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# Towards an Innovative and Resilient Blue Economy: A Critical Literature Review of Sustainable Innovation Ecosystems.

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**Abstract**

In a global context characterized by recurrent ecological and economic crises, the blue economy stands out as a strategic lever for developing new models of sustainable and resilient growth. Innovation lies at the heart of this transformation, mobilizing maritime ecosystems that integrate technological, social, territorial, and environmental challenges. This study provides a critical and theoretical international literature review of the innovations implemented within marine ecosystems and tested through the evolution of the blue economy via a qualitative, critical, and synthetic methodological approach (theoretical and thematic analysis).

The objectives are threefold: (1) to provide a state of the art of existing knowledge on the link between "innovation and sustainability" within the blue economy as a resilient ecosystem; (2) to identify entrepreneurial resilience factors in coastal environments; and (3) to propose a conceptual model explaining the relationship between these key concepts. This review helps fill a theoretical gap concerning the interactions among ecosystems, innovation, and resilience, while opening new research and policy avenues to support the economic transitions of coastal zones.

**Keywords:** Blue Economy; Sustainable Innovation; Resilience; Ecosystems; Sustainability

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## Introduction

Over the past two decades, the international economy has faced multiple ecological, economic, and social crises, challenging the relevance of traditional production systems and the vulnerability of territories. In this context, adopting new models that are both high-performing and sustainable has become a global scientific and political priority (Rockström et al., 2009; Folke et al., 2016). Confronted with a critical scenario marked by ecological challenges such as ocean acidification, biodiversity loss, and increasing pressure on marine ecosystems the need to explore new methods that integrate ecology within a sustainable development model has become urgent. The blue economy hence appears as an economic and ecological model seeking to increase economic value and to preserve marine resources, thus reflecting the concept of sustainable development (World Bank, 2021; OECD, 2020; Pauli, 2010)
Within this perspective, innovation emerges as a key lever aligning economic performance, ecological sustainability, and social cohesion. Sustainable innovation ecosystems are complex systems offering an integrated vision of innovation, sustainability, and entrepreneurship by integrating multiple economic, political, social, and cultural actors (business, civil society, government, etc.) (Stam & Van de Ven, 2021). In the maritime domain, these innovative ecosystems aim to strengthen the economic resilience of enterprises in order to face external challenges such as climate change, ecological degradation, or global economic crises, while promoting sustainable development at both ecological and social levels.
Even though innovation and entrepreneurial resilience have been widely studied in the academic literature, few works explicitly link the concept of sustainable innovation ecosystems with the blue economy. The literature still lacks theoretical and empirical studies addressing organizational resilience factors within maritime systems. In this context, this article aims to the intersection of the blue economy, sustainable innovation, and organizational resilience. The study “Towards an innovative and a resilient blue economy” examines how the blue economy can be understood not only as a specific field of economic activity linked coastal resources, but also as a sustainable innovation ecosystem able of strengthening organizational resilience in the face of ecological, economic, and social perturbations. In this regard, the main objective of the article is to analyze the conceptual relationships between these three dimensions and to propose an integrated theoretical analytical framework that helps us to examine and understand their interdependence. This study seeks, first, to provide an overview of the current state of the art of existing knowledge on the relationship between blue economy, sustainable innovation, and sustainability; second, to determine the main factors of organizational resilience in coastal and maritime environments; and third, to introduce a conceptual model explaining the interrelations among these key concepts. To

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address these objectives, the article is structured in four main parts. The first part presents the theoretical and methodological framework of the research. The second part discusses the main conceptual foundations of the study: the blue economy, sustainable innovation, sustainable innovation ecosystems, and organizational resilience. The third part identifies and analyzes the principal factors of organizational resilience in coastal environments and finally, the fourth part proposes an integrated conceptual model illustrating the linkage between the key concepts.

## Theoretical and Methodological model of the Research

### 1.1. Theoretical structure of the Study

This study adopts a critical theoretical approach to reveal the interconnections between sustainable innovation, the blue economy, and organizational resilience. Sustainable innovation is perceived as a key solution embedded in a neoclassical, evolutionary, and strategic logic, calling for a new model of a sustainable innovation ecosystem that promotes organizational resilience, economic growth, and ecological sustainability. Inspired by the major scholarly contributions in this field, this work aims to analyze the existing scientific literature on these concepts and to reveal the relationships between sustainable innovation and organizational resilience within the blue economy.

In the line with this, the conceptual framework of this research centers around four key concepts:

1 **Sustainable innovation** as a key success factor and driver of resilient change;

2 **The blue economy** as a model of a sustainable innovation ecosystem;

3 **Organizational resilience** as the outcome of the interaction between sustainable innovation and the innovation ecosystem;

4 **The sustainable innovation ecosystem** as a driver of change exemplified by the case of the blue economy.

### 1.2. Methodological structure of the study

To explore the relationships among these concepts, this study adopts a qualitative and critical literature review, grounded in a theoretical analysis of existing research. The main data sources include academic databases such as Scopus, Web of Science, ScienceDirect, and Google Scholar, supplemented **by institutional reports and articles** from organizations such as the FAO, UN, OECD, and World Bank, in order to ensure both scientific rigor and a proper economic and political contextualization of the research.

The choice of a qualitative a critical literature review as a methodology is explained by the fact that research question is complex, exploratory and conceptual, and needs to be explored in a conceptual way. The main goal of the article is not to test a pre-established hypothesis empirically but to understand and clarify fragmented concepts of the blue economy, sustainable innovation

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and organizational resilience and examine their theoretical articulation. this study is based on an interpretivist epistemological positioning because the blue economy, sustainable innovation, and organizational resilience concepts need this specific approach according to their complexity and multidimensionality nature. An abductive reasoning approach was applied to the study to examine the current, identify missing concepts and develop a unified analytical framework. The method enables the combination of current theoretical work while showing how their strengths and weaknesses interact. This develops a unified conceptual framework which meets the requirements of this interdisciplinary field that continuously changes. This methodological choice is also justified by the conceptual and interdisciplinary nature of the research topic which brings together heterogeneous theorical fields notably: blue economy, sustainable innovation, organizational resilience and ecosystem-based approaches that remain poorly integrated together in existing researches.

