

Supply Chain Karma Score (SCKS): A Conceptual Framework for Measuring Ethical Footprint in Global Supply Chains

Premkumar Rajagopal¹, M Selvam², Umahdevi Jayamani³, Irwan Ibrahim⁴, N.Sureshkumar PP Narayanan⁵,
*Veera Pandiyan Kaliani Sundram⁶

¹Malaysia University of Science and Technology, Petaling Jaya, Selangor, Malaysia

²Department of Commerce and Financial Studies, Bharathidasan University, Tiruchirapalli, Tamil Nadu, India

³Logispreneur Academy, Selangor, Malaysia

⁴Faculty of Business and Management, Universiti Teknologi MARA, Selangor, Malaysia

⁵University of East London, London, England

⁶RIG – Sustainable Supply Chain Logistics / Faculty of Business and Management, Universiti Teknologi MARA
Selangor, Malaysia/ Institute of Business Excellence, UiTM Shah Alam, Malaysia

Email: premkumar@must.edu.my, selse49@yahoo.com, logpre@gmail.com, irwan623@uitm.edu.my,
nsureshk@yahoo.com, *veera692@uitm.edu.my

Corresponding Author: Veera Pandiyan Kaliani Sundram

Abstract: Despite the widespread use of ESG metrics, GRI guidelines, and supplier audit frameworks, current approaches to ethical performance measurement in supply chains often lack depth, consistency, and cultural relevance. These tools frequently prioritize investor transparency or compliance checklists while neglecting long-term moral accountability and relational stakeholder impacts. Global supply chains now sprawl across continents and cultures, yet most ethical audits still treat them as static checklists. To close this gap, the study introduces the Supply-Chain Karma Score (SCKS)—a culturally rooted framework that borrows the Eastern idea of karma to track how today’s sourcing decisions echo through tomorrow’s social, environmental, and governance outcomes. The scorecard grades firms across five intertwined arenas: Labour Karma, Planet Karma, Governance Karma, Equity Karma, and Resilience Karma. Each dimension pairs practical metrics with a cause-and-effect timeline, shifting the focus from box-ticking compliance to dynamic, consequence-based accountability. The SCKS stands on three theoretical pillars: stakeholder theory, which expands moral duty beyond shareholders; the Triple Bottom Line, which balances people, planet, and profit; and virtue ethics, which asks who a company becomes when no auditor is watching. By fusing moral philosophy with systems thinking, the framework offers a holistic, scalable way to diagnose ethical risk, benchmark sustainability, and steer strategic procurement. For scholars, the SCKS opens fertile ground for empirical tests of how ethical “karma profiles” influence resilience, reputation, and value creation over time—especially in emerging economies where formal governance is thin. For managers and policymakers, it provides an actionable dashboard that translates lofty values into day-to-day decisions. In turning karma into a measurable construct, this study invites a re-imagining of responsible supply-chain management for an interconnected, ethically complex world.

Keywords: *Supply Chain Ethics, Karma Score, Stakeholder Theory, Triple Bottom Line, Sustainable Procurement, Supply Chain Governance, Responsible Supply Chain Management.*

1. Introduction

In recent decades, global supply chains have come under increased scrutiny due to their ethical and environmental implications, particularly in areas such as labor practices, environmental degradation, and corporate governance (Ali, Rajagopal, Sundram, Saihani, & Noranee, 2020; Handra & Sundram, 2023; Rasi et al., 2022; Razak, Othman, & Sundram, 2015; Sundram, Ghapar, Lian, & Muhammad, 2023). While frameworks such as ESG (Environmental, Social, and Governance) ratings, GRI (Global Reporting Initiative), and various certification schemes attempt to quantify ethical performance, they often fall short of offering a holistic view that integrates moral accountability with long-term reputational and operational consequences (Cheng et al., 2014; Hahn & Kühnen, 2013). This fragmentation has led to calls for new metrics that can more intuitively capture the interconnected, moral dimensions of supply chain practices (Gold & Heikkurinen, 2021).

Picture karma as the universe’s spreadsheet: every choice we make drops a line item into a running balance that will come back with interest—good or bad. In Hindu and Buddhist traditions, that balance sheet stretches across lifetimes; in a supply-chain context, it stretches across continents. When a buyer squeezes a factory on

price or, conversely, pays a living wage, that decision plants a seed that will sprout later as trust, risk, or reputation. Viewed this way, a company's logistics map becomes a moral landscape where trucks, servers, and shipping lanes carry ethical cargo as surely as physical goods. Scholars of corporate responsibility call for this broader reckoning, arguing that bottom-line success now sits alongside moral and ecological accountability (Crane & Matten, 2016).

Enter the Supply-Chain Karma Score (SCKS)—a “what-goes-around-comes-around” gauge for global commerce. Instead of ticking boxes on a static ESG worksheet, the SCKS tracks how today's sourcing, production, and delivery choices ripple forward into tomorrow's stakeholder reactions and regulatory spotlights. Its ethos dovetails with stakeholder theory, which says everybody touched by a firm's actions deserves fair treatment (Freeman et al., 2004), and with the Triple Bottom Line, which gives equal billing to people, planet, and profit (Elkington, 1997). In short, the SCKS hands managers a karmic compass: follow the readings, and you're less likely to sail into reputational storms of your own making.

This paper aims to develop a conceptual framework for the SCKS by identifying and organizing key ethical dimensions into a structured, actionable model. Specifically, the paper addresses the following questions: (1) What constitutes 'karma' in the context of global supply chains? (2) How can the concept of karma be operationalized into measurable ethical performance dimensions? (3) In what ways can this score complement or enhance existing sustainability metrics? By proposing a multidimensional model grounded in ethical theory and sustainability literature, this study contributes to the ongoing discourse on responsible supply chain management and ethical performance assessment.

2. Literature Review

Ethical Supply Chain Management

The growing complexity and globalization of supply chains have amplified concerns over ethical misconduct, ranging from exploitative labor practices to environmental harm and supplier corruption. Ethical Supply Chain Management (ESCM) emphasizes the integration of moral considerations into procurement, sourcing, and logistics decisions (Carter & Jennings, 2002). These practices often intersect with sustainability objectives but extend further into the realm of fairness, justice, and stakeholder well-being (Narayanan et al., 2024a; Narayanan et al., 2024b; Narayanan et al., 2024c; Narayanan, Ghapar, Chew, & Sundram, 2024a; Narayanan, Ghapar, Chew, & Sundram, 2024b; Sundram, Narayanan & Irwan, 2025).

