Centre for Sustainability and Corporate Governance Research
INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD
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PwC ESG Forum @IIMA

Report

India Responsible Capital Conference (IRCC 2025)

Indian Institute of Management Ahmedabad

Co-Located with
India Management Research Conference (IMRC) 2025

December 05 - 07, 2025

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OVERVIEW

The Centre for Sustainability and Corporate Governance Research (CSCG) hosted the third edition of the India Responsible Capital Conference (IRCC 2025), co-located with the India Management Research Conference (IMRC 2025), at the Indian Institute of Management Ahmedabad from December 05 to 07, 2025.

The conference commenced with keynote sessions delivered by Prof. Gireesh Shrimali and Shri Manu Srivastava, which brought together expert viewpoints on physical climate risk measurement alongside strategies for structuring and de-risking renewable energy projects. Complementing this, the panel discussion on "Innovations for Green Transition" highlighted entrepreneurial execution in India's sustainability ecosystem, with entrepreneurs working on waste-to-value chemical pathways, AI-driven decarbonization through process optimization, and the development of agri-waste-derived nanocarbons for batteries, sharing insights on innovation, scaling, and business models. Conversations spanned policy, finance, technology, and organizational strategy, while remaining anchored in practical questions of measurement, execution, and impact.

Alongside the keynote and panel sessions, IRCC 2025 included paper and poster presentations on a wide range of sustainability and governance themes, such as EV transition policy, ESG reputation risk, AI-enabled governance, and sustainable value creation in ecotourism. These research contributions offered evidence-based insights into factors shaping sustainability at corporate and policy levels, highlighting the conference's commitment to advancing scholarship with real-world relevance. Discussions covered policy, finance, technology, and organizational strategy, consistently focused on measurement, implementation, and impact. The conference's depth was further enhanced by strong participation from PhD scholars, faculty members, and emerging researchers from institutions worldwide.

This document provides a detailed summary of all the events that took place at IRCC 2025, highlighting the significant insights shared by speakers, CEOs, and academicians as they discussed what lies ahead for the responsible capital and sustainability space.

KEYNOTE ADDRESSES

The first keynote speaker for the session was Professor Gireesh Shrimali, Head of Transition Finance Research at the Oxford Sustainable Finance Group, University of Oxford. The second keynote speaker was Shri Manu Srivastava, IAS, Additional Chief Secretary, Department of New and Renewable Energy, Government of Madhya Pradesh. The session was moderated by Professor Anish Sugathan, who highlighted the coincidental shared backgrounds of the two speakers and emphasized the thematic relevance of combining physical risk analysis with project-level risk mitigation. He also expressed gratitude for the support provided by Mr. Arun Duggal and the IIMA-PwC ESG Forum.

The keynote segment was designed as an amalgamation of theory and practice and the sessions were framed as a 'jugalbandi' between theory and practice, structured with Professor Shrimali first laying the academic and conceptual groundwork (with emphasis on risk measurement, assessment, and resilience/adaptation pathways), followed by Shri Manu Srivastava presenting practical innovations that made renewable tariffs competitive with (and in examples, substantially cheaper than) fossil-based alternatives. The overarching theme of the session centred on climate risk in policy and finance, as well as the role of renewable energy in mitigating these risks.

Speakers' Profiles

Prof. Gireesh Shirmali
Head of Transition Finance Research
Oxford Sustainable Finance Group,
University of Oxford

Prof. Gireesh Shrimali is the Head of Transition Finance Research at the Oxford Sustainable Finance Group, University of Oxford, where he leads work on advancing the role of finance in enabling a credible and equitable transition to a net-zero economy. Alongside, he serves as a Technical Lead for the UK Transition Plan Taskforce. He is also a Visiting Scholar at Imperial College London and the Singapore Green Finance Center, with prior roles at the Climate Policy Initiative and Stanford University.

His research spans renewable-energy finance, ESG, and climate-risk management, offering policy insights on India's renewable-energy policies, U.S. clean-energy deployment, and sustainable off-grid energy models. He holds a Ph.D. from Stanford, an M.S. from the University of Minnesota, and a B.Tech from IIT Delhi, and previously worked for nine years in the technology industry.

Shri Manu Srivastava, IAS
Additional Chief Secretary,
New & Renewable Energy Department,
Government of Madhya Pradesh

Shri Manu Srivastava, IAS (1991 batch), is a leading figure in India's renewable energy sector. With engineering degrees from IIT Delhi and over three decades in public service, he spearheaded the 750 MW Rewa Ultra Mega Solar Project, India's first to achieve grid-parity and supply clean power to the Delhi Metro. The project won global recognition, including the World Bank President's Award and case study features at Harvard and Singapore Management University.

He also pioneered a zero-investment rooftop solar model, enabling public institutions to adopt solar power without upfront costs and achieve record-low tariffs. Recognized among the top 15 "Innovations in Public Administration," he now works with NITI Aayog to expand solar solutions across health institutions. Earlier, he played a key role in ensuring 24x7 power in Madhya Pradesh and oversaw the natural gas sector at the Government of India.

Keynote Address by Prof. Gireesh Shirmali

Professor Shrimali began by situating his presentation within the India Transition Finance Program at the University of Oxford. He described the Oxford Sustainable Finance Group as an interdisciplinary effort focused on topics at the intersection of sustainability, finance, and policy, addressing the critical challenge of financing India's low-carbon transition. Beyond research, he noted education initiatives (including public courses and executive education) and a collaborative 'lab' model that brings together academics, policymakers, and industry.

His work lies at the intersection of finance and sustainability, and he outlined three broad areas of his portfolio. The first is environmental stress testing and scenarios, which concern how climate risk can be measured. The second is transition planning for risk management, including net-zero transition planning, reflecting his point that measurement alone is insufficient—risk must also be managed. The third is energy transition risk and the cost of capital, highlighting the importance of financing costs in transition decisions, particularly given differences in capital expenditure profiles between fossil-based and renewable technologies.

As one of the world's fastest-growing economies, India faces the dual challenge of meeting increasing energy demand while achieving ambitious climate commitments. Turning to the focus of the keynote, he defined physical climate risk as risk arising from the impacts of a changing climate—such as increasing heatwaves, floods, and cyclone severity. A central reason for his focus on physical climate risk is that India is already experiencing severe climate impacts. The economic costs of climate change in India are immense, and the country consistently ranks among those most vulnerable to climate extremes. He emphasized that climate risk is not a separate, novel financial risk category; instead, it feeds into traditional financial risks (credit risk, market risk, underwriting risk, and others) through identifiable economic and operational channels. In his explanation, examples of such channels included property damage that forces capital expenditure, production disruptions that reduce revenues, and complex interactions with insurance. He distinguished between acute risks (severe events that are easier to recognise, such as floods) and chronic risks (gradual effects, such as productivity impacts from rising temperatures).

Professor Shrimali also discussed transition risk, describing it as risk created by societal and policy actions taken in response to physical climate risk. As an illustration, he pointed to how policy and market shifts toward solar generation can create risk for coal- and gas-based generating assets. He emphasized that physical risks and transition risks are coupled rather than independent, because actions to manage physical risk can generate transition-related risks for specific asset types.

His presentation explored how to measure and manage physical climate risk, particularly in the power sector. Methodologically, he explained that climate-risk analysis can be approached in different ways, but his team emphasized a bottom-up, asset-level modelling approach. In the session's example, the unit of analysis was the power plant. Starting at the asset level enables aggregation upward—first to the firm level (for example, for a power company with multiple plants), then to financial institutions exposed through lending and investment, and ultimately to economy-wide risk assessments.

He further described how physical risk can be conceptualized through three components: hazard, exposure, and vulnerability. Hazard concerns the severity and frequency of an event (in this case, floods). Exposure concerns whether an asset is located in an area where the hazard occurs. Vulnerability refers to the degree of susceptibility an asset has due to its design and the level of protection it has. He used a simple illustration: two assets might face the same hazard and exposure, but an asset protected by being placed on a platform would be less vulnerable to it. This framing enabled him to connect risk management and resilience to vulnerability reduction directly.

In the presented application, the team focused on flood risk affecting power-sector generating assets. He described using a stochastic flood simulator to generate forward-looking event sets over future decades, emphasizing that past events are not reliable predictors in a changing climate. The simulation approach, utilizing Monte Carlo methods, generated probabilistic event sets with varying flood depths and probabilities, allowing for analysis beyond a single expected outcome. In the context of India's power sector, he emphasised that asset location matters more than corporate headquarters and that protection measures play a crucial role in risk mitigation. The team mapped the locations of more than 400 power plants in India to connect simulated hazards with location-specific exposure.

Once hazards and exposure were specified, the analysis traced how floods would affect financial outcomes through selected channels. He highlighted three channels considered in the

work: direct capital damages (requiring repairs or replacements), production disruptions (leading to revenue losses during downtime under power purchase agreements), and insurance (noted as a complex aspect). The focus was on impacts to cash flows over time. These cash-flow impacts were then translated into value impacts using discounted cash flow methods, resulting in distributions (histograms) of net present value (NPV) outcomes rather than a single deterministic value.

A key point in the presentation was that different financial actors may focus on different parts of the loss distribution: an equity investor, for instance, might focus on the median impact. In contrast, debt investors or insurers might focus on tail outcomes (higher quantiles). In discussing results, he argued that acute flood risk can be financially material. Under the low flood protection assumptions in the base scenario presented, the modelled portfolio-level average impact was estimated to be approximately a 20% loss in value. He emphasized that this was for flood risk alone, and other hazards (cyclones, heat extremes) were not yet included in the illustrated numbers.

He also emphasised that resilience and adaptation can reduce losses: when higher protection assumptions were introduced, estimated losses fell. His key takeaway was that risk should not only be measured but actively managed, and that investment decisions should incorporate both the level of risk and the strategy for managing it. He further noted that granular asset-level results allow re-aggregation by technology type and geography (for example, comparing coal versus gas plant risk profiles, or comparing state-level exposure).

Professor Shrimali concluded by raising governance and policy questions about measurement, disclosure, and transparency. He highlighted the role of regulators and policymakers in shaping how risks are measured and disclosed, with the underlying idea that transparency enables stakeholders to understand both exposure and risk-management responses. He also raised a prioritisation question from a policymaker's perspective: if resources allow for the protection of only a subset of assets, which assets should be prioritised, given that protective measures have costs.

Critical Insights

- **India's transition finance challenge:** India must meet rising energy demand while pursuing climate commitments; climate impacts are already material.
- **Climate risk flows into standard financial risks:** Physical climate risk feeds into credit/market/underwriting risks via asset damage (capex), production disruption (revenue loss), and insurance.
- **Physical and transition risks are linked:** Actions to manage physical risk can create transition risk for certain assets (e.g., coal/gas).
- **Asset-level, forward-looking modelling**: Bottom-up power-plant-level analysis using stochastic simulation is preferred because past events are not reliable predictors; results should be treated as probabilistic distributions, not single numbers.
- **Resilience reduces losses:** Losses decline under higher protection assumptions, so risk should be measured and managed through adaptation and investment decisions.
- **Policy/governance relevance:** Measurement, disclosure, and transparency matter; policymakers face prioritisation choices on which assets to protect when resources are limited.

Keynote Address by Shri Manu Srivastava, IAS

Shri Manu Srivastava began by offering a philosophical and practical background for his remarks, emphasizing an "action first, build later" mindset. He noted that a common worldview treats renewable energy as inherently expensive, and he contrasted this with what he called a 'happy stage' in which renewable energy has become both economically viable and environmentally beneficial. To contextualize subsequent tariff comparisons, he provided a reference point for typical residential or office electricity bills—around ₹8 per unit—so participants could anchor what 'cheap' or 'expensive' means in their lived experience.

He acknowledged multiple contributors to the viability of renewable projects, including technological improvements, economies of scale, supply chain optimisation, growing developer experience, lender confidence, and supportive policy. For this keynote, he challenged the notion that renewable energy projects are automatically perceived as "pious" or inherently good, arguing instead for rigorous project structuring and risk mitigation. He framed this approach as a focus on making projects bankable and resilient, as well as on investor empathy: if he were an investor, what risks would make him uncomfortable, and what design choices would make him feel more at ease? Based on that framing, he described an approach of developing projects that are 'de-risked' to encourage broader participation and lower financing costs.

He described the broader institutional context for renewable project development in India, noting that government organisations, such as SECI and NTPC, had often played central roles in setting up projects, with state entities primarily arranging land and infrastructure. In contrast, he stated that his state-level organization evolved beyond that limited mandate to cover the entire project lifecycle—arranging land and infrastructure, conceptualizing projects, developing bidding documents, and conducting the bidding process.

The keynote's major highlight was the Rewa Ultra Mega Solar Project, which fundamentally changed how solar projects are structured in India. He described the prevailing tariff context at the time: the prevailing thermal tariff was around ₹4.5 per unit. The Government of India benchmarked solar at around ₹4.5 per unit and used a viability gap funding (VGF) bidding mechanism, where the bidder seeking the least VGF would win. He described the VGF as fairly substantial—around 10–15% of the capital cost. Against this backdrop, he stated that Rewa, a new state-level company, achieved a first-year tariff of below ₹3 per unit and a levelized tariff of around ₹3.3 per unit, without subsidy, following bidding in 2017. He described the operational constraints and resource limitations at the time, emphasizing that the achievement rested on de-risking principles rather than organizational scale or long-standing institutional capacity.

He described strong bidder participation and competition, with around 20 companies participating, including international firms (examples named included SoftBank, ENGIE, Enel, and Sembcorp, among others), as well as multiple Indian players. Shri Manu stated that the Government of India issued Standard Bidding Guidelines primarily based on Rewa's bidding approach; he asserted that projects in India now operate under those guidelines. He also noted that a major part of Delhi Metro's electricity supply (almost 65%) comes from Rewa, that the Prime Minister inaugurated the project, and that the World Bank has highlighted the project as an example of ring-fencing emerging-economy uncertainties. He stated that the project has been used in case studies and has received recognition from various government and international organizations.

To demonstrate that the same principles can be applied beyond utility-scale projects, Shri Manu briefly discussed the MP Solar Rooftop Project and behind-the-meter projects. He cited an example at IIM Indore, described as 'zero investment, savings from day one,' with savings of around ₹4 lakh per month. He also described a project spanning seven medical colleges in Madhya Pradesh, which was also stated to require no investment from the state and save around ₹20 lakh per month, with interest from NITI Aayog.

He then referenced scaling up the approach to larger projects, noting a subsequent project described as roughly double the size of Rewa (about 1500 MW). He emphasized that the approach expanded beyond traditional DISCOM off-take, citing supply to Delhi Metro and to Indian Railways in nine states. He also referenced a floating solar project of about 278 MW on a large dam, describing the scale in land/water terms.

A key turning point in his narrative was the cost comparison between coal and solar. He cited a coal-based tender in Madhya Pradesh at around ₹6 per unit, noting that the cost would increase over time as coal and transportation costs rise. In contrast, he cited a solar tender with a flat, inflation-proof tariff over 25 years at ₹2.15 per unit. On this basis, he asserted that 'the question of solar has been solved' and that the next major challenge is supplying

power beyond solar hours—particularly to meet evening and morning peaks.

He then described a storage-linked procurement model as an answer to the 'beyond solar hours' challenge. The model supplies power during solar hours and also provides two hours of evening peak supply and two hours of morning peak supply, with a cited tariff of ₹2.70 per unit. To explain the project's structure, he described the daily operating logic. A portion of solar generation is supplied directly in real time, while another portion charges a battery. After sunset, the battery discharges to serve the evening peak. The model then adds a second charging cycle during late-night hours (roughly 12:00 midnight to 5:00 AM), when demand is low, and power is cheap. The battery is recharged and used to meet the morning peak demand. He described this as a 'dual cycle' structure, designed to improve utilization of the battery, and this model has been utilized in the Morena Solar Park.

He also discussed ongoing collaboration with the University of California, Berkeley, stating that Berkeley had established a centre in Bhopal to work on technical and policy issues. He described the next frontier as increasing storage duration and scaling projects so that excess solar energy can be used to charge batteries, with the ultimate aim of delivering a more consistent supply profile across 24 hours.

Shri Manu then turned explicitly to the logic of de-risking. In his framing, de-risking improves competitiveness primarily by increasing bidder participation and reducing the cost of both equity and debt. It attracts more developers, including foreign/OECD developers who may be reluctant to navigate high-uncertainty aspects such as land acquisition. It also attracts investors, such as pension and sovereign funds, that accept lower returns in exchange for assured and stable outcomes. He argued that lenders are even more sensitive to downside risk because they do not share in upside outcomes, so de-risking can also reduce the cost of debt. He added that de-risking minimizes the likelihood of project failure, improving planning reliability and protecting associated infrastructure commitments.

On what de-risking entails in practice, he highlighted three broad ingredients. The first is efficient transition planning—keeping concepts simple and designing contracts and operating models so that value is intuitive rather than dependent on complex spreadsheets. The second is robust project preparation—ensuring land and prerequisites are available at the time of bidding rather than being arranged afterwards. The third is strong contractual provisions and risk allocation, summarized in the principle that risks should be 'parked' with the stakeholder best placed to manage them.

He illustrated risk allocation through the Delhi Metro off-take structure from Rewa. Power is injected into the grid at Rewa and drawn in Delhi. A crucial contract term is the 'delivery point'- the point where the seller's obligation ends and the buyer's obligation begins. While a Government of India policy was described as providing free transmission for renewable energy, he explained that a later notification applied free transmission benefits to DISCOMs but not to Delhi Metro. If transmission costs and risks had been placed on the developer, the project would have become unviable. By insisting on the delivery point at Rewa, the transmission risk was transferred to the Delhi Metro, which, as a government organization, was better positioned to pursue regulatory modifications and obtain the benefits. He cited that the transmission cost could be around ₹1.5 per unit compared to generation tariffs below ₹3 per unit, underscoring how risk allocation could determine whether a project proceeds or collapses.

He closed by naming broader principles he believed are necessary for repeated success in public-sector project execution. These included a 'willingness to improve' rather than repeating past templates, careful listening within hierarchical organisations, treating the government as a contractual party and not just a sovereign authority, and challenging the assumption that knowledge automatically flows from position rather than from expertise. He also commented on climate finance debates, stating that while concessional finance from the West may help, he maintained that well-structured projects can attract capital without relying on concessionality, provided innovation in de-risking and structuring continues.

Critical Insights

- **Renewables can be competitive on tariffs:** The keynote positioned India in a phase where renewable energy is economically viable, using ~₹8/unit (typical retail bills) as a reference point for "cheap vs expensive" electricity.
- **De-risking as the core project strategy:** Rather than treating renewables as inherently "good," the emphasis was on making projects bankable through risk mitigation, investor "empathy," and robust structuring to expand participation and lower financing costs.
- **Rewa as a structuring benchmark:** In a context where thermal tariffs were ~₹4.5/unit and solar was benchmarked similarly with VGF (10–15%

of capex), the Rewa Ultra Mega Solar Project achieved a first-year tariff below ₹3/unit and a levelized ~₹3.3/unit, without subsidy, via 2017 bidding; ~20 companies participated (including international firms).

- **Extending the model beyond utility scale:** Examples included rooftop/behind-the-meter projects described as "zero investment" for host institutions, with cited monthly savings (e.g., ~₹4 lakh/month at IIM Indore; ~₹20 lakh/month across seven medical colleges).
- **Cost comparison shifts the challenge to non-solar hours:** A cited coal tender (~₹6/unit, rising over time) was contrasted with a solar tender at ₹2.15/unit flat for 25 years, framing the next problem as meeting evening and morning peaks.
- **Storage-linked procurement to supply peaks:** A model supplying solar-hour power plus 2 hours evening peak + 2 hours morning peak was cited at ₹2.70/unit, using a dual-cycle battery (daytime charging + late-night charging) and implemented in Morena Solar Park.
- **Practical ingredients of de-risking:** (i) Simple, intuitive operating logic, (ii) project readiness before bidding (land/prerequisites), and (iii) contractual risk allocation—parking risks with the party best able to manage them.

