



Green Creative Business in Indonesia's Maritime Sector: A Conceptual Framework and Research Agenda for Blue–Creative Value Creation

Feriska Ajeng Anantri¹, Siti Fatimah², Radityo Kusumo Santoso³

^{1 2 3} Universitas Indonesia, Jakarta, Indonesia

Jalan Margonda Raya, Pondok Cina, Kecamatan Beji, Kota Depok, Jawa Barat

Corresponding author: feriskaajeng@vokasi.ui.ac.id

Submitted: 20/01/2026

Revised: 07/02/2026

Accepted: 27/05/2026

Published: 30/06/2026

ABSTRACT

Indonesia is simultaneously pursuing two national agendas that are rarely discussed together: a blue economy transition that seeks to raise the maritime contribution to gross domestic product while restoring marine ecosystems, and a creative economy that already employs more than a quarter of the national workforce. The maritime sector nevertheless remains a volume business with thin value capture, and it is now absorbing a new layer of environmental compliance cost arising from international maritime instruments. This paper asks how creative capabilities and green operating logic can be combined into viable business models for Indonesian maritime enterprises. A structured narrative review was conducted following a PRISMA-informed protocol. From 412 identified records, 74 documents published between 2010 and 2026 were retained and analysed thematically, and the synthesis was triangulated against national statistical and policy sources. The review shows that the relevant literature is organised into five near-disjoint clusters, with almost no work spanning blue economy governance, creative value creation and sustainable business modelling at the same time. On this basis the paper develops the Maritime Green Creative Business (MGCB) framework, a four-layer model that links the maritime resource base, creative valorisation, green operating logic and institutional enablers to jointly assessed economic, environmental and social value, closed by a regenerative feedback loop. Five business archetypes are specified — marine-waste upcycling, regenerative coastal tourism, blue-food craft and branding, maritime heritage and digital content, and green maritime technical services — positioned on creative intensity and ecological regeneration potential. A barrier–enabler matrix across five capitals and six testable propositions complete the contribution. The framework offers maritime policy makers, coastal enterprises and maritime higher education a shared vocabulary for treating environmental obligation as a source of differentiated value rather than as cost alone.

Copyright ©2026, **METEOR STIP MARUNDA**, pISSN: 1979-4746, eISSN: 2685-4775

Keywords: blue economy; creative economy; green business model; maritime Indonesia; circular economy; sustainable value creation

I. INTRODUCTION

A. The Two Agendas and the Space Between Them

Indonesia is an archipelagic state whose waters and coastline are the physical basis of its economy, yet the economic return the country draws from that base remains modest relative to its extent. National planning documents place the ocean economy at roughly 7.6 per cent of gross domestic product in 2021, equivalent to about IDR 1,290

trillion, while narrower accounting boundaries that exclude coastal manufacturing and downstream services put the figure closer to 3.6 per cent [1], [2]. The Indonesia Blue Economy Roadmap responds to that gap with explicit 2045 targets: a maritime contribution of 15 per cent of gross domestic product, maritime employment at 12 per cent of the national total, and marine protected areas covering 30 per cent of national waters, approximately 97.5 million hectares [1].

Running alongside this maritime agenda, and administered almost entirely separately from it, is a creative economy that has become one of the largest employers in the country. National statistics record 27.4 million creative-economy workers in 2025, or 18.70 per cent of the national workforce, up from 26.48 million and 18.30 per cent in the preceding year [3]. Ministerial estimates place the sector's contribution to gross domestic product at approximately 7.8 per cent, a share comparable to that of the ocean economy itself. The two agendas are of similar economic weight, they answer to different ministries, and they are pursued through separate programmes, separate funding instruments and separate research communities.

The separation has a spatial dimension as well as an administrative one. Creative-economy employment is heavily concentrated on Java: the three Javanese provinces of West Java, Central Java and East Java together account for 57.81 per cent of creative-economy workers, with West Java alone recording 6.24 million [3]. The maritime resource base, by contrast, is distributed across the outer archipelago — eastern Indonesia, the small island groups, and the long coastlines of Sulawesi, Maluku and Papua. The creative capability and the maritime resource are, in short, in different places, and no established mechanism connects them.

B. Environmental Obligation as an Emerging Cost

At the same time, the operating environment for maritime business has changed. The 2023 IMO Strategy on the Reduction of Greenhouse Gas Emissions from Ships commits the sector to net-zero emissions by or around 2050, with indicative checkpoints of a 20 per cent reduction by 2030, striving for 30 per cent, and 70 per cent by 2040, striving for 80 per cent, relative to 2008 [4]. The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships entered into force on 26 June 2025, placing new documentation and facility requirements on the end-of-life segment of the fleet [5]. The accompanying IMO Net-Zero Framework, which would have introduced a global fuel intensity standard and an economic measure, did not secure adoption at the extraordinary session held in October 2025, and consideration was deferred to 2026 [6]. The direction of travel is therefore clear while the precise instrument remains unsettled, which is the least comfortable condition for small and medium enterprises deciding whether to invest.

For most Indonesian maritime enterprises these developments are experienced as compliance burden. Certification, documentation, fuel and retrofit costs fall on operators whose margins are already thin, and the benefit accrues to a global commons rather than to the balance sheet. The framing matters: an obligation understood only as cost invites minimum compliance, whereas an obligation understood as a differentiator invites investment. That difference in framing is the practical problem this paper addresses.

C. Abundant Resources, Thin Value

The value-capture problem is visible in the trade figures. Indonesia produces roughly 24.57 million tonnes across capture fisheries and aquaculture and exports fishery products worth about USD 5.95 billion, with more than 5.3 million people employed in the sector as of 2023

— some 2.8 million in capture fisheries and over 2.1 million in aquaculture [2]. The implied unit value is low by international standards, reflecting export in raw or lightly processed form, weak provenance documentation and limited brand presence in destination markets [7]. The seaweed downstreaming agenda, which targets 14.14 million tonnes of output by 2029, will reproduce the same pattern unless processing, design and market positioning advance alongside volume [1], [2].

Environmental indicators point the same way: marine protected area coverage, marine plastic leakage reduction and the national Ocean Health Index all sit below their targets or reference values, as Section IV-B sets out [2]. Abundant resources, thin value capture and a stressed resource base are three faces of one structural condition, and each is an input to business model design rather than a matter for environmental policy alone.

D. Research Gap

Three bodies of scholarship bear on this condition, and they have developed largely in isolation. The blue economy literature is concerned principally with sectoral accounting, ocean governance and the contested meaning of the term itself [8], [9], [10]. The creative economy literature concentrates on urban clusters, cultural industries and the conditions for creative labour, with maritime and rural coastal settings appearing rarely [11], [12]. The sustainable business model literature offers well-developed generic tools — archetypes, layered canvases, circular strategies — that were largely derived from manufacturing and service firms in high-income economies [13], [14], [15]. None of the three provides an integrative account of how creative capability and ecological logic combine in the maritime enterprises of an archipelagic developing economy, and no framework exists that a coastal operator, a provincial planner or a maritime educator could use in common.