Despite the growing prominence of ethical sourcing certifications (e.g., Fair Trade, SA8000), current mechanisms for evaluating ethical performance remain disparate and inconsistent across industries and regions (Amaeshi et al., 2008). ESG (Environmental, Social, and Governance) metrics, for example, have gained traction among investors, yet these are often criticized for their lack of standardization, opacity, and limited predictive power on ethical violations (Chatterji et al., 2016). Furthermore, ethical audits in supply chains have been shown to lack reliability, often failing to capture the hidden layers of misconduct in multi-tier networks (LeBaron et al., 2017). This suggests a need for new metrics that move beyond compliance checklists and instead embrace holistic and systemic ethical accountability, especially one that resonates with culturally and morally grounded frameworks (Selvarajah et al., 2025; Narayanan, Rui, Sundram, & Irwan, 2025; Sundram et al., 2018).

The Concept of Karma in Business and Supply Chains

The notion of karma, originating from Eastern philosophies such as Hinduism and Buddhism, represents a moral law of cause and effect, where actions—good or bad—accumulate and yield consequences over time. When adapted to business, karma can symbolize a moral feedback loop in which unethical actions eventually return as reputational damage, regulatory penalties, or loss of stakeholder trust (Rao, 2011). In corporate sustainability discourse, this concept aligns with the idea of corporate moral responsibility, where firms are held accountable not just for economic performance but also for social and ecological outcomes (Crane & Matten, 2016). Recent literature also explores how “karma capitalism” or “spiritual capitalism” can help shape more mindful, ethical decision-making in business operations (Sheth, 2017). Although this stream of thought remains underexplored in mainstream supply chain literature, the symbolic power of karma offers a culturally embedded lens to assess long-term ethical consequences (Ibrahim, Sundram, Omar, Yusoff, & Amer, 2017; Muhammad, Narayanan, Ghapar, Chew, & Sundram, 2025; Wong Chee, Sundram, Bakar, & Narayanan, 2024).

Translating karma into a quantifiable ethical score represents a novel theoretical contribution, especially for regions like Southeast Asia, where the term holds both spiritual and cultural legitimacy. By embedding this concept in supply chain assessment, the Supply Chain Karma Score (SCKS) seeks to bridge spiritual ethics and institutional governance.

Theoretical Foundations: Stakeholder Theory, TBL, and Virtue Ethics

Eliminate or strip away the legal fine print and look at what really guides responsible supply chains: *people, planet, and character*. The Supply-Chain Karma Score (SCKS) stitches these ideas together by leaning on three big bodies of thought. First, Stakeholder Theory reminds us that a firm's moral duty extends well beyond shareholders; the ripples of every purchase order touch factory workers, surrounding communities, and even future generations who inherit the environmental bill (Freeman et al., 2004). Second, Triple Bottom Line thinking widens the scorecard from one column of profits to a balanced ledger of *people, planet, and profit*—with the “planet” and “people” columns carrying equal weight (Elkington, 1997). Finally, virtue ethics in operations asks not just *what* a company does but *who it is becoming*: are managers cultivating habits of fairness, courage, and care that endure when no auditor is watching? (Melé, 2009). Taken together, these theories give karmic logic a hard-headed business frame: every action plants a seed, and the SCKS tracks which seeds grow into trust and resilience—and which sprout future headaches.

3. Conceptual Framework of the Supply Chain Karma Score (SCKS)

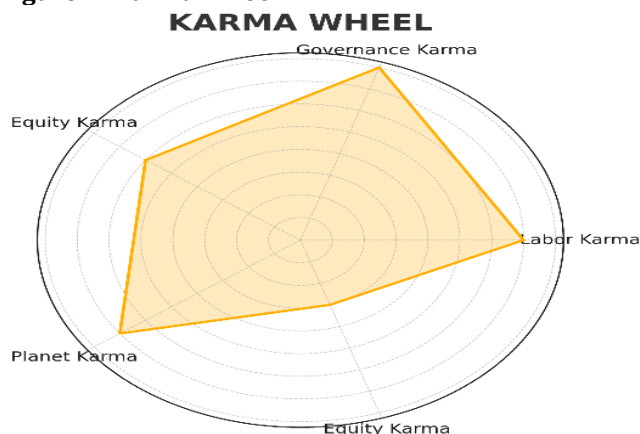
Defining Supply Chain Karma

Basically and commonly, the Supply-Chain Karma Score (SCKS) is a moral seismograph: instead of recording earth tremors, it measures the ethical shock waves that ripple through a company's value chain long after each decision is made. Think of every sourcing decision as a stone tossed into a pond: the ripples may start small, but they eventually lap up on distant shores. That is the spirit of karma borrowed here—every move in procurement, production, or distribution sets off consequences that soon show up as glowing headlines, activist petitions, regulatory knock-and-talks, or, if you get it right, a sturdier, more shock-proof network (Sheth, 2017; Silvestre et al., 2020). This systems view explodes the old habit of checking boxes just to say, “we're compliant.” A single corner cut on wages might seem invisible today, yet it can erode supplier morale, fuel social-media outrage, and jam factory lines years later. The Supply-Chain Karma Score turns ethics into a living cause-and-effect ledger, reminding firms that every upstream shortcut or downstream blind spot is a karmic IOU waiting to land in the balance sheet of trust. The SCKS builds upon and extends existing ESG and CSR frameworks by embedding intention, behavior, and consequence into its structure. It is conceptually grounded in Stakeholder Theory (Freeman et al., 2004), the Triple Bottom Line (Elkington, 1997), and virtue ethics (Melé, 2009), and is tailored to address ethical lapses often overlooked in multi-tier supply chains.

Dimensions of the Supply Chain Karma Score (SCKS)

The SCKS comprises five interrelated dimensions, each reflecting a unique domain of ethical accountability. These dimensions are not mutually exclusive but are intended to offer a holistic view of karma accumulation within a supply network (see figure 1).

Figure 1: Karma Wheel



Labor Karma

This dimension reflects the ethical treatment of workers across the supply chain, particularly regarding human rights, workplace safety, living wages, and freedom of association. Labor exploitation remains prevalent in global supply networks, especially in industries such as electronics, textiles, and agriculture. The ethical mistreatment of labor may not have immediate financial repercussions, but reputational scandals (e.g., forced labor exposés) often emerge years after such practices begin (LeBaron et al., 2017). The Labor Karma dimension focuses on the ethical treatment of workers throughout the supply chain, and its assessment relies on several key metrics. Firstly, the percentage of suppliers audited for labor rights reflects the extent to which a company actively monitors and evaluates its supplier base for compliance with labor standards. A robust Labour Karma profile rests on four inter-locking indicators. First, wide supplier-audit coverage is the clearest proxy for effective due-diligence practice; OECD guidance urges risk-based audits deep into the chain to unveil hidden labour abuses (OECD, 2021). Second, even isolated findings of child or forced labour at tier-3 or tier-4 suppliers can trigger lawsuits, investor divestment, or sudden production halts (Fair Labor Association [FLA], 2025; Hinrich Foundation, 2025). Third, accessible worker-grievance mechanisms—confidential helplines, multilingual hot-lines, independent remediation panels—significantly raise remedy rates and deter abuse when implemented well (UNRBHR, 2024). Fourth, paying living wages, not merely statutory minima, stabilises supplier workforces and signals genuine social equity; the Anker methodology and Global Living Wage Coalition benchmarks provide widely accepted yardsticks (Anker & Anker, 2017; Global Living Wage Coalition, 2022). Taken together—and complemented by evidence that trust-based, ethically grounded buyer-supplier relationships weather shocks better (Foerstl et al., 2010)—these metrics let firms judge labour practices not just against legal compliance but against a broader standard of moral responsibility and systemic fairness (Sustainalytics, 2025).