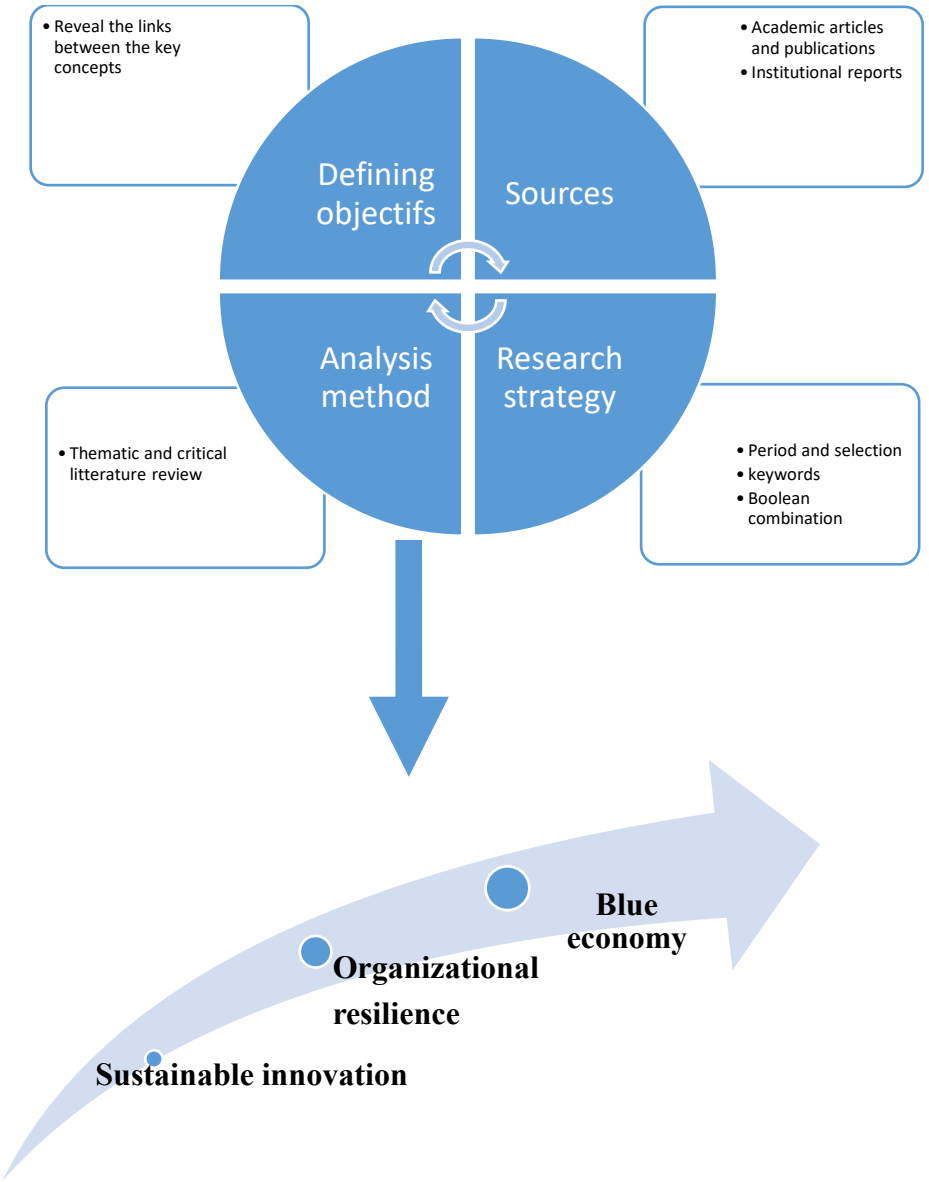
This methodology choice aims to instead of seeking the exhaustiveness of qualitative existing literature and typical systematic reviews, the approach focusses on an in-depth interpretive analysis and main conceptual frameworks of selected academic and institutional contributions to identify key concepts and main linkages to complete the research gap existing between linking those concepts. This methodology supports the development of an integrated conceptual framework that captures the complex multidimensional nature of blue economy as a sustainable innovation ecosystem that fosters organizational resilience

No time limitation was applied in the selection of sources, in order to combine the foundational studies with recent research, that aims to provide a broad and coherent understanding of the concepts. Nevertheless, particular attention was paid to works published between 2010 and 2025, to highlight the evolution of studies and theoretical perspectives over time. The keywords were combined using Boolean operators (AND/OR). The main keywords used were: **“blue economy,” “sustainable innovation,” “resilience,” “ecosystems,”.** These combinations allowed the identification of conceptual relationships between sustainable innovation, the blue economy, and organizational resilience. The inclusion criteria focused on academic studies (both literature reviews and case studies) as well as institutional reports written in English or French. The exclusion criteria eliminated non-academic publications and studies outside the research scope. The analytical approach used is thematic and critical, aiming to demonstrate the causal links among sustainable innovation, the blue economy, and organizational resilience.

This methodology makes it possible to construct a conceptual model combining the four key research concepts, thereby contributing scientifically to a better understanding of the role of

sustainable innovation within the blue economy viewed as a sustainable and innovative ecosystem that promotes organizational resilience.

**Figure N°1:** Diagram of methodological approach of the article




**Source :** by authors

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## 2. Theoretical structure of the Research

### 2.1. Theoretical concepts :

#### 2.1.1. The Blue Economy

##### 2.1.1.1. Definitions of Blue Economy concept

**Table N°1: Definitions of blue economy**

| Authors | References | Definitions |
|---|---|---|
| Pauli Günter | The blue economy: 10 years,100 innovations,1000 million jobs, 2010 | The blue economy is an economic model based on technology and innovation that enables the production of low-cost goods, promotes local employment, and enhances market competitiveness while respecting the environment. |
| Banque Mondiale | Fish to 2030-prospects for fisheries and aquaculture, 2013 | The sustainable use of ocean resources for economic growth, employment amelioration, and the health of marine ecosystems |
| John Kerry | The New Blue Economy: The Future of Sustainability, 2014 | Protecting the oceans is not a luxury but a necessity that contributes to our economy, climate, and way of life, and is essential for creating a sustainable future. |
| Hoegh-Guldberg et al. | Reviving the ocean economy: the case for action, 2015 | The blue economy refers to policies and practices oriented toward environmental and developmental goals. |
| Economist Intelligence Unit | The Blue Economy,2015 | The blue economy is considered as a long-term, sustainable ocean economy that seeks to balance the capacities of marine ecosystems to support sustainable economic activities while keeping them resilient and healthy. |
| OCDE | The ocean economy in 2030,2016 | The blue economy includes all activities related to the sea, natural assets, and ecosystems including both traditional sectors (fisheries, transport, etc.) and new technology-driven sectors. |
| Word Bank | Blue Economy Development Program, Environmental and Social Systems Assessment,2016 | The blue economy takes place when economic activity is balanced with marine ecosystem resources; it supports programs that strengthen both ocean health and economic growth in line with social equity and inclusion principles. |
| Pauli Günter | The bleu economy3.0, (2018-2021) | The blue economy engages marine activities within a circular-economy logic inspired by nature or more precisely, by self-regenerating ecosystems that produce no waste. |
| European Union | The EU Blue Economy Report", Publications Office of the European Union, Luxembourg,2021 | The blue economy includes all activities related to the extraction and use of marine resources, as well as the use of coastal and marine spaces for industrial and recreational purposes. |
| United Nations | Conférence des Nations Unies sur les océans, 2022 | The blue economy connects economic and political sectors to assess whether the use of ocean resources is sustainable. |

