

INVITED PAPER

Towards a Holistic Definition of Post-pandemic Resilience: The Pacific Context

Arun Abraham Elias^{1,2}^(D) · Matthew Pepper^{1,3} · Gurmeet Singh⁴

Received: 8 December 2023/Accepted: 19 January 2024/Published online: 29 February 2024 © The Author(s) 2024

Abstract Post-pandemic resilience in the Pacific region presents some unique, context-specific, economic, social, environmental, and political challenges as well as opportunities. This study aims at developing a holistic definition of post-pandemic resilience in the Pacific context, based on the interconnected aspects and factors that contribute. As there is a gap in the literature for a holistic definition of post-pandemic resilience based on empirical studies from the Pacific Island countries, this study tries to plug that gap. Using a qualitative systems thinking approach, data was collected from primary and secondary sources including semi-structured interviews with ten senior leaders in the Pacific. This study first captures the multiple levels and different interconnected aspects of post-pandemic resilience in the Pacific and then presents a holistic definition. An analysis of the different papers published in this special issue based on this holistic definition and their contexts is also provided in this article. Overall, this study contributes to the literature and practice on post-pandemic resilience by developing a holistic definition using an empirical study based in the Pacific.

Arun Abraham Elias Arun.Elias@vuw.ac.nz Matthew Pepper

pepper@uow.edu.au

Gurmeet Singh gurmeet.singh@usp.ac.fj

¹ Rajagiri Business School, Kochi, India

- ² Victoria University of Wellington, Wellington, New Zealand
- ³ School of Business, University of Wollongong, Wollongong, Australia
- ⁴ School of Business and Management, The University of the South Pacific, Suva, Fiji

Keywords Pacific · Post-pandemic resilience · Systems thinking · Systemic flexibility

Introduction

The critical role of enterprise resilience has gained new momentum from industry and academia alike in the postpandemic era. Numerous approaches and aspects of postpandemic resilience in different geographies and sectors are being reported in the literature (Elias, 2021). However, adequate attention to post-pandemic resilience in the Pacific region is lacking in the academic literature.

Resilience itself carries different meanings in different contexts. Achieving a more resilient state will potentially vary significantly from sector to sector and from region to region. To this end, different strategies are continuously being designed to move towards post-pandemic resilience. One such strategy is the move from global supply chains to regional supply chains to address the delays and uncertainties in supply chain management faced during the pandemic (Durugbo et al., 2021; Ishak et al., 2023; Zaoui et al., 2023).

Post-pandemic resilience in the Pacific region presents some unique, context-specific, economic, social, environmental and political challenges as well as opportunities. For example, the tourism sector in the Pacific declined dramatically during the pandemic, with Fiji reporting an 84.4% decline in tourism revenues in 2020 compared to 2019 (Asian Development Bank, 2022). However, 2022 figures present a more resilient tourism sector in the Pacific, with 59.8 per cent visitors arriving during the first 7 months of the year compared to the same period in 2019, and visitor numbers in August 2022 becoming 78.9% of that in August 2019 (Fiji Reserve Bank, 2022). To understand such resilient behaviour in the Pacific, context-specific research on post-pandemic resilience in the Pacific region is crucial.

In this context, although there is a growing academic and policy interest in post-pandemic resilience, the definitions of post-pandemic resilience are considered differently by different experts (Moglia et al., 2021; Sharma et al., 2023a). Most of these definitions are limited to specific sectors, and there is disagreement on the scope of these definitions (Valiente et al., 2021). Therefore, this study aims at developing a holistic definition of post-pandemic resilience, based on the interconnected aspects and factors that contribute. The study focuses on the Pacific to provide a context of a region that faced some unique challenges during the pandemic. This introduction is followed by a review of academic literature on resilience in general and post-pandemic resilience in particular. This is a followed by a discussion on the methodology adopted and a holistic model of post-pandemic resilience in the Pacific. A discussion on the model is also provided before highlighting the conclusions and directions of further research on the topic of post-pandemic resilience.

Review of Literature

This section emphasises the critical role of resilience in the post-pandemic landscape, with a particular focus on the Pacific region. It expands on resilience, illustrating its diverse definitions across psychology, environmental studies and business. It also underlines the key themes of adaptability, robustness and recovery, showing how these apply differently across contexts, from climate change in coastal communities to infrastructural resilience in urban areas. Focusing on post-pandemic resilience, the review underscores the importance of understanding resilience in the context of global health crises, integrating aspects of social welfare, economic stability and public health. It highlights the need for sector-specific resilience strategies, from healthcare preparedness to localised supply chains in business. The review also identifies a gap in the literature regarding a holistic understanding of post-pandemic resilience, particularly in the Pacific region. This gap points to the necessity of an integrated approach to resilience, considering the interconnected economic, social, environmental and political factors, especially in light of the unique challenges faced by island nations like those in the Pacific.