Planet Karma

The Planet Karma dimension tracks how responsibly a company stewards the natural world along every link of its supply chain. A headline indicator is CO₂-equivalent emissions per product unit, which reveals the carbon intensity of sourcing, production, and logistics; firms that monitor and cut this number demonstrate accountability for their climate footprint (Cheng, Ioannou, & Serafeim, 2014). A second signal of environmental maturity is the share of inputs drawn from circular-economy streams—materials that are recycled, remanufactured, or otherwise kept in closed loops—because moving away from extractive, linear models reduces pressure on finite resources (Geissdoerfer et al., 2017). Governance across the supplier network matters, too: a high rate of ISO 14001-certified suppliers shows that environmental processes are audited and standardised beyond the focal firm's walls (Jack, Ren, & Zhang, 2021). Operational metrics such as the percentage of water or energy conserved or recycled highlight day-to-day resource stewardship, while a running tally of environmental incidents—spills, illegal discharges, deforestation events—captures exposure to regulatory fines and reputational blow-back (Rahman, Ali, & Khan, 2023). Taken together, these data points reveal whether a company is merely offsetting today's impacts or embedding environmental care into its strategic core. Under tightening climate regulations, firms that score poorly on Planet Karma risk stranded assets, compliance penalties, and consumer backlash, whereas those that excel build reputational capital and buffer their supply networks against ecological shocks (Cheng et al., 2014).

Governance Karma

Governance Karma is the supply-chain's immune system—the set of guardrails that keeps corruption, fraud, and shady side-deals from infecting day-to-day sourcing. It starts with a living procurement ethics code, one that spells out exactly how buyers should act and how suppliers should be treated. That code is backed by routine anti-corruption “health checks,” counting how many vendors undergo bribery or fraud screening each year (Amaeshi et al., 2008). A second defence layer comes from outside eyes: independent third-party audits that prove those internal rules work off the page and on the warehouse floor. Just as crucial is a whistle-blower hotline that shields employees, contractors, and even far-flung suppliers who speak up—sending a clear signal that the organisation values truth over retaliation. And before any contract ink is dry, structured due-diligence protocols probe for red flags in prospective partners, catching ethical risks before they metastasise (Sivan et al., 2024a; Sivan et al., 2024b; Vatumalae, Rajagopal, & Sundram, 2020). Taken together, these safeguards reveal the depth of a firm's governance spine. Get them right and you head off the bribery scandals, contract breaches, and blacklistings that drain cash and cripple reputations; neglect them and those same threats slip in through the back door—turning minor lapses into multi-million-dollar lessons.

Equity Karma

The Equity Karma dimension gauges how fairly—and inclusively—a firm conducts its sourcing, with particular attention to marginalized suppliers, SMEs, and historically under-represented groups. A pivotal indicator is the share of contracts or spend directed toward local, indigenous, women- or minority-owned businesses, an established proxy for economic empowerment and equitable market access (Pagell & Wu, 2009). Contractual fairness likewise matters: short payment terms, transparent pricing, and accessible dispute-resolution clauses signal just treatment, whereas protracted delays or opaque pricing structures often trap smaller suppliers in cash-flow crises (Silva, Ruel, & Sousa-Filho, 2024). Investment in supplier-development programs—such as training or technology transfers—further demonstrates a commitment to levelling capability gaps rather than merely shifting risk downstream (Yawar & Seuring, 2017). Finally, evidence of shared-value initiatives (e.g., local hiring, community knowledge-transfer schemes) shows that the firm is co-creating long-term benefits with the communities embedded in its supply chain. Collectively, these metrics transform equity from a symbolic gesture into a measurable, actionable commitment and, by embedding inclusivity in procurement routines, foster the trust-based relationships that underpin resilient, ethically robust supply networks.

Resilience Karma

Picture a supply chain built like a braided rope: strands of factories, ports, and data pipes woven together by trust. The Resilience Karma gauge tells managers how strong that braid is when the world yanks hard—be it a pandemic, a trade war, or a 500-year flood. Firms that cultivate ethical habits—paying fairly, sharing forecasts, honouring contracts—build the kind of trust that keeps information zipping along the rope and lets partners pivot in sync. Opportunistic buyers, by contrast, weave a rope of brittle threads that snap at the first jolt (Foerstl et al., 2010). A supplier-diversification index—a glance tells you whether the melody depends on a soloist or a full brass section. Next, battle-tested business-continuity plans act like rehearsed set-lists, mapping out who jumps in when a key supplier drops out, saving both profits and paycheques. A stout ratio of long-term contracts to spot buys signals deep relational capital—the kind that lets partners cut each other slack when freight lanes clog or prices spike. History plays its part: firms that kept prices fair and honored POs during the COVID-19 free-fall have already proven their moral stamina. Layer on joint contingency drills—no-blame dry-runs where every player practices swapping parts—and you get a culture in which collaboration outruns finger-pointing. Bundle these cues together and you can hear how tightly ethics is woven into the risk score: a flexible braid that bends with the next shock instead of snapping.