E. Research Questions and Contribution

This paper therefore addresses four questions. First, how is the intersection of green business and creative value creation conceptualised in the existing maritime and adjacent literature? Second, what resource, creative and institutional conditions in Indonesia support or constrain such businesses? Third, what business archetypes and value-creation mechanism can be specified for the Indonesian maritime context? Fourth, what research agenda follows from the resulting framework?

The contribution is threefold. Conceptually, the paper defines green creative business in the maritime domain and develops the Maritime Green Creative Business framework, which extends the triple-layered business model canvas by adding an explicit resource base, an institutional layer and a regenerative feedback loop. Empirically, it maps the literature into five clusters and demonstrates the disjointedness that motivates integration. Practically, it derives five archetypes, a barrier–enabler matrix and six propositions that convert the framework into a testable research agenda and a usable checklist for policy and maritime education.

II. THEORETICAL BACKGROUND

A. From Blue Growth to the Blue Economy

The blue economy entered policy vocabulary as a reframing of ocean development around regeneration

rather than extraction, drawing initially on Pauli's argument that waste streams in one process are inputs to another and that natural systems provide the design template for such cascades [16]. The term has since been claimed by very different constituencies. Silver and colleagues identified four competing discourses — oceans as natural capital, as good business, as integral to small island developing states, and as small-scale fisheries livelihoods — each carrying distinct assumptions about who benefits [8]. Voyer and co-authors reached a similar conclusion, arguing that the interpretive flexibility of the term is both its political strength and its analytical weakness [10].

Lee, Noh and Khim connected the concept explicitly to the Sustainable Development Goals and documented the persistent tension between ocean-based growth and marine conservation, noting that most national blue economy strategies specify growth targets with far greater precision than ecological ones [9]. Indonesia's roadmap is a case in point: its economic and employment targets are numerically explicit, while the pathway by which individual enterprises are supposed to become both profitable and regenerative is left largely to be inferred [1]. This paper works in exactly that space, at the level of the firm and its business model rather than at the level of national accounts.

B. Creative Value and the Creative Economy

The creative economy literature begins from the observation that value increasingly attaches to meaning rather than to material substance. Howkins framed the creative economy as the set of transactions in which the primary input is an idea and the primary output is intellectual property or its equivalent [11]. Successive UNCTAD reports have extended the framing to developing economies, documenting both the employment intensity of creative activity and the difficulty exporters face in capturing value when design and branding remain offshore [12].

Verganti's account of design-driven innovation is particularly relevant here because it distinguishes innovation of meaning from innovation of technology or of features [17]. A product whose physical composition is unchanged can nevertheless occupy a different market position if what it means to the buyer changes — and provenance, ecological integrity and cultural origin are precisely the kinds of meaning that maritime products can credibly carry. For the purposes of this paper, creative capability is therefore understood broadly, as the capacity to reinterpret a resource through design, narrative, experience and digital content, and not narrowly as membership of a listed creative subsector.

C. Green and Sustainable Business Models

The business model construct provides the analytical unit at which resource, capability and value proposition meet. Teece defines it as the architecture by which a firm creates, delivers and captures value, and argues that the same technology deployed through different architectures yields very different returns [18]. The canvas developed by Osterwalder and Pigneur made the construct operational for practitioners [19], and Amit and Zott established business model innovation as a distinct source of value alongside product and process innovation [20]. Sustainability-oriented extensions of the construct have

proliferated. Bocken and colleagues synthesised the literature into eight archetypes grouped as technological, social and organisational innovations, providing the methodological precedent this paper follows in deriving archetypes from literature rather than from a single case [14]. Later work on sufficiency-driven models extends the same logic to demand reduction rather than efficiency alone [21]. Joyce and Paquin added environmental and social layers to the canonical business model canvas, producing the triple-layered business model canvas that remains the most widely used design tool for sustainable business modelling [13].

Circular economy scholarship supplies the operational content of the environmental layer. Geissdoerfer and colleagues distinguish circularity from sustainability and caution against treating the two as synonyms [15], while Kirchherr and co-authors document the definitional fragmentation of the field across 114 definitions and its consequences for measurement [22]. Boons and Lüdeke-Freund set out the conditions under which a business model can be said to be sustainable rather than merely to include a sustainability activity, and Schaltegger and colleagues make the corresponding business case argument [23], [24]. Two limitations of this literature matter for the present study: it is largely static, describing configurations rather than trajectories, and it is largely firm-internal, treating the resource base and the institutional environment as exogenous context.

D. Greening in the Maritime Domain

Maritime environmental scholarship and regulation have advanced along a separate track focused on ships and ports. Energy efficiency instruments, the 2023 greenhouse gas strategy and the deferred Net-Zero Framework define the compliance horizon for shipping [4], [6], while the Hong Kong Convention restructures the ship recycling segment [5]. For Indonesia specifically, maritime decarbonisation has been framed as an extension of the national just energy transition rather than as an isolated transport obligation [25]. Marine debris research in Indonesia has quantified the problem with increasing precision, from global leakage estimates to source-specific studies of the Greater Jakarta area, establishing both the scale of the material flow and its predominantly land-based origin [26], [27]. Global fisheries assessments place Indonesian production in comparative context and document the same downstream value-capture pattern across producing states [7]. Coral reef tourism valuation studies demonstrate that intact marine ecosystems carry measurable economic value, providing an empirical basis for treating regeneration as an investment rather than a cost [28].

What this domain literature does not yet supply is a business-level account. It establishes what must be reduced, recovered or protected, and it establishes that ecosystems have value, but it does not specify the enterprise architecture through which an Indonesian coastal operator converts compliance and conservation into a defensible market position.

E. Synthesis and Working Definition

Bringing the three streams together yields the construct this paper develops. A green creative business in the maritime domain is defined here as an enterprise that generates economic value by applying creative capability

— design, narrative, experience and digital content — to maritime resources, while operating under an explicit ecological logic that maintains or restores the marine resource base and distributes a meaningful share of the resulting benefit to coastal communities. Three elements of the definition are load-bearing. The creative input must be substantive rather than cosmetic; the ecological logic must be operational rather than declaratory; and the benefit distribution must be structural rather than philanthropic. An enterprise that satisfies only one or two of these conditions falls outside the construct, and the distinction is what separates the framework developed below from conventional green marketing.