Resilience

Resilience is a multifaceted and dynamic concept defined variably across disciplines (Balaei et al., 2019; Gatto & Drago, 2020). Psychology defines it as an individual's ability to bounce back from adversity (Killgore et al., 2020; Stoverink et al., 2020). Environmental studies define resilience as an ecosystem's capacity to withstand and recover from disturbances (Yi & Jackson, 2021). In business, it is the organisation's capability to adapt to disruptions whilst maintaining operations (Ralston & Blackhurst, 2020). Despite these definitions appearing to be diverse, they converge on adaption, recovery and continuity, regardless of the context (Frigotto et al., 2022). This multifaceted interpretation of resilience highlights its relevance across different sectors and emphasises the need for adaptable, context-specific strategies.

The notions of adaptability, robustness and recovery are central to the concept of resilience. According to Folke et al. (2005), adaptability is a system's ability, whether they are an individual, ecosystem, or organisation, to learn from disturbances and change their responses accordingly. The notion of robustness which is of particular importance in infrastructural design and supply chain management, involve maintaining the core functions despite external schools (Wong et al., 2020). Recovery which is the process of improving and rebuilding post-disruption is another key component of resilience (Jia et al., 2023). Resilience applications differs significantly across different context. For example, in coastal communities, strategies for resilience are focused on adapting to climate change and mitigating its impact (Arkhurst et al., 2022). On the other hand, urban areas may be more focused on social and infrastructural resilience to cope with environmental and economic changes (Ye et al., 2023). In the healthcare sector, resilience may involve sustaining capacities and health services during times of crisis (Ezzati et al., 2023).

Post-Pandemic Resilience

The critical importance of resilience in a global context has been brought to the forefront by the COVID-19 pandemic. The concept of post-pandemic resilience has gained prominence in the recent literature (Calabro et al., 2022; Fares et al., 2023) and highlights the need for systems being capable of withstanding and recovering from such health crisis at a global scale. This concept involves obtaining a much broader comprehension of resilience, bringing together aspects of social welfare, economic stability and public health (Nag & Sarkar, 2023). There exist diverse sector-specific applications of post-pandemic resilience. For instance, in the healthcare industry, resilience involves improving preparedness and public healthcare systems for future pandemics (Heath et al., 2020). Economically, businesses seeking to mitigate the impact of global disruptions are noticeable shifting towards localised supply chains (Katsaliaki et al., 2021; Pujawan & Bah, 2022).



Societies strive towards social resilience post-pandemic to maintain well-being and cohesion during future periods of restrictions and lockdowns (Tam et al., 2021; Wernli et al., 2021).

The Pacific region, with is distinctive characterises and challenges, presents specific context for post-pandemic resilience. The island nations geographical isolation together with dependence on the tourism sector necessitates distinct resilience strategies (Sharma et al., 2023b; Singh et al., 2021; Woosnam et al., 2023). Efforts in these regions to build resilience have been focused on enhancing local healthcare capacities and diversifying the economy (de la Torre Parra et al., 2023; Phillips et al., 2022).

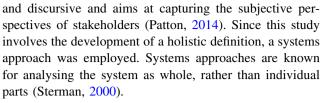
Research Gap

Despite the extensive literature on resilience (Biggs et al., 2020; Iftikhar et al., 2021), there still exists a significant literature gap when it comes to a multi-sectorial and holistic understanding of post-pandemic resilience (Calabro et al., 2022). Studies conducted previously have focused resilience within specific sectors (Garcia-Perez et al., 2023; Haddoud et al., 2022; Madi Odeh et al., 2023), overlooking the interconnectedness of economic, social, environmental and political factors in a post-pandemic world (Kutty et al., 2022; Maskrey et al., 2023). This gap in the literature highlights the need for an integrated approach to resilience particularly in the face of global crisis like the COVID-19 pandemic. In the Pacific region context, there is a lack of studies conducted on post-pandemic resilience (Foley et al., 2022). The unique challenges faced by these island nations, such as limited healthcare infrastructure and economic dependency on single sectors like tourism, call for tailored resilience strategies. McEvoy et al. (2020) and Zari et al. (2019) highlight the importance of understanding the socio-economic and environmental landscape of the Pacific in developing effective resilience strategies for this region.