**Source: by authors**

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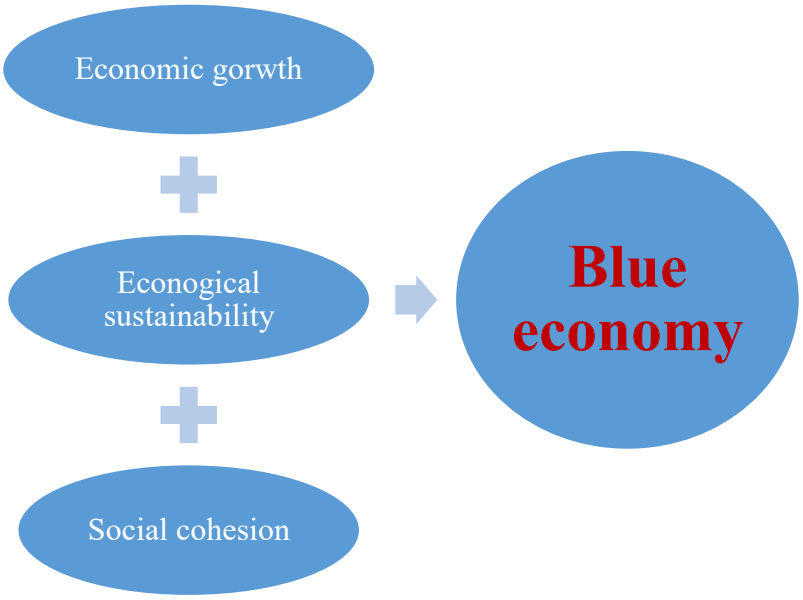
**Figure N°2:** components of blue economy




**Source: by authors**

#### 2.1.1.2. Discussion

Despite the growing interest in the blue economy field, the existing literature still reveals some limitations relative to the definitions proposed by most institutions and authors that often remain broad and optimistic, illustrating blue economy as a sustainable model that can be reconciled with the sustainable development and ecology protection without exanimating the reel linkages and challenges between the balance of those concepts. Another part of literature represents blue economy as a simple maritime extension of green economy model or circular economy model which weakens the concept and prevents the development of a specific framework of blue economy that is considered as a field that aims to balance marine ecologic sustainability with economic and social growth. Furthermore, these observations highlight the need to move beyond purely institutional and theorical approaches to analyze and defined the blue economy as a complex ecosystem that integrates innovation, economy growth, social issues and ecological sustainability.

### 2.1.2. Sustainable Innovation

#### 2.1.2.1. Definitions of Sustainable Innovation concept

**Table N°2: Definitions of sustainable innovation**

| Authors | References | Definitions |
|---|---|---|
| United Nations | Brundtland commission report, 1988 | Sustainable development is "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. |

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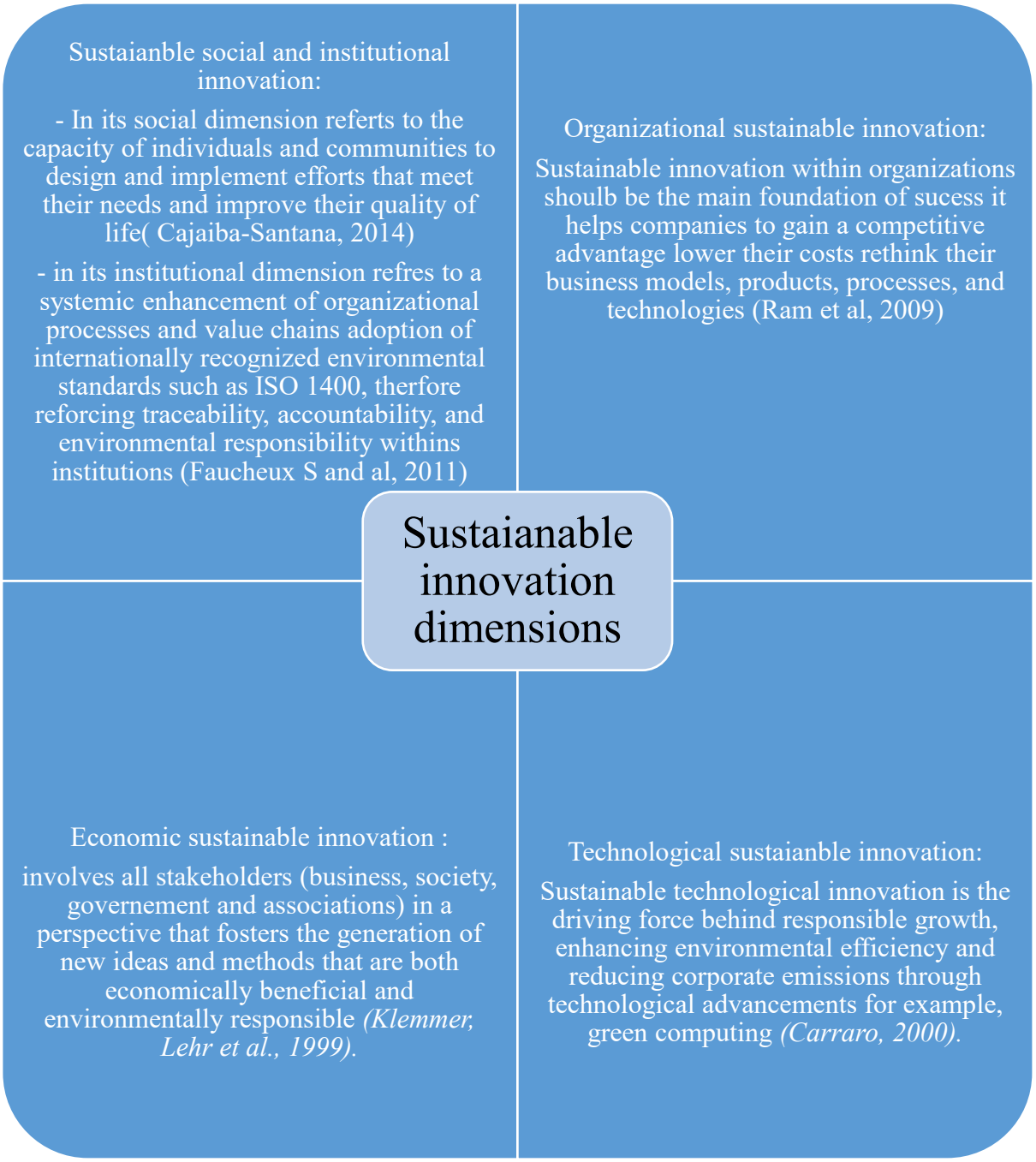
|---|---|---|
| Dyllick et Hockerts | Beyond the Business Case for Corporate Sustainability,2002 | The authors applied the UN definition to the business context, defining sustainability as "meeting the needs and expectations of a company's direct and indirect stakeholders without compromising its ability to meet the needs of future stakeholders. |
| Bonns F et al | Business Models for Sustainable Innovation: State of the Art and Steps Towards a Research Agenda, 2013 | Sustainable innovation is based on normative concepts such as environmental sustainability and sustainable development, involving a process that balances ecological, economic, and social values within societal networks and systems. |
| Charter, M. et Clark, T | Sustainable Innovation. The Centre for Sustainable Design,2007 | Sustainable innovation is a process integrating environmental, social, and financial sustainability considerations into corporate systems from idea generation and R&D to commercialization. |
| Kemp et al, Rennings et al | Survey indicators for Environmental Innovation,1988 Employment impacts of cleaner production, ZEW Economic Studies, 2003 | Environmental innovations are new or modified processes, technologies, equipment, products, or management systems that prevent or reduce negative environmental impacts. |
| Kemp, R. et Pearson, P | Final report of the project Measuring Eco-Innovation,2008 | Eco-innovation refers to the production, assimilation, or exploitation of a product, service, or management method new to the firm, which throughout its life cycle leads to a reduction in environmental risks, pollution, and other negative impacts related to resource use. |
| OECD | Sustainable manufacturing and eco-innovation. Framework, practices and measurement. Synthesis report. Paris, 2009 | Eco-innovation is any innovation that reduces environmental impact, whether this effect is intentional or not. |