Session Synopsis of the Moderated Talk

The moderated discussion viewed the two keynotes as complementary 'two sides of the coin': Professor Shrimali's focus on how climate-related shocks translate into financial risk metrics, and Shri Manu's focus on how project-level risk mitigation enables capital to flow and lowers tariffs. The moderator, Prof. Anish Sugathan introduced a recurring classroom critique of the Rewa model-scalability. Drawing on teaching cases (Harvard Business School and Singapore Management University cases), he wondered how much of Rewa's success depends on the presence of a single entrepreneurial champion and how many such champions exist to replicate the model at scale.

Shri Manu agreed that scalability is a challenge viewed from inside the government as well. He described efforts to share learning and codify practices through standard bidding guidelines, while acknowledging that rigid guidelines can inhibit innovation. He also expressed concern about what he characterized as a 'resistance' within the government to undertake innovative work, even after renewable prices fell substantially. He noted that, beyond the limited replication of supplying renewable energy directly to large non-DISCOM customers, many other large demand centres, such as refineries, ports, and airports, have not widely adopted similar structures. He also mentioned a large backlog of tenders, where PPAs were signed by the Government of India organizations, but states were not willing to buy.

In response, Professor Shrimali linked the scalability discussion to debates on climate finance and investment. He argued that, in many conversations with financiers, the primary constraint is not lack of concessionality but the lack of a credible project pipeline. In that sense, he framed project structuring and policy design as key enablers that transform abstract 'need for capital' into investable opportunities.

The moderator then bridged perceived climate risk as a 'slow-moving but fast-arriving' risk, asking how external shocks that affect companies (and their NPVs) translate into behavioural change, policy action, and research questions. Professor Shrimali emphasized that the purpose of his research is to connect events in the scientific domain (such as floods and cyclones) with transition dynamics, and to translate these into financial metrics that decision-makers recognise and act upon.

He also linked the issue to disclosure and transparency, drawing an analogy to systemic financial crises: risks can exist even if they are

not visible or candidly disclosed. He argued that regulators can play a role by requiring risk disclosure and encouraging firms and financiers not only to report exposures but also to explain risk-management actions. The moderator added a related observation from conversations with hedge fund managers, noting that some large financial players hire atmospheric scientists and climate models to view climate as a material risk and a potential source of investment advantage, which requires interdisciplinary capabilities.

The discussion returned to technology transitions through examples from Shri Manu. He argued that investment in new thermal power plants is increasingly risky because of long lead times and long asset lives; he suggested that renewables may become cheaper than even the variable fuel costs of coal. He broke thermal costs into fixed and variable parts, stating that in his example, the variable cost of coal power was around ₹2.5 per unit, and solar tariffs were already cheaper than that. He also mentioned that thermal plants reduce output during solar hours to a technical minimum. He used analogies to emphasize that superior technology tends to dominate over time, including the idea that societies do not transition because they run out of the old resource, but because better technology emerges.

Further, Professor Anish Sugathan emphasized that climate-related research and practical solutions increasingly require cross-disciplinary collaboration. This theme was echoed in several audience questions about optimization, informal finance, and communication to households.

Conclusion

The panel converged on a practical synthesis: climate risk becomes actionable when it is translated into decision-relevant financial metrics and matched with bankable project designs that allocate risks to the parties best able to manage them. While tariffs and technology trajectories matter, the discussion highlighted that scaling solutions depends on creating a repeatable project pipeline, supported by disclosure norms, credible contracting, and institutional willingness to innovate.

Q&A Session

Question: In the storage-linked model discussed for supplying peak hours, how are winter conditions in North India, such as seasonality and fog, considered? What happens in winter?

Shri Manu Srivastava, IAS: Shri Manu responded that fog is not a major issue in most of Madhya Pradesh (with some regional caveats), so it has not materially impacted their projects in that geography. He added that climate change and pollution can reduce solar incidence and project performance, creating a feedback loop where renewables meant to improve the environment are themselves affected by environmental degradation.

Question: We research small and marginal farmers and informal finance. If we apply your model to agricultural farmers by treating them as business entities, what would you suggest for their management and operations? Also, could you comment on informal finance?

Prof. Gireesh Shrimali: Professor Shrimali noted that the asset-level modeling approach is more straightforward for large, discrete assets like power plants. For huge farms, it may be possible to isolate and model them. For small farms, he suggested working at an aggregated level that is tractable for measurement and analysis. He mentioned that his team was conducting research on this problem and that an RBI researcher working with the group was also focused on a similar question. He emphasized that climate risk does not disappear in informal finance settings; the challenge is choosing appropriate methods (forward-looking modeling, empirical techniques, or a combination) and making the risk material and usable for stakeholders on both sides of the financial relationship.

Question: When forecasting cash flows in your model, do you account for inflation and technological changes?

Prof. Gireesh Shrimali: Professor Shrimali replied that the model does not incorporate technology change because it evaluates specific existing plants on the ground; he contrasted this with other modeling approaches (such as technology pathway models) that explicitly forecast cost declines. For inflation-related assumptions, he explained that the analysis begins with a baseline model, which includes discount-rate assumptions, and then robustness checks can be used to explore sensitivity. He noted that the base model was presented in the talk, while appendices and additional checks are documented in the paper.

Question: What about end-of-life waste from solar plants, especially toxic materials like lead and cadmium? Is the government thinking about this?

Shri Manu Srivastava, IAS and Prof. Shrimali: Shri Manu stated that regulations are being developed and expressed confidence that technology will

provide answers as challenges emerge. The moderator added that research suggests the overall material quantum may be smaller than dismantling a coal plant, but it remains a serious issue requiring attention. Professor Shrimali added that the biggest climate solution is often on the demand side—reducing consumption and improving energy efficiency—while noting that demand-side change is challenging to achieve.

Question: Remembering the Rewa case and subsequent steps: if much of the innovation (VGF, de-risking, structuring) is done by the government, does it reduce companies' incentives to innovate? Does the value chain become too dependent on government help?

Shri Manu Srivastava, IAS and Prof. Shrimali: Shri Manu responded that government efforts primarily focus on project restructuring for utility procurement, while developers retain significant freedom to innovate on technology choices (for example, choice of panels, battery systems, and other design decisions). He also noted that there are many projects for commercial and industrial customers beyond utility procurement where developers continue to innovate. Professor Shrimali reinforced the principle that risk should be allocated to the party best placed to manage it, framing this as a broader question of PPP risk distribution rather than one of eliminating private risk entirely. Shri Manu also mentioned the emergence of different business models in the renewable sector, describing 'Devco' entities that develop projects and 'Holdco' entities that acquire projects after commissioning, reflecting differing risk appetites across the lifecycle.

Question: In PPP structures where the government provides land and de-risking and brings in lenders, where does financing liability for failure lie, and what does the private player bring to the table?

Shri Manu Srivastava, IAS: Shri Manu answered that the private player brings the private capital (equity and debt), raises the financing, chooses the technology, designs and executes the project, and then operates and manages it for 25 years. He characterized the government role as enabling prerequisites—arranging the 'mandap'—while the developer performs the project's complete lifecycle responsibilities.

Question: India has many solvable problems in emerging economies, but impactful work on these problems often comes from researchers abroad. What can we do to solve our own problems and publish in good journals? Any tips?

Prof. Gireesh Shrimali and Shri Manu Srivastava, IAS: Professor Shrimali emphasized collaboration as a practical way to increase domestic capacity. He noted that funders are increasingly requiring cooperation with local universities and stakeholders as part of grant applications, and he welcomed such collaborations. Shri Manu added that he could help with identifying research problems and access to practical contexts, while suggesting that academic experts better address the publication strategy.

Question: As someone interested in stochastic and robust optimization, how do you assess the impact of protection measures in reducing risk, beyond estimating risk using empirical flood-prone implying data? How do you evaluate protection measures themselves?

Prof. Gireesh Shrimali: Professor Shrimali responded that evaluating adaptation measures requires cost–benefit analysis, because every protection measure has a cost that must be integrated into the risk framework. He noted that when the problem is framed at a portfolio level, it becomes an optimization problem, which aligns well with stochastic and robust optimization approaches.

Question: How do we sensitize the 'common man' to these issues? Knowledge often seems locked up in a few places and may not trickle down to consumers who drive patterns. How can people understand what's at play in choices like cars and consumption, especially for younger generations?

Shri Manu Srivastava, IAS: Shri Manu described demand-side sensitization through price signals and time-of-day tariffs. He referenced a structure with a discount of approximately 20% on electricity consumption during solar hours (9 AM to 5 PM) to encourage shifting loads, such as cooling and washing, to those hours. He also described a 20% higher price during peak windows (5 PM to 10 PM and 6 AM to 9 AM), creating a significant price gap intended to guide behavior. He added that more dynamic pricing approaches are emerging, linked to exchange-market prices that vary in 15-minute cycles, with programs that notify participants when power is expensive and provide incentives for reducing consumption during those windows. He further noted the potential role of EV batteries in injecting power into the grid and arbitrage by charging when power is cheap and discharging when power is expensive. He also suggested IoT-driven approaches where appliances respond automatically to price signals—for example, cooling more when power is inexpensive and less when it is expensive.

Prof. Gireesh Shrimali: Professor Shrimali framed the issue as a communication and materiality challenge: people care and act when information is material to them and when they see what they can do about it. He argued that a comprehensive solution requires multidisciplinary inputs (science, finance, and behavioral science). He noted the potential for AI and machine learning to personalize communication—analogizing it to how smartphones learn user preferences. He emphasized that communication must not only quantify impacts but also reduce helplessness by pairing information with actionable options.

PANEL DISCUSSION
Innovation for Green Transition

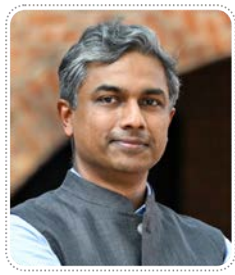
Panelists

Dr. Akshay Jain
Co-Founder & CEO, Cancrie

Mr. Avnish Kumar
Founder & CEO, LivNSense GreenOps Private Limited

Mr. Tanmay Panday
Founder Director, Brisil Technologies Private Limited

Moderator:



Prof. Anish Sugathan
Chairperson, CSCG, IIMA

The panel session titled "Innovations for Green Transition," moderated by Prof. Anish Sugathan, focused on entrepreneurship and innovations enabling the green transition. Prof. Sugathan framed the session as a bridge from earlier discussions on green transition policy to the lived reality of building and scaling technologies. He introduced three entrepreneurs in the panel: Mr. Tanmay Pandya (Founder Director, Brisil Technologies Private Limited), Mr. Avnish Kumar (Founder & CEO, LivNSense GreenOps Private Limited), and Dr. Akshay Jain (Co-Founder & CEO, Cancrie).

The panel discussion was structured into three parts: An introduction to the companies and their products, the entrepreneurial journeys of the founders in India's sustainability ecosystem, and the Business Models of these companies.

Opening Introduction: What the Companies Do

Mr. Tanmay Pandya:

Mr. Pandya began the session by discussing Brisil's focus in simple terms: converting fly ash-like waste (in this case, rice husk ash) into usable chemicals. He described how rice husk, a by-product of rice production, is increasingly burned as biofuel to generate electricity or steam. This combustion creates rice husk ash, which can be produced in very large quantities. He provided a local example near Ahmedabad, where he stated that roughly 100 to 500 tons of rice husk ash can be generated daily and disposed of in open areas. During winter, the fine particles can travel with the air and contribute to a higher AQI. Brisil's patented chemical process mixes the ash with chemicals to create two products: silica and activated carbon, with silica described as the major output (around 70 to 80% of ash weight). He described silica as a widely used input across everyday products and industries, and presented their approach as an alternative source compared to silica derived from river sand mining.

Mr. Avnish Kumar:

Mr. Kumar introduced LivNSense as an AI-driven decarbonization company, with a primary focus on process optimization. He described how industrial decarbonization conversations often focus solely on input fuels, where optimization can provide improvements to a certain extent, but he argued that "process emissions" driven by operational inefficiencies represent a major opportunity. He pointed out that heavy industries, such

as cement manufacturing, oil and gas, and steel plants, are major contributors to emissions of CO2, SOx, and NOx. LivNSense's approach is to leverage the large volume of data already generated by industrial plants and utilize AI models to capture degradation and variation in real-time, rather than relying solely on rule-based systems and operator judgment. He gave examples of learning coal-quality parameters (including a grindability index) on a conveyor belt to help operations respond to real-time variation. He also described business impact examples, including reductions in waste in US asphalt operations, and positioned this type of optimization as a way for industries to reduce emissions even before adopting higher-capex decarbonization solutions.

Dr. Akshay Jain:

Dr. Jain introduced Cancrie as a manufacturer of advanced nanocarbons derived from agri-waste for use in batteries. He explained the origin of the name "Cancri" by referencing a planet discovered in 2004 that is described as being made of high-quality carbon forms (such as graphite and diamond). He used this framing to explain Cancrie's ambition: enabling better batteries without having to "go" far away for high-quality carbons, by producing battery-grade nanocarbons on Earth from waste. He described drivers for battery market growth (EV adoption, renewables, and electrification) and the need to improve battery safety, efficiency, and life. Cancrie's patented process was described as using coconut shell waste (and other waste types) to produce nanocarbons. He listed multiple battery chemistries where the material is relevant, including lead-acid, lithium, and other chemistries such as sodium-ion, redox flow batteries, fuel cells, and zinc gel. He described engineering the carbon through multiple tunable parameters and explained the mechanism in terms of improving electrolyte penetration and electrode wettability. He noted their plant in Jaipur and described a capacity of catering to around 100,000 batteries per month, while emphasizing that customer acquisition and sales become the main task after years of product development.

How the Entrepreneurial Journey Unfolded

After the introductions, Prof. Sugathan steered the panel toward the "back story" of entrepreneurship: why each panelist had chosen their particular problem and what drove them to undertake particular journeys.

Mr. Tanmay Pandya:

Mr. Pandya described the origin of Brisil as a combination of deliberate searching and luck. He recalled working with a power generation company that used husk as fuel; once the price of husk rose (he cited around 1 to 2 rupees per kilogram), the economics became difficult. The company then asked whether the ash produced during power generation could be turned into a value stream. Brisil analyzed the ash and identified a high silica content (about 85 to 90% silica). He emphasized that early validation came when a senior director from a large tire company visited their small pilot and highlighted the immense scale of silica demand in tire manufacturing. This became a turning point that converted uncertainty into conviction, following which the team set up a pilot plant in 2019 inside a tire company's facility and later developed a commercial plant that became operational in 2023.

Mr. Avnish Kumar:

Mr. Avnish Kumar described a different trajectory shaped by corporate experience. He referenced his experience in telecommunications and consumer electronics, where he observed significant industry shifts driven by software, including the transition from hardware-dominated systems to software-defined solutions. He noted that a lot of industrial challenges stem from poor optimization and a growing shift towards automation, and he contrasted this with the manufacturing sector, where large OEMs controlled systems and kept data proprietary, which limited disruptive innovation. He described early experiments in the automobile sector (welding shop energy management) that did not succeed because buyers were not willing to pay the required cost for the solution. A subsequent opening with a US oil and gas major exposed a different, more urgent pain point: diagnosing process deviations could take nearly a week due to slow data collection and analysis. This motivated the creation of a digital platform to collect and analyze data in real-time. He described how the platform evolved into a way to capture process variation that is otherwise managed tacitly by operators, and he situated the company's later growth in the ability to reuse and adapt algorithms across industries more quickly over time.

Dr. Akshay Jain:

Dr. Jain traced Cancrie's roots to his PhD work, which began with a directive to "upcycle" waste by adding significant value. He described early exploration across a broad set of possible products (fuels, adsorbents, fertilizers), but noted that these did not create the high-value addition sought. After extensive study of patents and academic literature, he described arriving at a high-value carbon product relevant to batteries after around 1.5 to 2 years. He then described a lengthy optimization phase during which more than 200 variations of carbon materials were produced by modifying recipes, chemicals, raw materials, and process conditions, resulting in patents, publications, and strong performance in lithium batteries. He emphasized, however, that commercialization is a "different ball game," and described early market feedback that even strong academic results were insufficient without actual material available for trials. A small pilot ("garage lab" around 250 square feet) was created to begin commercialization, but early trials resulted in failure due to iron contamination caused by the equipment materials of construction. He described the severity of the contamination in relation to acceptable levels, the resulting customer losses, and the financial pressure that followed. He recounted surviving on limited support (including a monthly amount from the Government of India's DST as described in the session) and then receiving support from Techstars (April 2021 mentioned), after which the company rebuilt equipment, scaled the facility, and eventually achieved strong results in later trials. He described their subsequent commercialization milestones: securing the first order in January 2024, signing a term sheet in April 2024, securing funding in December 2024, and expanding to a larger facility to further scale output.

Business Model Discussion: Sustainability Meets Commercial Reality

Prof. Sugathan then framed a closing round around the "business model of a sustainability startup," pointing out that startups already require patent investment and long uncertainty-resolution cycles, and that sustainability solutions add additional complexity. He highlighted that savings-based solutions may lack a direct carbon market, and asked the panelists to share business model insights specific to sustainability-focused ventures.

Mr. Tanmay Pandya:

Mr. Pandya described how business model choices were shaped by capital intensity and risk. He outlined three broad options that they considered: licensing the technology for royalties, outsourcing manufacturing while focusing on sales and technology development, or building an end-to-end manufacturing solution. He described their manufacturing as capex-heavy, noting that building a factory can cost tens of crores, and that even smaller units still require significant funding. He explained that Brisil benefited from a hybrid, risk-sharing arrangement with a tire company, including space, utilities, and operational support that reduced burn and created "mind space" for product and customer development. He also stated that they avoided licensing in India due to concerns of technology theft.

Mr. Avnish Kumar:

Mr. Kumar described how LivNSense initially relied on angel funding, but also emphasized the importance of a strategic customer who pays early. He described how an oil refinery customer in the US financially supported the company, allowing it to avoid major funding for around three years, and that the company began generating meaningful revenue early in its journey. He stated that VC funding came much later, after securing at least two large customers with stable recurring revenue. He also described the evolution of pricing from a hard-to-sell subscription model to an ROI-linked subscription, where the fee is tied to quantifiable savings.

Dr. Akshay Jain:

Dr. Jain's remarks emphasized a direct message: sustainability becomes commercially meaningful only when it also creates clear value for the customer. He stated that sustainability "has no value" to even large players if it does not generate extra value in monetary terms, and framed this as a practical constraint for profit startups. He then explained Cancrie's business model as manufacturing-led hard tech: the company manufactures the nanocarbon product in-house because the equipment and process are new and require customization. He acknowledged that funding for capex-heavy businesses can be difficult and described reliance on grants in earlier phases, along with subsequent scale-up once customer orders and investment were secured.

Q&A Session

Question: How do you attract new customers and position the green angle? Is there a green premium?

Mr. Tanmay Pandya: described first identifying which companies are actively talking about sustainability, then mapping who drives decisions (purchase, technical, or sustainability teams, depending on the firm). A repeated theme was the need for an internal "champion" so trials do not stall.

Mr. Avnish Kumar emphasized the importance of using networks early, but also described a more general stakeholder mapping approach: breaking sustainability into operational pain points (efficiency, yield/waste, energy), and approaching the functions that have budgets - including EHS/safety, rather than only sustainability/ESG. They also described scaling channels through system integrators/O&M partners, OEM partnerships, and domain consultants.

Dr. Akshay Jain emphasized trust-building, as the product impacts core battery performance and perceived risk, which often requires owner-level approval. The company described using highly experienced veterans/mentors who reviewed results and provided credibility before battery manufacturers would try the product.