Table 1: Supply Chain Karma Score (SCKS) – Dimensions and Indicative Metrics

Karma Dimension	Definition	Indicative Metrics / Indicators
Labor Karma	Ethical treatment of workers throughout the supply chain	<ul style="list-style-type: none"> - % of suppliers compliant with fair labor standards - Frequency of labor rights violations - Existence of grievance redress mechanisms - % of tier-1 and tier-2 suppliers audited for labor practices - Ratio of living wage vs. minimum wage
Planet Karma	Environmental responsibility in resource usage and emissions	<ul style="list-style-type: none"> - CO₂ emissions per product/unit - % of materials sourced from circular economy streams - Supplier environmental compliance rates (ISO 14001, etc.) - % of water/energy recycled or conserved - Number of environmental incidents reported
Governance Karma	Transparency, anti-corruption, and compliance mechanisms in sourcing	<ul style="list-style-type: none"> - Existence of procurement ethics code - % of suppliers evaluated for anti-corruption - Third-party audit coverage - Whistleblower protections in place - Supplier onboarding through due diligence

Karma Dimension	Definition	Indicative Metrics / Indicators
		protocols
Equity Karma	Fairness, inclusivity, and empowerment across the supply chain	<ul style="list-style-type: none"> - % of contracts awarded to SMEs or indigenous/local suppliers - Ratio of procurement spend on women/minority-owned businesses - Contractual fairness (e.g., payment terms, price stability) - Investment in supplier development/training programs - Shared value initiatives (e.g., local hiring, skills transfer)
Resilience Karma	Ethical preparedness and adaptability to disruptions and change	<ul style="list-style-type: none"> - Supplier diversification index - Business continuity plans covering key suppliers - % of long-term vs. spot contracts - History of ethical sourcing during crisis periods (e.g., COVID-19) - Stakeholder collaboration during risk events

Table 1 outlines the five dimensions of the Supply Chain Karma Score (SCKS), each representing a key area of ethical responsibility. The indicative metrics serve as practical tools to assess and monitor ethical performance across labor, environment, governance, equity, and resilience within global supply chains.

Scoring and Weighting the SCKS

Each Karma dimension can be operationalized through a weighted scorecard approach. Firms may use expert judgement, stakeholder input, or analytical methods such as the Analytic Hierarchy Process (AHP) to assign weights based on strategic importance. The overall SCKS could be represented visually through a Karma Wheel, radar chart, or composite index (0–100), enabling easy benchmarking across industries or geographies. The proposed SCKS framework provides a novel lens to evaluate the moral consequences of supply chain behavior, emphasizing causality, long-term accountability, and systemic ethics. By integrating labor, environmental, governance, equity, and resilience perspectives into one coherent score, SCKS aspires to become both a diagnostic and decision-making tool for ethical supply chain strategy. Table 2 provides a hypothetical scoring rubric guideline for practitioners or researchers to begin rating SCKS components quantitatively.

Table 2: Suggested Scoring Rubric for SCKS Dimensions

Dimension	Metric Example	Weight (%)	Scoring Scale (0–5)	Criteria Description
Labor Karma	% of suppliers audited for labor practices	20%	0–5	0 = <10%; 5 = >90%
Planet Karma	CO ₂ emissions per unit	20%	0–5	0 = No tracking; 5 = Verified reduction goals met
Governance Karma	Existence of an ethics code	20%	0–5	0 = None; 5 = Enforced with monitoring
Equity Karma	% of contracts to SMEs or minorities	20%	0–5	0 = <5%; 5 = >30%
Resilience Karma	Supplier diversification index	20%	0–5	0 = High dependence; 5 = Broad and balanced spread

4. Discussion

Rethinking Ethics Through a Consequence-Based Lens

Decades of *ad hoc* audits and boiler-plate supplier codes have delivered more optics than outcomes. Bartley's (2018) landmark study shows how many of these programmes amount to "rules without rights": they document compliance for external audiences yet leave underlying power imbalances untouched. Subsequent reviews of audit practice echo that verdict, describing widespread "symbolic decoupling" in which factories pass inspections while subcontracted units continue to impose excessive hours or restrict freedom of association (Rahim, Kuruppu, & Islam, 2022; Kuruvilla & Judd, 2024).

The Supply-Chain Karma Score (SCKS) tackles this performance gap by shifting the analytic lens from snapshot indicators to longitudinal accountability. Instead of asking whether a site clears a one-day audit, it tracks how procurement choices ripple through wages, community well-being, and ecological resilience over time. This systems-oriented stance aligns with calls from relational-governance scholars, who argue that only multi-tier, trust-based monitoring can dismantle persistent abuses embedded in subcontracting networks (Soundararajan & Brammer, 2018). By making cause-and-effect explicit—and visible to cross-functional teams—the SCKS turns ethical governance from a compliance tick-box into a continuous strategic discipline.

Managerial Integration of the Karma-Based Model

The SCKS turns ethics from an after-the-fact audit into a forward-looking management capability. When a company sees its Labour Karma score slump, it receives an early warning that wage disputes, safety violations, or activist scrutiny could be looming—well before failure hits the headlines or regulators issue fines. Because each karma dimension is mapped to operational data streams, cross-functional teams in procurement, compliance, and enterprise risk can read from the same dashboard and embed ethical targets into everyday KPIs. Evidence suggests that this kind of integration pays off. Early work by Giménez and Tachizawa (2012) showed that supplier-assessment tools coupled with collaborative remediation improve both social performance and supply-chain efficiency, underscoring the commercial value of "ethical visibility." More recent studies report similar gains: a large-sample survey of Malaysian manufacturers found that weaving viability and resilience metrics into routine supply-chain design boosted overall firm sustainability during the COVID-19 crisis (Zahari et al., 2023) while a global review concluded that ethical-sustainability alignment often translates into competitive advantage and market differentiation (Esan, Ajayi, & Olawale, 2024). From the market side, Holloway (2025) shows that consumers reward transparent, ethically sourced brands with higher trust and a willingness to pay a premium, directly linking ethical supply-chain practice to brand equity and long-term profitability. In short, the SCKS operationalises these insights: it supplies clear metrics, puts them on the desks of people who make daily trade-offs, and in doing so helps firms transform ethics from a compliance cost into a strategic asset.

Broadening the Ethical Benchmarking Landscape

The SCKS widens the lens of ethical benchmarking well beyond the investor-focused orientation that still dominates many ESG ratings. Because it is anchored in culturally resonant ideas of balance and reciprocity, the framework can be localized to regions such as Asia and Africa, where communal ethics shape everyday business practice (Jamali, Karam, Yin, & Soundararajan, 2017). By adding equity and resilience as explicit karma dimensions, the SCKS invites managers to weigh social-justice concerns (e.g., supplier diversity and inclusive procurement) alongside a firm's ability to bounce back from shocks—two themes that are still marginal in most mainstream scorecards (Silva, Ruel, & Sousa-Filho, 2024; Yuan, Dai, & Ma, 2025). In doing so, it reframes ethical benchmarking from a compliance exercise into a roadmap for building supply networks that are both fairer and more shock-tolerant.

Challenges in Implementation

Translating the Supply Chain Karma Score (SCKS) from concept to reality is anything but straightforward. The first obstacle is data integrity: reliable ethical metrics are hardest to obtain in the very places where scrutiny matters most—lower-tier suppliers embedded in informal economies. Sustainable-sourcing research keeps running into the same wall: suppliers can game patchy audits, and half-filled spreadsheets rarely line up, making genuine verification a nightmare (Egels Zandén & Lindholm, 2015). An even trickier problem sits under the hood—boiling thick, value-laden dilemmas down to a single digit. One-number ratings feel tidy, but they

smudge nuance and invite each analyst's biases to creep in. A fairer path will almost certainly lean on participatory math: weighting formulas co-designed with stakeholders, or fuzzy-logic engines that leave room for shades of grey (Zolfani et al., 2018). Done right, those tools can keep the score both credible and richly textured—precise enough for dashboards, yet supple enough to reflect real-world moral trade-offs.