Methodology

Following the research objective to develop a holistic definition of post-pandemic resilience, an interpretivist research paradigm was used in this research. Interpretivism asserts that physical and social reality is subjective. In interpretivist research, a researcher tries to understand the subjective meanings and interpretations that people give to their experiences (Denzin & Lincoln, 2011).

This research is exploratory in nature and takes a "qualitative approach", which involves empirical research where the data are not in the form of numbers (Saldana, 2011). Qualitative research tends to be more humanistic



Data were collected through primary and secondary sources. Secondary sources include newspaper articles and other publicly available reports. For collecting primary sources, semi-structured interviews were used. A total of ten interviewees with senior governmental, academic and industry leaders were conducted. Table 1 lists the interviewees.

Data collected from primary and secondary sources were first analysed to develop a holistic model of postpandemic resilience in the Pacific. This systems model was further explained using the different interconnected parts interacting in the system (Elias, 2022b). Both these models are explained in the following sections.

A Holistic Model Post-pandemic Resilience in the Pacific

This section discusses the development of a holistic definition of post-pandemic resilience from a Pacific context. Building on the existing literature on resilience and postpandemic resilience, this definition will use the information collected in this study from primary and secondary sources. This holistic definition is based on multiple levels and different aspects of post-pandemic resilience as explained below.

First, a holistic model of post-pandemic resilience has to appreciate the multiple levels of resilience. The inner core of this resilience model is the organisation. One of the senior leaders in this study pointed out "post-pandemic resilience must begin with our organisations and the people working for those organisations". The next level of post-pandemic resilience is the national level. As the middle level of this model, an interviewee highlighted "we should strive to be resilient beyond the small pockets of our organisations, we should become resilient as a country". The outer level of this model is the region. There are 15 Pacific Island Countries (PICs) in the region (Weir et al., 2017), and it is important to consider the regional level resilience as emphasised by a regional leader "the Pacific Island Countries need to stand together in our journey towards post-pandemic resilience". These three levels of post-pandemic resilience are captured in Fig. 1.

Next, the different aspects of this model are further explored using a systems thinking lens (Elias, 2022a). At the organisational level, post-pandemic resilience must include resilience of interconnected functional areas like

No.	Interviewee	Organisation/sector
1	High commissioner	High Commission for Pacific region
2	Chief executive	Airline based in Fiji
3	Director and owner	Resort based in Fiji
4	Deputy vice chancellor	University based in the Pacific region
5	Deputy vice chancellor	University based in Fiji
6	Dean	University based in Fiji
7	Professor	University based in French Polynesia
8	Senior Ministry Official	Ministry based in Vanuatu
9	Ambassador	Embassy for the Pacific region
10	Senior executive	Pacific Islander based in New Zealand

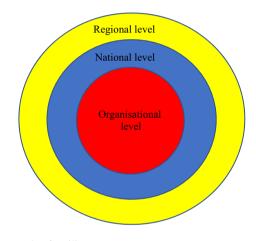


Fig. 1 Levels of resilience

operational, marketing, HR and financial resilience. This is underlined in the argument of the head of an organisation participated in this study: "organisational resilience is not just about financial resilience, for us it means our HR, operations, marketing and other functional areas are also resilient". At the national level, post-pandemic resilience will comprise of political, social, technological and environmental resilience. This is a challenge for some of the Pacific Island Countries as pointed out by a national leader: "When we are going through political turbulence in this country, how can we talk about social, technological and environmental resilience?" At the regional level, this study found that post-pandemic resilience is not just an equilibrium approach, i.e. recovering from a shock and measured in times of pre-shock, shock and post-shock (Peng et al., 2017). But it is also evolutionary in nature, i.e. regions are manifestations of human actions and social relations that are in constant transition (Christopherson et al., 2010). The comment by an interviewee captures this aspect: "the Pacific region may not spring back from this disruption immediately, but we have a culture of recovery, rooted in

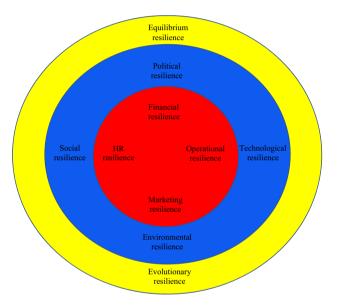


Fig. 2 Aspects of resilience

our history". These different aspects of post-pandemic resilience are presented in Fig. 2.