Question: Does process efficiency improvement also improve profitability and stability?

Mr. Avnish Kumar responded that "process" is the heart of industrial operations and that improving control over process variation reduces energy consumption and emissions while improving profitability. They illustrated the operational stakes using aluminium smelting: narrow temperature ranges, risks if temperature moves too high or too low, manual measurement uncertainty, and expensive corrective materials. They positioned AI as a prescriptive support system that helps operators with real-time recommendations, and described movement in some cases toward closed-loop control.

Question: How do Cancrie's battery additives affect circularity, recycling, and material recovery?

Dr. Akshay Jain described three pathways. First, improved battery life (a figure of up to ~50% was stated in the session) reduces e-waste by reducing the number of batteries needed over time. Second, the company described replacing a portion of active battery material (5-8% stated) with waste-derived nanocarbons, which they claimed directly reduces the need for mined resources. Third, they stated that reduced hard sulfation can lower the temperature required for recycling, providing an example of reducing the required temperatures from roughly 1300-1400°C to 1100-1200°C.

Conclusion

The panel illustrated how sustainability-focused ventures move from concept to scale when they convert environmental problems into products and performance improvements that customers will pay for. Across waste-to-materials, AI-enabled efficiency, and battery materials, the discussion emphasized that the toughest hurdles are not only technical, but also commercial: building credibility, securing trials, managing capex, and structuring pricing around measurable value.

A recurring thread was that scale depends on de-risking the pathway to adoption—through pilot validation, strategic customers, risk-sharing partnerships, and business models anchored in ROI. In this framing, sustainability outcomes emerge alongside commercial outcomes when solutions are engineered to fit real operational constraints and procurement realities.

Critical Insights

- **Brisil** converts rice husk ash into silica (≈70–80% of ash weight) and activated carbon, positioning it as an alternative to silica sourced from river-sand mining and linking the issue to local air-quality impacts from ash disposal.
- **LivNSense** applies AI-driven process optimisation to reduce process emissions and inefficiencies in heavy industries (cement, oil & gas, steel) by using real-time plant data to detect variation and degradation beyond rule-based operations.
- **Cancrie** produces battery-grade nanocarbons from agri-waste (e.g., coconut shells) for multiple battery chemistries, with emphasis on

performance levers like electrolyte penetration and electrode wettability.

- **Decarbonisation is not only about switching fuels:** A major opportunity lies in process emissions and operational inefficiencies—optimisation can reduce emissions and waste even before high-capex technology replacement occurs.
- **Quality and reliability can be make-or-break:** Commercial adoption depends on consistent specifications (e.g., contamination thresholds, material uniformity). Small deviations can undermine customer trust and delay market entry.
- **Customer value is the primary adoption trigger:** Sustainability features gain traction when tied to clear operational or financial value—cost savings, productivity improvements, reduced downtime, better performance, or regulatory/ESG compliance needs that affect cash flows.
- **Pricing needs to match procurement logic:** ROI-linked or outcome-linked pricing can lower adoption barriers versus flat subscriptions, especially when benefits are measurable (energy savings, waste reduction, yield improvement).
- **Project finance and risk-sharing structures matter:** Capital-intensive solutions scale faster when risks and prerequisites are handled upfront (site readiness, utilities, offtake certainty) and when partnerships reduce early-stage burn and execution risk.
- **Market pull can precede carbon-market pull:** The discussion implied that many decarbonisation solutions sell first on operational outcomes; carbon revenues (where they exist) are often secondary rather than the core driver.
- **Scaling depends on repeatability, not one-off pilots:** Solutions that can be replicated across plants/industries—through modular processes, transferable algorithms, and standardised QA—are better positioned to move beyond bespoke deployments.

QUOTABLE MOMENTS

"What happened in the past, even in financial mass markets, is not a good predictor of the future and in the climate space, even less so, because the climate is changing. The climate we see in the future will not be the same as the climate we have experienced in the past."

-Prof. Gireesh Shrimali

"Innovation is happening at multiple places, and they all need to work together to deal with climate change."

-Shri. Manu Srivastava, IAS

"The accurate granular result will help the heavy industries, such as steel, cement & coal, to optimise their processes better and cut down their carbon emissions by 25%, even before they adopt high capital cost solutions like CCUS."

-Mr. Avnish Kumar

"Whenever a problem is addressed and is presented to the world or clients as a new potential revenue stream, the first question that is generally asked is, Why has somebody else not done it yet."

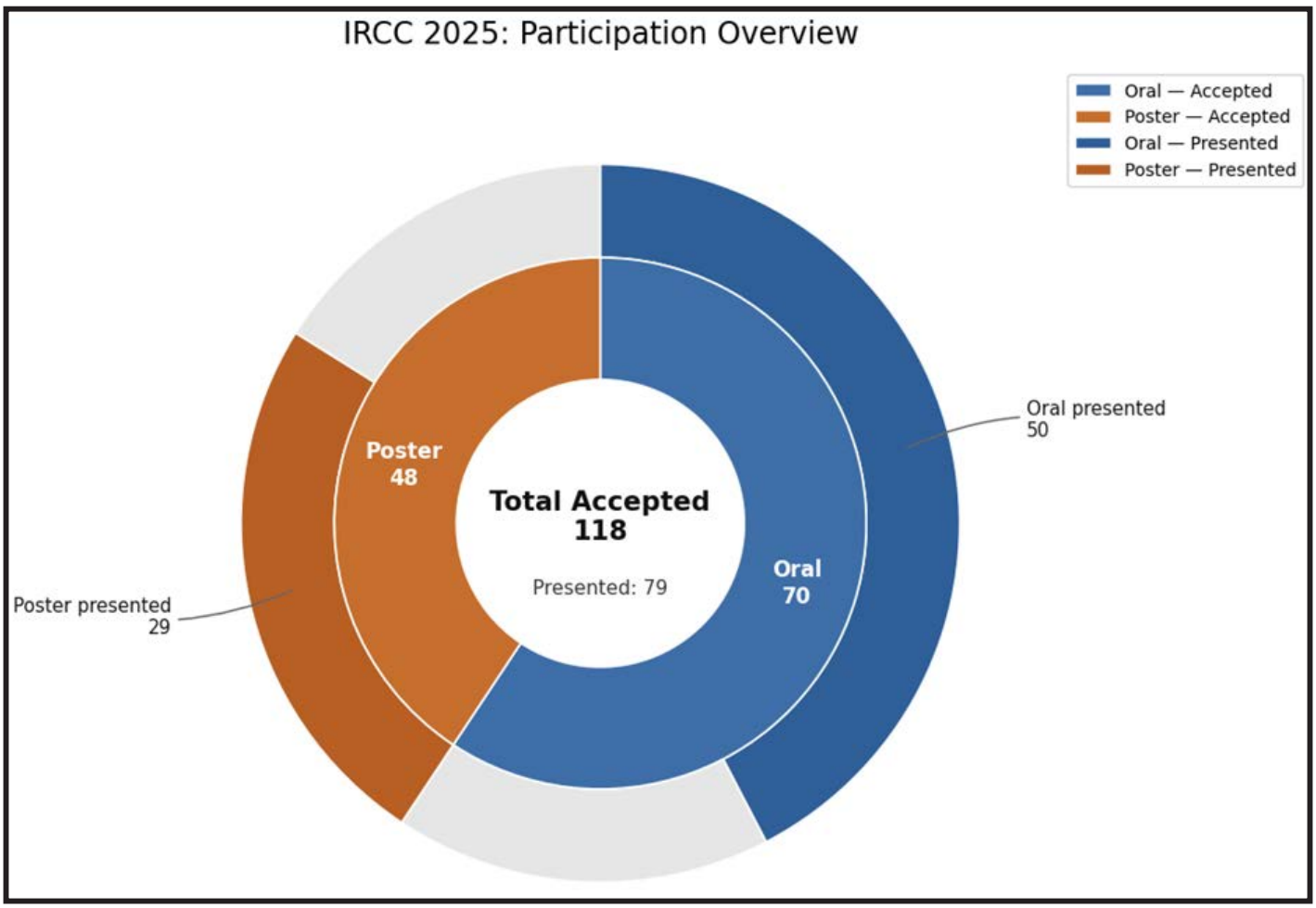
-Mr. Tanmay Pandya

"We have to work for the planet, but we also have to consider what value it will bring in terms of dollar value to our customers."

-Dr. Akshay Jain

PRESENTATION OF PAPERS & POSTERS

PRESENTATION STATISTICS



RESEARCH PAPER PRESENTATIONS

Title: Turning Adversity into Action: Enhancing Sustainability Oversight in Response to ESG Reputation Risk

Author: Sushil Sainani (University of Liverpool), Chris Florackis (University of Liverpool), Omrane Guedhami (University of South Carolina), and Jeffrey Pittman (Memorial University)

ABSTRACT

We examine whether firms implement governance reforms in response to high reputation risks in the environmental, social, and governance (ESG) dimensions. Analyzing ESG incidents that attracted negative media attention as a proxy for "ESG reputation risk", we find that firms facing major reputational threats are more likely to adopt new sustainability oversight measures. These reforms include forming sustainability committees, appointing sustainability officers, and enhancing transparency in ESG reporting. Such actions align with a trust-repair perspective and are more heavily concentrated in firms with poor prior internal governance structures. Further analysis suggests that these governance changes are partly driven by external pressures, such as divestment and engagement from ESG-conscious investors, along with attention from sell-side analysts. Importantly, we demonstrate that these reforms contribute to a reduction in future ESG reputation risk. Our results hold across alternative measures of ESG reputation risk, in changes analysis, and after accounting for peer firm effects.

Title: Evaluating the Policy Impact and Market Readiness of India's EV Transition

Author: Suneeta Hegde (Dayananda Sagar University), Bharath Hegde (Manipal University), and Deepti Hegde (ANZ).

ABSTRACT

The transition to sustainable transport system necessitates strategic investments into electricity market capacity and infrastructure for the deployment of electric vehicles (EVs). This paper examines how policies can entice and influence these investment decisions under the Indian market context. India has an ambitious renewable energy target of achieving 500 GW of non-fossil fuel-based electricity generation by 2030. There is a greater push for electric mobility under programs like the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) scheme. Successful implementation of these schemes requires greater analysis of market dynamics. When it is about electric vehicles and the capacity to world's mobility requirements, is essential to understand the scalability. Analyzing existing dynamic models of the electricity market, this study investigates the relationship between electricity generation capacity expansion and Electric vehicle deployment. This study is more relevant from a policymaker's perspective. India's commitment to reducing carbon emissions and its dependency on fossil fuels is reflected through the consumer friendly schemes and policies, Interaction between these two interconnected systems is critical, thus the effectiveness of policy measures, such as tax incentives, subsidies, and preferential tariffs cam be evaluated within a mathematical framework. Recent policy developments in India, includes production-linked incentive (PLI) scheme for advanced battery technologies along with regulatory mandates for renewable energy procurement, have encouraged investment in charging networks and renewable electricity generation. Further the availability of incentives like viability gap funding (VGF) for setting up charging stations and easy financing for EV manufacturers has played a pivotal role in shaping the market landscape. These policies are additionally supported by state-specific initiatives, such as Delhi's EV Policy. Maharashtra gives subsidized charging

infrastructure. Karnataka's focus is on EV manufacturing. These schemes demonstrate regionally tailored approaches to accelerating adoption. This study further explores the challenges associated with demand response strategies and smart grid innovations; we assess how India can leverage digitalization and decentralized energy generation to create a more resilient and adaptive infrastructure. Using the Net Present Value method assessment is carried out on the economic viability of charging infrastructure investments India's rapid urbanization and growing energy demand, requires strategic planning for electricity capacity investments and EV deployment. This study will play a vital role in shaping clean energy future.

Title: Industrial Patterns of Job Creation in India – Emerging Evidence from Business Responsibility and Sustainability Reporting

Author: Mohammed Wakif Amin Hussain (BITS Law School, Mumbai)

ABSTRACT

Purpose

Although India has made notable progress in development over the past, inequalities – be it between states, or between rural and urban areas – still persist. (Joumard et al., 2017) These inequalities are multidimensional in nature, and have arisen over time, through a complex set of cultural, demographic, economic, historical, political, and social factors.

What is interesting in the recent past is the growing realization that businesses can play an active role in addressing societal inequalities. (Chelawat & Trivedi, 2016) This shift in thinking of businesses as responsible citizens has resulted in corporate policies that seek to incorporate ESG (Environment, Social and Governance) principles in business.

Lately in India, Business Responsibility and Sustainability Reporting (BRSR) was introduced to capture how companies contribute to the environment, society, and good governance through their actions. Corporates in fact contribute to economies through various ways – one of them being gainful employment – which is the focal point of this study. (Nayyar, 2014)

Considering spatial inequalities and challenges of employment in India, the purpose of this study is to evaluate how top Indian public companies allocate their wage spendings between rural, semi-urban, urban, and metropolitan areas. And, whether statistically significant industrial patterns emerge in these allocations? For this analysis, data from BRSRs are used.

Methodology

The fundamental questions answered in this study are:

1) Are there industries which tend to contribute relatively more in each of rural, semi-urban, urban, and metropolitan regions through wages? 2) If yes, which are those industries in each of those regions?

The scope is limited to companies in the NIFTY 500 index, which represents about 92% of the free float market capitalization of the stocks listed on National Stock Exchange (NSE) in India. Statistical analysis was performed on 427 companies, across 21 industries, and was done in a Jupyter Notebook, with Python 3 programming language, using libraries like pandas, seaborn, matplotlib, statsmodels, and scipy.

The analysis adopts a quantitative approach with null-hypothesis significance testing. It can be replicated with new data from BRSRs in future, so that longitudinal patterns of wage distribution across industry and geography can be identified. Initially, four sets of hypotheses were tested with Kruskal-Wallis H test. This non-parametric test was adopted as the data did not meet assumptions of normality and homogeneity of

variances (identified through Q–Q plots).

After that, Dunn-Bonferroni post-hoc test was conducted to identify the industries which spend statistically significant on wages with each of rural, semi-urban, urban and metropolitan areas. Within each pair, as identified through the post-hoc test, the industry which has a tendency to spend more on the region under consideration was picked out, using sorted median values of each industry in each region.

Findings

As per the Kruskal-Wallis H test results, the greatest differences among industry medians were observed in the cases of metropolitan and rural areas. At least one industry was different from the rest, in each and every region, in terms of median wages. This was true with significance levels (alpha) of 0.10, 0.05, and 0.01.

By comparing industry pairs from Dunn-Bonferroni post-hoc test with sorted medians, the following industries were found to significantly contribute through wages, in the respective regions:

1. In Rural: Automobile and Auto Components, Capital Goods, Chemicals, Construction Materials, Fast Moving Consumer Goods, Metals & Mining, and Power; 2. In Semi-urban: Automobile and Auto Components, Capital Goods, Chemicals, Consumer Durables, Fast Moving Consumer Goods, Financial Services, and Oil Gas & Consumable Fuels; 3. In Urban: Automobile and Auto Components, and Consumer Durables; and 4. In Metropolitan: Information Technology, Consumer Services, Financial Services, and Telecommunication.

Upon comparing across four regions, the Metals & Mining industry was found to have a distinctive rural bias. Whereas, Information Technology, Consumer Services, Financial Services, and Telecommunication industries, a metropolitan one.

Discussion points

The findings are broadly in line with previous literature on industrial geography – such as on dependence of rural industries on natural capital (Wiggins & Proctor, 2001), limited rural non-farm diversification in India (Mukherjee & Zhang, 2007), concentration of services industry in high-density clusters (Desmet et al., 2012), and locational decision-making by entrepreneurs (Vaillant et al., 2011).

The case of the present industrial landscape in India, and how it connects with this study, is presented. For instance, observation from Lall and Chakravorty (2005) that the new private industrial investments in India are generally biased toward existing industrial and coastal districts. And, findings from Ghani et al. (2012) that manufacturing plants in the formal sector are moving away from urban and into rural locations, whereas in the informal sector, they are moving from rural to urban locations.

Policy implications of this study relate to complexities of balanced regional employment generation, and in effect economic development. More particularly, nuances in the context of benefits of urban agglomerations (Tripathi, 2013; Spencer et al., 2009), realities of Industry 4.0 (Mehta & Awasthi, 2019), and job creation in natural resource abundant locations, while being mindful of climate policies (Godinho, 2022), are foregrounded.

Towards the end, the limitations of being a descriptive study, and inadequacy of data sources, are highlighted. Future research recommendations are for identifying trends and patterns over time, perhaps within specific industries; corroborating with primary data; and controlling for influencing variables. In the light of BRSR requirements, it is also suggested to see how managers and shareholders think about job creation across geographies of India.

Title: From CSR to System Change: Building Sustainable Autism Care Models in Indian Hospitals

Author: Shaoli Dutta (Desun Hospitals, Kolkata)

ABSTRACT

This case study examines how Corporate Social Responsibility (CSR) in Indian healthcare can shift from short-term outreach to embedded institutional practice. Focusing on a tertiary hospital in Eastern India, it explores the integration of autism care into paediatric workflows, staffing models and hospital operations. Using a qualitative case study approach, it identifies key adaptations in referral systems, physical space, staffing and monitoring. The study also surfaces strategic tensions between clinical efficiency and inclusive repetition, formal hierarchies and frontline authority and internal innovation versus external misalignment. Findings suggest that sustainable inclusion requires not only intent but redesign, recognizing relational labour, redistributing authority and embedding inclusion as a repeatable function. This paper contributes to strategic CSR discourse by offering a replicable model of sustainability-oriented institutional transformation in low-resource health systems.

Title: Adani Ports and Special Economic Zone continues to grow its sustainability stature in a digital transformative way

Author: Rahul Agarwal (Adani Ports and Special Economic Zone Limited)

ABSTRACT

“Adani Ports and Special Economic Zone Limited (APSEZ), India’s largest integrated transport utility with a strong sustainability profile.” - Committed to achieving net-zero by 2040 by deploying 1,000 MW of renewable energy (200 MW solar, 52 MW wind, 25 MW hybrid already operational). - Operating a fleet of 400 electric internal transfer vehicles, with recent additions of electric reach stackers and empty container handlers. - Relative to the base year (2016), APSEZ achieved 62% water intensity reduction and 53% energy intensity reduction in FY25. - Implemented 100% zero-waste-to-landfill across 12 ports. - Afforested and conserved 7,000+ Ha of mangroves and land offering enhanced carbon sequestration, in line with No Net Deforestation target by 2050. APSEZ’s sustainability progress is reflective of its ratings: - CDP: Attained ‘Leadership’ band rating in both climate change and water security assessments. - S&P Global: Only Indian company ranked within Top-10 of the Corporate Sustainability Assessment index within the Transport & Transport Infrastructure industry. - Sustainalytics: Received ‘Low’ ESG risk rating of 13.7. - ISS: Received ‘Prime’ status making equity and bond instruments eligible for responsible investments. “APSEZ’s complex structure and nuanced operations across ports, logistics, and SEZ infrastructure led to the need for a digitised platform.” Standing at $4 billion revenue (FY25), APSEZ specialises in retail, industrial, container, bulk, liquids, auto, and grain logistics: - with operations pan-India and select international presence across 80+ locations and 85+ sites, - handling 450 MMT of cargo volume and 100+ commodities across 19 ports globally in FY25, and - operating multiple rolling & physical assets – 132 rakes (cargo handled through 100+ routes), 690 kms private rail tracks, 3.1 million sq. ft. warehouses, 12 logistics parks, 1.2 MMT capacity agri-silos, owned & managed fleet of 25,000+ trucks in FY26. This complex chain of networks led to challenges in ESG data collection and processing. Recognising the need for a scalable, resilient, and transparent digital backbone, the company initiated an enterprise-wide plan to digitise its sustainability data – adopting a customisable ESG digitisation platform capable of accommodating firm’s operational diversity and vast reporting obligations. This was not

a plug-and-play deployment; instead, APSEZ built a tailored application architecture from the ground up, designed to suit its varied operational nuances, from port facilities to SEZs, capturing diverse data points – above-water and underwater noise data, ambient air quality data, multiple fuel energy sources, etc.

