, S., Cautela, C., Verganti, R., & Zurlo, F. (2020). Four kinds of design thinking: From ideating to making, engaging, and criticizing. *Creativity and Innovation Management, 29*(2), 324-344. https://doi.org/10.1111/caim.12353
15. Dubey, R., Gunasekaran, A., Childe, S. J., Fosso Wamba, S., Roubaud, D., & Foropon, C. (2021). Empirical investigation of data analytics capability and organizational flexibility as complements to supply chain resilience. *International Journal of Production Research, 59*(1), 110-128. https://doi.org/10.1080/00207543.2019.1582820
16. Eggert, J., & Hartmann, J. (2023). Sustainable supply chain management – A key to resilience in the global pandemic. *Supply Chain Management, 28*(3), 486-507. https://doi.org/10.1108/SCM-10-2021-0463
17. Felin, T., & Hesterly, W. S. (2007). The knowledge-based view, nested heterogeneity, and new value creation: Philosophical considerations on the locus of knowledge. *Academy of Management Review, 32*(1), 195-218. https://doi.org/10.5465/AMR.2007.23464020
18. Fiksel, J. (2015). From risk to resilience. In *Resilient by Design* (pp. 19-34). Washington, DC: Island Press. https://doi.org/10.5822/978-1-61091-588-5_2
19. Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.1177/002224378101800104

http://dx.doi.org/10.21511/ppm.22(4).2024.51

20. Hair, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research, 109,* 101-110. https://doi.org/10.1016/j.jbusres.2019.11.069

21. Hillmann, J., & Guenther, E. (2021). Organizational resilience: A valuable construct for management research? *International Journal of Management Reviews, 23*(1), 7-44. https://doi.org/10.1111/ijmr.12239

22. Hohenstein, N. O., Feise, E., Hartmann, E., & Giunipero, L. (2015). Research on the phenomenon of supply chain resilience: A systematic review and paths for further investigation. *International Journal of Physical Distribution & Logistics Management, 45*(1/2), 90-117. https://doi.org/10.1108/IJPDLM-05-2013-0128

23. Jin, Y., Vonderembse, M., Ragu-Nathan, T. S., & Smith, J. T. (2014). Exploring relationships among IT-enabled sharing capability, supply chain flexibility, and competitive performance. *International Journal of Production Economics, 153,* 24-34. https://doi.org/10.1016/j.ijpe.2014.03.016

24. Kahn, W. A., Barton, M. A., Fisher, C. M., Heaphy, E. D., Reid, E. M., & Rouse, E. D. (2018). The geography of strain: Organizational resilience as a function of intergroup relations. *Academy of Management Review, 43*(3), 509-529. https://doi.org/10.5465/amr.2016.0004

25. Kamalahmadi, M., & Parast, M. 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, 171,* 116-133. https://doi.org/10.1016/j.ijpe.2015.10.023

26. Karanam, R. K., Sachani, D. K., Natakam, V. M., Yarlagadda, V. K., & Kothapalli, K. R. V. (2024). Resilient supply chains: Strategies for managing disruptions in a globalized economy. *American Journal of Trade and Policy, 11,* 7-16. https://doi.org/10.18034/ajtp.v11i1.719

27. Liu, C. L., Shang, K. C., Lirn, T. C., Lai, K. H., & Lun, Y. H. V. (2018). Supply chain resilience, firm performance, and management policies in the liner shipping industry. *Transportation Research Part A: Policy and Practice, 110,* 202-219. https://doi.org/10.1016/j.tra.2017.02.004

28. Mackay, J., Munoz, A., & Pepper, M. (2020). Conceptualising redundancy and flexibility towards supply chain robustness and resilience. *Journal of Risk Research, 23*(12), 1541-1561. https://doi.org/10.1080/13669877.2019.1694964

29. Manuj, I., & Mentzer, J. T. (2008). Global supply chain risk management strategies. *International Journal of Physical Distribution and Logistics Management, 38*(3), 192-223. https://doi.org/10.1108/09600030810866986

30. Martínez-Córcoles, M., & Vogus, T. J. (2020). Mindful organizing for safety. *Safety Science, 124.* https://doi.org/10.1016/j.ssci.2020.104614

31. Massari, G. F., Giannoccaro, I., & Carbone, G. (2023). Team social network structure and resilience: A complex system approach. *IEEE Transactions on Engineering Management, 70*(1), 209-219. https://doi.org/10.1109/TEM.2021.3058237