Theoretical Enrichment and Future Research Pathways

Setbacks aside, the SCKS still nudges supply-chain ethics onto a more ambitious playing field. It stitches together cause-and-effect thinking, stakeholder theory, and systems logic to spark what Sethi and Schepers (2014) call *moral imagination*—the knack for sketching supply-chain blueprints that aim higher than audit checklists or quarterly margins. That opens a research goldmine: scholars can now stress-test the karma score across industries or track firms over time to see whether better scores mean fewer PR meltdowns, lower supplier churn, or faster bounce-backs aftershocks. Pinning down those links would do more than validate the SCKS; it would show, in hard numbers, how ethical discipline fortifies resilience—exactly the evidence critics have been demanding to prove that “doing good” pays off (Koberg & Longoni, 2019).

Implications

Theoretical Implications

Traditional ethics tools freeze-frame a company's behavior at the instant of disclosure; the Supply-Chain Karma Score (SCKS) shoots an entire time-lapse instead. By wiring a cause-and-effect timeline into every metric, it joins the systems-thinking wing of sustainability research, which treats organizations as fluid networks rather than static checklists (Ahi & Searcy, 2015; Silvestre, 2015). The scorecard also blends moral languages—Eastern karma and Western stakeholder consequentialism—so it can travel across cultures without losing meaning (Lu et al., 2013; Robertson et al., 2021). Instead of a blunt ethical/unethical toggle, the SCKS tracks shifting thresholds in labor conditions, environmental care, governance clarity, social equity, and resilience, allowing researchers to map how these threads twist together over a supply chain's lifetime. That level of detail invites new questions: Which ethical-score “fingerprints” predict faster recovery after a shock? How do they shape brand legitimacy or partner loyalty as a network matures? (Beske-Janssen et al., 2015). In short, the SCKS swaps black-and-white snapshots for a high-resolution film of ethics in motion.

Managerial Implications

Managers and executives can easily witness a live “karma dashboard” that pulses with real-time data. If the Labor Karma gauge suddenly drops into the red, it is an early siren that wage disputes or safety lapses are brewing deep in the supplier base—weeks before inspectors or journalists catch wind of them. Acting on that alert, managers can reroute orders, dispatch remediation teams, and sidestep the costly cascade of fines and headlines that usually follow (Foerstl et al., 2010). Because every karma pillar plugs into existing procurement, risk-management, and sustainability feeds, cross-functional teams finally share one language of ethics; they can thread precise, value-based targets straight into KPIs instead of taking them on as an afterthought. Publishing these same metrics in ESG or integrated reports makes ethical performance as trackable as revenue growth, keeping pace with investor analytics and rising due-diligence rules (Mani et al., 2018). More broadly, when social criteria become part of the operating code—reviewed in stand-ups, tied to bonuses—employee morale climbs and stakeholder trust deepens, flipping ethics from a compliance drag into a genuine competitive lever (Yawar & Seuring, 2017). The payoff is clearest in high-pressure arenas like fashion, agri-food, and electronics, where embedding karma scores into sourcing portals or digital-twin models lets buyers see the ethical risk of every purchase order at a glance—and choose wisely.

Policy and Regulatory Relevance

Mounting transparency mandates—most notably the European Union's Corporate Sustainability Due Diligence Directive (CSDDD)—signal that public regulators, NGOs, and multilateral agencies now need assessment tools that go beyond checklist compliance. The Supply Chain Karma Score (SCKS) answers that call by converting broad ethical principles into context-aware governance blueprints. Because its indicators can be recalibrated to local cultural norms, the framework is especially attractive to emerging economies in Asia and Africa that aim to deepen intra-regional trade while still protecting social and environmental thresholds (De Backer et al., 2015). As supply networks are rewired through reshoring and near-shoring strategies, culturally attuned, karma-informed metrics help firms secure legitimacy in new host regions and foster trading relationships that are at once inclusive, resilient, and ethically

defensible (Touboullic & Walker, 2015). By supplying a rigorously defined, adaptable language for moral performance, the SCKS bridges the gap between formal regulation and the dynamic realities of day-to-day supply-chain operations, thereby sharpening the precision and local resonance of sustainability governance.

5. Conclusion and Future Research

Picture a supply chain that stretches from an artisanal cocoa farm in Ghana to a boutique chocolatier in Paris, weaving its way through dozens of ports, warehouses, and intermediaries along the journey. Each hand-off introduces fresh social, environmental, and governance risks that a once-a-year compliance audit can barely scratch, let alone control. The Supply Chain Karma Score (SCKS) tackles this blind spot by shifting our gaze from box-ticking to consequence-tracing: its multi-dimensional dashboard follows the moral ripple effects of every procurement decision, drawing on Eastern ideas of karmic causality and stakeholder-centred corporate ethics to keep the timeline—as well as the bottom line—in view (Sheth, 2017; Silvestre et al., 2020; Huq et al., 2016). In translating this “karma reasoning” into empirical indicators, the SCKS invites scholars to fuse the usually siloed worlds of sustainability, ethics, and operations strategy (Gold et al., 2020; Koberg & Longoni, 2019).

Conceptually, the scorecard blows past the tired good-versus-bad binary. By braiding systems thinking, stakeholder analysis, and virtue ethics, it grades firms across five intertwined threads—labour rights, ecological care, transparent governance, social equity, and resilience—capturing the messy trade-offs real managers face (Touboullic & Walker, 2015; Ahi & Searcy, 2015). That fluidity answers long-standing calls for a theory that respects shifting power balances, institutional quirks, and the tier-upon-tier sprawl of modern value chains (Zorzini et al., 2015; Beske-Janssen et al., 2015). Because its logic can flex to local moral vocabularies, it also sets the stage for richer North–South conversations about what “ethical” really means (Lu et al., 2013; Robertson et al., 2021).

Of course, the framework still lives mostly on paper. Turning it into a working tool will take fresh empirical muscle: Delphi panels to set weightings, fuzzy-logic engines to handle grey areas, multi-criteria decision analysis for context-by-context tuning (Govindan & Bouzon, 2018; Zolfani et al., 2018). Researchers could road-test the score in garments, chips, or coffee industries with wildly different risk signatures—to see how portable and predictive it is (Mani et al., 2018; Huq et al., 2016). Long-run studies, meanwhile, might reveal whether high karma scores shield firms from supplier churn, reputation shocks, or supply disruptions (Soundararajan & Brammer, 2018; Gold et al., 2020).