Based on the above discussions, a holistic definition of post-pandemic resilience is proposed here. Post-pandemic resilience in the Pacific can be defined as the interconnectedness between organisational, national and regional facets of resilience. At the organisational level it includes operational, marketing, HR and financial resilience. At the national level, it embraces political, social, technological and environmental resilience. At the regional level, it is inclusive of both evolutionary and equilibrium resilience.

Overall, this definition uses a systems thinking approach to capture interconnected facets and multiple aspects (e.g. Elias et al., 2021; Marsola et al., 2021) of post-pandemic resilience. The article now provides an analysis of the different papers published in this special issue based on this definition and the contexts.

An Analysis of the Articles in this Issue

The intention of this special issue has been to call upon the academic community to further the discourse regarding resilience in the post-pandemic pacific region, bringing together diverse approaches and efforts to contribute to a collective understanding and definition of resilience in this context. To this end, the articles within this issue draw upon a variety of contexts to present different perspectives of what resilience can and perhaps should look like for the pacific region moving forward.

Agrawal et al. consider the impact and importance of supply chain flexibility on coordination, resilience and robustness in the context of big data implementation and its important influential role in enhancing supply chain performance. Highlighting the need for ongoing evaluation and improvement of resilience strategies, their work helps supply chain decision-makers understand the interconnectedness of these elements to develop effectiveness strategies to improve performance. Mapping such findings against the two previous figures (Figs. 1 and 2), it is clear that such an approach can span all three levels of resilience, depending on the complexity of the supply chain and the size of the individual stakeholders. Clearly, the operational and technological aspects of resilience (Fig. 2) come to the fore, but not at the expense of other aspects that are required for further levels of integration and coordination within the supply chain, such as political and social resilience that are required to navigate the multitude of relationships necessary to build a resilience network of stakeholders. In a similar vein, Mavi et al. encourage supply chain decision-makers to establish or strengthen connections with other supply chain entities (nodes) with a view to highlight critical capabilities for prioritisation in the development of a stronger, more adaptable supply chain in the face of disruptions.

Tootell et al. take an altogether different approach to building resilience capacity in the Pacific, focusing on the critical role and need for flexible risk management systems in low-resource environments that require flexible solutions. The suggested approach provides a process that drives improved product design and adaptability which in turn will contribute to safeguarding supply chains from systemic disruptions. The authors highlight the value of this approach in the context of increasing adoption of low volume rapid prototyping and manufacturing in the recovery efforts of communities from natural disasters. Whilst clearly aligning with all levels of resilience depicted in Fig. 1., the operational, technological, social and



environmental aspects of resilience are critical factors in this case.

Continuing the manufacturing focus, Dwivedi et al. focus their efforts on the regional level of resilience (Fig. 1), highlighting the unique challenges experience in the Pacific region. In response, they provide a framework for business recovery that accounts for and is adaptable to the specific regional characteristics of the Pacific, aiding policy makers in the complex decisions required in the stages of dynamic recovery from a disruption.

The unique characteristics of the Pacific are extended in the work of Dominic et al., who consider the unique economic challenges to provide a definition of post-pandemic resilience through a banking perspective. The authors emphasise the critical role of finance systems in postpandemic recovery and advocate for a flexible approach (e. g. Sushil, 1997) to economic and financial systems to attract critical investment to stimulate and support regional industry sectors. The article examines the relationship between the banking sector and economic development within Pacific Island Countries, particularly the sectors role as a driver of economic resurgence and resilience postpandemic.

Next, Swamy et al. draw upon a number of these concepts to consider the role of Business Process Outsourcing in regional economic growth and supply chain resilience. The authors go on to map the causal relationships between key aspects of the regional business ecosystem that are essential to ongoing survival of this important sector and must be invested in to prevent its collapse. In terms of Fig. 2, this paper links to different aspects of resilience at the national level and highlights the need for technological resilience in Fiji.

In the final study, Shukla et al. provide an analysis of post-pandemic resilience in tourism and hospitality sector, a vital sector in the Pacific. Using the case of a Fijian resort, they focus on the financial distress and resilience of this sector. The results of this study highlight that financial distress and subsequent resilience of a resort are linked to other functional areas like human resources, supply chain, innovation and operations, as already captured in Fig. 2.

Conclusions

The concept of resilience is multifaceted and dependent upon manifold contexts, is dynamic and has become more broadly studied post-pandemic. In this context, this study attempted to provide a holistic definition of post-pandemic resilience encompassing multiple levels (Fig. 1) and its interconnected aspects (Fig. 2). To capture the holistic nature of post-pandemic resilience, this definition used a systems thinking approach (Elias et al., 2021; Sterman, 2000).