"This transformation journey brought in its own set of challenges." 1. Designing a complex digitised ecosystem to incorporate these multiple nuances had significant barriers: - Incorporating ~100 ESG KPIs across Environment pillar (GHG & non-GHG emissions; energy management; waste & water management; biodiversity initiatives; environmental compliances), Social pillar (community & customer relations; employee engagement & remuneration; human capital; human rights; labour unions; health & safety; diversity & inclusion), Governance pillar (data breaches; complaints received, pending, resolved in IT/cybersecurity), Supplier management, and Operational metrics - Benchmarking KPIs against current and evolving requirements (GHG Protocol, UN SDG, UNGC, TCFD, TNFD, ISSB, NGRBC, CDP) - Mapping site-specific KPIs to ensure all relevant data fields are covered (Gujarat-based site team generated PNG data; Tanzania team gathered kerosene data) - Aggregating data at different time frequencies (social and governance-level data came in annually; environmental data is fed monthly or quarterly) - Inconsistent units of measurement across unstructured and unverified data - Initial data input errors due to lack of documentation proof, historical data backups, and version control issues - Conducting internal UI testing to identify difficulties and parallel runs for data alignment - To make the interface user-friendly for data entry and validation - Automating data extraction process – making data extraction compatible with source files Once the data extraction piece was streamlined, APSEZ started to migrate data and onboard over 100 SPOCs across 80+ locations into the platform. 2. Internal resistance from SPOCs due to their familiarity with legacy MS-Excel tools hampered organisation's platform rollout phase. To break this barrier, - initiated firm-wide training programs, both virtual and in-person - internal trainer pool of 15-20 to ensure continuous handholding - 500+ dedicated training hours - created training materials including video tutorials, 50-page step-by-step guidance document 3. Extensive effort to design complex customised reporting system leveraging company's Data Analytics team - to automatically meet the requirements of ESG ratings firms, internal MIS, and decarbonisation plan monitoring - to make internal auditing more efficient. "However, results have been very tangible." - ~85,000 data points captured annually on the platform - Halved data collection effort by centralised sustainability team - Real-time variance detection reduced error rate by 40% - 50% cut in reporting cycle time - Version-control and data quality issues reduced by 60% - Customised reporting fulfilment supports the firm's decarbonisation plan in a much faster way - Internal sustainability initiatives that support decarbonisation plan became efficient. This transformation reaffirms that in a diversified and dynamic enterprise like APSEZ, digitisation is not merely an upgrade; it is a foundational enabler for responsible growth.

Title: Female CEO and capital structure of Indian firms: Are queens outperforming the kings?

Authors: Aastha Mittal (IIT Delhi) and Prof. Shveta Singh (IIT Delhi)

ABSTRACT

Background and Motivation: The significance of gender diversity in corporate leadership has become a prominent focus in financial and sustainability research, especially as we move closer to the year 2030, marked as the deadline to achieve United Nations Sustainable Goal 5 (UN SDG). The UN asserts that the success of each SDG is dependent upon SDG 5. Although legal and policy initiatives root for women's representation in Indian boardrooms, empirical insights into the influence of female top echelons on fundamental financial management decisions—specifically capital structure decisions and consequently, company accounting performance, are rather scant. Thence, in a novel approach, this study examines the moderating role of female Chief Executive Officers (CEO) on the relationship of leverage and operating performance of Indian listed firms in a holistic manner. The study also deciphers the impact of female CEO on capital structure, agency costs and overall interest burden. According to recent NSE data, the representation of women in top echelon positions stands below 5% in Indian listed firms , exhibiting dismal state of affairs. Nonetheless, there has been rise in women occupying CEO positions in emerging markets recently (Mittal and Singh,

2024). This gives room to investigate the influence of female top echelons on corporate decision making, business performance and associated agency conflicts.

Theoretical Foundations: The core idea that CEO characteristics determine firm outcomes is grounded in upper echelons theory, propounded by Hambrick and Mason (1984). Recent studies underscore the relevance of CEO attributes in corporate decisions (Duru et al., 2016; Smith et al., 2017; Sheikh, 2022; La Rocca et al., 2023; Taha et al., 2024). Further, the agency theory argues that gender diversity ameliorates corporate governance infrastructure of the company, contributing to efficiency of operations (Jurkus et al., 2011). Acknowledging that leverage is not just a source of financing but a 'binding mechanism' (Jensen & Meckling, 1976; Jensen, 1986), the substitution hypothesis (La Porta et al., 2000) posits that robust internal governance (like gender diversity) reduces reliance on external monitoring through debt. Female CEOs are frequently linked to more conservative financial policies and high ethical standards, thereby serving as internal governance substitutes for discipline of debt. As a result, organizations that are managed by women may choose equity over debt in sync with the goals of the organization.

Methodology and Objectives: Utilizing a sample of non-financial Nifty 500 listed enterprises, the study investigates the moderating role of executive gender on the capital structure decisions and accounting performance of Indian firms over the years spanning between 2013-2022. Capital structure decision is gauged through a ratio of total debt (short and long term) scaled by book value of assets, while Return on Assets (ROA) is the proxy used for capturing operating performance of the firms. CEO gender is a dummy variable taking value 1 if CEO is a female and 0, otherwise. Static models like (Ordinary Least Squares) OLS, Fixed effects (FE), Random effects (RE) and dynamic framework like Systems GMM have been employed to investigate the moderation effects. The data has been sourced from the Bloomberg® and World Bank database.

Results: The static as well as dynamic model findings evince that presence of a female CEO adversely moderates the negative relationship between capital structure and business profitability (Tripathi et al., 2024). An integration of upper echelons and agency theories offers valid justifications (Hambrick and Mason, 1984; Jensen and Meckling, 1976). Female CEOs meliorate the overall governance framework in Indian organizations (Mittal and Singh, 2024), thereby providing managerial oversight at a reduced costs compared to debt. Debt, thence, have limited benefits in women led firms. Put differently, gender diversity substitutes the governance role of debt. In this regard, Sarkar and Sarkar (2005) present a tenuous argument regarding the disciplinary role of debt in Indian Inc. Indian organizations characterized by controlling promoters (or family firms), weak external stakeholders' protection and fragile regulatory environment often employs debt as an expropriation or tunnelling device to squander loan funds. The corporate fiascos surrounding Satyam, Jet Airways, Nirav Modi and very recently Blusmart are evidence of the same. Moreover, Faccio et al. (2016) asserts that firms led by women prefer lower leverage in tune with their risk aversion. Therefore, gender diversity and inclusivity can facilitate the attainment of organizational objectives in closely held organizations operating in emerging markets. It is now time to revisit these established relationships for our sample set to crucially validate the findings. In an additional analysis, the findings document a negative association between presence of female CEO and leverage ratio of Indian Inc., corroborating the risk-aversion hypothesis. Women are more cautious and less likely to take risks, and thus prefer equity over loans (Faccio et al., 2016). Huang et al. (2023) assert that companies with female CEOs aim to maintain favourable debt capacity. This is in sync with the well-established literature (Graham et al., 2013; Huang and Kisgen, 2013; De Silva and Banda, 2022; Siregar et al., 2023). To boot, De Massis et al. (2024) shows that the tendency to female CEOs to avoid debt is augmented in family firms, a peculiar feature of Indian corporate landscape (Young et al., 2008). Furthermore, it is reported that firms led by female executive chiefs have lower interest burden. This has a direct bearing on operating profitability or ROA of the company. Although, interest costs are tax-deductible expense, a high interest burden can seriously deplete the profits of the firm. This is particularly relevant for promoter driven Indian Inc. that have elevated costs of debt due to the premium attached owing to the risks associated with concentrated ownerships and poor external shareholders' protection in emerging economies (Kumar and Pathak, 2025). Regarding the association between female CEO and agency costs (gauged using inverse of asset turnover ratio), the results depict an inverse relationship, substantiating the agency theory (Jensen, 1986; Jurkus, 2010; Amin et al., 2021). On average, female CEOs have around 28% lower agency costs than their male counterparts. Reduced leverage and consequently, lower interest burden blended with improved asset efficiencies, contribute to favourable profitability numbers.

Policy Implications: The study has immediate implications for UN SDG 5, which advances inclusion of women in the corporate arena by ensuring their full and effective participation in leadership roles. This study offers economic and financial justification for promoting gender diversity, even though the presence of women in

top management is frequently viewed from an ethical or 'tokenist' lens. Highlighting the prudency of female CEOs in financial decisions and associated agency benefits, the study makes a business case for gender-inclusive senior leadership. Managers and investors who are interested in value creation for stakeholders may discover that female leadership serves as a catalyst for both sustainability and governance.

Title: Coordination Under Constraints in A Pro-Social Supply Chain – The Case Of Deceased Donation Program in India

Authors: Satyajit Roy (Indian Institute of Management Bangalore) and Haritha Saranga (Indian Institute of Management Bangalore)

ABSTRACT

Introduction: Traditional operations management (OM) research in areas like inventory and supply chain management (SCM) is reaching saturation, necessitating a shift toward impactful, society-focused research (Lee & Tang, 2018). Conventional SCM often overlooks challenges in less developed markets of low- and middle-income countries (LMICs) (Sodhi & Tang, 2016; Eftekhar et al., 2025). This qualitative study examines coordination in pro-social supply chains under constraints, using India's cadaveric organ donation program as a case study. Following Lee & Tang (2018)'s framework, the objective is of "Doing good" in the context of a developing economy (i.e., India) and encompassing multiple stakeholders such as public and private healthcare providers, the government or administrative body, and the society at large. Drawing analogy from the case, we explore how pro-social supply chains can develop coordination mechanisms that can operate effectively under constraints. The cadaveric organ donation program in India exemplifies these challenges. Organ transplantation is a critical treatment for end-stage organ failure, yet scarcity of donated organs and socio-economic barriers limit access in developing countries (Brasile et al., 2001;Schlich, 2010). Inefficient coordination has resulted in limited donor supply, organ wastage or life-threatening risks for recipients due to quality deterioration (Jing et al., 2018). This study investigates these challenges, offering evidence-based recommendations to improve donation rates and organ quality. Alongside, we offer a theoretical framework of effective coordination mechanisms in a unique social development program which is primarily dependent on two sets of profit-oriented organizations and moderated by a welfare-oriented public administrative body in a developing economy. This framework is particularly relevant for mission-driven programs in developing economies, where profit-oriented organizations interact under the moderation of welfare-oriented public bodies. Methodology and Data: This study adopts an inductive theory-building approach to examine deceased organ donation across seven Indian states. Given the limited management literature specific to India's deceased donation context, a 2-day conclave was organized to gain insights into the end-to-end supply chain and establish a foundational understanding. Primary data collection involved multiple rounds of interviews with 27 key stakeholders, including doctors, transplant coordinators, administrative officials, and representatives from non-profit organizations. This was supplemented with secondary data sources such as newspaper articles, newsletters, administrative records, and multiple unscheduled or spontaneous conversations, providing a comprehensive perspective on the subject. For analysis and synthesis of our findings, we adopted the grounded theory through data structure approach outlined in Gioia et al. (2013) and Gioia (2021), providing utmost importance to the informant's experience and then by looking at the same from a theoretical lens. Results and Managerial Insights: In any demand-supply scenario, maximizing the use of available resources becomes critical, especially when demand far exceeds supply. In a country like India, where the organ donation rate is less than 1 per million population (pmp) despite high demand, it is essential to fully utilize the potential of every consented donor. Unfortunately, this often doesn't happen, as only a few organs are retrieved and transplanted from donors who could provide 7–8 organs if properly maintained. This study first investigates the system- and process-level challenges hindering the growth of the donation program across multiple Indian states, highlighting how some states have excelled in specific aspects despite facing similar obstacles. Building on these insights, we draw from supply chain coordination theory to propose a comprehensive framework for achieving effective coordination within a prosocial supply chain. Our study explores the system- and process-level attributes of both inter- and intra-organizational coordination in matching supply with demand, particularly in situations where demand far exceeds supply and actors operate in resource-constrained environments. Within a "system of systems" (Davies & Mackenzie, 2014), achieving seamless coordination – especially for time-sensitive operations – is complex and requires

meticulous planning and execution across multiple levels. We examined how actors, while acknowledging these constraints, can adapt processes to enhance coordination and collaboration toward a shared objective. Our findings suggest that, in certain cases, informal workarounds may prove more effective than rigid structures. Given that the propositional approach to theorizing falls short in fully addressing the needs of the supply chain management (SCM) field –leaving significant inferential and conceptual gaps (Cornelissen et al., 2024) – we propose a concluding model (Figure 1). This model emerges from the interplay of various dimensions identified through first- and second-order thematic analysis. We identify three key dimensions that hinder the program's success: process and system-level constraints, input constraints, and effort-reward imbalance. The organ transplantation supply chain relies on the seamless coordination of multiple living and non-living actors across the value chain, from donor identification to organ transplantation. However, achieving effective coordination and realizing the full potential of the program is challenging unless all actors share a common vision. These challenges are further exacerbated by the heavy patient load in public hospitals, along with shortages of essential resources, including medical staff, ICU beds, and consumables. Due to these constraints, hospitals often deprioritize deceased donation opportunities. As one doctor put it, “We don’t have time and resources for patients who can be saved – how can we justify spending time and effort on a patient who is about to die or is already dead?” This perspective overlooks the larger impact: a well-maintained brain-dead patient has the potential to save up to eight critically ill patients, thereby alleviating pressure on the healthcare system. The lack of both incentives ("no carrot") and accountability ("no stick"), combined with limited technology adoption, further weakens coordination efforts. Misaligned incentives among stakeholders and the absence of clear accountability lead to inaction, with the complexity of manual coordination often cited as an excuse. Recognizing that structural policy changes are often slow and uncertain, we focus on evidence-based recommendations to navigate existing constraints. A shared vision across the value chain emerges as a critical prerequisite for improving coordination and making the system more effective. When faced with resource constraints, individually motivated professionals adopt a social entrepreneurial mindset, leveraging creativity to build unique resource environments and pursue opportunistic collaborations. A "factory-within-a-factory" approach within large organizations has proven effective in managing supply chain coordination without disrupting mainstream operations. In the absence of dedicated capacity, informally established units and shared workspaces – created by pooling available resources – have yielded significant results. To overcome process constraints, such as expediting approvals, social capital often proves to be the most effective tool. In such cases, the traditional "nexus-of-contracts" perspective shifts toward a "team" perspective (Whang, 1995), where trust within well-connected social networks plays a critical role (Galaskiewicz, 2011). Trust enables actors to extend their efforts beyond routine responsibilities and organizational boundaries, fostering collaboration. Unlike input and process constraints, output constraints can have a positive impact, as they drive greater engagement and encourage better coordination among actors. Reinforcing output constraints through accountability measures and reward mechanisms ensures that stakeholders remain motivated – not only to fulfill their responsibilities but also to engage proactively with others. Positive reinforcement, such as public recognition and media attention, alongside negative reinforcement, including regular oversight and political pressure, serves as a continuous motivator. This approach becomes even more effective when supported by advanced technology and streamlined administrative processes to ensure smooth checks and balances, minimizing bureaucratic bottlenecks.

Title: Analyzing the Influence of Board Gender Diversity on Firm Performance – A Sectoral analysis of Women-Led Manufacturing Firms in India

Authors: Kamali Gangadharan (Department of Humanities and Social Sciences, National Institute of Technology, Tiruchirappalli) and Murugesan Ramasamy (Department of Humanities and Social Sciences, National Institute of Technology, Tiruchirappalli)

ABSTRACT

Analyzing the Influence of Board Gender Diversity on Firm Performance – A Sectoral analysis of Women-Led Manufacturing Firms in India Introduction In recent years, the diversity of corporate boards has gained increased attention, with particular emphasis being made on the representation of women in leadership roles. As firms strive to enhance their competitiveness in the business environment, understanding the economic and strategic value of diverse boards has become a critical area of research. (Jayaraman et al., 2025). Recent studies show that women-led firms have increased in numbers in the last decade and about 36% of firms are led by women across the globe (Loan et al., 2023). Despite the growing importance of women-led firms, a significant research gap persists in comprehensively analyzing how gender diversity influences firm performance. Although a large body of literature on BGD and firm performance exists, the influence of BGD in sectors undergoing structural transformation and technological change is underexplored. This study addresses these gaps by focusing on women-led firms across seven different manufacturing sub-sectors namely Chemicals, Food and Agriculture, Machine, Metals, Miscellaneous, Pharmaceuticals and Transport and analyses the influence of BGD on firm performance. As emphasized by the Upper Echelon Theory (UET), diverse boards are often associated with improved firm performance (Bel-Oms et al., 2024). Similarly, Stakeholder theory posits that companies that prioritize financial metrics factors demonstrate a commitment to profitability, revenue generation, and shareholders interest (Esposito et al., 2025). The Resource Based View theory (RBV) highlights that efficient management of resources is highly associated with the performance of the firm (Li and Tian, 2023). Drawing on the lens of these theories, this research incorporates the following variables for analysis – 1) BGD, 2) TFP, 3) ROC and 4) PBIT. This study contributes to literature by - a sector specific analysis on the influence of BGD on firm performance and a focused analysis on performance dynamics of women-led firms. The key limitation identified is the lack of comprehensive data, underscoring the need for future research to explore additional factors and methodologies. Methodology A panel data comprising of 421 firms with women CEOs and directors has been chosen for this study. The data collected spans from 2015 to 2024 and is amassed from the Centre for Monitoring Indian Economy (CMIE) database. The Cobb-Douglas (C-D) production function proposed by P.H. Douglas and C. W. Cobb has been widely used in the measurement of TFP and the role of various input factors in its growth. To better capture the production realities of the manufacturing firms, in this study, the basic C-D model is extended to include additional input variables namely, Energy (E) and Materials (M) along with the traditional inputs Labour (L) and Capital (C). This study employs four regression models – Pooled Ordinary Least Squares (POLS), Fixed Effects (FE), Random Effects (RE) and System Generalized Method of Moments (GMM) to estimate the influence of BGD, Age and Size on the firm performance indicators TFP, ROC and PBIT. The application of multiple models allows for a rigorous and comprehensive analysis, ensuring the robustness of the findings under varying econometric assumptions. The simultaneous use of all four models ensures a robust and triangulated understanding of the influence of BGD, Age and Size on the firm performance indicators TFP, ROC and PBIT. This multi-model approach allows for comparative interpretation and enhances the empirical validity and robustness of the findings. Results The results of the analysis demonstrate that BGD exhibits a positive influence on firm outcomes, but sectoral variations highlight that industry specific context plays a pivotal role. The negative or insignificant effect is potentially attributed to industry specific resistance, poor inclusivity, governance quality, structural challenges and openness to diversity. The impact of Age is positive underscoring that experience and organizational maturity contribute to improved performance. The effect may be insignificant or negative across sectors reflecting innovation inertia. Size of the firm is the most consistent, positive and significant variable across all the sectors suggesting that larger firms benefit from economies of scale and operational capacity leading to enhanced productivity returns and profitability. Conclusion BGD and firm performance are two important catalysts of corporate governance and economic development and are crucial for evaluating a firm's financial and operational health Thus, the study of the relationship between these variables is inevitable. This study analyses the influence of BGD on firm performance measured by TFP, ROC

and PBIT using four models namely, POLS, FE, RE and GMM across seven manufacturing sub-sectors. The results of the analysis demonstrate a positive influence of BGD on firm performance. Consistent with UET, RBV and Stakeholder theory, gender-diverse boards enhances strategic decision-making and adaptability, leading to improved financial outcomes. However, sectoral variations highlight the pivotal role of industry specific characteristics. The key limitation identified is the lack of comprehensive data, underscoring the need for future research to explore additional factors and methodologies.