III. RESEARCH METHOD

A. Research Design

This study is a conceptual paper of the theory-synthesis type, in Jaakkola's classification, supported by a structured narrative review [29]. The design was selected because the research questions concern the integration of established but separate literatures rather than the estimation of an effect, and because no dataset exists that spans the blue

economy, creative economy and sustainable business model domains simultaneously. Snyder's guidance on review as a research methodology informed the protocol, and Tranfield and colleagues' argument for transparency in management reviews informed the documentation of each decision [30], [31]. Reporting follows the PRISMA 2020 statement where applicable, with the qualification that a narrative synthesis rather than a meta-analysis was performed [32].

B. Search Strategy

Four bibliographic sources were searched — Scopus, Web of Science, ScienceDirect and Google Scholar — together with the institutional repositories of the Ministry of National Development Planning, the Ministry of Marine Affairs and Fisheries, Statistics Indonesia and the International Maritime Organization. The search window was 2010 to 2026, opening at the year of the principal blue economy monograph and closing at the date of analysis. Search strings combined three blocks with Boolean operators: a maritime block, a sustainability block and a business or creative block. Table 1 records the full strategy, including inclusion and exclusion criteria.

Table 1. Search strategy, sources and screening criteria

Protocol element	Specification
Bibliographic sources	Scopus; Web of Science; ScienceDirect; Google Scholar
Institutional sources	Kementerian PPN/Bappenas; Kementerian Kelautan dan Perikanan; Badan Pusat Statistik; International Maritime Organization; UNCTAD; FAO
Window and languages	January 2010 – March 2026; English and Bahasa Indonesia
Search string (A AND B AND C, applied to title, abstract and keywords)	A: "maritime" OR "marine" OR "coastal" OR "ocean" OR "shipping" OR "fisheries" OR "archipelag*" B: "blue economy" OR "green" OR "sustainab*" OR "circular economy" OR "regenerat*" OR "decarboni*" C: "business model" OR "value creation" OR "creative econom*" OR "creative industr*" OR "design" OR "entrepreneur*"
Inclusion criteria	Peer-reviewed articles, book chapters, official reports and convention texts addressing value creation, business models or enterprise practice in a maritime, coastal or ocean context
Exclusion criteria	Pure marine biology or oceanography; pure naval architecture or transport engineering without a business dimension; urban creative-industry studies with no coastal referent; conference abstracts without full text; documents with no substantive content on value creation
Screening outcome	Identified 412; after de-duplication 268; full texts assessed 121; synthesised 74

C. Screening and Selection

The search returned 412 records. Removal of 144 duplicates left 268 records for title and abstract screening, of which 147 were excluded as falling outside the maritime or business scope — typically pure marine biology, pure transport engineering or urban creative-industry studies with no coastal referent. Full texts of the remaining 121 documents were assessed, and 47 were excluded for containing no substantive content on value creation, leaving 74 documents in the synthesis. Figure 1 presents the selection flow.

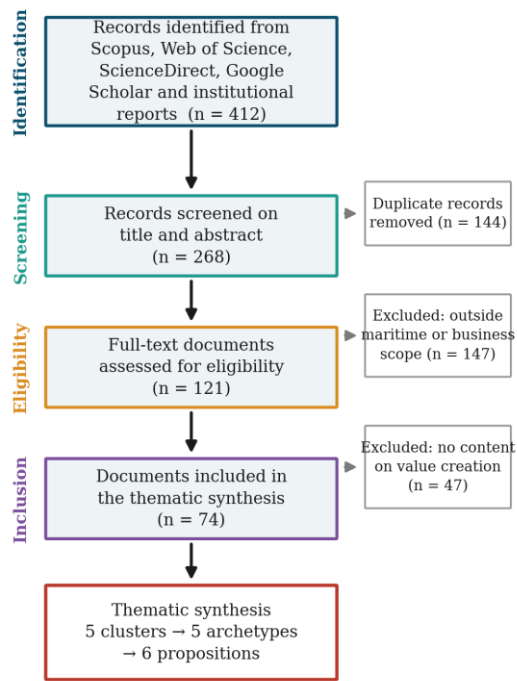


Figure 1. Document selection flow for the structured narrative review.

D. Analysis Procedure

Analysis proceeded in three passes. In the first pass each document was coded openly for its object of study, its theoretical anchor and its unit of analysis, producing a descriptive profile of the corpus. In the second pass codes were grouped axially into thematic clusters through constant comparison, and cluster boundaries were adjusted until every document could be assigned to a primary cluster with cross-references recorded where a document spanned more than one. In the third pass the clusters were interrogated for the mechanisms they described, and

mechanisms recurring across at least three independent documents were carried forward into the framework and the archetypes. The archetype derivation follows the procedure Bocken and colleagues used, in which recurrent configurations rather than individual cases define the type [14].

E. Triangulation and Methodological Limitations

Thematic findings were triangulated against quantitative national sources — statistical releases, ministerial roadmaps and international convention texts — so that the framework's empirical anchors do not rest on the review corpus alone. Three limitations follow. The review is interpretive and therefore sensitive to the coding judgement of the research team; an audit trail was maintained, but no independent second coder was engaged. The corpus is restricted to English and Indonesian sources. Most importantly, the framework and its propositions are analytical products of a synthesis rather than empirical findings, and are offered as hypotheses for testing.

IV. RESULTS AND DISCUSSION

A. Structure of the Literature: Five Clusters

The 74 retained documents resolve into five clusters, summarised in Table 2. Cluster C1, blue economy accounting and governance, is the largest at 21 documents and is concerned with measurement boundaries, sectoral contribution and the political economy of ocean development. Cluster C2, coastal and marine tourism, contains 16 documents and is the most empirically developed, with substantial work on carrying capacity, community-based management and visitor valuation. Cluster C3, circular economy and marine waste, holds 14 documents and is the fastest growing, driven by the marine debris agenda. Cluster C4, creative economy, craft and cultural industries, contains 13 documents, only a minority with any maritime referent, and cluster C5, green shipping and maritime technology, holds the remaining 10 and is dominated by compliance and engineering perspectives.

Table 2. Thematic clusters identified in the review corpus (n = 74)

Code	Cluster	Dominant focus	n	Principal gap identified
C1	Blue economy accounting and governance	Sectoral measurement, contribution to national accounts, ocean governance, competing discourses on ocean development	21	Operates at national-account level; no descent to enterprise or business-model level
C2	Coastal and marine tourism	Carrying capacity, community-based management, visitor valuation, ecotourism principles and certification	16	Environmental performance treated as a constraint on tourism rather than as the product itself
C3	Circular economy and marine waste	Marine debris sources and flows, recovery schemes, plastic value chains, waste management participation	14	Material recovery documented; downstream design, branding and market access rarely analysed
C4	Creative economy, craft and cultural industries	Creative labour, cluster formation, cultural value, craft and design-led development	13	Predominantly urban and terrestrial; maritime referent present in a minority of documents
C5	Green shipping and maritime technology	Energy efficiency, emissions regulation, alternative fuels, ship recycling compliance	10	Compliance and engineering framing; domestic commercial opportunity not examined

The more consequential finding concerns the relationships between clusters rather than their contents. Only six documents in the corpus address two clusters substantively, and none addresses three. The most common pairing is C2 with C1, where coastal tourism is discussed as a blue economy sector; the pairing of C3 with C4, in which marine waste is treated as a creative material,

appears in only two documents, both of them short case reports without business-model analysis. The pairing of C5 with any of C1 to C4 is effectively absent: green shipping is discussed as an engineering and compliance problem and not as a commercial opportunity for domestic service providers. This disjointedness is the empirical justification for the integrative framework that follows. It also indicates

where contribution is available to Indonesian scholarship, since the unoccupied intersections are precisely those where the national resource base is strongest.