32. McCann, J., Selsky, J., & Lee, J. (2009). Building agility, resilience and performance in turbulent environments, human resource planning society, people and strategy. *People & Strategy, 32*(3), 44-51. Retrieved from https://www.markjpeters.co.za/markjpeters/data/downloads/Agility_Resiliency_and_Adaptive_Capacity.pdf

33. McLeay, F., Olya, H., Liu, H., Jayawardhena, C., & Dennis, C. (2022). A multi-analytical approach to studying customers motivations to use innovative totally autonomous vehicles. *Technological Forecasting and Social Change, 174.* https://doi.org/10.1016/j.techfore.2021.121252

34. Micheli, P., Wilner, S. J. S., Bhatti, S. H., Mura, M., & Beverland, M. B. (2019). Doing design thinking: Conceptual review, synthesis, and research agenda. *Journal of Product Innovation Management, 36*(2), 124-148. https://doi.org/10.1111/jpim.12466

35. Modgil, S., Gupta, S., Stekelorum, R., & Laguir, I. (2022). AI technologies and their impact on supply chain resilience during COVID-19. *International Journal of Physical Distribution and Logistics Management, 52*(2), 130-149. https://doi.org/10.1108/IJPDLM-12-2020-0434

36. Odimarha, A. C., Ayodeji, S. A., & Abaku, E. A. (2024). The role of technology in supply chain risk management: Innovations and challenges in logistics. *Magna Scientia Advanced Research and Reviews, 10*(2), 138-145. https://doi.org/10.30574/msarr.2024.10.2.0052

37. Ortiz-de-Mandojana, N., & Bansal, P. (2016). The long-term benefits of organizational resilience through sustainable business practices. *Strategic Management Journal, 37*(8), 1615-1631. https://doi.org/10.1002/smj.2410

38. Ozanne, L. K., Chowdhury, M., Prayag, G., & Mollenkopf, D. A. (2022). SMEs navigating COVID-19: The influence of social capital and dynamic capabilities on organizational resilience. *Industrial Marketing Management, 104,* 116-135. https://doi.org/10.1016/j.indmarman.2022.04.009

39. Pacheco-Cubillos, D. B., Boria-Reverter, J., & Gil-Lafuente, J. (2024). Transitioning to agile organizational structures: A contingency theory approach in the financial sector. *Systems, 12*(4), Article 142. https://doi.org/10.3390/systems12040142

40. Peck, H. (2006). Reconciling supply chain vulnerability, risk and supply chain management. *International Journal of Logistics Research and Applications, 9*(2), 127-142. https://doi.org/10.1080/13675560600673578

41. Piprani, A. Z., Jaafar, N. I., Ali, S. M., Mubarik, M. S., & Shahbaz, M. (2022). Multi-dimensional supply chain flexibility and supply chain resilience: The role of supply chain risks exposure. *Operations Management Research, 15*(1-2), 307-325. https://doi.org/10.1007/s12063-021-00232-w

42. Ponomarov, S. Y., & Holcomb, M. C. (2009). Understanding the concept of supply chain resilience. *The International Journal of Logistics Management, 20*(1), 124-143. https://doi.org/10.1108/09574090910954873

43. Queiroz, M. M., Fosso Wamba, S., Raut, R. D., & Pappas, I. O. (2024). Does resilience matter for supply chain performance in disruptive crises with scarce resources? *British Journal of Management, 35*(2), 974-991. https://doi.org/10.1111/1467-8551.12748

44. Rogerson, S., Svanberg, M., Vural, C. A., von Wieding, S., & Woxenius, J. (2024). Comparing flexibility-based measures during different disruptions: Evidence from maritime supply chains. *International Journal of Physical Distribution & Logistics Management, 54*(2), 163-191. https://doi.org/10.1108/IJPDLM-02-2023-0075

45. Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of Market Research* (pp. 587-632). Springer Nature. https://doi.org/10.1007/978-3-319-57413-4_15

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

47. Schroeder, K., & Hatton, M. (2012). Rethinking risk in development projects: From management to resilience. *Development in Practice, 22*(3), 409-416. https://doi.org/10.1080/09614524.2012.664623

48. Sharma, M., Joshi, S., Luthra, S., & Kumar, A. (2022). Managing disruptions and risks amidst COVID-19 outbreaks: Role of blockchain technology in developing resilient food supply chains. *Operations Management Research, 15*(1), 268-281. https://doi.org/10.1007/s12063-021-00198-9