Title: Exploring the Role of Hereditary and Acquired Skills in the Socio-Economic Development of the Chenchu Tribal Community: A Grounded Theory Approach

Authors: P Ravi Kiran (Symbiosis Centre for Management Studies, Hyderabad; Symbiosis International (Deemed University), Pune, India), Akriti Chaubey (Symbiosis Institute of Business Management, Pune; Symbiosis International (Deemed University), Pune, India), Madhura Bedarkar (Symbiosis Institute of Business Management, Pune; Symbiosis International (Deemed University), Pune, India), and Abhishek Mishra (Indira Gandhi National Open University (IGNOU), New Delhi, India)

ABSTRACT

The present research explores the influence of inherited and learned skills on the socio-economic progress of the Chenchu tribe, a Particularly Vulnerable Tribal Group (PVTG) in Telangana, India. The research seeks to investigate the role of traditional and newly acquired skills in enhancing the empowerment and socio-economic advancement of the Chenchu community. The study uses Grounded Theory to evaluate qualitative data derived from interviews, participant observations, and document analysis, aiming to comprehend the cultural history of the Chenchus and the transmission of vital abilities throughout generations. Research indicates that hereditary abilities, intricately woven into the tribe's cultural framework, are essential, although learned skills like education and occupational training augment adaptation to socio-economic shifts. Integrating both skill sets is necessary for the tribe's advancement, highlighting the equilibrium between maintaining traditional knowledge and embracing modern capabilities. The research provides actionable insights for policymakers and development practitioners by emphasising the significance of merging ancient wisdom with contemporary education and training. This study offers distinctive perspectives on the socio-economic development of the Chenchu tribe, presenting a paradigm for empowering tribal groups in an increasingly dynamic environment.

Title: Decoding the Green Puzzle: Investigating How Environmental CSR Drives Sustainable-Oriented Behaviour



Authors: Himani Choudhary (Symbiosis Institute of Business Management, Pune, Symbiosis International (Deemed University), Pune, India), Shalini Rastogi (Symbiosis Institute of Business Management, Pune, Symbiosis International (Deemed University), Pune, India), and Deepika Pandita (Symbiosis Institute of Business Management, Pune, Symbiosis International (Deemed University), Pune, India).

ABSTRACT

With the increasing global climate crisis and expectations from stakeholders, environmental corporate social responsibility (ECSR) is being incorporated within both operational and strategic frameworks of organisations. However, the influence of ECSR on the sustainability behaviour of employees remains inconsistent. A crucial factor in this complexity is emotional ambivalence, which is the psychological conflict that employees experience when dealing with green organizational policies (Rothman et al., 2017). The promising construct to fill this gap is green advocacy - verbal encouragement, and defence of the environmental values and initiatives in the workplace (Wu & Chiang, 2023). Green advocacy is a cognitive reappraisal process that reduces emotional conflict and leads to sustainable-oriented behaviours. Individual green value, individually serves as a positive outcome for employee alignment with the sustainability goals of the organization (Mayer & Frantz, 2004). Although previous studies have examined CSR's impact on environmental outcomes, the internal mechanisms through which CSR influences employee behaviour, particularly through emotional ambivalence and advocacy, remain underexplored. (Jilani et al., 2021).

Title: Green Game in Town: Intra-Industry Spillover Effects of Corporate Green Bond Announcements in the US

Authors: Varun Jindal (IIM Bangalore), Sourav Prasad (IIM Bodh Gaya), and Arun Upadhyay (Florida International University, FL)

ABSTRACT

We investigate whether announcements of green bond issuances by firms have any effect on the value of their rivals. Using data on green bond announcements by US firms over the period 2013 – 2024, we find that a positive (negative) stock price reaction to a focal firm's green bond announcement is associated with a positive (negative) stock price reaction for non-announcing firms within the same industry. This suggests the presence of intra-industry contagion effects in response to green bond announcements. Further, this effect is stronger for first-time issues, relatively large issues, and issues announced by industry leaders. Our results remain robust to alternative explanations and a battery of checks.

Title: Strategic Inventory Planning for Low-Carbon Manufacturing: A Comparative Analysis of Carbon Tax and Cap-and-Trade Policies

Authors: Prachi Narayan (Indian Institute of Technology Kanpur) and Prerna Gautam (Indian Institute of Technology Kanpur)

ABSTRACT

In the face of escalating climate change and environmental degradation, sustainable manufacturing has become imperative, particularly in high-emission sectors like textiles. This study develops a comprehensive production-inventory model that incorporates both green and conventional products within regulatory frameworks such as carbon taxation and cap-and-trade. By integrating economic, behavioral, and environmental factors—including consumer sensitivity to price, advertising, and product greenness—the model enables strategic optimization of production run time, pricing, advertising, and green investments. To solve the non-linear, non-convex model, the study employs Quantum-behaved Particle Swarm Optimization (QPSO), validated through Differential Evolution (DE). Results indicate that cap-and-trade yields superior profitability due to its emission trading flexibility, while green strategies such as targeted advertising and consumer substitution enhance overall outcomes. The findings provide actionable insights for manufacturers and policymakers seeking to align environmental goals with competitive business strategies. This research advances sustainable operations modeling and offers a practical framework for low-carbon inventory planning under evolving environmental regulations.

Title: Mapping the Intellectual Landscape of CSR and ESG: A Bibliometric and Thematic Network Analysis of Scholarly Convergence

Authors: Vinita Ramchandani (IPS Academy, Institute of Business Management and Research, Indore, M.P.), Pallabi Mukherjee (IPS Academy, Institute of Business Management and Research, Indore, M.P.), Vivek S. Kushwaha (IPS Academy, Institute of Business Management and Research, Indore, M.P.), and Ankita Sharma (IPS Academy, Institute of Business Management and Research, Indore, M.P.)

ABSTRACT

This paper offers a bibliometric perspective on how CSR and ESG have been studied together within scholarly literature. Drawing from the database provided by Scopus, the analysis was conducted using Bibliometrix and its interactive platform Biblioshiny in RStudio. The goal was to trace patterns in publication activity, author influence, and key thematic developments. Findings show that CSR continues to be a central focus, often aligned with terms such as ESG performance, sustainability, and governance. Scholars like Wang J., Li Y., and Zhang Y. are notable for their important contributions. Thought leaders like Margolis, Walsh, and Freeman continue to be frequently cited for their foundational works. This study provides guidance for future research in sustainable business and illuminates new areas of interest, such as green innovation and ESG metrics.

Title: Corporate Goodness and Dividend Policy

Authors: Kritish Sharma (Indian Institute of Technology Bombay), and Prof. S.V.D. Nageswara Rao (Indian Institute of Technology Bombay)

ABSTRACT

We tested the association between corporate goodness and dividend policy. Using Hackman's sample selection estimation on 397 non-financial Indian firms, we found that the corporate goodness decisions strongly impact a firm's dividend policy. First, the environment and social dimensions are positively associated with the dividend payouts; however, they do not impact the likelihood of dividend payment. Second, the governance dimension is not associated with dividend payouts, while being negatively linked to the likelihood of paying dividends. Third, there is reverse causality between corporate goodness and dividend policy. Fourth, corporate goodness is associated with initiation, cessation, increases, and decreases in dividends. Our results position the dividend policy as a tool for managerial oversight and reducing agency conflicts.

Title: Inclusive Microinsurance Policy Design: Empirical Insights from Life Insurance Corporation of India (LIC)

Authors: Ayushi Rai (Indian Institute of Technology, Bombay), and Prof. Varadraj Bapat (Indian Institute of Technology, Bombay)

ABSTRACT

1. Introduction

Microinsurance is a crucial means of providing financial protection to the bottom of the pyramid population, especially in developing economies like India (Biener and Eling, 2012). Life microinsurance addresses the needs of this segment, featuring affordable premiums, modest benefits, and simplified documentation processes (Churchill, 2007). While it aims to promote financial inclusion, field-level data shows conflicting pricing structures compared to traditional insurance pricing methods. A significant sample of LIC low-valued policies indicates that total premiums often exceed the sum assured over time. This highlights the need to consider the pricing strategies employed, consumer behaviour, and policy design. This research builds on previous theoretical and empirical work to explore the inconsistencies in microinsurance using customer-level data from the LIC office, Shahganj, Uttar Pradesh.

2. Research Objectives

The study outlines the following key objectives:

• To examine the effect of socio-demographic factors on premium pricing among the LIC's microinsurance policyholders. • To analyse the reasons for the total premium exceeding the sum assured and to understand the implications of such price structures. • To understand the role played by specific policy design elements in the overall pricing structure.

3. Methodology

This study's empirical analysis is based on a primary dataset comprising 240 LIC's microinsurance policyholders from 2021 to 2024 in the Shahganj region of UP. The dataset includes socio-demographic variables such as family size, number of children, age, sex, income, and others, along with the sum assured, premium amount, mode of premium payment, and premium payment term. We used STATA software to perform descriptive statistics and data visualisations, including bar charts, boxplots, and quantile graphs. Additionally, we conducted a test for differences in means and performed ANOVA; there is a significant difference in the mean values of our variables between the top half and bottom half of the sum assured values. Our empirical findings are based on linear regression analysis.

4. Results

From the difference in mean test, we found out that there is a significant difference in the mean values of the sum assured based on the premium amount, education, occupation, and gender. While there exists a positive association between premium and the sum assured, the premium was higher as compared to the sum assured for several low-income and less educated policyholders. As explained by Borch (1985), through the theory of expected utility, this increase in premium in comparison to the sum assured is due to risk aversion behaviour of policyholders, variance loading due to uncertainty of claims, and administrative costs inherent in low-valued insurance products. Education and occupation depict a direct influence on sum assured, where policyholders with secondary education and those employed in formal and semi-formal occupations showed a higher inclination towards better valued policies. This aligns with the studies of Browne and Kim (1993) and Bongini et al (2023), who showed that education is essential for insurance awareness and rational decision making. Additionally, female policyholders opted for policies with higher sum assured than male policyholders, which is consistent with the study of Lin and Grace (2007), potentially reflecting their long-term financial planning and a higher risk aversion.

5. Discussions

The results emphasise the need to reassess the pricing structures in microinsurance markets (Bongini et al., 2023). The presence of about 35% of policies with higher premiums than the sum assured indicates that the pricing structure is not solely determined by actuarial expectations but also influenced by the socio-demographic factors of policyholders, who opt for higher premiums in exchange for certainty of coverage (Borch, 1985). Additionally, the emergence of education and occupation as significant drivers of informed insurance decisions highlights the importance of financial literacy and financial security in guiding policyholders to select value-driven policies. This is supported by Kiwanuka and Sibindi's (2023) similar findings within the African microinsurance market. Furthermore, gender-based differences regarding the sum assured reveal distinct behavioural traits, with women exhibiting greater risk sensitivity and long-term financial planning (Lin and Grace, 2007).

6. Conclusions

This study offers valuable insights into inclusive microinsurance by understanding the role of various socio-demographic characteristics of the policyholders on the pricing structure from the Shahjang, UP. The findings demonstrate that education, occupation, and gender-based differences play a significant role in evaluating the premium selection and the assessment of coverage concerning financial expectations. Higher premium payment reflects the risk-averse behaviour of the policyholders that needs to be considered while designing microinsurance products. To ensure the sustainability of microinsurance plans for low-income households, the focus should be on financial literacy initiatives and the adoption of inclusive pricing strategies that account for their economic constraints and behavioural preferences (Sane and Thomas, 2019). Wage and income inequality, as well as the gaps in social protection schemes, are the key dimensions of the future of work, reinforcing the need to provide equitable insurance solutions (Santana and Cobo, 2020).

Title: Internationalisation through equity modes and its impact on domestic ESG performance: Evidence from India

Authors: Parth Sharma (IIT Bombay) and S.V.D. Nageswara Rao (IIT Bombay)

ABSTRACT

A rise in internationalisation through high commitment modes like outward foreign direct investment (OFDI) from emerging economies is a pertinent issue with global significance, yet understudied. With the outflow of money from an emerging economy to other host countries, coupled with liability of foreignness, it is important to analyse if it results in responsible business operations at home. Accordingly, this study analyses the impact of OFDI from India on domestic ESG performance, and how that relationship is moderated by home market competition. Backed by legitimacy theory, a positive impact of OFDI on domestic ESG performance is found and market competition is found to negatively moderate this relationship. The moderating role of market competition is supported by the theoretical tenets of "the quite life" hypothesis. Our study has implications for policymakers and investors. If the firms investing through OFDI improve their domestic ESG performance, which can act as a signal for future firm performance. In addition, other firms from the industry may also try to replicate the same, improving overall industry's ESG performance.

Title: Operationalizing the National Guidelines for Responsible Business Conduct: A Responsible Leadership Perspective

Authors: Chetana Koulagi (Indian Institute of Management, Kozhikode) and Priya Nair Rajeev (Indian Institute of Management, Kozhikode)

ABSTRACT

India's regulatory framework includes the National Guidelines for Responsible Business Conduct (NGRBC), which outline nine principles for responsible business conduct in India. While these guidelines outline what needs to be done, there is a gap in understanding who and how it is done, and what kind of leadership enables it. This paper explores whether existing conceptualizations of Responsible Leadership (RL) align with the expectations of the NGRBC and whether RL can meaningfully support its implementation. Using thematic analysis, the study conducts a conceptual mapping of RL definitions from academic literature to the NGRBC principles. The results indicate that the conceptualization of RL in literature is strongly stakeholder, ethics, and development oriented, but the other critical dimensions such as human rights, environmental protection, and responsible policy advocacy are underrepresented. Further, most definitions emphasize 'doing good' while leaving the perspective of 'avoiding harm'. In response to these gaps, this paper proposes a RL definition in the Indian regulatory context. Further it advances three theoretical propositions, highlighting the enabling role of RL in operationalizing the NGRBC, managing stakeholder tensions, and navigating leadership paradoxes. The insights contribute to theory building, inform leadership development efforts, and support policy design and implementation.

Title: Innovation, Global Competition, and Environmental Orientation: Insights from the Attention-Based View

Authors: Punyashlok Dwibedy (Indian Institute of Management Indore) and Sumit Chakraborty (Indian Institute of Management Indore)

ABSTRACT

Using the World Bank Enterprise Surveys from 2018 to 2020, the study looks at the environmental orientation of firms across multiple countries. The paper examines the relationship among environmental orientation, firm innovation, and competition in international versus domestic markets, utilising the situated attention concept derived from the Attention-Based View (ABV). The study argues that, more so than domestic competition, international market competition enhances environmental orientation (H1) since firms functioning in global markets give environmental responsibilities high priority to maintain their legitimacy and reputation. The study further considers how firm innovation (H2) moderates this relationship. The paper argues that innovative firms may show less environmental orientation than non-innovative firms in foreign markets compared to domestic markets. In the face of international competition, firms lacking innovation may utilise environmental orientation to achieve differentiation. The study shows how international and domestic markets especially affect the environmental strategies of both innovative and non-innovative firms and challenges the presumptions about the part innovation plays in environmental orientation in global markets. The results open fresh directions for next studies on global corporate environmental policies.

Title: Evaluating the Cost of Sustainable Production (COSP) for Fairtrade-Certified Rice Varieties in India

Authors: Gideon Balasingam (Fairtrade NAPP), Shobana S (Fairtrade NAPP), Deepthi Krishnan (Fairtrade NAPP), Rebecca Anns (Fairtrade NAPP), and Adazia Ophrii (Fairtrade NAPP)

ABSTRACT

India, the world's second-largest rice producer, cultivated rice over approximately 44 million hectares in 2020, yielding 121.6 million metric tons with an average productivity of 2.8 metric tons per hectare. Basmati rice, a premium variety and significant export commodity, accounted for 4.6 million metric tons of exports in 2019-2020, primarily to markets such as Saudi Arabia, the United Kingdom, Kuwait, and the United Arab Emirates. However, challenges such as high pesticide residue levels, notably Tricyclazole, have restricted exports, particularly to the European Union, necessitating sustainable production practices that comply with stringent international standards. Fairtrade certification addresses these challenges by ensuring fair prices, decent working conditions, local sustainability, and improved terms of trade, thereby empowering marginalized producers and fostering equitable global trade relationships. The primary goal of this research is to identify the cost structure at several stages of rice production—land preparation, sowing, cultivation, harvesting, and post-harvesting processes—in order to estimate the farm gate costs that underpin the Fairtrade Minimum Price (FMP). The FMP acts as a floor price, shielding farmers from market volatility while covering the average costs of sustainable production and ensuring access to viable markets. The Fairtrade Premium offers additional income that producers can distribute for community development projects, including enhancements in agricultural techniques, education, or healthcare services. The research examines the incorporation of additional rice varieties into the Fairtrade certification framework to broaden market prospects and strengthen economic resilience for certified producers. Additionally, it aims to encompass examining the COSP-FMP disparity, assessing the socio-economic advantages of Fairtrade certification, and developing a compendium to inform marketing and policy initiatives. The study focusses on four Indian

states - Jammu, Haryana, Uttarakhand, and Uttar Pradesh where Fairtrade aids 17 producer organisations, benefiting more than 153,000 certified farmers. A combination of both quantitative and qualitative approach is used in the methodology. The primary data were collected from growers who were certified. The focus was on Basmati rice because of its relevance in Fairtrade markets. A representative sample of the 153,000 certified producers was questioned, and the profiles of those who responded are presented. Three hundred and twenty surveys were carried out amongst the four districts. A total of twelve Key Informant Interviews (KIIs) were carried out with various stakeholders, certified producer organisations, intermediaries, and external organisations. These interviews were conducted to gain operational details of FMP and administration of premiums paid by fairtrade certified producers. When conducting interviews with key informants, stringent criteria were followed. These criteria included ensuring that at least fifty percent of respondents were either small-scale farmers or representatives of producer firms, thirty percent were women, and twenty-five percent were involved in marketing. The research findings highlight that there are significant differences in outputs and expenses between regions. However, in comparison to Jammu, Haridwar has a higher cost per metric tonne due to factors such as manpower, input, and agroclimatic conditions. This is even though Haridwar has a relatively greater production rate. The use of biofertilizers and the requirements for organic certification are the primary factors that contribute to the higher costs connected with organic Basmati, which is typically associated with Fairtrade production. One of the most important findings is the difference between COSP and FMP for organic Basmati in the year 2021. In certain districts, the COSP is higher than the FMP, which suggests that the current FMP may not properly incorporate the costs of sustainable manufacturing, hence putting the economic existence of firms in jeopardy. This inequality is addressed by the Fairtrade Premium, which provides funding for community projects such as improvements to farming practices, health centres, and educational institutions we see illustrations of the factors that determine costs, which include labour, seeds, and irrigation. The study also identifies potential new rice varieties for Fairtrade certification, which could diversify income streams for producers. The results highlight the necessity for adaptive FMP modifications to account for increasing COSP, especially for organic cultivators. Regional cost disparities indicate the necessity for district-specific pricing mechanisms to guarantee equity. The Fairtrade Premium is crucial for resolving gaps in COSP-FMP, although its distribution necessitates enhanced transparency and greater participation from producers. Improving the capacity of producer organisations to implement sustainable techniques, such as biofertilizers, may reduce costs while upholding certification standards. It is recommended that future research include non-Basmati varieties as well as longitudinal studies to evaluate the impacts of certification over the long run. It is possible that market prospects may be improved by collaborations with export-oriented organisations like APEDA, which would result in an increase in revenues for producers. This compendium serves as an important resource for Fairtrade stakeholders, allowing them to improve their strategies for advertising and advocate for policy reforms that put producer welfare at the forefront of their priorities. This study provides a comprehensive analysis of the COSP for Fairtrade-certified rice in India, highlighting both the successful aspects of the Fairtrade system as well as the difficulties that it faces. Together, Fairtrade and producers could strengthen the resilience of Indian rice growers by resolving deficiencies in the COSP-FMP and capitalising on the socio-economic benefits of certification. The findings contribute to the ongoing conversation on sustainable agriculture by offering insights that can be put into practice by policymakers, certification authorities, and producer organisations to promote equitable and sustainable rice production in the Asia-Pacific region.