B. The Indonesian Condition: Resource Base Against Value Capture

Figure 2 places the two headline conditions side by side. Panel (a) shows the growth of creative-economy employment from 26.48 million workers in 2024 to 27.4 million in 2025, an increase in share from 18.30 to 18.70 per cent of the national workforce [3]. Panel (b) sets three ocean-sustainability indicators against their targets or reference values: marine protected area coverage at approximately 9 per cent against a 30 per cent target, marine plastic leakage reduction at 41.68 per cent against a 70 per cent target, and an Ocean Health Index score of 61 against a global mean of 69 [2].

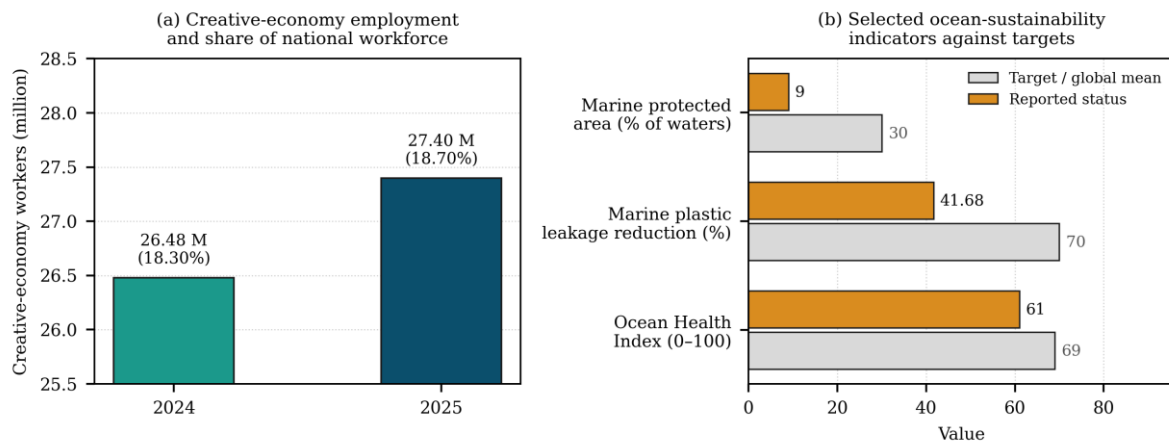


Figure 2. Creative-economy employment and selected ocean-sustainability indicators for Indonesia. Sources: [21], [22].

Read together, the panels describe a country with a very large and growing creative workforce and a marine resource base that is underperforming both its targets and the global average. The arithmetic of the mismatch is instructive: if even one per cent of the creative-economy workforce were engaged in maritime-facing activity, that would represent some 274,000 workers applying design, content and experience capabilities to coastal resources — a figure of the same order as the entire domestic shipbuilding workforce. No mechanism currently directs that capability seaward.

A measurement problem compounds the structural one. The ocean economy is reported at 7.6 per cent of gross domestic product under one accounting boundary and 3.6 per cent under another [1], [2]. The discrepancy is not a data error but a definitional one, turning on whether coastal manufacturing, maritime logistics services and marine

tourism are attributed to the ocean economy or to their functional sectors, a boundary problem that international ocean-economy accounting has faced since the first comparative estimates [33]. For research the ambiguity is a nuisance; for investment it is a material obstacle, because a sector whose size is disputed by a factor of two is difficult to benchmark, difficult to price and difficult to present to a financier. Standardising the boundary is accordingly treated below as an enabling condition in its own right rather than as a technical footnote.

C. The Maritime Green Creative Business Framework

Figure 3 presents the framework that the synthesis yields. It is organised as four layers in sequence, resolving into three value outcomes and a single integrating performance construct, with a feedback path returning value to the resource base.

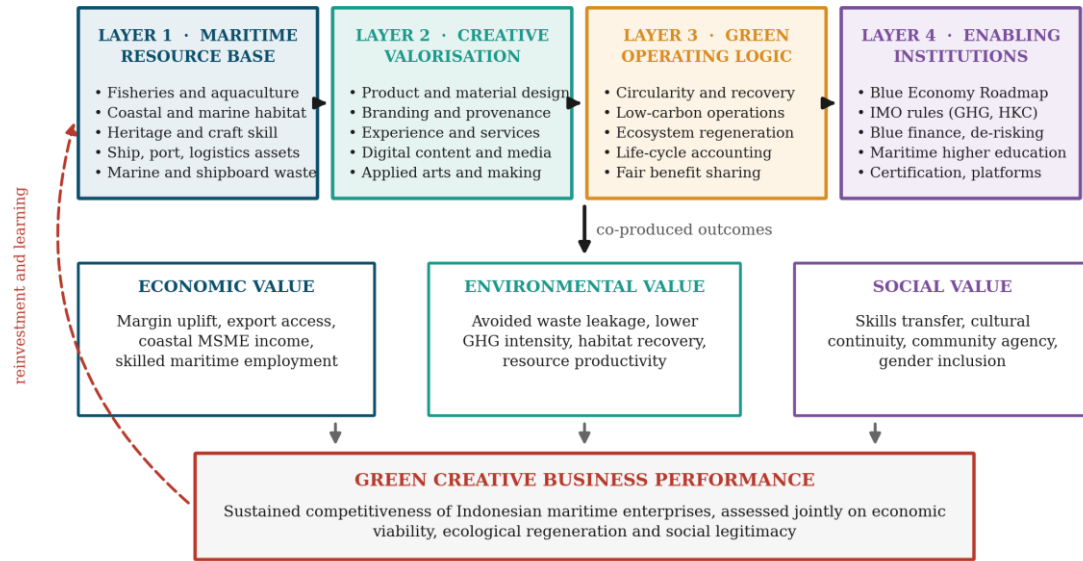


Figure 3. The Maritime Green Creative Business (MGCB) framework.