**Source: by authors**

Sustainable innovation has been the subject of several scientific researches in which the concept has been classified around four principal dimensions:

**Figure N°3: dimensions of Sustainable innovation**




**Source: by authors**

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#### 2.1.2.2. Sustainable Innovation Ecosystem

**Table N°3: Definitions of sustainable innovation ecosystem**

| Author | Year and Reference | Definition |
|---|---|---|
| Jütting M. | Exploring Mission-Oriented Innovation Ecosystems for Sustainability: Towards a Literature-Based Typology, Sustainability, 2020 | A sustainable innovation ecosystem is a complex and adaptive system that promotes sustainable development through collaborative, strategic, and operational mechanisms, supporting sustainable innovation processes across environmental, social, and economic dimensions. |
| Dias A.S.M.E. et al. | Proposal of a Holistic Framework to Support Sustainability of New Product Innovation Processes, Sustainability, 2020 | A sustainable innovation ecosystem refers to a network of interconnected organizations, institutions, and actors that promote innovation collaboratively, emphasizing sustainability as a key outcome. |
| Boyer J. | Toward an Evolutionary and Sustainability Perspective of the Innovation Ecosystem: Revisiting the Panarchy Model, 2020 | A sustainable innovation ecosystem adopts an evolutionary and sustainable perspective of a system considered dynamic and adaptive, evolving over time while maintaining environmental sustainability, as per the Panarchy model[1]. |
| Santos, R.; Abreu, A. et al. | A Framework for Risk Assessment in Collaborative Networks to Promote Sustainable Systems in Innovation Ecosystems, Sustainability, 2020 | A sustainable innovation ecosystem represents a framework for assessing potential risks within open innovation environments that support sustainable development. |
| Munodawafa R.T. & Johl S.K. | A Systematic Review of Eco-Innovation and Performance from the Resource-Based and Stakeholder Perspectives, Sustainability, 2019 | A sustainable innovation ecosystem encompasses innovations that reduce environmental impacts. Resources, capabilities, and stakeholders are key factors influencing eco-innovation strategies within ecosystems. |
| Sarri D.; Lombardo, S. et al. | Smart Farming Introduction in Wine Farms: A Systematic Review and a New Proposal, Sustainability, 2020 | A collaborative environment in which firms share risks, resources, knowledge, and skills development to quickly meet market demands while fostering sustainable innovation. |

**Source: by authors**

[1] Panarchy model: is an ecological resilience framework that analyzes system transformations and changes through **adaptive cycles** comprising four phases: **exploitation, conservation, creative destruction,** and **renewal** *(Gunderson & Holling, 1986; 2002)*

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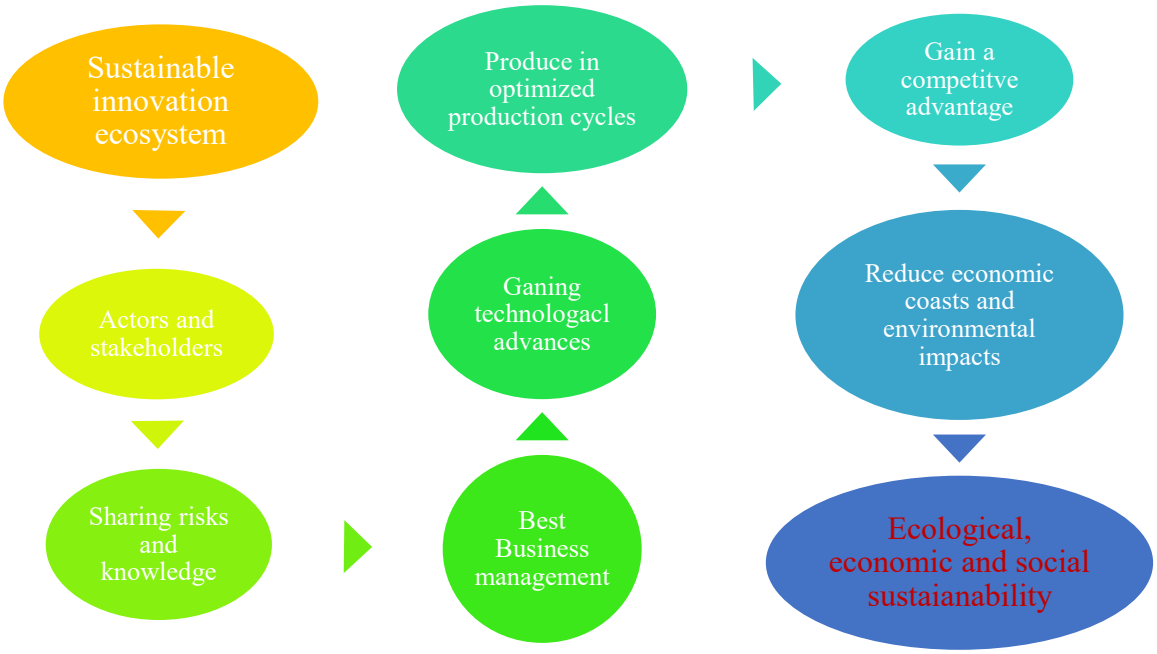
A sustainable innovation ecosystem is a dynamic and well-structured system that integrates various actors and stakeholders in collaboration to facilitate the sharing of risks, resources, and knowledge, thus fostering innovation and enhancing ecological sustainability. It enables organizations to better manage production, value chains, and processes, ensuring competitive advantage, technological advancement through innovation, and respect for environmental and social sustainability.