Title: Just transitions in coal-dependent regional economies: A model-based framework

Authors: Dieter Grass (IIASA, TU Wien), Michael Kuhn (IIASA), Omkar Patange (IIASA), Alexia Prskawetz (TU Wien, IIASA, Vienna Institute of Demography), and Stefan Wrzaczek (IIASA)

ABSTRACT

Coal is a major contributor to anthropogenic carbon emissions and climate change. Coal mining and combustion are also a leading cause of premature mortality due to local air pollution. On the other hand, coal is central to many regional economies that rely on its mining, power generation, industrial use and exports. For example, the Ruhr region which produced 80% of Germany's coal during the peak of 1950s or a

few districts in Eastern India which mine 70% of India's coal. With the changing climate and rising pollution levels associated with coal, the urgency for coal phase-out has become prominent in recent years. This has put pressure on coal-dependent regional economies to implement energy transitions in a time-bound manner. This paper studies optimal pathways for a coal phase-out within a small, open, regional economy.

We propose a modelling framework to comprehensively analyze the dynamics of coal phase-out from a regional welfare perspective. To this end, we have set out an optimal control problem, involving the maximization of the intertemporal flow of regional welfare for a four-sector economy, including a coal extraction sector, a coal-based and a renewable energy sector, and a manufacturing sector. We describe the economy by a system of ordinary differential equations, describing the states of the system, specifically the capital invested into the four sectors, that reacts on control variables (e.g., investments into the respective types of capital) set by a social planner who maximizes an inter-temporal welfare function subject to the capital dynamics, production technologies, a pollution function, and a budget constraint that embraces the investment costs, expenditures for private and public goods and the proceeds from net exports of coal, energy and final goods. The model can be applied to study how the regional coal transition is affected by national and international policies that bear on the price structure and may also prescribe certain transition thresholds.

Our numerical analysis shows that the transition follows non-trivial time path and may, indeed, enter an array of different long-run equilibria, corresponding to different degrees of phase-out, depending on the energy price structure. For a given long-run cost of renewable energy, and depending on the energy prices, the optimal solution may either tend to a unique equilibrium state or be subject to bifurcation, based on the initial conditions. Our findings bear several important insights into policymaking. First, we note that the initial industrial structure of a region alone is not sufficient for predicting whether a phase-out will be in the region's interest and, therefore, materialize without further policy intervention at a national level. Notably, the development of national or international energy prices plays an important role for whether a transition will be triggered. Second, the scope for history-dependent pathways needs to be borne in mind when it comes to stimulating and structuring a coal phase-out in any region. This is true in those cases where the initial structure of the economy (typically heavily coal-based) leads to a process where renewables are phased in, but coal mining is retained for accommodating a heavy industry and exports. Recalling that this constitutes an optimal allocation on the part of a regional planner, we note a conflict of interest between the regional interests and national and international climate commitments. While the world market integration is advantageous from a regional welfare perspective in as far as it facilitates a flexible response to the energy transition, it may also stand in the way of a global or national coal phase-out, a situation that may be reflective of, for example, the context in China. Our analysis shows that in such settings, a strong exogenous push towards the early-on adoption of renewable energy sources may be required to trigger the phase-out.

Third, we note that a coal phase-out and its impact on regional welfare depends on the extent to which the region benefits from the reduction in local air pollution. While our analysis shows that substantial welfare gains are feasible, in many scenarios this comes with a strong decline in aggregate consumption. On the one hand, this trade-off brings into focus the important role of the underlying preferences and local circumstances: for a lower weight of pollution in the social welfare function and/or for a lower impact of air pollution, due to local weather conditions or the siting of coal-based activities, a phase-out may not be optimal. On the other hand, the resolution of the trade-off towards a phase-out also illustrates the importance of technological progress, as embraced by the falling cost of renewable investments. By opening the possibility to maintain electricity-based manufacturing activities, investments in renewable energy mitigate the trade-off and therefore allow for substantive reduction in pollution without giving up even greater consumption. Finally, we note that the strong trade-off between consumption and pollution can be attributed to our assumption of a stationary economy. Productivity growth and the associated income gains would soften the trade-off between consumption and pollution such that a simultaneous increase in consumption and reduction in pollution may ultimately be feasible. The superiority of a coal phase-out would even be reinforced, as for increasing levels of consumption, pollution abatement becomes socially more valuable. Plausibly, productivity growth itself may be associated with structural change in manufacturing away from heavy industry to service and IT-based industries, with the latter relying on electricity as their prime energy source. This would further boost a coal phase-out.

The analysis presented has been conceived primarily with the objective of providing a conceptual framework for the comprehensive analysis of the complex dynamics behind a coal-phase out (illustrated by the scope for multiple equilibria and history-dependence). Our results will be relevant for regional governments in undertaking a transition away from coal in way that safeguards regional welfare and at the same time

contributes to the global climate goals. While it provides plausible outcomes in terms of transition scenarios, further work is required to generate more practical policy insights, in particular, as to how national policies can and should be used for the simulation of a coal phase-out.

Title: Ecosystem Collaboration in Circular Textiles: A Framework for Analysing Product Recoverability, Social Wellbeing, and Environmental Impact

Author: Nidhin John (IIM Kozhikode)

ABSTRACT

Ecosystem-based collaboration is increasingly vital for circular economy (CE) outcomes, especially in sectors like textiles where environmental, economic, and social challenges are intertwined. While prior research often focuses on firm-level efficiency or regulatory approaches, few studies examine how multi-stakeholder partnerships shape sustainability across the value chain. This study develops a conceptual and analytical framework to model the role of ecosystem partnerships and value networks (EPN) in advancing product recoverability, social wellbeing, and environmental sustainability.

Drawing on the relational view, stakeholder theory, and planetary boundaries, three interlinked quantitative models are constructed—each representing a core sustainability dimension. The product recoverability model assesses how shared infrastructure and joint logistics reduce costs and improve profitability. The social model links EPN to employment, inclusiveness, and consumer surplus, while the environmental model relates collaboration intensity to waste and emissions.

Each model defines key variables and derives functions to reflect stakeholder incentives and interdependencies. Results indicate that higher partnership intensity enhances material recovery, supports inclusive growth, and lowers environmental impact.

By positioning EPN as a strategic enabler, the study contributes to strategic management literature on relational rents and sustainability. It offers both theoretical grounding and practical guidance for firms and policymakers promoting collaborative CE transitions.

Title: Market Preparedness for Policy Interventions Towards Domestic Sustainable Markets: A Study on Thai Rice Supply Chain

Authors: Gideon Balasingam (Fairtrade NAPP), Rebecca Anns (Fairtrade NAPP), Deepthi Krishnan (Fairtrade NAPP), and Shobana S (Fairtrade NAPP)

ABSTRACT

Climate change is a critical global issue affecting environments, economies, and societies. Sustainable development, which meets current needs without compromising future generation emerged in the 1987 Brundtland Report, requiring transformation across sectors, including business, where sustainability must be central. Integrating sustainability into market strategies allows businesses to attract environmentally conscious consumers, differentiate in a competitive market, and contribute to a sustainable future. This paper examines the Thai rice supply chain using Fairtrade as a voluntary sustainability standard, exploring consumer awareness, factors influencing sustainable market practices, and market readiness for sustainable

products in the Global South. Based on the research project conducted in Thailand by engaging university students by Fairtrade International, it uses desk and field methods to assess the Thai rice supply chain, Thai rice market, and Thai customers. The study is indicative of the market readiness for sustainable products and recommends that state policies are synonymous with established private sustainable standards to strengthen domestic sustainable market ecosystems.

Title: Do Investors Value Corporate Carbon Performance? Evidence from an Emerging Market

Authors: Komal Vadhwani (Indian Institute of Technology Roorkee) and Dr. Ashu Khanna (Indian Institute of Technology Roorkee)

ABSTRACT

The study aims to examine the impact of carbon performance (CP) on the market value of Indian firms. Further, it analyzes the role of promoters and institutional investors (IIs) in the CP and market value nexus. The study applies the panel fixed-effect regression with robust standard errors. Additionally, the results are supplemented with the System GMM method to mitigate the potential endogeneity concerns. In line with the natural resource-based view (NRBV), the findings indicate a positive association between CP and the market value of firms. Based on equity ownership classification, the result suggests a non-linear (negative) impact of promoters (domestic IIs) in moderating the CP and market value association. Finally, the subsample analysis shows that the positive relationship between CP and firm value is more pronounced for non-carbon-intensive firms. The study reveals the significant role of insiders in improving the CP of firms and the need for increased incentives for emission-intensive firms in their transition due to the higher regulatory risks involved. Moreover, to the best of our knowledge, no existing research has explored the heterogeneous role of IIs and the promoter holdings in moderating the CP and firm value association.

Title: Non-Financial Reporting and Corporate Boards: Legal Imperatives for ESG Committees in India

Authors: Saritha P (Alliance University) and Sujith P Surendran (Alliance University)

ABSTRACT

India's Environmental, Social, and Governance (ESG) factors have become a core part of business planning and regulation due to the growing interest of investors in investment responsibility. The SEBI has issued a mandatory "Business Responsibility and Sustainability Reporting" (BRSR) requirement for the top 1,000 listed companies starting in FY 2023. The paper examines the legal systems and governance frameworks governing ESG compliance in India, focusing on the requirement for ESG Committees on corporate boards. It uses empirical evidence, international best practices, and stakeholder theory to assess the institutionalization of ESG governance. India's industry reports have a mix of regulatory requirements and voluntary standards. The LODR Regulations (2015) have significantly influenced Indian disclosure norms, which now align with global norms like GRI, SASB, and TCFD. However, the "World Business Council for Sustainable Development" (WBCSD) notes that while 87% of India's ESG-related reporting provisions address environmental issues, social and governance dimensions remain underrepresented (Yavuz et al., 2024). KPMG (2024) suggests that audit committees and board-level governance should fill this gap, as ESG risks are integrating into financial and strategic planning. Disjointed ESG governance in India is exacerbated by unreliable metrics and the

absence of check-and-balance systems, necessitating more statutory guidance on board roles. The research aims to analyse India's legal requirements for ESG disclosure, particularly in SEBI' BRSR framework and CSR under the Companies Act, evaluate the organization of sustainability or ESG Committees, examine top listed entities' practices, and propose amendments for accountability in ESG governance and reporting. The research will analyse India's ESG governance using a legal-doctrinal methodology, focusing on the Companies Act, 2013 and SEBI's regulatory circulars. It will compare India's ESG governance practices against global standards like IFRS Sustainability Disclosure Standards, EU CSRD, and U.S SEC Climate Disclosure Rule. Secondary data analysis will be used to examine ESG disclosures of selected companies in India's NIFTY 100 index, examining sustainability reports, terms of reference, and governance procedures. The analysis will empirically support normative results by evaluating the implementation of statutory and regulatory expectations on the corporate level. Cross-source observations will be provided, focusing on ESG committee roles, accountability frameworks, and alignment with global standards. The analysis reveals there are 31 reporting provisions on ESG in India (out of which more than 60 per cent are mandatory). BRSR disclosures show that there is an increasing tendency in the formation of the ESG Committee, but it is not compulsory. About 60 percent of leading NIFTY company have ESG Committees or incorporated Subcommittees under CSR or Risk Committees. (Chow Kah Yong, Alfan, & Mustapha, 2024) Statutory requirements of Section 134 and 135 of the Companies Act and LODR of SEBI are also encouraging boards to be more active in relation to sustainability matters. Nevertheless, information tells us a great diversity of the committee mandates, composition and reporting arrangements. (Anifowose, 2025) Environmental disclosures are more established, but social and governance metrics are poorly reported. Non-financial reporting lacks mandatory assurance, compromising reliability in both Indian and international frameworks. Addressing issues of standardization of ESG metrics, financial disclosures, and stakeholder responsibility is crucial for ESG committees' responsibility. (Ghosh, 2024) The study reveals that India's legal framework supports ESG governance but lacks board-level ESG committees, compared to EU CSRD and UK Corporate Governance Code. Companies Act and SEBI rules focus on disclosures but lack structural ESG governance. (Sen, Biswas, & Ghosh, 2023) India's BRSR system promotes transparency but lacks legal authority. KPMG's audit committees may serve as interim solution until independent ESG Committees become mandatory, combining ESG, risk management, and internal control. (Trivedi, Firdaus, & Sari, 2024). The board-level sustainability committees should ensure the strategic alignment of ESG metrics and generate long-term value. The paper suggests that despite India's ESG reporting guidelines, corporate governance still lacks clarity. It recommends institutionalizing ESG Committees on corporate boards to enhance ESG data impact on investment decisions, market access, and corporate image. The study suggests harmonizing India's ESG approach with international standards like "International Sustainability Standards Board" (ISSB), "European Sustainability Reporting Standards" (ESRS), or "Task Force on Climate-related Financial Disclosures" (TCFD) to reduce materiality assessment, risk disclosure, and external assurance defects. The report suggests enhancing India's role as a sustainable business model by establishing ESG committees, implementing BRSR disclosure assurance requirements, building director capacity, and digitizing ESG measures, and integrating ESG into board governance.

Title: More the Merrier? The Paradox of ESG Contracting and Oversight

Authors: Divyansh Tripathi (Indian Institute of Management Udaipur), Sreejith Kumar Krishnakumar (Indian Institute of Management Udaipur), Anirban Adhikary (Indian Institute of Management Udaipur), and Sourav Borah (Indian Institute of Management Ahmedabad)

ABSTRACT

Firms around the world are increasingly linking top management compensation to environmental, social, and governance (ESG) goals, a practice known as ESG contracting. However, the impact of this practice on actual ESG performance remains debated. While some argue that ESG contracting aligns managerial incentives with stakeholder priorities, others caution that it can lead to symbolic actions or diminish intrinsic motivation. We theorize and test a curvilinear (inverted U-shaped) relationship between ESG contracting and ESG performance, and examine how the presence of a board-level sustainability committee moderates this relationship. Using a panel dataset of 3,197 firm-year observations from S&P 500 companies between 2015

and 2022, we find support for both hypotheses. ESG contracting improves performance up to a point, after which additional incentives become counterproductive. Further, board sustainability committees shift the inflection point of this relationship and reduce its negative slope.. These findings integrate insights from upper echelons theory and control theory, offering theoretical clarity on a contested issue and practical guidance for firms designing executive incentive systems that promote long-term sustainability outcomes.

Title: Not All Foreign Institutional Investors Matter: Investor Characteristics and Environmental Disclosure Practices

Authors: Mohak Raitani (UQ Business School, The University of Queensland Australia, DMS, IIT Delhi), Jacquelyn E Humphrey (UQ Business School, The University of Queensland Australia), Smita Kashiramka (Department of Management Studies, IIT Delhi), and Suman Neupane (UQ Business School, The University of Queensland Australia)

ABSTRACT

This study examines the impact of foreign institutional investors (FIIs) on investee firms' environmental disclosures. Using data from listed firms in India, we find that the presence of FIIs positively influences a firm's environmental disclosures when any of the three environmentally aligned key attributes such as being a PRI signatory, being an independent investor, or originating from a country with high social norms are present individually or in combination with each other. The positive impact is strongest when all three attributes are present. In contrast, combinations that include non-environmentally aligned characteristics, such as non-PRI status, grey investors, or origin from countries with low social norms, show no significant effect. Our results indicate that only the environmentally aligned attributes drive the positive influence of FIIs on environmental disclosures and that the presence of even one misaligned trait can dilute or negate this effect

Title: Carbon Bank: Bridging Sustainability Ambitions with Business Delivery in the Steel Industry

Authors: Sidhartha Sarkar (Tata Steel), Adity Ganguly (Tata Steel), Saurabh Kundu (Tata Steel), Soumi Chattaraj (Tata Steel), and Anupma Arya (Tata Steel)

ABSTRACT

Background

The steel industry remains a cornerstone of global infrastructure and manufacturing, yet it accounts for approximately 7–9% of global CO emissions, making it one of the most carbon-intensive industrial sectors. Its influence extends beyond direct emissions, significantly shaping Scope 3 emissions in downstream industries such as automotive, construction, and consumer goods. Therefore, decarbonizing steel production is not only essential for the sector itself but also pivotal for broader industrial sustainability. Transitioning to low-emission or net-zero steel is fraught with technological and economic challenges. Emerging solutions—such as hydrogen-based steelmaking, carbon capture and storage, and advanced recycling—are still in nascent stages of deployment. High capital requirements, uncertain policy landscapes, and delayed returns on investment further complicate the shift. Nevertheless, rising demand for sustainable materials, driven by corporate climate commitments, regulatory mandates, and ESG-focused investment, is creating a strong market pull for low-emission steel. To integrate these sustainability ambitions with business

realities, the concept of a Carbon Bank has been introduced as a transitional mechanism within a broader low-emission steel framework. The Carbon Bank functions as a strategic tool that monetizes verified GHG emission reductions from internal decarbonization projects and allocates them to specific steel products. This enables producers to deliver differentiated, low-carbon steel offerings without waiting for full-scale technological transformation. By embedding verified emissions data into product-level accounting, the Carbon Bank facilitates transparent carbon attribution, supports premium pricing strategies, and aligns with evolving customer and investor expectations. In essence, the Carbon Bank bridges the gap between long-term sustainability goals and short-term business delivery. It empowers steelmakers to participate in the low-carbon economy today, while laying the groundwork for deeper decarbonization as breakthrough technologies mature.

Objectives

The goal is to develop a tool "Carbon Bank" for low-emission steel framework that acts as a transitional solution to meet the urgent decarbonization targets of the steel industry. At the heart of this approach is the Carbon Bank, a mechanism that connects internal decarbonization projects—such as energy efficiency upgrades, process innovations, and renewable energy integration—with commercial outcomes. By capturing and verifying GHG emission reductions from these initiatives, the Carbon Bank enables producers to allocate carbon savings to specific steel products, thereby generating traceable, marketable low-emission offerings. Key components: • Establishing a business case for low-emission steel through product-level carbon transparency, enabling premium pricing and ESG-aligned market positioning. • Creating a verifiable system for attributing GHG reductions to individual products, supported by third-party certification and digital traceability. • Transforming sustainability into revenue by allowing producers to monetize verified emission reductions, thus incentivizing further investment in low-carbon technologies and infrastructure. • Supporting customers in achieving Scope 3 emission reductions through credible carbon footprint certificates, enhancing their sustainability credentials and compliance readiness. By integrating sustainability with business delivery, the Carbon Bank serves as a strategic enabler of industrial decarbonization, offering a scalable and economically viable pathway toward net-zero steel production.

Methodology

The framework aligns with GHG chain of custody principles (World Steel Association) and international standards (ISO 14067, ISO 14064-2/3, ISO 22095), and consists of three steps: 1. PCF Baseline Calculation: Each steel product's cradle-to-gate emissions are calculated per ISO 14067:2018, verified by a third party, and updated every five years or upon major process changes. 2. Emission Reduction Banking: GHG reduction projects (e.g., energy efficiency, fuel switching, logistics optimization) within the organizational boundary are quantified using ISO 14064-2 and third-party verified. Verified reductions are stored in a virtual Carbon Bank. Only post-baseline projects demonstrating additionality are eligible. 3. Product Allocation & Certification: Emission reductions are allocated to products, lowering their PCF. Customers receive a Reduced PCF Certificate detailing CO savings. These certificates support Scope 3 reporting but are not valid for carbon markets (e.g., CBAM, CCTS).