Layer 1, the maritime resource base, comprises the assets on which the enterprise draws: capture fisheries and aquaculture output, coastal and marine habitat, maritime heritage and the tacit craft skill embedded in it, ship, port and logistics assets, and — significantly — marine and shipboard waste streams. The inclusion of waste as a resource rather than as a liability is deliberate and follows directly from the circular economy literature [15], [22]. Treating the resource base as a distinct layer also connects the framework to the resource-based view and its natural-resource extension, in which competitive advantage derives from assets that are valuable, rare and difficult to imitate — a description that fits an intact reef or a documented heritage craft more closely than it fits most manufactured inputs [34], [35]. Layer 2, creative valorisation, is the set of capabilities through which that base is reinterpreted: product and material design, branding and provenance construction, experience and service design, digital content and media, and applied arts. Layer 3, the green operating logic, specifies how the enterprise operates: circularity and material recovery, low-carbon operations, active ecosystem regeneration, life-cycle impact accounting, and fair benefit sharing. Layer 4, enabling institutions, captures the conditions the enterprise does not control but depends upon: the Blue Economy Roadmap and sectoral policy, international maritime instruments, blue finance and de-risking mechanisms, maritime higher education, and certification and digital market platforms.

The three value outcomes are shown as co-produced rather than sequential. Economic value appears as margin uplift, export access, coastal enterprise income and skilled employment; environmental value as avoided waste leakage, reduced greenhouse gas intensity, habitat recovery and resource productivity; social value as skills transfer, cultural continuity, community agency and gender inclusion, in the sense in which shared value describes benefit that is structural to the business rather

than adjacent to it [36]. These converge on green creative business performance, defined as sustained competitiveness assessed jointly on economic viability, ecological regeneration and social legitimacy. The joint assessment is essential: an enterprise that performs on one dimension while degrading another is, under this framework, not performing, which is consistent with longitudinal evidence that corporate sustainable development advances on economic, environmental and social dimensions together or not at all [37].

The framework extends the triple-layered business model canvas in three specific respects [13]. First, the canvas treats the resource base as an input to the economic layer, whereas here it is a distinct layer whose condition is both a constraint on and a consequence of enterprise activity. Second, the canvas is firm-internal, whereas the institutional layer makes explicit the policy, finance and education conditions that determine whether a configuration is viable in a developing archipelagic economy, following the regulative, normative and cultural-cognitive distinction in institutional theory [38]. Third, and most importantly, the canvas is static, whereas the regenerative feedback loop shown in Figure 3 makes reinvestment in the resource base a structural feature of the model rather than a discretionary act. Without that loop the framework would describe efficient extraction; with it, it describes a business that improves the asset it depends on.

D. Five Archetypes of Maritime Green Creative Business

Applying the derivation procedure described in Section III-D to the five clusters yields five archetypes, set out in full in Table 3 and positioned in Figure 4 on two dimensions: creative intensity, meaning the share of value attributable to design, narrative or experience, and ecological regeneration potential, meaning the capacity of the model to improve rather than merely spare the resource base.

Table 3. Five archetypes of maritime green creative business in the Indonesian context

Code	Archetype	Value proposition	Creative input	Green mechanism	Principal actor	Commercial readiness
A1	Marine-waste upcycling and circular design	Designed goods carrying documented ocean-recovery provenance	Material and product design; provenance narrative	Diversion of marine and shipboard waste from the environment; material substitution	Coastal MSMEs; waste banks; design studios	Medium
A2	Regenerative coastal tourism	Visitor experience in which habitat restoration is the product, not an adjunct	Experience and interpretation design; storytelling	Reef, mangrove and seagrass restoration embedded in operations	Community tourism groups; dive and eco-lodge operators	Medium-high
A3	Blue-food craft and branding	Higher unit value per tonne of fishery and seaweed output	Processing, packaging, provenance and brand design	Traceable, lower-impact sourcing; by-product valorisation	Fisher cooperatives; seaweed processors; food brands	High
A4	Maritime heritage and digital content	Cultural and educational products drawn from Indonesian seafaring	Media, game, publishing and experience design	Indirect: awareness, cultural continuity, stewardship norms	Creative studios; museums; maritime institutions	Medium
A5	Green maritime technical services	Compliance and efficiency services for owners facing international instruments	Service design; technical documentation and verification	Emissions reduction; safe and sound ship recycling; retrofit efficiency	Technical service firms; classification support; maritime academies	Low-medium

Archetype A1, marine-waste upcycling and circular design, converts recovered marine and shipboard waste into designed products carrying documented provenance. Its creative input is material and product design; its green mechanism is diversion of material from the marine environment. It is well positioned on both dimensions but constrained by feedstock consistency, which is the binding operational problem in every documented case; the comparison with recycled-material fashion is instructive, since that industry's environmental claims have been shown to depend heavily on what the recovered material displaces [39]. Archetype A2, regenerative coastal tourism, uses experience design and interpretation to convert conservation activity into a chargeable visitor product, with reef or mangrove restoration embedded in the offering rather than presented as an adjacent good cause — the distinction that separates ecotourism in its original formulation from nature-adjacent leisure [40]. It scores highest on regeneration potential because the restored asset is simultaneously the product. Archetype A3, blue-food craft and branding, applies processing, packaging, provenance and narrative to fishery and seaweed output in order to raise the unit value of a given volume; it carries the highest commercial readiness of the five, since the underlying supply chains already exist at scale and the intervention is at the downstream end.

Archetype A4, maritime heritage and digital content, monetises the cultural stock of Indonesian seafaring — traditional shipbuilding, navigation practice, coastal music

and narrative — through media, games, publishing and experience formats. It has the highest creative intensity and the lowest direct regeneration potential, since its environmental contribution is indirect, operating through awareness and cultural continuity rather than through material flows. Archetype A5, green maritime technical services, is the mirror image: services supporting compliance with international instruments, including inventory of hazardous materials preparation, recycling-facility upgrading, energy-efficiency retrofit design and emissions verification. Its creative intensity is the lowest of the five, since value rests on technical competence rather than on meaning, but its regeneration potential and its strategic importance are high, and it is the archetype in which Indonesian maritime higher education has the most direct stake.

The distribution in Figure 4 is itself a finding. Three archetypes cluster in the high-creative-intensity region, and two of these sit below the regeneration threshold, which is to say that the most commercially accessible opportunities are not automatically the most ecologically valuable. A portfolio that consisted only of A3 and A4 would produce a creative maritime economy with limited environmental effect — a plausible and undesirable outcome that policy should anticipate. Conversely A5, which carries the clearest regulatory tailwind, is the archetype least served by creative-economy support instruments, because it does not resemble what those instruments are designed to fund.