Regulators and investors will also shape its fate. Embedding SCKS metrics in sectoral benchmarks—or even public-procurement rules—could help close the enforcement gaps that plague many emerging economies (Silvestre, 2015; Jamali et al., 2017; Egels-Zandén & Lindholm, 2015). In the end, the SCKS is more than a yardstick: it’s a call to upgrade our moral operating system, nudging global commerce away from extractive quick wins and toward a practice of reciprocal accountability. If adopted at scale, that shift could redefine value creation itself—from a one-way street into a feedback loop where ethical foresight, cultural fit, and practical utility all reinforce one another (Mkumbo, Ibrahim, Salleh, Sundram, & Atikah, 2019; Selvaraju, Bhatti, Sundram, & Azmir, 2019; Zulfakar, Chan, Jie & Sundram, 2019).

References

- Ahi, P., & Searcy, C. (2015). Assessing sustainability in the supply chain: A triple-bottom-line approach. *Applied Mathematical Modelling*, 39(10–11), 2882–2896. <https://doi.org/10.1016/j.apm.2014.10.055>
- Ali, S. N. R., Rajagopal, P., Sundram, V. P. K., Saihani, S. B., & Noranee, S. (2020). ERP system implementation in a leading LED manufacturing company in Malaysia: A supply chain perspective. *International Journal of Supply Chain Management*, 9(2), 104.
- Amaeshi, K. M., Osuji, O. K., & Nnodim, P. (2008). Corporate social responsibility in supply chains of global brands: A boundaryless responsibility? Clarifications, exceptions and implications. *Journal of Business Ethics*, 81(1), 223–234. <https://doi.org/10.1007/s10551-007-9490-5>
- Anker, R., & Anker, M. (2017). *Living wages around the world: Manual for measurement*. Edward Elgar Publishing, EconStor
- Bartley, T. (2018). Rules without rights: Land, labor, and private authority in the global economy. *Oxford*

- University Press. <https://doi.org/10.1093/oso/9780198794334.001.0001>
- Beske-Janssen, P., Johnson, M. P., & Schaltegger, S. (2015). 20 years of performance measurement in sustainable supply chain management – What has been achieved? *Supply Chain Management: An International Journal*, 20(6), 664–680. <https://doi.org/10.1108/SCM-06-2015-0216>
- Carter, C. R., & Jennings, M. M. (2002). Logistics social responsibility: An integrative framework. *Journal of Business Logistics*, 23(1), 145–180. <https://doi.org/10.1002/j.2158-1592.2002.tb00020.x>
- Chatterji, A. K., Levine, D. I., & Toffel, M. W. (2016). Do ratings of firms converge? Implications for managers, investors and strategy researchers. *Strategic Management Journal*, 37(8), 1597–1614. <https://doi.org/10.1002/smj.2407>
- Cheng, B., Ioannou, I., & Serafeim, G. (2014). Corporate social responsibility and access to finance. *Strategic Management Journal*, 35(1), 1–23. <https://doi.org/10.1002/smj.2131>
- Crane, A., & Matten, D. (2016). *Business ethics: Managing corporate citizenship and sustainability in the age of globalization* (4th ed.). Oxford University Press.
- De Backer, K., Miroudot, S., & Rigo, D. (2015). Policies for inclusive global value chains. *OECD Trade Policy Papers*, 181. <https://doi.org/10.1787/5js6b16gv7tf-en>
- Egels-Zandén, N., & Lindholm, H. (2015). Do codes of conduct improve worker rights in supply chains? A study of the Fair Wear Foundation. *Journal of Cleaner Production*, 107, 31–40. <https://doi.org/10.1016/j.jclepro.2014.08.096>
- Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st century business*. Capstone Publishing.
- Esan, O., Ajayi, F. A., & Olawale, O. (2024). *Supply chain integrating sustainability and ethics: Strategies for modern supply chain management*. *World Journal of Advanced Research and Reviews*, 22(1), 1930–1953. <https://doi.org/10.30574/wjarr.2024.22.1.1259>
- Fair Labor Association. (2025). *Guidance on preventing and addressing child labor in supply chains*. Fair Labor Association. Fair Labor Association
- Foerstl, K., Reuter, C., Hartmann, E., & Blome, C. (2010). Managing supplier sustainability risks in a dynamically changing environment—Sustainable supplier management in the chemical industry. *Journal of Purchasing and Supply Management*, 16(2), 118–130. <https://doi.org/10.1016/j.pursup.2010.03.011>
- Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2004). *Stakeholder theory: The state of the art*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511815768>
- Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The circular economy—A new sustainability paradigm? *Journal of Cleaner Production*, 143, 757–768. <https://doi.org/10.1016/j.jclepro.2016.12.048>
- Giménez, C., & Tachizawa, E. M. (2012). Extending sustainability to suppliers: A systematic literature review. *Supply Chain Management: An International Journal*, 17(5), 531–543. <https://doi.org/10.1108/13598541211258591>
- Global Living Wage Coalition. (2022). *Living wage benchmarks and resources*. <https://www.globallivingwage.org> Global Living Wage Coalition
- Gold, S., & Heikkurinen, P. (2021). Transparency fallacy in sustainable supply chains. *Journal of Cleaner Production*, 293, 126248. <https://doi.org/10.1016/j.jclepro.2021.126248>
- Gold, S., Trautrim, A., & Trodd, Z. (2020). Modern slavery challenges supply chain management. *Supply Chain Management: An International Journal*, 25(6), 679–692. <https://doi.org/10.1108/SCM-02-2020-0086>
- Govindan, K., & Bouzon, M. (2018). From a literature review to a multi-perspective framework for reverse logistics barriers and drivers. *Journal of Cleaner Production*, 187, 318–337. <https://doi.org/10.1016/j.jclepro.2018.03.040>
- Hahn, R., & Kühnen, M. (2013). Determinants of sustainability reporting: A review of results, trends, theory, and opportunities in an expanding field of research. *Journal of Cleaner Production*, 59, 5–21. <https://doi.org/10.1016/j.jclepro.2013.07.005>
- Handra, T., & Sundram, V. P. K. (2023). The effect of human resource information systems (HRIS) and artificial intelligence on defense industry performance. *IAIC Transactions on Sustainable Digital Innovation (ITSDI)*, 4(2), 155–163.
- Hinrich Foundation. (2025). *Tackling modern slavery in global supply chains*. <https://www.hinrichfoundation.com/research/article/sustainable/tackling-modern-slavery-in-global-supply-chains/> Hinrich Foundation
- Holloway, S. (2025). *Examining the impact of ethical supply chain practices on brand equity: A qualitative analysis of consumer perceptions* (SSRN Working Paper No. 5126076).