Project selection, Validation, Verification and Governance of Carbon Bank

The Carbon Bank framework ensures credible attribution of GHG reductions to steel products through structured project selection, validation, and governance. Eligible projects must fall within Tata Steel's organizational boundary and demonstrate additionality—proving reductions beyond business-as-usual. Accepted types include energy efficiency, fuel switching, material optimization, and low-carbon transport, while regulatory or incremental improvements are excluded. Reductions are calculated using recognized or bespoke methodologies aligned with ISO 14064-2 and verified by accredited third parties per ISO 14064-3. Only post-baseline projects are eligible, and verified reductions are stored in a virtual Carbon Bank for up to three years. Similar projects may be grouped for streamlined validation. The Corporate Sustainability team oversees governance, ensuring methodological integrity, third-party verification, and prevention of double counting. Reductions are allocated to specific products, lowering their PCF in a traceable, non-transferable manner to support transparent Scope 3 reporting.

Results and Implementation

The framework allows producers to offer steel products with customized carbon footprints. For instance,

with a baseline PCF of 2.75 tCO₂e/t and 50,000 tCO₂e reductions banked, a producer can offer • 40,000 tonnes of steel at 1.5 tCO₂e/t, or • 18,182 tonnes at 0 tCO₂e/t. This flexibility allows producers to tailor offerings based on customer needs and available emission reductions, while maintaining transparency and integrity.

Business Implications and Market Outlook

This scheme transforms sustainability into a business opportunity by enabling: • Product differentiation in a commodity market. • Premium pricing for low-emission steel. • Customer retention through alignment with Scope 3 reduction goals. • Regulatory readiness for emerging carbon disclosure and labeling requirements. It also enhances investor confidence by demonstrating proactive climate action and aligning with ESG metrics. The modular and scalable nature of the framework allows for expansion across sites, product lines, and geographies.

Conclusion

The low-emission steel product framework, enabled by the Carbon Bank, offers a pragmatic and market-aligned pathway for decarbonizing the steel industry. It balances the urgency of climate action with the realities of technological and economic constraints. By embedding GHG reduction into product-level accounting and creating a credible certification system, the framework not only supports internal sustainability goals but also empowers customers to meet their own climate targets. While full decarbonization will require long-term innovation and investment, this transitional model provides a viable business case for low-emission steel today.

Title: Evaluation of the Performance of ESG-Based Mutual Funds using the Fama-French Multi Factor Model – Understanding Classifier Efficiency Using Discriminatory and Explanatory Power in the Indian Context

Authors: Rajeev Rajan (Sri Sathya Sai Institute of Higher Learning), Subramaniam S Iyer (Sri Sathya Sai Institute of Higher Learning), and Sivakumar N (Sri Sathya Sai Institute of Higher Learning)

ABSTRACT

This study evaluates the performance of Environmental, Social, and Governance (ESG) oriented mutual funds in India using the Fama-French multi-factor model and examines the efficiency of classifying the funds based on their ESG scores and unique fund characteristics. With assets under management by Indian ESG-based funds having ballooned from $331.4 million in 2020 to $1.18 billion in 2024, reflecting a CAGR of well over 35%, the empirical evaluation of the performance of these funds assumes importance for investors, fund managers and policymakers. The paper analyses nine actively managed ESG mutual funds operating in India from April 2021 to March 2025, by employing the Fama-French multifactor model. The study uses India-specific Fama-French factors developed by IIM-Ahmedabad and ESG ratings of mutual funds from the CRISIL database for a deep analysis in tune with local market conditions. Results indicate that Fama-French factors strongly explain ESG mutual fund performance, with all factors proving statistically significant for the combined portfolio of ESG funds. Individual fund-wise analysis shows various sensitivities to factors, with three funds significant on all Fama-French factors and others showing selective responsiveness to factors. The novel contribution of the study is to evaluate classifier efficiency from the perspective of discriminatory and explanatory power. Using Chow tests and Fisher Z-tests, the study examines seven bases of classification: four classifiers based on ESG metrics (E, S, G, and composite ESG scores) and three based on unique fund characteristics (expense ratios, assets under management, and asset management company profitability). The results of the fixed effects panel data regression employed indicate that all seven classifiers prove to be efficient classifiers, with significant discriminatory power in distinguishing between patterns of fund performance, and all classifiers are efficient as determined by the explanatory power of the regression models. The identification of the efficiency of ESG scores-based and fund characteristics-based classifiers is valuable to fund managers in identifying stocks to be included in the portfolios of ESG mutual funds, and offers investors empirically grounded frameworks for ESG fund evaluations in the rapidly evolving Indian sustainable investment landscape.

Title: Political Connections and Accounting Conservatism: The Moderating Role of Market Competition in Emerging Economics

Authors: Kumari Pushplata (Vinod Gupta School of Management, IIT Kharagpur) and Abhijeet Chandra (Vinod Gupta School of Management, IIT Kharagpur)

ABSTRACT

This study explores the relationship between political connections and accounting conservatism among NSE-listed Indian firms from 2009 to 2022, emphasising how product market competition moderates this dynamic. Drawing from agency theory, the research hypothesises that politically connected firms are likely to exhibit lower levels of accounting conservatism due to reduced external pressures, preferential access to resources, and implicit regulatory leniency. Accounting conservatism is measured using the firm-year-based Khan and Watts (2009) C-score, while product market competition is captured using the Herfindahl-Hirschman Index (HHI). Employing Ordinary Least Squares (OLS), Two-Stage Least Squares (2SLS), and System GMM techniques, the analysis reveals a significant negative association between political connection and conservative financial reporting. Notably, this relationship is positively moderated by higher levels of product market competition, which acts as an external governance mechanism, mitigating managerial opportunism. The results are robust across alternative political connection proxies and sub-sample analyses of group-affiliated versus stand-alone firms. The findings contribute to the literature by demonstrating that in an emerging economy like India, political affiliations compromise financial transparency, but heightened competition can partially restore discipline. This research introduces product market competition as a novel moderating factor in the political connection–accounting conservatism relationship, with important implications for policymakers, investors, and regulators.

Title: Impact of ESG Disclosures on Crash Risk: Evidence from Mandatory ESG Regulations in India

Authors: Santushti Gupta (T A PAI Management Institute, Manipal) and Prasenjit Chakrabarti (Indian Institute of Management Ranchi)

ABSTRACT

Introduction: With the rising prominence of ESG (environmental, social, and governance) regulations across economies, the policy debate on the value relevance of the same has also been fuelled. The widely taken stance of market regulators on introducing such mandates is to make markets more transparent. India is one of the pioneers in bringing about sustainability mandates. In India, since 2012, the regulatory authority overseeing the financial markets, known as the Security and Exchange Board of India (SEBI), has initiated the Environmental, Social, and Governance (ESG) disclosure requirement for certain listed entities. Over the years, SEBI has introduced five such mandates. The latest mandate, Business Responsibility and Sustainability Reporting (BRSR) came in 2021 and aims at broadening the scope of previous mandates. We formally investigate whether mandatory ESG reporting impacts the crash risk of the firms with the passage of these five regulatory events from 2012 to 2021. Methodology We investigate the impact of events under the study on the crash risk perceived by the shareholders of the firms that were mandated. To establish causality between the regulatory announcement and the crash risk of the mandated firms, we compare or match the treated firms (mandated firms) with the control firms (non-mandated firms) and attribute any significant differences between the crash risk of these firms to the regulatory intervention. We estimate the crash risk with the three proxies, NCSKEW, DUVOL, and COUNT. We employ propensity score matching (PSM) to construct the control group. The use of PSM allows us to compare the crash risk of the mandated

firms to a set of non-mandated firms that are similar in all the observable aspects. This approach helps us attribute any noted impact on crash risk more accurately to the event itself rather than to the characteristics of the firms associated with crash risk. Shareholders might be inclined to afford differential attention to the formal disclosures by the treated firms owing to the materiality of ESG issues in certain industries and firms. Also, expected crash risk is more pronounced in an environment where managers are more prone to withhold bad news, and so materiality can have an impact on the information-hoarding behavior of managers. We then examine cross-sectional variations among polluting industries and innovative firms based on the argument of the materiality of ESG information. Results: For the events under the study, we observe an overall positive and significant crash risk for the treated firms, i.e., firms under the mandate. We interpret that the increased crash risk faced by the treated firms as compared to the control firms arises out of the competitive spillover of the unregulated matched peer firms. A competitive spillover, where the unregulated control firms increase their disclosures to keep themselves away from being evaluated in the same way as their mandated peer, will impose externalities on the treated firms, which comply with strict and specific mandates. In addition to this negative externality, the shareholders might also feel uncertain about future cash flows owing to increased litigation risks and potential financial liabilities under the heightened scrutiny of the regulator. Thus, we note that overall, with the passage of events, due to the negative externalities from competitive spillover and increased shareholder uncertainty, there is an increase in the crash risk perceived by the shareholders for the treated (mandated) firms relative to the control firms. In the cross-section of polluting industries and innovative firms, we find a decrease in the crash risk for the treated firms in polluting industries and innovative firms throughout the passage of five events. The results suggest that agency motives are the primary driving force of crash risk such that shareholder uncertainty and perceived crash risk is reduced for mandated firms as against non-mandated firms. Policy Implications: The burgeoning literature on crash risk largely talks about the determinants (managerial incentives) and consequences of the same. Mechanisms that can potentially impact and curb the opportunistic tendencies of managers as to bad news can thus serve to aid in policy making. As non-financial disclosures on ESG take a multidimensional stance on the environment, social, and governance information, such disclosures can potentially impact the crash risk perceived by the shareholders. The findings of our study carry significant implications for policy formulation. The findings suggest that implementing ESG mandates can serve as a powerful tool for mitigating information asymmetry and lowering crash risk, provided that these mandates are tailored to the materiality of ESG information specific to various industries and firms.

Title: Coconut Value Chain and Livelihood in Davao Region: The Role of Fairtrade

Authors: Gideon Balasingam (Fairtrade NAPP), Deepthi Krishnan (Fairtrade NAPP), Shobana S (Fairtrade NAPP), and Rebecca Anns (Fairtrade NAPP)

ABSTRACT

The coconut value chain in the Philippines' Davao region, contributes to 13.5% of the national coconut production. This study examines the roles of Fairtrade and Non- Fairtrade coconut producer organisations in production, post-production, and marketing of coconut and related products, using Supply Chain Analysis (SCA) integrated with the Sustainable Livelihoods Framework (SLF). Findings indicate that the Fairtrade certified producer organisations benefit from price premiums, and scientific and modern farming methods improves both financial and environmental results. In contrast, the Non-Fairtrade producer organisations encounter price volatility and rely on conventional farming methods. Both grapple with trader competition, by-product wastage, and losses due to pests. These challenges underscore the struggles of the coconut farmers in this region. The findings emphasise Fairtrade's contribution to promoting sustainable livelihoods and highlight the necessity for comprehensive systemic support to tackle persistent challenges within the coconut value chain. The recommendations focus on cooperative-led integration, gender-inclusive enterprises, and climate adaptation technologies to optimise supply chains and livelihoods.

Title: Exploring Higher-Order Purpose (HOP) in Marketing: A Multi-Stakeholder Perspective

Author: Ranjit Thind (Queen Mary University London - School of Business & Management)

ABSTRACT

"Law is to justice, as medicine is to health, as business is to _____" (Donaldson and Walsh, 2015, p. 181).

Amid unprecedented polycrisis ranging from environmental degradation, rising inequality, and growing socio-political unrest, questions surrounding the purpose of the modern firm in today's society have become prominent in business and academic discourse (Business Roundtable, 2019; World Economic Forum, 2024; Mayer, 2024; Hooper and Gilding, 2025). Traditional organisational purpose, driven by shareholder primacy and short-term thinking is increasingly being questioned by consumers in favour of sustainable value creation for multiple active and non-active current and future stakeholders (Friedman, 1970; Freeman, 1984; Podnar and Golob, 2024; Walter et al., 2024). Specifically, better governance and brand management that reflects a goal and duty-bound orientation, which extends beyond profit maximisation for the common good; a HOP as exhibited by firms such as Patagonia. Driven by the laws of nature and by testing the limits of natural systems, planetary boundaries, and the finite resources that support economies and societies necessitates a new innovative approach to business and marketing (Bansal et al., 2024). By tackling systemic wicked challenges, the organisation is able to shift from meaningless profit to meaningful profit. Despite this, there remains a lack of conceptual clarity, definitional precision, and validated metrics for understanding and measuring HOP (Rindova and Martins, 2023; Blocker, Cannon and Zhang, 2024; Fernandes, Guzmán and Mota, 2024). This study therefore addresses three research questions to connect the dots and make the invisible visible:

RQ1. What determines a HOP, and how is it conceptualised in its relationship to organisational and brand purpose? RQ2. What are the dimensions of HOP, and how can they be validated and reliably measured? RQ3. How does HOP influence organisational identity and multi-stakeholder perceptions?

A sequential mixed-method research design is employed, beginning with a comprehensive interdisciplinary literature review to develop a conceptual/theoretical model and identify HOP's key dimensions and items. Next, expert interviews via a Delphi study are used to internally validate the dimensions and items. Subsequent quantitative phases involve scale development through exploratory and confirmatory factor analyses to examine the effects of HOP on normative strategic constructs and stakeholder outcomes. The expected contribution of this research is multiple. First, it extends the incipient literature on organisational purpose, strategic brand management, and stakeholder marketing, as it conceptualises, informs, and defines the theoretical determinants and its effects on multiple stakeholders. Second, the clarification of theoretical ambiguities of the role of HOP helps to provide a deeper and more nuanced understanding of the interplay with other normative strategic concepts such as corporate mission, vision, values, and culture. Third, it operationalises HOP through turning abstract concepts into measurable observations through expert interviews and a validated empirically tested scale. Fourth, it provides strategic leaders such as brand directors and chief purpose officers practical tools for embedding HOP to authentically help build their brands beyond merely narrow financial measures.

Title: Causal–Effectual Logic in Opportunity Recognition of A Sustainable Venture Sunbird Straws

Authors: Mantry Priyathee (IIT HYDERABAD) and Dr. Jayshree Patnaik (IIT HYDERABAD)

ABSTRACT

1. Introduction The era marked by environmental destruction driven by unsustainable practices has led to increased attention towards sustainability from the inception of the Brundtland Report (1987). Adding to these challenges, emerging countries like India, where social disparities like inequality still prevail, including less women's representation in the workforce, labour force participation rate among females is 32.8% and among males is 77.1% for 2024 (World Bank Group, 2023). Amidst this, a major question arises: how do entrepreneurs find and seize the opportunities which is a synergy of socio-environmental factors and also beneficial to the venture? The integration of sustainable innovation into early-stage venture creation has become a vital area of research. To find this, entrepreneurial opportunity processes have long been conceived through two different logics: causal, focusing on goal-directed planning and formal collaborations (Sarasvathy, 2001; Alvarez & Barney, 2007), and effectual, centering on means-directed experimentation and emergent collaborations (Read et al., 2009; Muñoz & Dimov, 2015). The opportunity recognition of a sustainable innovation acts as a solution to social and environmental changes, giving rise to a new type of entrepreneurial activity, which is sustainable entrepreneurship (SE) (Muñoz & Cohen, 2018). There has been a dearth in understanding of the discovery and development of sustainable-oriented opportunities by sustainable entrepreneurs, especially in the context of emerging countries like India (Dawa & Marks, 2023) This paper focuses on an integrated explanation of how founders accomplish sustainable opportunity recognition through entrepreneurial effectual and causal logic, through an in-depth analysis of a single case study of sustainable venture Sunbird Straws.

2. Literature Review 2.1 Opportunity Recognition Entrepreneurs themselves exhibit vigilance and motivation for opportunities and can mobilize resources to act on them (Nguyen & Thi Thu Le, 2024). Entrepreneurial opportunity recognition has been conceptualized as a cognitive process by "connecting the dots", relying on pattern recognition, prior knowledge, and alertness (Baron, 2006). In sustainability contexts, this becomes complex due to overlapping social, environmental, and economic considerations (Dean & McMullen, 2007). 2.2 Key Antecedents I. Prior Knowledge & Experience: Traditional entrepreneurial opportunities emerge from market shifts, whereas in sustainable contexts, familiarity with natural environments facilitates recognition of eco‐friendly ventures, (Hanohov & Baldacchino, 2018). II. Active Search: Entrepreneurs systematically scan environments and networks to surface opportunities (Wang et al., 2024). Active search is to "engage in structured scanning of their environment and to pursue leads until a pattern emerges" (Baron, 2006). III. Alertness: Some possess a heightened alertness to "market disequilibria," enabling them to discover opportunities (Kirzner, 2015). Baron (2006) argues alertness interacts with cognitive ability, particularly creativity and divergent thinking 2.3 Sustainable Entrepreneurship Many founders lack the necessary "cognitive frames" to perceive value in overlooked social or ecological problems, resulting in a persistent "blind spot" for sustainability‐oriented ventures (Farny & Binder, 2021). Despite the growing importance of sustainable entrepreneurship, empirical research on sustainable opportunity recognition remains limited (Terán-Yépez et al., 2020). 2.4 Causal and Effectual Logic • Causal Logic: Structured, goal-driven planning (Sarasvathy, 2001). • Effectual Logic: Means-driven experimentation and adaptive decision-making. Schaltegger and Wagner (2011) call for an "integrative" logic: entrepreneurs must engage in structured environmental scans of policy and ecological trends (causal) while maintaining sensitivities to emergent social needs and serendipitous insights (effectual) to uncover truly sustainable opportunities (Galkina & Jack, 2022). Successful sustainable founders maintain core causal networks alongside effectual ties, enabling them to both plan resource commitments and leverage unexpected contingencies when refining their opportunity (Galkina & Jack, 2022).

3. Objectives RO1: To uncover how early-stage sustainable entrepreneurs integrate causal and effectual decision-making logics. RQ1: How do effectual and causal behaviours shape initial opportunity perceptions? RQ2: How do founders oscillate between these logics in recognizing opportunities?

4. Methodology An exploratory, qualitative single-case study approach was employed, deemed appropriate for "how" and "why" research questions (Yin, 2017). The selected case venture was founded in 2020 and focuses on converting agro-waste (fallen coconut leaflets) into biodegradable straws, addressing environmental pollution and rural unemployment. It employs over 100 women and emphasizes a triple bottom line. Data included semi-structured interviews with two co-founders, supplemented by internal documentation, press releases, CSR reports, and media appearances. Interviews focused on decision-making, motivations, and innovation processes. Thematic analysis followed Braun and Clarke's (2006) framework. Key themes were extracted: (1) Active Search, (2) Alertness, (3) Prior Knowledge—mapped to Baron's pattern recognition model and overlaid with causal–effectual logic indicators.

5. Results 5.1 Active Search The founder conducted deliberate environmental scanning (causal), triggered by a discussion on plastic waste. Structured experiments in a home kitchen (effectual) led to material innovation. External networks (universities, botany experts) were leveraged for validation. 5.2 Alertness Recognition of the natural curl of a coconut leaflet as a straw indicated alertness and heuristic pattern recognition. This serendipitous insight led to product ideation. 5.3 Prior Knowledge The founder's prior entrepreneurial experience and early life exposure to poverty formed a symbolic schema rooted in social impact. The goal to empower rural women and reduce plastic waste emerged as an integration of effectual (means) and causal (end) reasoning.