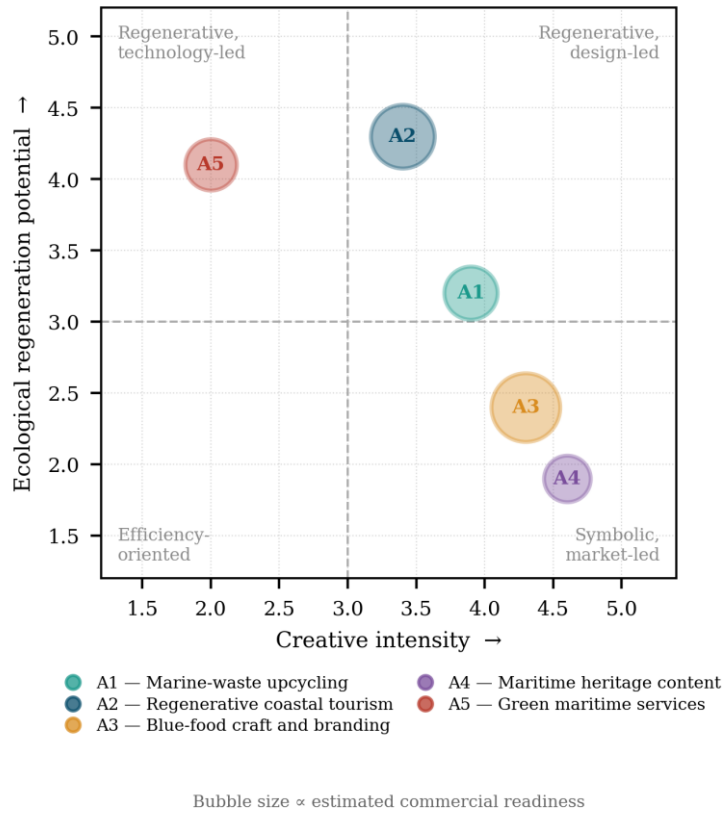


Figure 4. Positioning of the five archetypes on creative intensity and ecological regeneration potential.

E. The Value-Creation Pathway

Figure 5 states the mechanism the framework proposes, as a six-step pathway closing on itself.

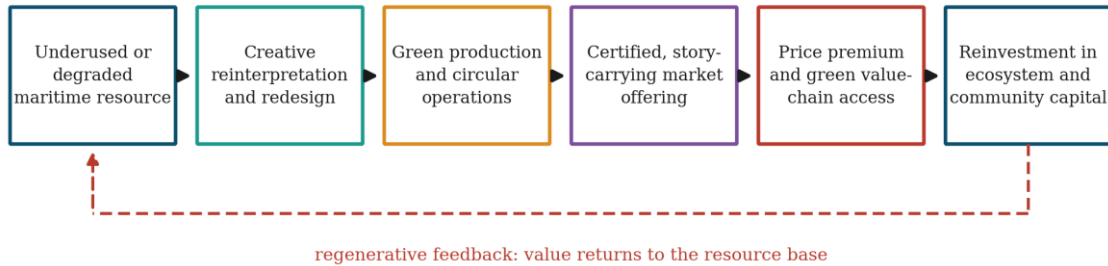


Figure 5. The green creative value-creation pathway and its regenerative feedback loop.

An underused or degraded maritime resource is subjected to creative reinterpretation and redesign; the redesigned offering is produced under green and circular operations; it reaches market as a certified, story-carrying product or experience; that certification and story support a price premium and access to green value chains; and a portion of the resulting margin is reinvested in the ecosystem and community capital from which the resource came, improving the base for the next cycle.

The pathway has one critical hinge, at the transition from step three to step four. The premium is contingent on the ecological claim being verifiable by the buyer; where verification is weak, the model collapses into conventional marketing and the premium disappears within one or two buying cycles as claims proliferate and lose their signalling

value. Certification infrastructure, chain-of-custody documentation and digital traceability therefore appear in the institutional layer rather than as optional extras. For Indonesian coastal enterprises verification is the most expensive element relative to firm size and the least amenable to self-provision, which makes it the natural locus of public and institutional support.

F. Barriers and Enablers Across Five Capitals

Table 4 organises the constraints identified in the synthesis against five forms of capital, pairing each barrier with the enabler that addresses it and the actor best placed to act. The binding constraints are institutional and financial rather than technical or creative: feedstock inconsistency, working capital gaps, verification cost and

the absence of a standardised accounting boundary recur across archetypes, while design capability and market appetite are rarely reported as limiting. Further training in

design or entrepreneurship will therefore yield little until aggregation, finance and verification infrastructure exist.

Table 4. Barrier–enabler matrix across five forms of capital

Capital	Principal barrier	Enabling response	Actor best placed to act
Natural	Inconsistent and seasonally variable feedstock; degraded habitat reducing the asset the model depends on	Aggregation points and seasonal buffering; restoration embedded in operating cost rather than treated as donation	Local government; community management units; enterprise itself
Human	Design, costing and service-design capability scarce outside Java; technical staff trained for compliance rather than for commercial service	Curriculum reform in maritime higher education; incubation attached to regional institutions	Maritime academies and universities; Kementerian Ekonomi Kreatif
Financial	Working capital gap between recovery or restoration outlay and revenue; collateral requirements unsuited to enterprises whose main asset is a habitat	Blue finance instruments with de-risking; revenue-based and outcome-linked facilities	Financial institutions; Kementerian Keuangan; development partners
Social	Benefit distribution contested; extractive arrangements dressed as participation erode consent and raise conflict risk	Structural co-ownership; transparent benefit-sharing agreements recorded and auditable	Community institutions; enterprise governance; local government
Institutional	Fragmented mandates across ministries; disputed ocean-economy accounting boundary; verification cost disproportionate to firm size	Standardised accounting boundary; shared certification and traceability infrastructure treated as public infrastructure	Bappenas; KKP; Kemenhub; BPS; maritime academies

G. Propositions and Research Agenda

Table 5 converts the framework into six propositions, each with the construct involved, the proposed relationship and a suggested empirical method. They are stated as testable claims and not as findings. P1 holds that creative intensity raises willingness to pay, but only where provenance is independently verifiable, which specifies the hinge identified in Section IV-E. P2 holds that depth of circularity yields a cost advantage only above a scale threshold, below which recovery logistics dominate — a proposition of direct relevance to the small-island context. P3 holds that community co-ownership raises social legitimacy and thereby operational resilience, mediated by conflict incidence, and draws on the social-ecological

systems framework for its treatment of collective resource governance [41]. P4 holds that digital platform access mediates the scalability of archetypes in remote island settings, which if supported would make connectivity investment a creative-economy instrument rather than merely an infrastructure one. P5 holds that regulatory anticipation of international maritime instruments confers first-mover advantage on green maritime service providers, testable against the observable uptake following the Hong Kong Convention's entry into force. P6 holds that linkage to maritime higher education raises absorptive capacity and hence archetype adoption rate, which is the proposition most readily tested within the Indonesian maritime education system itself.