**Figure N°4: Diagram of sustainable innovation ecosystem**




**Source: by authors**

### 2.1.2.3. Discussion

Although sustainable innovation, or sustainable innovation ecosystem are represented in literature as a key driver of economic and ecologic transitions, several limitations emerge representing innovation as a technological perspective reducing sustainable innovation improvements in environmental efficiency, while neglecting its social, organizational, and institutional dimensions. Many existing frameworks focus only on sustainable innovation ecosystem as an economic performance, as result sustainability is used as a tool to improve economic competitiveness rather than represent truly transform production models. Few studies explore the border conditions needed for sustainable innovation to have lasting impacts such as reducing climate change effects, improving effective governance, coordinating among actors… These limits suggest that

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sustainable innovation should be understood within a more integrated ecosystem based on resilience-oriented approach instead of tight technological or economical view.

### 2.1.3. Organizational Resilience

#### 2.1.3.1- Organizational Resilience definitions

Organizational resilience is a multidimensional concept with no universal definition. It has been the subject of numerous studies by different scholars, each offering complementary perspectives on how organizations adapt, recover, and thrive amid challenges.

**Table N°4: Definitions of organizational resilience**

| Author | Year and Reference | Definition |
|---|---|---|
| Weick | Prepare Your Organization to Fight Fires, 1996 | Organizational resilience results from the establishment of collective adaptive structures. |
| Sutcliffe & Vogus | Organizing for Resilience. In K. S. Cameron, J. E. Dutton, & J. E. Quinn (Eds.), Positive Organizational Scholarship: Foundations of a New Discipline, 2003 | Organizational resilience is the capacity to manage tension and enhance performance despite crisis situations. |
| Hamel & Välikangas | The Quest for Resilience. Harvard Business Review, 2003 | Organizational resilience refers to the capacity to invent new strategic methods to ensure organizational effectiveness despite adversity. |
| Allen & Toder | A Model of Organizational Recovery. Journal of Emergency Management, 2004 | Organizational resilience describes the process of recovering performance after damage caused by traumatic events. |
| Lengnick-Hall & Beck | Adaptive Fit Versus Robust Transformation: How Organizations Respond to Environmental Change. Journal of Management, 2005 | Organizational resilience is an organization's ability to anticipate and interpret unusual situations, design new methods, and face unexpected events by mobilizing its resources. |
| Gittell et al. | Relationships, Layoffs, and Organizational | Organizational resilience is the maintenance of positive adaptation in difficult situations, the |

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|---|---|---|
| | Resilience: Airline Industry Responses to September 11. Journal of Applied Behavioral Science, 2006 | ability to recover from unexpected events, and to generate favorable outcomes despite stress. |
| McManus et al. | Facilitated Process for Improving Organizational Resilience. Natural Hazards Review, 2008 | Organizational resilience reflects an organization's awareness of its overall situation, its management of difficulties, and its capacity to adapt to an interdependent environment. |
| Sincorá et al. | Business Analytics Leveraging Resilience in Organizational Processes. RAUSP Management Journal, 2008 | Organizational resilience is how firms survive after unforeseen or traumatic events; it encompasses three stages: anticipation, adaptation, and recovery. |
| Dewald & Bowen | Storm Clouds and Silver Linings: Responding to Disruptive Innovations Through Cognitive Resilience. Entrepreneurship Theory and Practice, 2010 | Organizational resilience is the ability to adopt new organizational methods and processes to address threats and seize opportunities arising from innovation in business models. |
| Carmeli & Markman | Capture, Governance, and Resilience: Strategy Implications from the History of Rome. Strategic Management Journal, 2011 | Organizational resilience is an organization's capacity to resist adverse reversals. |
| Van der Vegt et al. | Managing Risk and Resilience. Academy of Management Journal, 2015 | Organizational resilience is the capacity of organizational systems to absorb shocks and transform them into new structures and models of functioning. |
| Annarelli & Nonino | Strategic and Operational Management of Organizational Resilience: Current State of Research and | Organizational resilience is an organization's ability to forecast and anticipate internal or external disruptive events. |

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|---|---|---|
| | Future Directions. Omega, 2016 | |
| Williams et al. | Organizational Response to Adversity: Fusing Crisis Management and Resilience Research Streams. Academy of Management Annals, 2017 | Organizational resilience is an organization's or actor's ability to mobilize its competencies to manage its environment before, during, and after crises. |
| Ishak & Williams | A Dynamic Model of Organizational Resilience: Adaptive and Anchored Approaches. Editor Advisory Board, 2018 | Organizational resilience represents the set of dynamic internal practices through which an organization expresses quantitative processes of reintegration, identity management, communication, network development, emotional support, and improvisation. |
| Duchek et al. | The Role of Diversity in Organizational Resilience: A Theoretical Framework. Business Research, 2020 | Organizational resilience is an organization's ability to anticipate potential threats, respond to unexpected situations, and build a dynamic structure that facilitates organizational change. |

**Source: by authors** (based on Ruijun Chen et al., 2021; Manuel Hepfer & Thomas B. Lawrence, 2022)

Organizational resilience, therefore, represents a strategic and adaptive capability that enables organizations to anticipate crises, respond effectively, and transform adversity into growth opportunities. It integrates flexibility, learning, and innovation as core processes for maintaining long-term performance and sustainability

**2.1.3.2- Discussion**

Even though the organizational resilience is widely discussed the concept remains fragmented. Some studies focus on a recovery after crisis concept, others illustrate anticipation, learning and transformation. however, few studies examine resilience as a part of ecosystem dynamics especially in environmental and climate contexts. In addition, organizational resilience is often treated as an internal organization capacity, without considering main relevant stakeholders rather than being treated as a relational and context dependent process. This fragmentation limits the understanding of organizational resilience in sustainable economic ecosystems while the need is to adopt more ecosystem-based perspective particularly within the blue economy