- <https://doi.org/10.2139/ssrn.5126076>
- Huq, F. A., Stevenson, M., & Zorzini, M. (2016). Social sustainability in developing country suppliers: An exploratory study in the ready-made garments industry of Bangladesh. *International Journal of Operations & Production Management*, 36(5), 616–637. <https://doi.org/10.1108/IJOPM-10-2014-0516>
- Ibrahim, I., Sundram, V. P. K., Omar, E. N., Yusoff, N., & Amer, A. (2017). The determining factors of green practices adoption for logistics companies in Malaysia: A case study of PKT Logistics Group Sdn. Bhd. *Journal of Emerging Economies & Islamic Research*, 7(1), 1–10.
- Jack, L., Ren, L., & Zhang, M. (2021). Environmental certification and supply-chain integration: Evidence from the manufacturing sector. *Journal of Cleaner Production*, 280, 124235. <https://doi.org/10.1016/j.jclepro.2020.124235>
- Jamali, D., Karam, C. M., Yin, J., & Soundararajan, V. (2017). CSR logics in developing countries: Translation, adaptation and stalled development. *Journal of World Business*, 52(3), 343–359. <https://doi.org/10.1016/j.jwb.2017.02.001>
- Koberg, E., & Longoni, A. (2019). A systematic review of sustainable supply chain management in global supply chains. *Journal of Cleaner Production*, 207, 1084–1098. <https://doi.org/10.1016/j.jclepro.2018.10.033>
- Kuruvilla, S., & Judd, J. (2024, May). *Measuring supply chain due diligence: Labor outcomes metrics* (Global Labor Institute Policy Brief). Cornell ILR.
- LeBaron, G., Lister, J., & Dauvergne, P. (2017). Governing global supply chain sustainability through the ethical audit regime. *Globalizations*, 14(6), 958–975. <https://doi.org/10.1080/14747731.2017.1304008>
- Lu, C.-S., Lai, K.-H., & Cheng, T. C. E. (2013). Green practices and performance of logistics service providers. *Transportation Research Part E: Logistics and Transportation Review*, 47(6), 808–821. <https://doi.org/10.1016/j.tre.2011.05.016>
- Mani, V., Gunasekaran, A., & Delgado, C. J. M. (2018). Enhancing supply chain performance through supplier social sustainability: An emerging-economy perspective. *International Journal of Production Economics*, 195, 259–272. <https://doi.org/10.1016/j.ijpe.2017.10.025>
- Melé, D. (2009). Integrating ethics into management. *Journal of Business Ethics*, 88(1), 227–244. <https://doi.org/10.1007/s10551-009-0108-y>
- Mkumbo, F. A. E., Ibrahim, A. R., Salleh, A. L., Sundram, V. P. K., & Atikah, S. B. (2019). The influence of supply chain practices and performance measurement practices on firm performance. *International Journal of Supply Chain Management*, 8(3), 809–819.
- Muhammad, M. S. H., Narayanan, N. S. P. P., Ghapar, F., Chew, L. L., & Sundram, V. P. K. (2025). The impact of the good citizenship dimension on supply chain sustainability. *SMART Journal of Business Management Studies*, 21(1), 26–37.
- Narayanan, N. S. P. P., Fathurahman, H., Ahmad, N. N., Ghapar, F., Chew, L. L., & Sundram, V. P. K. (2024). Consumer perspectives on the sustainability of the Malaysian palm oil supply chain: Awareness, price sensitivity, and certification impacts. *Malaysian Journal of Consumer and Family Economics (MAJCAFE)*, 33, 408–436.
- Narayanan, N. S. P. P., Ghapar, F., Chew, L. L., & Sundram, V. P. K. (2024). Artificial intelligence-powered risk assessment in supply chain safety. *Information Management and Business Review*, 16(3S).
- Narayanan, N. S. P. P., Ghapar, F., Chew, L. L., & Sundram, V. P. K. (2024). Integrating resource-based theory and contingency theory for enhancing supply chain resilience in Malaysia: A post-pandemic analysis. *Information Management and Business Review*, 16(3S).
- Narayanan, N. S. P. P., Ghapar, F., Chew, L. L., Sundram, V. P. K., Jayamani, U., & others. (2024). Optimizing working capital management in supply chain finance: A multi-dimensional approach. *Information Management and Business Review*, 16(2), 44–52.
- Narayanan, N. S. P. P., Rui, F., Sundram, V. P. K., & Irwan, I. (2025). Transforming higher education through supply chain management in cultivating industry-ready talent. *South East Asia Journal of Contemporary Business, Economics and Law*, 34.
- Narayanan, N., Ghapar, F., Chew, L. L., Sundram, V. P. K., Jayamani, U., & others. (2024). Measuring the unmeasured: Exploring the concept of “supply chain quotient” (SCQ). *Information Management and Business Review*, 16(2), 36–43.
- Organisation for Economic Co-operation and Development (OECD). (2021). *OECD due diligence guidance for responsible supply chains of minerals from conflict-affected and high-risk areas: Monitoring & evaluation framework*. OECD Publishing. OECD