Table 5. Research propositions derived from the MGCB framework

No.	Focal construct	Proposition	Suggested empirical approach
P1	Creative intensity and price premium	Creative intensity raises buyers' willingness to pay for maritime green products, but the effect holds only where the ecological claim is independently verifiable; without verification the premium decays within two buying cycles	Choice experiment or conjoint analysis with domestic and export buyers
P2	Circularity depth and cost position	Depth of circularity improves cost position only above a scale threshold; below that threshold recovery and reverse logistics dominate, and the relationship reverses	Comparative cost modelling across enterprises of differing scale and island geography
P3	Community co-ownership and resilience	Structural community co-ownership raises social legitimacy, which in turn raises operational resilience; the effect is mediated by conflict incidence rather than by satisfaction	Multi-site comparative case study with longitudinal conflict-incidence data
P4	Digital access and scalability	Digital platform access mediates the relationship between archetype configuration and growth in remote island settings; connectivity therefore functions as a creative-economy instrument	Panel analysis combining connectivity data with enterprise performance
P5	Regulatory anticipation and first-mover advantage	Enterprises that anticipate international maritime instruments obtain a durable first-mover advantage in green maritime technical services relative to those that respond after entry into force	Event study around the Hong Kong Convention's entry into force, June 2025
P6	Education linkage and adoption	Linkage to maritime higher education raises absorptive capacity and thereby the rate of archetype adoption among enterprises in the institution's region	Quasi-experimental comparison of enterprises with and without institutional linkage

Taken together the propositions define a research agenda with three phases. A first phase would establish the descriptive base through a national census of maritime creative enterprises, which does not presently exist and

without which the population cannot be characterised. A second phase would test the mechanism propositions through comparative case studies selected across archetypes and across island contexts, with P2 and P4 most

appropriately addressed this way following established procedure for theory building from cases [42]. A third phase would move to survey-based structural modelling of the performance construct, which requires the measurement instrument for green creative business performance that this paper specifies conceptually but does not operationalise. Developing and validating that instrument is the most immediate methodological task the framework implies.

H. Implications for Policy, Practice and Maritime Education

For policy, the central implication is coordinative rather than programmatic. The framework's institutional layer spans the mandates of the ministries responsible for marine affairs and fisheries, for the creative economy, for transport, and for national development planning, and the archetypes fall between them in a way that leaves each individually responsible for a part and collectively responsible for none. Three concrete measures follow: standardising the ocean-economy accounting boundary so that the sector can be benchmarked and financed; extending creative-economy support instruments to coastal and island enterprises, including those in archetype A5 which do not resemble conventional creative businesses; and treating verification and certification infrastructure as public infrastructure, given the analysis in Section IV-E.

For practice, the framework offers a diagnostic sequence rather than a prescription: identify the layer at which the binding constraint sits, and resist investing in creative valorisation while the resource base or the verification pathway remains unaddressed.

For maritime higher education the implications are the most direct, and they fall within the institutional mandate of maritime academies such as Sekolah Tinggi Ilmu Pelayaran Jakarta. Three follow from the analysis. First, the technical curricula in marine engineering and nautical science are the natural home of archetype A5, and the compliance instruments discussed in Section II-D are already close to existing teaching in marine environmental protection; the addition required is commercial, in the form of service design and costing. Second, design thinking and sustainable business modelling are largely absent from Indonesian maritime curricula, and their introduction — using the layered canvas tradition [13], [14] as the teaching vehicle — would build the absorptive capacity that proposition P6 identifies. Third, maritime institutions are well placed to host incubation and verification services for coastal enterprises in their regions, since they combine technical credibility, laboratory capacity and a community service mandate. The community service function of maritime higher education, in other words, is a candidate solution to the verification constraint that the framework identifies as binding.

V. CONCLUSION

This paper set out to establish how creative capability and green operating logic can be combined into viable business models for Indonesia's maritime sector. Four conclusions answer the questions posed in Section I-E.

First, the relevant literature is organised into five clusters that are, in practice, disjoint: of 74 documents reviewed, only six span two clusters and none spans three, leaving the intersection of blue economy governance,

creative value creation and sustainable business modelling unoccupied precisely where Indonesia's endowment is strongest. Second, the Indonesian condition combines abundant maritime resources, thin value capture and a stressed resource base with a creative economy of 27.4 million workers concentrated on Java and connected to the maritime sector by no established mechanism; the unresolved dispute over the size of the ocean economy is itself an obstacle to investment.

Third, the Maritime Green Creative Business framework links a maritime resource base, creative valorisation, a green operating logic and enabling institutions to jointly assessed economic, environmental and social value, closed by a regenerative feedback loop; it extends the triple-layered business model canvas by making the resource base and the institutional environment explicit layers and reinvestment structural rather than discretionary. Five archetypes instantiate it, and their distribution shows that the most commercially accessible archetypes are not the most ecologically valuable — a divergence policy should anticipate rather than discover. Fourth, the binding constraints are institutional and financial rather than creative or technical, with verification of ecological claims the most consequential hinge in the value-creation pathway.

The limitations are those of any conceptual synthesis. The framework is derived from literature and secondary sources rather than from primary data; the archetypes are analytical types that no single enterprise will match exactly; the propositions are untested; and the corpus is restricted to English and Indonesian sources. The performance construct at the centre of the framework is specified conceptually but not yet operationalised as a measurement instrument.

Three lines of future work follow directly. The immediate task is to develop and validate a measurement instrument for green creative business performance suitable for coastal enterprises, without which propositions P1 to P6 cannot be tested at scale. The second is a national census of maritime creative enterprises, which would establish the population that this paper can currently only characterise qualitatively. The third is comparative case research across archetypes and island contexts, with particular attention to archetype A5, where the entry into force of the Hong Kong Convention provides an unusually clean natural experiment in regulatory anticipation. Pursued together, these would convert the framework offered here from a conceptual contribution into an empirically grounded account of how an archipelagic economy can make environmental obligation pay.

ACKNOWLEDGEMENT

The authors thank the Pusat Penelitian dan Pengabdian kepada Masyarakat (P3M), Sekolah Tinggi Ilmu Pelayaran Jakarta, for institutional support. [Sertakan nomor kontrak atau skema pendanaan apabila ada.]

REFERENCES

- [1] Kementerian PPN/Bappenas, Indonesia Blue Economy Roadmap, 2nd ed. Jakarta, Indonesia: Kementerian Perencanaan Pembangunan Nasional, 2024.
- [2] ASEAN Blue Wealth, "Indonesia national snapshot," ASEAN Blue Wealth Knowledge Platform, 2025. [Online]. Available: <https://aseanbluewealth.com>
- [3] Badan Pusat Statistik, "Ekonomi kreatif serap tenaga kerja 27,4 juta tahun 2025," Berita Resmi Statistik, Jakarta, Indonesia, Nov. 2025.