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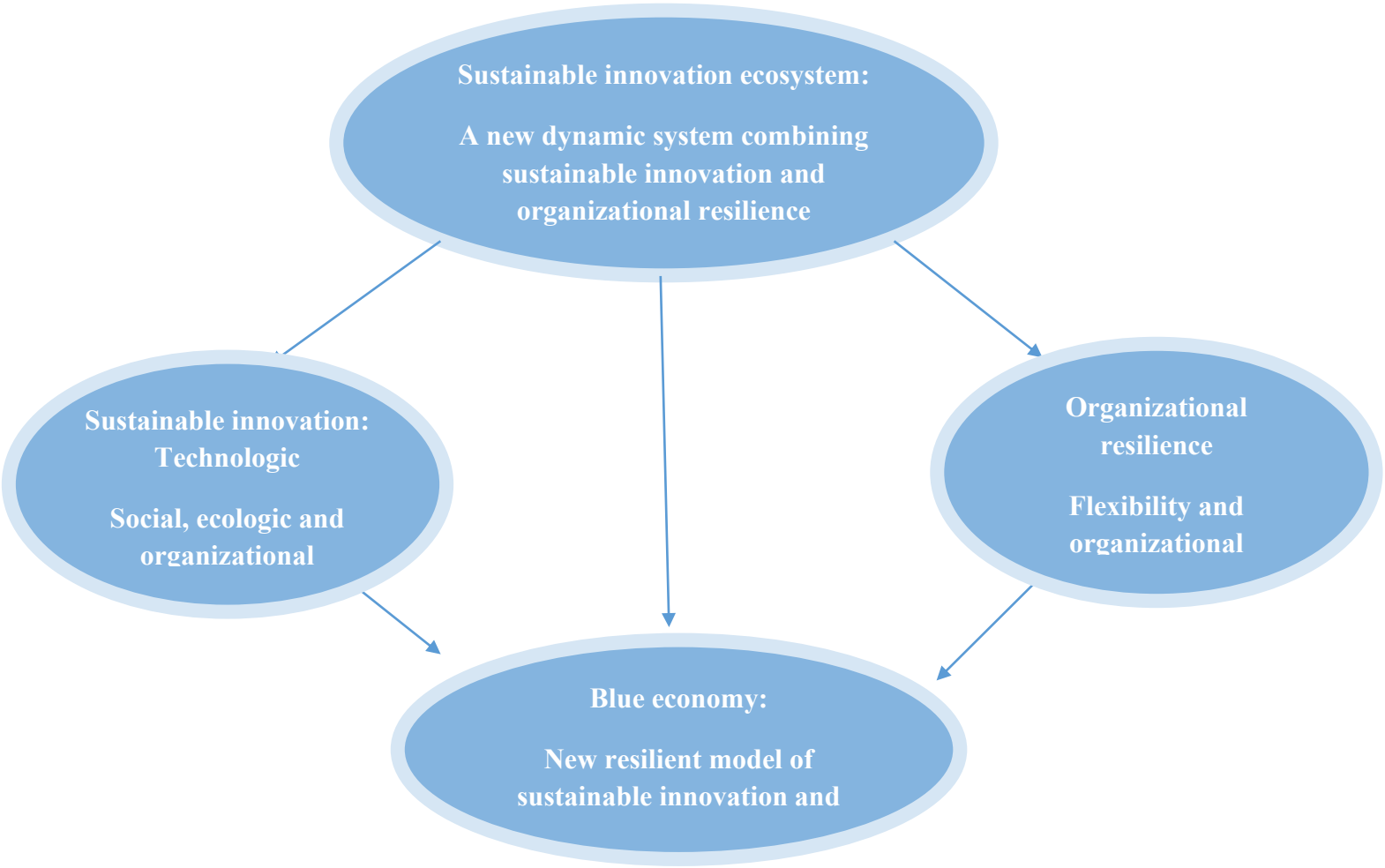
**Figure N°5: Diagram of key concepts**




***Economic growth*, organizational *resilience, and ecological sustainability***

**Source: by authors**

**2.2.** Factors of Organizational Resilience in Coastal Environments:

In the context of the blue economy, sustainability and resilience represent two fundamental and interdependent concepts. They enable marine and coastal sectors to balance ecological preservation with economic performance, ensuring environmental protection while driving sustainable growth. This section explores the main factors contributing to organizational resilience in coastal environments within the blue economy framework. Resilience in the blue economy manifests through the integration of innovation as a driver of change that allows maritime organizations to optimize the use of their resources including marine resources while mitigating depletion and ecological pressure. Energy progress in the field of renewable marine energies (offshore wind, tidal, and wave energy, for example) illustrates a resilient and high-performing energy transition model characterized by a low-carbon economy (Elston J. et al., 2024). Another

factor of resilience in the blue economy is linked to the performance of marine sectors that exhibit a triple dimension: ecological preservation, economic growth, and social inclusion. The fishing and aquaculture industries, for instance, stimulate economic growth through significant profitability while integrating innovation to maintain ecological balance. They also value traditional practices (such as artisanal fishing) and boost employment creation as a factor of social inclusion, which enhances organizational resilience and improves firms' ability to forecast and manage unforeseen situations.

The blue economy aligns with the 2030 Agenda for Sustainable Development adopted at the United Nations Summit in 2015. It integrates sustainability at the heart of its activities, contributing directly to the achievement of the 17 Sustainable Development Goals (SDGs).


**Source: Goals Archive - The Global Goals**

**Table N°5: SDGs related to Blue Economy and Organizational Resilience**

| SDG | Link with the Blue Economy | Summary | Factors of Organizational Resilience and Sustainability |
|---|---|---|---|
| SDG 1: No Poverty | The blue economy offers numerous employment opportunities across its sectors. | The FAO estimates that over 60 million people worldwide work in blue economy sectors, particularly in fishing and aquaculture (World Bank, 2023). | Social cohesion; boosting employment opportunities; strengthening human resources. |

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|---|---|---|---|
| SDG 4: Quality Education | The blue economy aims to better educate and train youth and communities for a sustainable blue planet. | Quality education plays a key role in the success of blue economy initiatives by raising awareness and fostering active citizenship (ARLEM, 2020). | Improved training and education reinforce corporate human capital, ensuring greater resilience. |
| SDG 6: Clean Water and Sanitation | Efficient management of marine resources (desalination of seawater), wastewater, and rainwater contributes to the provision of safe drinking water. | Sustainable management of marine and aquatic resources supports the maintenance of clean water supplies, addressing food insecurity and health risks (UN, 2019). | Responsible marine resource management enhances performance and organizational resilience. |
| SDG 7: Affordable and Clean Energy | Marine energy provides significant global energy and economic potential. | Offshore wind, tidal, wave, current, thermal, and osmotic energy form part of a resilient energy transition model with reduced costs—offshore wind energy costs decreased by 75% between 2014 and 2019 (Wind Europe, 2020). | A clean, responsible, and resilient energy transition model. |
| SDG 8: Decent Work and Economic Growth | The blue economy serves as a new model for economic growth. | The global marine sector's production reached 223.2 million tons in 2022, valued at $472 billion, with $195 billion in international trade, establishing the blue economy as a global | A growing, expanding economy fosters organizational resilience. |

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| | | economic driver (FAO, 2021). | |
| SDG 9: Industry, Innovation, and Infrastructure | Industry, infrastructure, and innovation constitute key pillars of the blue economy. | Marine industries (fishing, aquaculture, marine energy, marine biotechnology) foster innovation, economic growth, and sustainable infrastructure (Alvaro de La Maza, 2025). | Innovation drives anticipation and adaptive capacity in marine industries, reinforcing resilience. |
| SDG 11: Sustainable Cities and Communities | The resilient and environmental nature of the blue economy supports the emergence of sustainable cities and communities. | The blue economy integrates innovation as a growth lever and waste management tool, promoting sustainable communities (Plan Bleu, 2025). | Urban, organizational, and community resilience through environmental management. |
| SDG 12: Responsible Consumption and Production | The blue economy encourages sustainable and environmentally responsible production and consumption. | Global marine production reached 223.2 million tons in 2021, with 78.9% sustainable exploitation; consumption reached 162.5 million tons (FAO, 2021). | Responsible production and consumption reinforce production process resilience and long-term sustainability. |