In terms of theory, this study contributes to the literature on post-pandemic resilience (e.g. Calabro et al., 2022; Fares et al., 2023) by providing a holistic definition using an empirical study based in the Pacific region. For a practitioner, it provides an approach to scope post-pandemic resilience holistically, involving organisational, national and regional levels. It is acknowledged that this study is limited to the Pacific region, and within this region, majority of the data were collected from Fiji. Finally, this study lays a platform for further empirical research, especially in the Pacific region, which can help in building understanding post-pandemic resilience theory in holistically.

Funding Open Access funding enabled and organized by CAUL and its Member Institutions.

Declarations

Conflict of interest All three authors are Guest Editors for the Special Issue, being the Introductory paper of the Special Issue.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

- Arkhurst, B. M., Poku-Boansi, M., & Adarkwa, K. K. (2022). Perception on coastal erosion: An assessment of how national level coastal resilience strategies promote indigenous knowledge and affect local level adaptation in Ghanaian communities. *Environmental Science & Policy*, 137, 290–300. https://doi.org/ 10.1016/j.envsci.2022.08.019
- Asian Development Bank. (2022). Enhancing Covid 19 preparedness for tourism recovery. Retrieved October 19, 2022, from https:// www.adb.org/projects.
- Balaei, B., Wilkinson, S., Potangaroa, R., Adamson, C., & Alavi-Shoshtari, M. (2019). Social factors affecting water supply resilience to disasters. *International Journal of Disaster Risk Reduction*, 37, 101187. https://doi.org/10.1016/j.ijdrr.2019. 101187
- Biggs, C. R., Yeager, L. A., Bolser, D. G., Bonsell, C., Dichiera, A. M., Hou, Z., Keyser, S. R., Khursigara, A. J., Lu, K., & Muth, A. F. (2020). Does functional redundancy affect ecological stability and resilience? *A Review and Meta-Analysis. Ecosphere*, 11(7), e03184. https://doi.org/10.1002/ecs2.3184

- Calabro, A., Chrisman, J. J., & Kano, L. (2022). Family-owned multinational enterprises in the post-pandemic global economy. *Journal of International Business Studies*, 53(5), 920–935.
- Christopherson, S., Michie, J., & Tyler, P. (2010). Regional resilience: Theoretical and empirical perspectives. *Cambridge Journal of Regions, Economy and Society*, 3(1), 3–10.
- de la Torre Parra, L., Movono, A., Scheyvens, R., & Auckram, S. (2023). Pacific approaches to fundraising in the digital age: COVID-19, resilience and community relational economic practices. Asia Pacific Viewpoint, 64(5), 222–238. https://doi. org/10.1111/apv.12372
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). The sage handbook of qualitative research. Sage.
- Durugbo, C. M., Amoudi, O., Al-Balushi, Z., & Anouze, A. L. (2021). Wisdom from Arabian networks: A review and theory of regional supply chain management. *Production Planning & Control*, 32(15), 1265–1281.
- Elias, A. A. (2022b). Multi-stakeholder participation for achieving sustainable development goals: A systems thinking approach. In Tauringana, V. and Moses, O. (Eds.) *Environmental sustainability and agenda 2030 (Advances in Environmental Accounting & Management, Vol. 10*), Emerald Publishing Limited, Bingley, pp. 45–65.
- Elias, A. A. (2021). Kerala's innovations and flexibility for covid-19 recovery: Storytelling using systems thinking. *Global Journal of Flexible Systems Management*, 22, 33–43.
- Elias, A. A. (2022a). The dark side of data driven marketing: a systems thinking analysis. *Journal of Strategic Marketing*. https://doi.org/10.1080/0965254X.2022.2105741
- Elias, A. A., Donadelli, F., Paiva, E., & Bacic Araujo, P. (2021). Analysing the complexities of sustainable wood supply chain in the amazon: A systems thinking approach. *The International Journal of Logistics Management*, 32(4), 1481–1505.
- Ezzati, F., Mosadeghrad, A. M., & Jaafaripooyan, E. (2023). Resiliency of the Iranian healthcare facilities against the Covid-19 pandemic: Challenges and solutions. *BMC Health Services Research*, 23(1), 207. https://doi.org/10.1186/s12913-023-09180-6
- Fares, N., Lloret, J., Kumar, V., Frederico, G. F., Kumar, A., & Garza-Reyes, J. A. (2023). Enablers of post-COVID-19 customer demand resilience: evidence for fast-fashion MSMEs. *Benchmarking an International Journal*, 30(6), 2012–2039. https://doi. org/10.1108/BIJ-11-2021-0693
- Fiji Reserve Bank. (2022, 22 September). Leading Fiji to economic success. Retrieved October 19, 2022, from https://www.rbf.gov. fj/press-release.
- Foley, A. M., Moncada, S., Mycoo, M., Nunn, P., Tandrayen-Ragoobur, V., & Evans, C. (2022). Small island developing states in a post-pandemic world: Challenges and opportunities for climate action. *Wiley Interdisciplinary Reviews: Climate Change*, 13(3), e769. https://doi.org/10.1002/wcc.769
- Folke, C., Hahn, T., Olsson, P., & Norberg, J. (2005). Adaptive governance of social-ecological systems. *Annual Review Envir*onmental Resources, 30, 441–473. https://doi.org/10.1146/ annurev.energy.30.050504.144511
- Frigotto, M. L., Young, M., & Pinheiro, R. (2022). Resilience in organizations and societies: The state of the art and three organizing principles for moving forward. *Towards resilient* organizations and societies: A cross-sectoral and multi-disciplinary perspective, 3–40. https://doi.org/10.1007/978-3-030-82072-5_1.
- Garcia-Perez, A., Cegarra-Navarro, J. G., Sallos, M. P., Martinez-Caro, E., & Chinnaswamy, A. (2023). Resilience in healthcare systems: Cyber security and digital transformation. *Technovation*, 121, 102583. https://doi.org/10.1016/j.technovation.2022. 102583



