

**INVITED PAPER** 

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

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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.

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### 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).

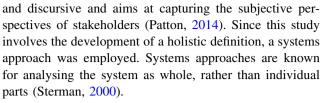
# **Research Gap**

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

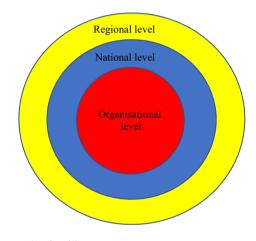


Fig. 1 Levels of resilience

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

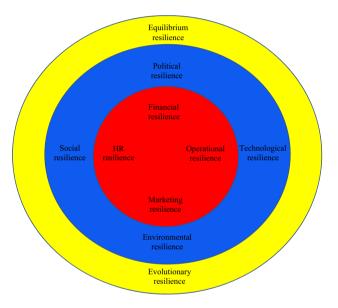


Fig. 2 Aspects of resilience

*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.

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#### Declarations

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

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### **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?

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