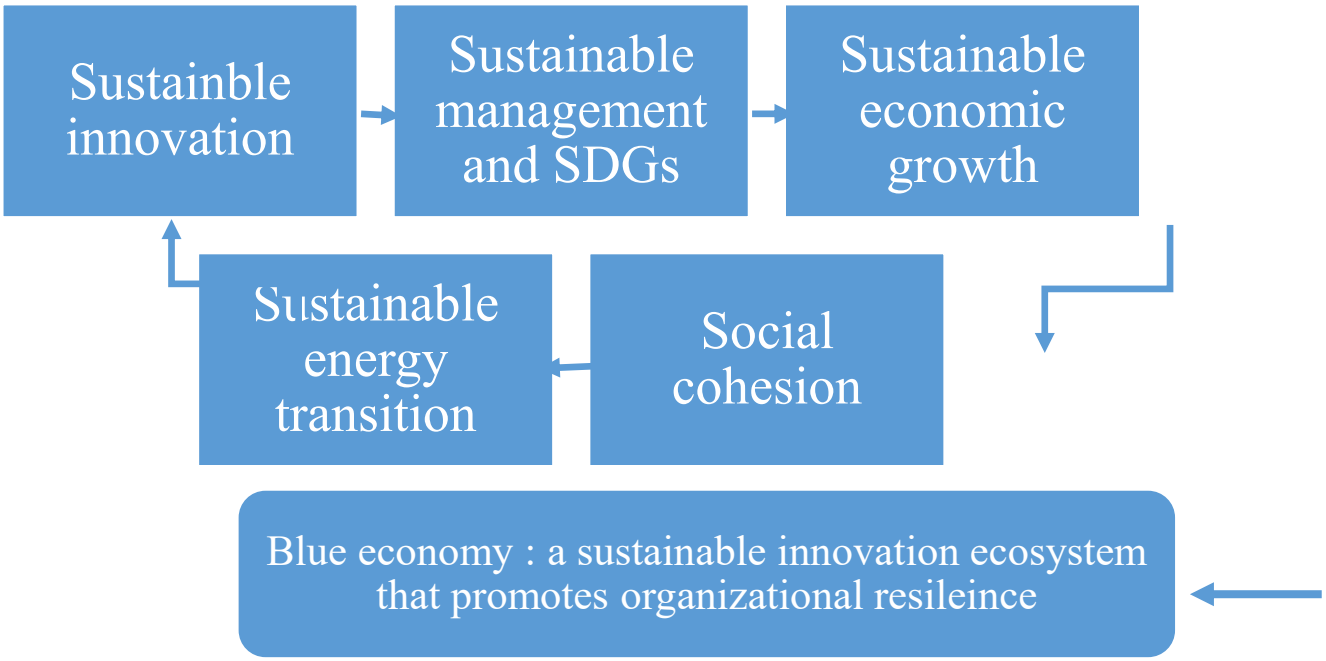
**Source: by authors**

Innovation within the blue economy, as a sustainable innovation ecosystem, extends beyond technical aspects such as integrating new tools and methods for resource management (e.g., underwater drones, sensors, renewable energies). It acts as a catalyst for collaboration among stakeholders, governments, companies, social actors, and institutions thus strengthening organizational resilience. Innovation optimizes resource and process efficiency, achieving a triple objective:

- Conservation and protection of marine biodiversity;
- Improvement of economic growth and cost efficiency;

- Enhancement of organizational and systemic resilience by reducing ecological footprint.

**Figure N°6: summary diagram of Organizational Resilience Factors in the Blue Economy as a Sustainable Innovation Ecosystem**




**Source : by authors**

## 3. The general key concepts

### 3.1. Key concepts

**Table N°6: Summary of Key Concepts and Definitions**

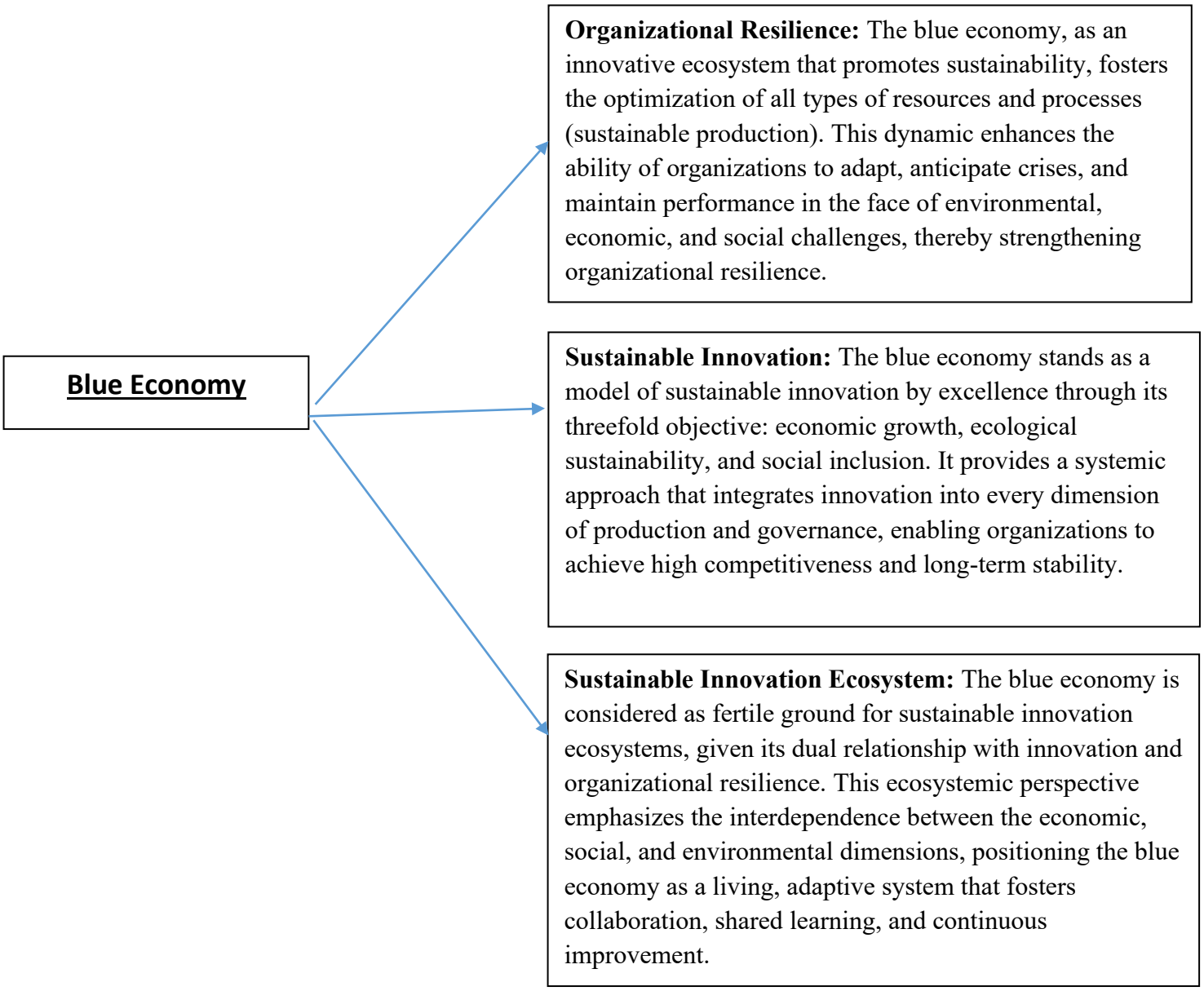
| Key Concept | Definition |
|---|---|
| **Blue Economy** | A performing economic model that aims to optimize the use of marine resources while preserving nature and ecology, boosting economic growth, and fostering social cohesion. |
| **Organizational Resilience** | The capacity of organizations to anticipate, deal, and manage future crises and transforming them into real potential that enhances performance. |
| **Sustainable innovation** | A model that provides originality in ideas and methods within a sustainable development perspective, integrating economic, ecological, and social dimensions at the core of every process or technique. |
| **Sustainable Innovation Ecosystem** | |