- Pagell, M., & Wu, Z. (2009). Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars. *Journal of Supply Chain Management*, 45(2), 37–56. <https://doi.org/10.1111/j.1745-493X.2009.03162.x>
- Rahim, M. M., Kuruppu, S. C., & Islam, M. T. (2022). Social auditing in the supply chain: Business legitimisation strategy rather than a change agent. *Meditari Accountancy Research*, 31(1), 1–26. <https://doi.org/10.1108/MEDAR-06-2021-1322>
- Rahman, M. M., Ali, S. M., & Khan, M. I. (2023). Environmental incident reporting and corporate sustainability performance: Insights from a multi-industry analysis. *Business Strategy and the Environment*, 32(4), 1805–1820. <https://doi.org/10.1002/bse.3227>
- Rao, A. (2011). Business spirituality: A new paradigm. *Journal of Human Values*, 17(2), 155–167. <https://doi.org/10.1177/097168581101700204>
- Rasi, R. Z., Rakiman, U. S. R., Masrom, R. Z. R. M., Ratna, N., & others. (2022). A literature review on blockchain technology: Risk in supply chain management. *IEEE Engineering Management Review*, 50(1), 186–200.
- Razak, A. R. A., Othman, A. A., & Sundram, V. P. K. (2015). The relationships of human success factor, information technology, and procurement process coordination on operational performance in the building construction industry – A proposed framework. *Procedia Economics and Finance*, 31, 354–360.
- Robertson, C. J., Olson, B. J., Gilley, K. M., & Xu, J. (2021). When culture matters: Perceptions of P-O fit and ethical behavior in HRM. *Journal of Business Ethics*, 170(4), 681–700. <https://doi.org/10.1007/s10551-019-04398-7>
- Selvarajah, J. F. A. A., Krishnasamy, T., Sureshkumar, N., Narayanan, N. S. P. P., & others. (2025). Blockchain for transparency and trust in supply chains: A conceptual model. *South East Asia Journal of Contemporary Business, Economics and Law*, 34.
- Selvaraju, M., Bhatti, M. A., Sundram, V. P. K., & Azmir, S. (2019). The influence of critical success factors of Lean Six Sigma towards supply chain performance in the telecommunication industry, Malaysia. *International Journal of Supply Chain Management*, 8(6), 1062–1068.
- Sethi, S. P., & Schepers, D. H. (2014). United Nations Global Compact: The promise–performance gap. *Journal of Business Ethics*, 122(2), 193–208. <https://doi.org/10.1007/s10551-013-1749-5>
- Sheth, J. (2017). Spirituality and consumption. *Journal of Consumer Psychology*, 27(3), 381–386. <https://doi.org/10.1016/j.jcps.2017.03.003>
- Sheth, J. (2017). Spirituality and consumption: New insights into cultural values and sustainability. *Journal of Consumer Psychology*, 27(3), 381–386. <https://doi.org/10.1016/j.jcps.2017.03.003>
- Silva, M. E., Ruel, S., & Sousa-Filho, J. M. (2024). Measuring supplier diversity, equity and inclusion (DEI): Scale development and empirical validation. *Supply Chain Management: An International Journal*, 29(3), 279–296. <https://doi.org/10.1108/SCM-06-2023-0306>
- Silvestre, B. S. (2015). Sustainable supply chain management in emerging economies: Environmental turbulence, institutional voids and sustainability trajectories. *International Journal of Production Economics*, 167, 156–169. <https://doi.org/10.1016/j.ijpe.2015.05.025>
- Silvestre, B. S., Țîrcă, D. M., & Fonseca, L. M. (2020). Challenges of sustainable supply chain management in emerging economies: Towards a research agenda. *Benchmarking: An International Journal*, 27(9), 2593–2611. <https://doi.org/10.1108/BIJ-08-2019-0370>
- Sivan, S., Anuar, R., Krishnasamy, T., Bahrin, A. S., Narayanan, N. S. P. P., & others. (2024). Integrating safety practices into the supply chain for sustainable development in Malaysia's building construction sites. *Information Management and Business Review*, 16, 24–32.
- Sivan, S., Anuar, R., Krishnasamy, T., Bahrin, A. S., Sureshkumar, N., & others. (2024). Optimizing safety practices and culture: A comprehensive examination through perception surveys in Malaysia's logistics industry. *Information Management and Business Review*, 16(1), 33–38.
- Soundararajan, V., & Brammer, S. (2018). Developing country sub-supplier responses to social sustainability requirements of intermediaries: Exploring the influence of framing on fairness perceptions and reciprocity. *Journal of Operations Management*, 58–59, 42–58. <https://doi.org/10.1016/j.jom.2018.04.001>
- Sundram, V. P. K., Ghapar, F., Lian, C. L., & Muhammad, A. (2023). Engaging Lean Six Sigma approach using DMAIC methodology for supply chain logistics recruitment improvement. *Information Management and Business Review*, 15(1), 46–53.
- Sundram, V. P. K., Narayanan, N. S. P. P., Sureshkumar, N., & Irwan, I. (2025). The future of supply chain management in the era of Industry 6.0: A conceptual exploration. *South East Asia Journal of*

- Contemporary Business, Economics and Law*, 34.
- Sundram, V. P. K., Rajagopal, P., Nur Atiqah, Z. A., Atikah, S. B., Appasamy, G., & others. (2018). Supply chain responsiveness in an Asian global electronic manufacturing firm: ABX Energy (M). *International Journal of Supply Chain Management*, 7(2), 23–31.
- Sustainalytics. (2025, June 25). *Forced labor within the supply chain: The risks, regulations and responsibilities*. <https://www.sustainalytics.com/esg-research/resource/investors-esg-blog/forced-labor-within-the-supply-chain--the-risks-regulations-and-responsibilities> [sustainalytics.com](https://www.sustainalytics.com)
- Touboullic, A., & Walker, H. (2015). Love me, love me not: A nuanced view on collaboration in sustainable supply chains. *Journal of Purchasing and Supply Management*, 21(3), 178–191. <https://doi.org/10.1016/j.pursup.2015.05.001>
- United Nations Responsible Business and Human Rights Forum (UNRBHR). (2024). *Worker grievance mechanisms and access to remedy in Asia: Lessons from selected supply chains*. <https://www.rbhrforum.com/worker-grievance-mechanisms>
- Vatimalae, V., Rajagopal, P., & Sundram, V. P. K. (2020). Warehouse management system of a third-party logistics provider in Malaysia. *International Journal of Economics and Finance*, 12(9), 73.
- Wong Chee, H. O., Sundram, V. P. K., Bakar, S. M. S. A., & Narayanan, N. S. P. P. (2024). Charting a thriving path for the Malaysian palm oil supply chain: A SWOT-QSPM-powered strategic roadmap. *Journal of Distribution Science*, 22(10), 31–41.
- Yawar, S. A., & Seuring, S. (2017). Management of social issues in supply chains: A literature review exploring social issues, actions and performance outcomes. *Journal of Business Ethics*, 141(3), 621–643. <https://doi.org/10.1007/s10551-015-2719-9>
- Yuan, Y., Dai, H., & Ma, J. (2025). The impact of corporate ESG performance on supply chain resilience: A mediation analysis based on new quality productive forces. *Sustainability*, 17(10), 4418. <https://doi.org/10.3390/su17104418>
- Zahari, M. K., Zakuan, N., Yusoff, M. E., Mat Saman, M. Z., Ali Khan, M. N. A., & Yaacob, T. Z. (2023). Viable supply chain management toward company sustainability during the COVID-19 pandemic in Malaysia. *Sustainability*, 15(5), 3989. <https://doi.org/10.3390/su15053989>
- Zolfani, S. H., Yazdani, M., & Zavadskas, E. K. (2018). Decision-making systems in business ethics: A bibliometric review and analysis of the literature. *Sustainability*, 10(11), 3801. <https://doi.org/10.3390/su10113801>
- Zorzini, M., Hendry, L. C., Huq, F. A., & Stevenson, M. (2015). Socially responsible sourcing: Reviewing the literature and its use of theory. *International Journal of Operations & Production Management*, 35(1), 60–109. <https://doi.org/10.1108/IJOPM-07-2013-0355>
- Zulfakar, M. H., Chan, C., Jie, F., & Sundram, V. P. K. (2019). Halal accreditation and certification in a non-Muslim country setting: Insights from the Australian halal meat supply chain. *International Journal of Supply Chain Management*, 8(1), 10–17.