- Gatto, A., & Drago, C. (2020). A taxonomy of energy resilience. Energy Policy, 136, 111007. https://doi.org/10.1016/j.enpol. 2019.111007
- Haddoud, M. Y., Onjewu, A.-K.E., Al-Azab, M. R., & Elbaz, A. M. (2022). The psychological drivers of entrepreneurial resilience in the tourism sector. *Journal of Business Research*, 141, 702–712. https://doi.org/10.1016/j.jbusres.2021.11.069
- Heath, C., Sommerfield, A., & von Ungern-Sternberg, B. S. (2020). Resilience strategies to manage psychological distress among healthcare workers during the COVID-19 pandemic: A narrative review. *Anaesthesia*, 75(10), 1364–1371. https://doi.org/10. 1111/anae.15180
- Iftikhar, A., Purvis, L., & Giannoccaro, I. (2021). A meta-analytical review of antecedents and outcomes of firm resilience. *Journal* of Business Research, 135, 408–425. https://doi.org/10.1016/j. jbusres.2021.06.048
- Ishak, S., Shaharudin, M. R., Salim, N. A. M., Zainoddin, A. I., & Deng, Z. (2023). The effect of supply chain adaptive strategies during the COVID-19 pandemic on firm performance in Malaysia's semiconductor industries. *Global Journal of Flexible Systems Management*, 24(3), 439–458.
- Jia, C., Zhang, C., Li, Y.-F., & Li, Q.-L. (2023). Joint pre-and postdisaster planning to enhance the resilience of critical infrastructures. *Reliability Engineering & System Safety*, 231, 109023. https://doi.org/10.1016/j.ress.2022.109023
- Katsaliaki, K., Galetsi, P., & Kumar, S. (2021). Supply chain disruptions and resilience: A major review and future research agenda. Annals of Operations Research. https://doi.org/10.1007/ s10479-020-03912-1
- Killgore, W. D., Taylor, E. C., Cloonan, S. A., & Dailey, N. S. (2020). Psychological resilience during the COVID-19 lockdown. *Psychiatry Research*, 291, 113216. https://doi.org/10.1016/j. psychres.2020.113216
- Kutty, A. A., Wakjira, T. G., Kucukvar, M., Abdella, G. M., & Onat, N. C. (2022). Urban resilience and livability performance of European smart cities: A novel machine learning approach. *Journal of Cleaner Production*, 378, 134203. https://doi.org/10. 1016/j.jclepro.2022.134203
- Madi Odeh, R. B., Obeidat, B. Y., Jaradat, M. O., Masa'deh, R. E., & Alshurideh, M. T. (2023). The transformational leadership role in achieving organizational resilience through adaptive cultures: The case of Dubai service sector. *International Journal of Productivity and Performance Management*, 72(2), 440–468. https://doi.org/10.1108/IJPPM-02-2021-0093
- Marsola, B., Oliveira, A. L. R., Elias, A. A., & Rodrigues, F. (2021). Reverse logistics of empty pesticide containers: Solution or a problem? *International Journal of Sustainable Engineering*, 14 (6), 1451–1462.
- Maskrey, A., Jain, G., & Lavell, A. (2023). The social construction of systemic risk: Towards an actionable framework for risk governance. *Disaster Prevention and Management: An International Journal*, 32(1), 4–26. https://doi.org/10.1108/DPM-07-2022-0155
- McEvoy, D., Mitchell, D., & Trundle, A. (2020). Land tenure and urban climate resilience in the South Pacific. *Climate and Development*, 12(1), 1–11. https://doi.org/10.1080/17565529. 2019.1594666
- Moglia, M., Frantzeskaki, N., Newton, P., Pineda-Pinto, M., Witheridge, J., Cook, S., & Glackin, S. (2021). Accelerating a green recovery of cities: Lessons from a scoping review and a proposal for mission-oriented recovery towards post-pandemic urban resilience. *Developments in the Built Environment*, 7, 100052.