| | |
|---|---|
| | A dynamic system that stimulates sustainable innovation through a logic of resilience and continuity. |

**Source : by authors**

### 3.2. Relationship between the Key Concepts

**Figure 7: Diagram of the Relationships Between the Key Concepts**



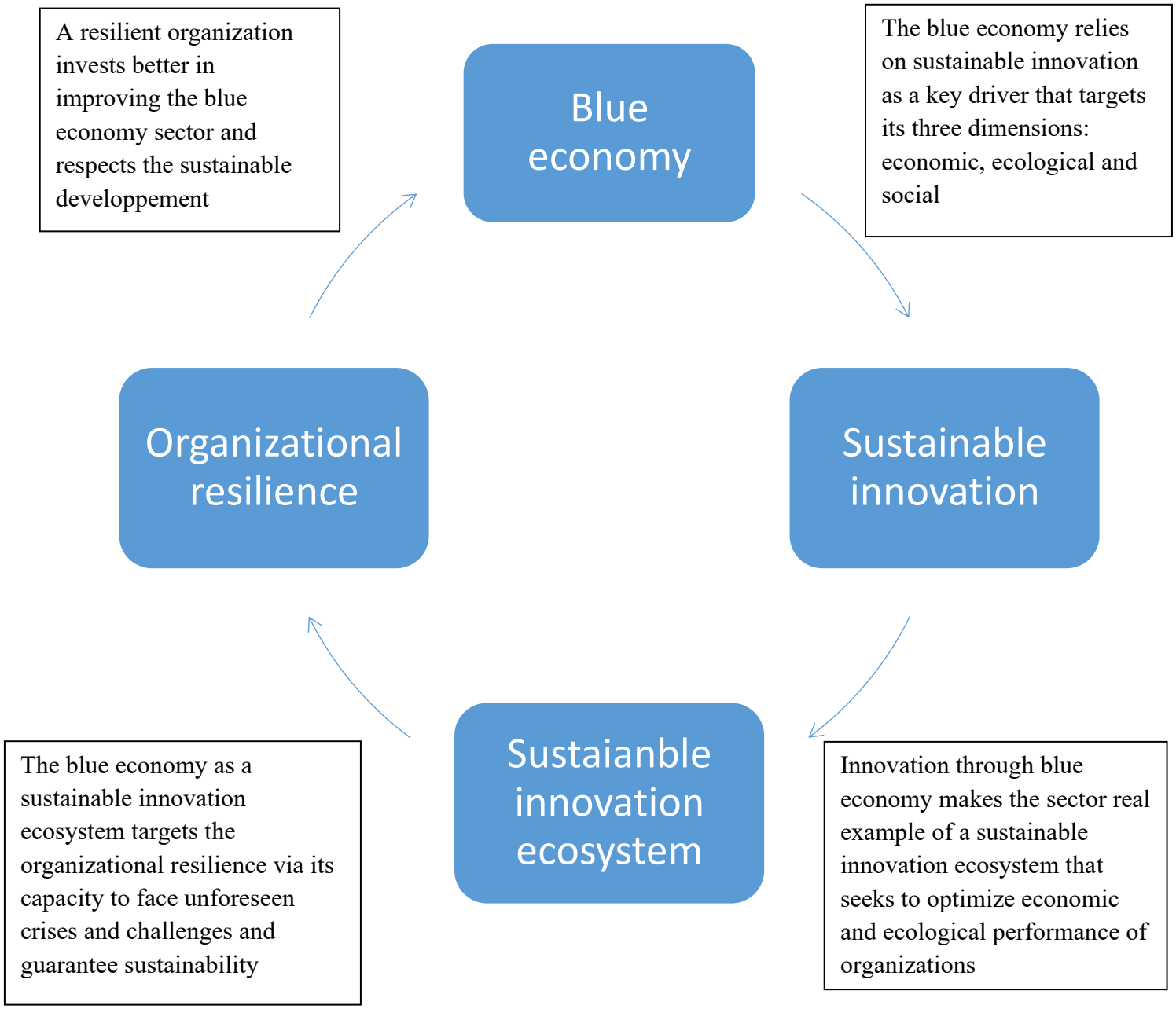

**Source: by authors**

## 4. Conceptual Model of the research:

The critical analysis of these fields, blue economy, sustainable innovation and organizational resilience shows that there is literature is fragmented with concepts often studied sparely. Only a limited number of studies offer an integrated perspective explaining how sustainable innovation closely linked in ecosystem can act as a key driver of organizational resilience in coastal sectors.

This theorical gap supports the need to propose a conceptual model that links these dimensions un order to better understand the complex dynamics of transformation and sustainability within the blue economy.

**Figure 7: Conceptuel model**




**Source: by authors**

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## Conlusion

The study of the blue economy, sustainable innovation, and organizational resilience reveals a multidimensional and interconnected framework that integrates economic performance with environmental and social responsibility. Through the development of sustainable innovation ecosystems, organizations can anticipate, adapt, and transform challenges into opportunities for growth and long-term stability.

This conceptual framework highlights the complementarity between the blue economy and sustainable innovation as dual engines of development. The blue economy promotes the rational and sustainable use of marine resources, while innovation drives transformation and competitiveness. When combined, these dimensions promote a resilient system capable of maintaining performance in the face of crises, reducing ecological footprints, and ensuring inclusive and sustainable growth.

Ultimately, organizational resilience emerges as a strategic capability for adaptation and continuous improvement. It consolidates the link between sustainability, innovation, and performance core components of the blue economy thus enabling nations, enterprises, and communities to move toward a model of sustainable prosperity and collective resilience.

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