49. Sheffi, Y., & Rice, J. B. (2005). A supply chain view of the resilient enterprise. *MIT Sloan Management Review, 47*(1). Retrieved from https://www.researchgate.net/publication/255599289

50. Shekarian, M., & Mellat Parast, M. (2021). An integrative approach to supply chain disruption risk and resilience management: A literature review. *International Journal of Logistics Research and Applications, 24*(5), 427-455. https://doi.org/10.1080/13675567.2020.1763935

51. Sherf, E. N., Tangiral, S., & Venkataramani, V. (2019). Why managers do not seek voice from employees: The importance of managers' personal control and long-term orientation. *Organization Science, 30*(3), 447-466. https://doi.org/10.1287/orsc.2018.1273

52. Shishodia, A., Verma, P., & Dixit, V. (2019). Supplier evaluation for resilient project driven supply chain. *Computers & Industrial Engineering, 129,* 465-478. https://doi.org/10.1016/j.cie.2019.02.006

53. Simonet, D. V., Narayan, A., & Nelson, C. A. (2015). A social-cognitive moderated mediated model of psychological safety and empowerment. *The Journal of Psychology, 149*(8), 818-845. https://doi.org/10.1080/00223980.2014.981496

54. Son, B.-G., Roscoe, S., & Sodhi, M S. (2024). Dynamic capabilities of global and local humanitarian organizations with emergency response and long-term development missions. *International Journal of Operations & Production Management*. https://doi.org/10.1108/ijopm-12-2022-0778

55. Sreenivasan, A., Suresh, M., & Tuesta Panduro, J. A. (2023). Modelling the resilience of start-ups during COVID-19 pandemic. *Benchmarking: An International Journal, 30*(6), 2085-2109. https://doi.org/10.1108/BIJ-09-2021-0530

56. Srinivasan, R., & Swink, M. (2018). An investigation of visibility and flexibility as complements to supply chain analytics: An organizational information processing theory perspective. *Production and Operations Management, 27*(10), 1849-1867. https://doi.org/10.1111/poms.12746

57. Sudan, T., Taggar, R., Jena, P. K., & Sharma, D. (2023). Supply chain disruption mitigation strategies to advance future research agenda: A systematic literature review. *Journal of Cleaner Production, 425,* Article 138643. https://doi.org/10.1016/j.jclepro.2023.138643

58. Swafford, P. M., Ghosh, S., & Murthy, N. (2006). The antecedents of supply chain agility of a firm: Scale development and model testing. *Journal of Operations Management, 24*(2), 170-188. https://doi.org/10.1016/j.jom.2005.05.002

59. Taylor, C., Dollard, M. F., Clark, A., Dormann, C., & Bakker, A. B. (2019). Psychosocial safety climate as a factor in organisational resilience: Implications for worker psychological health, resilience, and engagement. In *Psychosocial Safety Climate: A New Work Stress Theory* (pp. 199-228). Cham: Springer. https://doi.org/10.1007/978-3-030-20319-1_8

60. 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

61. Um, J., & Han, N. (2021). Understanding the relationships between global supply chain risk and supply chain resilience: The role of mitigating strategies. *Supply Chain Management, 26*(2), 240-255. https://doi.org/10.1108/SCM-06-2020-0248

62. Wang, Y., Yan, F., Jia, F., & Chen, L. (2023). Building supply chain resilience through ambidexterity: An information processing perspective. *International Journal of Logistics Research and Applications, 26*(2), 172-189. https://doi.org/10.1080/13675567.2021.1944070

63. Xie, Y., Xia, Q., Song, J., & Hu, S. (2024). Can sustainability orientation make firms more resilient? Exploring the role of digital business model innovation, digital orientation, and environmental dynamism. *Sustainable Development*. https://doi.org/10.1002/sd.3125

64. Zhao, N., Hong, J., & Lau, K. H. (2023). Impact of supply chain digitalization on supply chain resilience and performance: A multi-mediation model. *International Journal of Production Economics, 259*. https://doi.org/10.1016/j.ijpe.2023.108817

65. Zhou, J., Mavondo, F. T., & Saunders, S. G. (2019). The relationship between marketing agility and financial performance under different levels of market turbulence. *Industrial Marketing Management, 83,* 31-41. https://doi.org/10.1016/j.indmarman.2018.11.008

http://dx.doi.org/10.21511/ppm.22(4).2024.51