- Nag, A., & Sarkar, S. (2023). Crisis in motion: Unraveling the impact of COVID-19 on migration and sustainable survivability in Chandil, Jharkhand. Achieving the sustainable development goals through infrastructure development (pp. 146–197). IGI Global.
- Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice.* Sage publications.
- Peng, C., Yuan, M., Gu, C., Peng, Z., & Ming, T. (2017). A review of the theory and practice of regional resilience. *Sustainable Cities* and Society, 29, 86–96.
- Phillips, G., Kendino, M., Brolan, C. E., Mitchell, R., Herron, L.-M., Körver, S., Sharma, D., O'Reilly, G., Poloniati, P., & Kafoa, B. (2022). Lessons from the frontline: Leadership and governance experiences in the COVID-19 pandemic response across the Pacific region. *The Lancet Regional Health-Western Pacific*, 25, 100518. https://doi.org/10.1016/j.lanwpc.2022.100518
- Pujawan, I. N., & Bah, A. U. (2022). Supply chains under COVID-19 disruptions: Literature review and research agenda. Supply Chain Forum: An International Journal, 23(1), 81–95. https:// doi.org/10.1080/16258312.2021.1932568
- Ralston, P., & Blackhurst, J. (2020). Industry 4.0 and resilience in the supply chain: A driver of capability enhancement or capability loss? *International Journal of Production Research*, 58(16), 5006–5019. https://doi.org/10.1080/00207543.2020.1736724
- Saldana, J. (2011). *Fundamentals of qualitative research*. Oxford University Press.
- Sharma, B., Mittal, M. L., Soni, G., & Ramtiyal, B. (2023a). An Implementation framework for resiliency assessment in a supply chain. *Global Journal of Flexible Systems Management*, 24(4), 591–614.
- Sharma, S., Singh, G., & Pratt, S. (2023b). Applying a technology acceptance model to understand digital-free tourism. *Tourism Recreation Research*. https://doi.org/10.1080/02508281.2023. 2252680
- Singh, G., Aiyub, A. S., Greig, T., Naidu, S., Sewak, A., & Sharma, S. (2021). Exploring panic buying behavior during the COVID-19 pandemic: A developing country perspective. *International Journal of Emerging Markets*, 18(7), 1587–1613. https://doi. org/10.1108/IJOEM-03-2021-0308
- Sterman, J. D. (2000). Business dynamics: Systems thinking and modeling for a complex world. Irwin McGraw-Hill.
- Stoverink, A. C., Kirkman, B. L., Mistry, S., & Rosen, B. (2020). Bouncing back together: Toward a theoretical model of work team resilience. *Academy of Management Review*, 45(2), 395– 422. https://doi.org/10.5465/amr.2017.0005
- Sushil, X. (1997). Flexible systems management: An evolving paradigm. Systems Research and Behavioral Science, 14(4), 259–275.
- Tam, L. T., Ho, H. X., Nguyen, D. P., Elias, A., & Le, A. N. H. (2021). Receptivity of governmental communication and its effectiveness during COVID-19 pandemic emergency in Vietnam: A qualitative study. *Global Journal of Flexible Systems Management*, 22, 45–64.
- Valiente, C., Vázquez, C., Contreras, A., Peinado, V., & Trucharte, A. (2021). A symptom-based definition of resilience in times of pandemics: Patterns of psychological responses over time and their predictors. *European Journal of Psychotraumatology*, 12 (1), 1871555.
- Weir, T., Dovey, L., & Orcherton, D. (2017). Social and cultural issues raised by climate change in Pacific Island countries: An overview. *Regional Environmental Change*, 17, 1017–1028.
- Wernli, D., Clausin, M., Antulov-Fantulin, N., Berezowski, J., Biller-Andorno, N., Blanchet, K., Böttcher, L., Burton-Jeangros, C.,