- [4] International Maritime Organization, 2023 IMO Strategy on Reduction of GHG Emissions from Ships, Resolution MEPC.377(80), London, U.K.: IMO, 2023.
- [5] International Maritime Organization, "New era for ship recycling as Hong Kong Convention enters into force," Press Briefing, London, U.K., Jun. 2025.
- [6] International Maritime Organization, "IMO net-zero shipping talks to resume in 2026," Press Briefing, London, U.K., Oct. 2025.
- [7] Food and Agriculture Organization of the United Nations, The State of World Fisheries and Aquaculture 2024: Blue Transformation in Action. Rome, Italy: FAO, 2024.
- [8] J. J. Silver, N. J. Gray, L. M. Campbell, L. W. Fairbanks, and R. L. Gruby, "Blue economy and competing discourses in international oceans governance," *The Journal of Environment & Development*, vol. 24, no. 2, pp. 135–160, 2015.
- [9] K.-H. Lee, J. Noh, and J. S. Khim, "The blue economy and the United Nations' sustainable development goals: Challenges and opportunities," *Environment International*, vol. 137, art. 105528, 2020.
- [10] M. Voyer, G. Quirk, A. McIlgorm, and K. Azmi, "Shades of blue: what do competing interpretations of the blue economy mean for oceans governance?," *Journal of Environmental Policy & Planning*, vol. 20, no. 5, pp. 595–616, 2018.
- [11] J. Howkins, *The Creative Economy: How People Make Money from Ideas*. London, U.K.: Penguin, 2001.
- [12] United Nations Conference on Trade and Development, *Creative Economy Outlook 2024*. Geneva, Switzerland: UNCTAD, 2024.
- [13] A. Joyce and R. L. Paquin, "The triple layered business model canvas: A tool to design more sustainable business models," *Journal of Cleaner Production*, vol. 135, pp. 1474–1486, 2016.
- [14] N. M. P. Bocken, S. W. Short, P. Rana, and S. Evans, "A literature and practice review to develop sustainable business model archetypes," *Journal of Cleaner Production*, vol. 65, pp. 42–56, 2014.
- [15] M. Geissdoerfer, P. Savaget, N. M. P. Bocken, and E. J. Hultink, "The circular economy — A new sustainability paradigm?," *Journal of Cleaner Production*, vol. 143, pp. 757–768, 2017.
- [16] G. Pauli, *The Blue Economy: 10 Years, 100 Innovations, 100 Million Jobs*. Taos, NM, USA: Paradigm Publications, 2010.
- [17] R. Verganti, *Design-Driven Innovation: Changing the Rules of Competition by Radically Innovating What Things Mean*. Boston, MA, USA: Harvard Business Press, 2009.
- [18] D. J. Teece, "Business models, business strategy and innovation," *Long Range Planning*, vol. 43, no. 2–3, pp. 172–194, 2010.
- [19] A. Osterwalder and Y. Pigneur, *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. Hoboken, NJ, USA: Wiley, 2010.
- [20] R. Amit and C. Zott, "Creating value through business model innovation," *MIT Sloan Management Review*, vol. 53, no. 3, pp. 41–49, 2012.
- [21] N. M. P. Bocken and S. W. Short, "Towards a sufficiency-driven business model: Experiences and opportunities," *Environmental Innovation and Societal Transitions*, vol. 18, pp. 41–61, 2016.
- [22] J. Kirchherr, D. Reike, and M. Hekkert, "Conceptualizing the circular economy: An analysis of 114 definitions," *Resources, Conservation and Recycling*, vol. 127, pp. 221–232, 2017.
- [23] F. Boons and F. Lüdeke-Freund, "Business models for sustainable innovation: state-of-the-art and steps towards a research agenda," *Journal of Cleaner Production*, vol. 45, pp. 9–19, 2013.
- [24] S. Schaltegger, F. Lüdeke-Freund, and E. G. Hansen, "Business cases for sustainability: the role of business model innovation for corporate sustainability," *International Journal of Innovation and Sustainable Development*, vol. 6, no. 2, pp. 95–119, 2012.
- [25] Center for Global Development, "Decarbonizing the maritime industry: An opportunity to further Indonesia's just energy transition," CGD Publication, Washington, DC, USA, 2024.
- [26] J. R. Jambeck et al., "Plastic waste inputs from land into the ocean," *Science*, vol. 347, no. 6223, pp. 768–771, 2015.
- [27] M. R. Cordova and I. S. Nurhati, "Major sources and monthly variations in the release of land-derived marine debris from the Greater Jakarta area, Indonesia," *Scientific Reports*, vol. 9, art. 18730, 2019.
- [28] M. Spalding et al., "Mapping the global value and distribution of coral reef tourism," *Marine Policy*, vol. 82, pp. 104–113, 2017.
- [29] E. Jaakkola, "Designing conceptual articles: four approaches," *AMS Review*, vol. 10, no. 1–2, pp. 18–26, 2020.
- [30] H. Snyder, "Literature review as a research methodology: An overview and guidelines," *Journal of Business Research*, vol. 104, pp. 333–339, 2019.
- [31] D. Tranfield, D. Denyer, and P. Smart, "Towards a methodology for developing evidence-informed management knowledge by means of systematic review," *British Journal of Management*, vol. 14, no. 3, pp. 207–222, 2003.
- [32] M. J. Page et al., "The PRISMA 2020 statement: an updated guideline for reporting systematic reviews," *BMJ*, vol. 372, art. n71, 2021.
- [33] Organisation for Economic Co-operation and Development, *The Ocean Economy in 2030*. Paris, France: OECD Publishing, 2016.
- [34] J. B. Barney, "Firm resources and sustained competitive advantage," *Journal of Management*, vol. 17, no. 1, pp. 99–120, 1991.
- [35] S. L. Hart, "A natural-resource-based view of the firm," *Academy of Management Review*, vol. 20, no. 4, pp. 986–1014, 1995.
- [36] M. E. Porter and M. R. Kramer, "Creating shared value," *Harvard Business Review*, vol. 89, no. 1–2, pp. 62–77, 2011.
- [37] P. Bansal, "Evolving sustainably: A longitudinal study of corporate sustainable development," *Strategic Management Journal*, vol. 26, no. 3, pp. 197–218, 2005.
- [38] W. R. Scott, *Institutions and Organizations: Ideas, Interests, and Identities*, 4th ed. Thousand Oaks, CA, USA: Sage, 2014.
- [39] K. Niinimäki, G. Peters, H. Dahlbo, P. Perry, T. Rissanen, and A. Gwilt, "The environmental price of fast fashion," *Nature Reviews Earth & Environment*, vol. 1, pp. 189–200, 2020.
- [40] M. Honey, *Ecotourism and Sustainable Development: Who Owns Paradise?*, 2nd ed. Washington, DC, USA: Island Press, 2008.
- [41] E. Ostrom, "A general framework for analyzing sustainability of social-ecological systems," *Science*, vol. 325, no. 5939, pp. 419–422, 2009.
- [42] K. M. Eisenhardt, "Building theories from case study research," *Academy of Management Review*, vol. 14, no. 4, pp. 532–550, 1989.