Escher, G., & Flahault, A. (2021). Building a multisystemic understanding of societal resilience to the COVID-19 pandemic. *BMJ Global Health*, *6*(7), e006794. https://doi.org/10.1136/bmjgh-2021-006794

- Wong, C. W., Lirn, T. C., Yang, C. C., & Shang, K. C. (2020). Supply chain and external conditions under which supply chain resilience pays: An organizational information processing theorization. *International Journal of Production Economics*, 226, 107610. https://doi.org/10.1016/j.ijpe.2019.107610
- Woosnam, K. M., Sharma, S., Stylidis, D., & Singh, G. (2023). Understanding Fijian residents' opposition to tourism postpandemic. *Tourism Management Perspectives*, 48, 101162. https://doi.org/10.1016/j.tmp.2023.101162
- Ye, X., Du, J., Han, Y., Newman, G., Retchless, D., Zou, L., Ham, Y., & Cai, Z. (2023). Developing human-centered urban digital twins for community infrastructure resilience: A research agenda. *Journal of Planning Literature*, 38(2), 187–199. https://doi.org/10.1177/08854122221137861
- Yi, C., & Jackson, N. (2021). A review of measuring ecosystem resilience to disturbance. *Environmental Research Letters*, 16(5), 053008. https://doi.org/10.1088/1748-9326/abdf09
- Zari, M. P., Kiddle, G. L., Blaschke, P., Gawler, S., & Loubser, D. (2019). Utilising nature-based solutions to increase resilience in Pacific Ocean Cities. *Ecosystem Services*, 38, 100968.
- Zaoui, S., Foguem, C., Tchuente, D., Fosso-Wamba, S., & Kamsu-Foguem, B. (2023). The viability of supply chains with interpretable learning systems: The case of COVID-19 vaccine deliveries. *Global Journal of Flexible Systems Management*, 24 (4), 633–657.

Key Questions

- 1. How different are other definitions of post-pandemic resilience from non-Pacific contexts?
- 2. What are the boundaries that circumscribe this definition of post-pandemic resilience?
- 3. How dynamic is a definition of post-pandemic resilience? How does it change over time?

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Arun Abraham Elias is the Dean & Director of Rajagiri Business School, Kochi, India and an Adjunct Professor in Management with Victoria University of Wellington, New Zealand. Previously he was the Dean of Business, Hospitality and Tourism Studies at Fiji National University, and Associate Dean (International and Accreditation) with the Business School of Victoria Uni-

versity of Wellington. His main research interests include systems thinking, stakeholder analysis, and sustainable and resilient supply chains. He publishes in journals such as Supply Chain Management: An International Journal, Energy Policy, R&D Management, International Journal of Logistics Management, and Journal of Strategic Marketing. He currently serves as the Regional Editor, Asia Pacific Region for the Global Journal of Flexible Systems Management.



Matthew Pepper is Director for Centre for Supply Chain Research at University of Wollongong, Australia. He is an Associate Professor of Management in the Faculty of Business and Law, University of Wollongong. He holds a PhD in Supply Chain Management from UOW in addition to BEng (Hons) and MSc from University of Greenwich, UK. His research interests include

supply chain management and strategy, performance management and continuous improvement. He sits on the editorial boards of the Journal for Manufacturing Technology Management, International Journal of Lean Six Sigma and the International Journal of Information and Operations Management Education. In addition to publishing journal articles, Matt has recently co-authored two books on performance management and measurement in the public sector.



Gurmeet Singh is currently working as Deputy Vice Chancellor & Vice President, Research and Innovation at The University of the South Pacific, Suva, Fiji. He is also holding the additional portfolio of Head in the School of Business and Management. His current research interests include marketing, information systems, new technology adoption and consumer behaviour,

project management, open innovation, and service operations management. His research appears in European Journal of Marketing, International Journal of Information Management, Journal of Business Research, Psychology and Marketing, IEEE TEM, International Journal of Contemporary Hospitality Management, Journal of Travel and Tourism Marketing, Scandinavian Journal of Hospitality and Tourism, Tourism Recreation Research, Journal of Retailing and Consumer Services, International Journal of Consumer Studies among others.