6. Discussion Findings reveal a dynamic, hybrid use of decision logics. Causal logic helped define sustainability-oriented goals, while effectual logic enabled resource experimentation and adaptive learning. This interplay enhanced opportunity recognition in a highly uncertain environment. The founder's cognitive framing (Baron, 2006) and alignment with triple-bottom-line values (Elkington & Rowlands, 1999) enabled the venture to blend innovation with social impact.

7. Conclusion This study demonstrates that sustainable opportunity recognition in entrepreneurial ventures requires a synergy of causal and effectual logic. The hybrid approach enabled the case venture to transform environmental waste into marketable, eco-friendly products while generating social value. This work contributes to theory by expanding Baron's pattern recognition framework to include hybrid cognitive logics, and to practice by offering a replicable model for sustainability-driven innovation in emerging economies.

Title: Critical Evaluation of CSR Reporting Of Selected FMCG Companies Of India

Authors: Belur Baxi (GLS University) and Dhaval Kataria (GLS University)

ABSTRACT

Introduction: Corporate Social Responsibility (CSR) in India has become a strategic mandate, particularly in the FMCG sector, due to its expansive consumer base and daily social influence. Companies must allocate at least 2% of their net profits to CSR, institutionalizing social responsibility within corporate governance. FMCG firms often focus on health, hygiene, education, and sustainability, using CSR not only to serve communities but also to communicate ethical values and build stakeholder trust. Reporting mechanisms like NVGs and BRR enhance transparency and accountability by documenting measurable outcomes. This study is grounded in a conceptual framework that positions corporate communication as a strategic instrument for engaging a broad range of stakeholders beyond traditional marketing audiences. CSR reporting functions as a formalized mode of disclosure, embodying both legal mandates and ethical imperatives. In the Indian context, CSR reporting is institutionalized through Section 135 of the Companies Act, 2013, obligated eligible companies to report on their CSR activities. However, existing CSR reporting practices are often critiqued for their reliance on boilerplate language, lack of comparability, and absence of standardized metrics, which may undermine the authenticity and evaluative utility of disclosures. Corporate Social Responsibility (CSR) has emerged as a critical component of sustainable business practices, yet its implementation faces significant hurdles.

Scholars have identified recurring obstacles, including opaque reporting mechanisms, weak community participation, insufficient NGO capabilities, and lax regulatory enforcement. These structural deficiencies undermine the potential of CSR initiatives to generate lasting societal and environmental benefits.

Literature Review: Recent studies reveal that CSR reporting in India's FMCG sector is often superficial and driven by compliance rather than genuine social commitment. Imroze and Jha (2023) found companies frequently report on hygiene and environment but fail to present meaningful impact data. Nanavati and Dave (2024) observed that while some firms disclose detailed ESG practices, many stick to minimal requirements, offering limited transparency. This inconsistency weakens stakeholder trust and masks the true effectiveness of CSR activities, highlighting a critical need for standardized, outcome-focused reporting frameworks. Many FMCG companies in India still fall short when it comes to providing meaningful information in their CSR reports. Du et al. (2014) found that while companies talk about broad initiatives, they rarely give clear data or measurable results, making the reports less useful. Similarly, ISO 26000 guidelines emphasize the need for transparency and stakeholder involvement, which are often missing. KPMG (2024) reported that only 35% of Indian companies involve stakeholders in assessing the real impact of CSR efforts. This shows that stakeholder expectations are often overlooked or insufficiently addressed. Objectives: Corporate Social Responsibility (CSR) has become increasingly important for Indian FMCG companies in the last fifty years, not only as a legal requirement under the Companies Act, 2013, but also as a way to build trust and reputation among stakeholders. However, the real issue lies in effectively sharing information about CSR activities among stakeholders. FMCG companies are expected to report their CSR work in a clear, honest, and relevant manner. However, past studies and company reports show inconsistencies, with some firms providing only basic information to meet legal norms, while others lack proper communication with stakeholders. This research aims to critically examine how selected Indian FMCG firms report their CSR activities, focusing on clarity, transparency, and responsiveness of their communication towards stakeholders. The goal is to improve CSR communication in the sector.

Research Questions 1. How clear and transparent are the CSR reports of selected Indian FMCG companies? – To explore how detailed, understandable, and trustworthy the CSR disclosures are. 2. In what ways do these companies share their CSR activities with various stakeholders? – To understand the methods and tools used for communicating CSR efforts. 3. What common trends and missing elements can be identified in their CSR reporting? – To identify where improvements are needed and suggest ways to make reporting more meaningful and stakeholder-friendly.

Methodology: This study uses a qualitative content analysis approach to evaluate the depth, clarity, transparency, and stakeholder responsiveness of CSR disclosures. It interprets textual data from CSR and sustainability reports to identify patterns, themes, and levels of disclosure. The research focuses on selected Indian FMCG companies with the highest reported turnover over the past five financial years (FY 2019-2023), using data from financial databases and industry rankings. This purposive sampling ensures that only financially significant and publicly visible companies are studied, where CSR activities are likely to be under greater scrutiny. Data is collected from publicly available sources accessed through official company websites, stock exchange filings, and databases such as CSRBox and MCA21 which includes: CSR reports, Annual reports, Business Responsibility and Sustainability Reports (BRSR) and Standalone sustainability disclosures The study will examine CSR reporting practices over a five-year period (2019-2023) using both standalone CSR disclosures and integrated sustainability sections within annual reports. Thematic content analysis will be used to identify recurring themes and patterns in the reports, helping to understand how companies frame their CSR efforts and how well they align with transparency and stakeholder communication standards (Khan, N. J., & Mohd Ali, H., 2023).

Findings and Discussions: The research reveals gaps in CSR reporting in Indian FMCG companies, highlighting gaps in clarity, consistency, and stakeholder focus. It also reveals that many companies report CSR only to meet legal requirements and rarely discuss real impact. The findings can help policymakers like the Ministry of Corporate Affairs and SEBI improve reporting guidelines by promoting standard frameworks for Indian companies and making CSR reports more transparent and useful for the public. The study also offers practical suggestions for FMCG companies, covering reporting beyond basic compliance and sharing more meaningful information about their CSR efforts, community engagement, ethical practices, and overall impact on society. New reporting practices could improve their reputation and show genuine responsibility. Conclusion This study critically evaluates the CSR reporting practices of major Indian FMCG companies and finds a need for more transparent, stakeholder-responsive, and impact-driven disclosures. It contributes to academic discourse on corporate communication, provides actionable insights for policy reform, and offers

a roadmap for firms to enhance their CSR reporting practices. Similar conclusions drawn by Khan and Ali (2023) and Imroze and Jha (2023) confirm that India's CSR ecosystem must evolve from a legal obligation to a tool for responsible engagement and long-term accountability.

Title: Examining the impact of SDG-driven sustainability initiatives on financial performance in India's manufacturing sector

Authors: Nandhini Priya Natarajan (IIT Madras) and Dr. Thillai Rajan A (IIT Madras)

ABSTRACT

Purpose of the study: Corporate sustainability is widely seen as a strategic tool for long-term value creation, yet a significant gap persists globally and this gap is especially pronounced at the firm level in emerging economies like India. This study addresses the lack of empirical evidence on how sustainability practices affect financial performance within India's manufacturing sector, a key driver of the country's economic growth and Sustainable Development Goal (SDG) progress. With the introduction of the mandatory Business Responsibility and Sustainability Report (BRSR) framework from FY23, there is an urgent need to understand the financial impact of SDG practices from such disclosures.

Methodology: This study focuses on manufacturing firms listed on the Nifty India Manufacturing Index, analyzing the top 13 companies over two years (FY23–FY24). It examines five SDG-aligned operational areas: Waste Management & Urban Development (SDGs 6, 11), Renewable Energy (SDG 7), Sustainable Industry (SDG 9), Circular Economy & Climate Action (SDGs 12, 13), and Sustainable Finance (SDG 17), covering seven relevant SDGs. 23 UN-defined SDG indicators-related statements were extracted from BRSR reports manually by authors using NVivo and coded on a 0–3 scale with acceptable Cronbach's alpha score of 0.72 for the theme-wise codes and cross-verified by two industry-academia Circular Economy experts. The study applies panel regression to assess relationships between SDG implementations and financial outcomes measured by Return on Assets (ROA).

Key findings: The regression analysis reveals that among the five sustainability themes, Theme 4 (Circular Economy and Climate Change, aligned with SDGs 12 and 13) and Theme 2 (Renewable Energy, aligned with SDG 7) exhibit strong positive associations with financial performance, as measured by ROA. In contrast, other themes, such as Theme 1 (Waste Management & Urban development) and Theme 5 (Sustainable Finance), demonstrate negative relationships with ROA. Consistent with prior studies, firm size, age, and leverage significantly affect ROA. Larger and older firms tend to show lower ROA, possibly due to inefficiencies or reduced agility. Higher leverage also correlates negatively with profitability, underscoring the need to control for firm characteristics in sustainability–performance analysis.

Implications: This study contributes to the evolving discourse on the financial implications of SDG adoption by firms in India's emerging markets. While the original SDG indicators are designed for national or sectoral contexts, this research adapts them for corporate-level analysis, with appropriate acknowledgment of such modifications. By linking firm-level sustainability practices with financial performance, the study provides a structured framework for identifying gaps, evaluating management efficiency, and guiding strategic decisions. The findings reinforce key theoretical perspectives, including agency, legitimacy, stakeholder, and resource-based views. Practically, the insights are valuable for investors prioritizing sustainability, firms pursuing long-term competitive advantage through circular economy strategies, and policymakers seeking to strengthen sustainability reporting and SDG integration at the enterprise level.

Further work: As an extension, this study plans to collect Business Responsibility and Sustainability Reports (BRSR) for all companies listed in the Nifty India Manufacturing Index as of January 31, 2025. This broader dataset will enable a more comprehensive analysis of the relationship between SDG-aligned sustainability practices and financial performance across the Indian manufacturing sector.

Title: Evaluating Sustainability Disclosures in India's Fashion and Apparel Industry: A Content Analysis of Mandatory BRSR Reports

Author: Hardika Bhagat (Tata Institute of Social Sciences)

ABSTRACT

The environment is particularly susceptible to degradation owing to the destruction of the apparel industry in India, while the water-intensive nature of production, textile waste, and the precarious state of labor also attract serious criticism. With sustainability rising to the top of the corporate accountability agendas globally, India made a landmark change by instituting a mandatory ESG disclosure regime under the Business Responsibility and Sustainability Reporting (BRSR) framework. The Securities and Exchange Board of India (SEBI) requires the top 1,000 listed companies to disclose ESG data in a structured manner following the BRSR format, taking effect from FY 2021, making India one of the first countries in the Global South to institute such a requirement (SEBI, 2021). However, the question remains whether such disclosures are the very essence of environmental and social engagement or mere tools of reputational compliance.

An attempt is made to view critically the content, quality, and depth of BRSR disclosures of ten Indian fashion-and-apparel companies under the new regime of reporting. It is to find out if these disclosures mandated by law indicate that there is a transformation in the governance of ESG, or are they just a formalistic response to regulatory compliance. The study undertakes a comparative content analysis following both qualitative and quantitative dimensions, the model having been borrowed from the tradition of research in ESG reporting (Boiral, 2013; Hahn & Kühnen, 2013).

Context

Historically, worldwide, under the old paradigms, limited transparency has been present in India with respect to labor practices or supply chain emissions or materials. Fashion value chains are lengthy, opaque, and manufactured largely through subcontracts and with informal labor- all of which constitute a nightmare for ESG monitoring (Niinimäki et al., 2020). The introduction of BRSR served as a regulatory intervention between the discontinuation of the older BRR format and the inclusion of advanced ESG metrics and stakeholder engagement concepts aligned to India's NGRBC (SEBI, 2021). The BRSR, by design, is a detailed one in three parts comprising general, process, and principle-wise disclosures; thus, turning ESG reporting from a voluntary narrative into an obligatory framework.

Methodology

A mixed-method content analysis of BRSR reports submitted by ten Indian listed fashion and apparel companies like Aditya Birla Fashion & Retail, Arvind Ltd., Raymond Ltd., TCNS Clothing, Page Industries, Trent Ltd., Vedant Fashions, Kewal Kiran Clothing, Monte Carlo Fashions, and Gokaldas Exports is used in this study. According to SEBI's eligibility requirements for required BRSR disclosure, these businesses are among the top 1,000 listed entities by market capitalization. The sources of the BRSR reports for FY 2022–2023 were stock exchange disclosures, SEBI's repository, and company websites. A coding rubric that was in line with the three sections of the BRSR - Section A (General Disclosures), Section B (Management & Process Disclosures), and Section C (Principle-wise Performance)—served as the guide for the content analysis. The study specifically concentrated on Principles 3 (employee well-being), 5 (value chain responsibility), and 6 (environmental sustainability), all of which are essential for evaluating the ESG impact of the fashion industry. Energy use, water withdrawal, greenhouse gas emissions, gender diversity, training hours, waste production, and the proportion of recycled materials utilized are among the quantitative indicators that were looked at. The study also assesses qualitative disclosures pertaining to vendor engagement, human rights due diligence, supply chain traceability, materiality assessment procedures, and stakeholder consultation. According to KPMG (2021), these components serve as the cornerstone for assessing whether businesses are making comprehensive sustainability transitions or just checking boxes. Descriptive statistics were created in Excel and RStudio to measure frequency and trends across companies in order to guarantee analytical

rigor. In order to benchmark India's progress, triangulation was accomplished by comparing BRSR data with international frameworks (such as GRI and CSRD) and third-party ESG ratings (such as Sustainalytics, MSCI India). In accordance with best practices in ESG content analysis, 20% of the sample underwent inter-coder reliability checks to guarantee consistency in the application of the rubric (Hahn & Kühnen, 2013).

Findings

The quality and depth of disclosure vary significantly, according to preliminary findings. Bigger companies like Aditya Birla Fashion and Arvind Ltd. provided quantitative data that was comparatively more solid and included workforce and environmental metrics that were in line with the SDGs. Value chain disclosures, including those pertaining to waste traceability, subcontractor governance, and ethical sourcing, are still scarce, though. Although the BRSR framework recommends formal stakeholder consultation protocols and third-party assurance, the majority of businesses do not have these (SEBI & CII, 2023). Compared to social or governance disclosures, environmental disclosures (Principle 6) seem to be more consistent. Despite the importance of circularity and textile waste to the industry, the majority of businesses only report on their energy and water use. In contrast to proactive inclusion or gender equity, social disclosures (Principle 3) typically concentrate on adhering to legal requirements. One of the most underreported elements of supply chain responsibility is Principle 5. These patterns corroborate more general criticisms of ESG disclosure in India, which frequently draw attention to the discrepancy between material action and performative compliance (Boiral, 2013). KPMG (2021) warns that disclosures may not be sufficient to drive actual ESG performance if sectoral granularity, assurance mechanisms, and materiality determination are not standardized.

Discussion

This study shows that even though BRSR has made the Indian fashion industry more transparent, there are still a lot of gaps in standard interpretation, assurance, and supply chain involvement. Even though ESG reporting in India is developing, it is still in its infancy, as evidenced by the observed discrepancies in disclosure practices. The framework's ability to foster true accountability may be hampered by its over-reliance on internal self-reporting, lack of sector-specific guidance, and poor integration of external stakeholders. Based on the KPMG finding that "what gets measured gets managed" (KPMG, 2021), this study makes the case that in order for BRSR to develop into a transformative accountability tool, SEBI and affiliated organizations need to advocate for: (a) sector-specific BRSR supplements (b) increased focus on value chain data; (c) standardized procedures for engaging stakeholders; and (d) third-party verification systems that are required.

Conclusion

All things considered, the BRSR represents a positive step in integrating ESG principles into Indian business culture, although its effects on the fashion and clothing industry are still uneven and in their infancy. In order to transition from disclosure to systemic sustainability transformation, this study emphasizes the necessity of sectoral customization, institutional strengthening, and improved monitoring. This study provides information on how ESG governance is developing in one of India's most significant and intricate industries for regulators, investors, and sustainability practitioners.

Title: Board Structure and Non-Marketing Strategic Choices in Indian Family Businesses: Insights from the Information Technology Sector

Author: Abhisek Verma (IIM Ahmedabad)

ABSTRACT

Family firms (FFs) have historically used corporate philanthropy to reinforce family social values. In emerging markets such as India, unique cultural norms, spiritual beliefs, religious traditions, and local practices shape

these activities differently than in developed economies. Indian government policy on corporate social responsibility (CSR), notably the Companies Act 2013, has further encouraged family firms to invest in skills development alongside charitable giving. While existing literature partially addresses board structure in family firms, its impact on corporate philanthropy remains underexplored in emerging markets. This paper uses socio-emotional wealth theory and regression analysis to examine how board composition influences CSR activities among Indian family firms (IFFs) between 2017 and 2023. The study offers practical insights for executives and policymakers to understand patterns of CSR engagement in high-risk emerging market contexts.

Keywords: Family Firms (FF), Corporate Social Responsibility (CSR), Corporate Philanthropy, Emerging Market, Family Values

Introduction Family firms (FFs) have a long tradition of allocating a portion of profits to social welfare initiatives worldwide (Cruz et al., 2014; Mariani et al., 2023; Hauck et al., 2015). However, research on FF philanthropy has largely focused on experiences in the US and Western Europe (Chang et al., 2022; Kammerlander, 2022; Giacomin & Jones, 2021; Combs et al., 2020; Abeysekera et al., 2020). While studies address FF competitive advantage, they often overlook the specific dynamics in emerging markets such as Asia, Latin America, and Eastern Europe (Porter, 2002; Ararat et al., 2018; Sahasranamam et al., 2019; Bhatnagar et al., 2019; Teixeira et al., 2020; Berrone et al., 2020; Moriana et al., 2020; Cha et al., 2021; Miroshnychenko et al., 2021; Fries et al., 2021; Ferasso et al., 2022; Mariani et al., 2023).

India, as a rapidly growing emerging market in South Asia (Kumar et al., 2020; Ararat et al., 2021; Kandade et al., 2021; Chatterjee & Bhattacharjee, 2021; Younas et al., 2021; Srivastava & Bhatia, 2022), offers an important context for examining this question. This paper assesses how the board structure of Indian family firms (IFFs) influences corporate philanthropic activities (Bhatnagar et al., 2020; Farhan et al., 2020; Kumar et al., 2022).

Objective This paper examines the composition of IFF boards and its impact on corporate philanthropy in India's emerging market context. Economic reforms since 1991 have enabled Indian businesses to expand through collaboration, acquisition, and entry into new sectors such as pharmaceuticals, electronics, health and insurance, and information technology (Kumar et al., 2020; Noronha et al., 2020; Anand et al., 2021). As boards incorporate new family members navigating these evolving industries, it becomes important to understand whether they continue traditional profit-sharing values or increasingly view CSR as an investment in workforce skills.

While existing research discusses FF board composition and philanthropy largely from US and Western European perspectives, this study offers fresh insights from India. Prior work on emerging markets often takes a cross-national comparative approach, leaving a gap in country-specific understanding. This paper contributes by offering quantitative evidence on the link between IFF board structure and philanthropic activities in India.

Family firms in India have traditionally fulfilled social responsibilities through religious donations and infrastructure development to support health and education for underprivileged communities. Such profit-sharing practices reflect family values and their self-image as value-based business households. However, these donations have also included contributions to civic bodies that may not directly align with family traditions.

Recognizing the need to institutionalize corporate giving, the Government of India enacted the Companies Act 2013, mandating companies meeting certain thresholds to spend at least 2% of net profits on CSR initiatives (www.csr.gov.in). This study focuses on the period 2017–2023, building on prior research documenting FF activities up to 2016. Data for the pandemic years 2020–2021 are treated as constant.

Design/Methodology/Approach This study analyzes annual reports from 2017 to 2023 for IFFs listed on the National Stock Exchange of India (NSEI) to assess the share of profits allocated to philanthropy and workforce skill development. Socio-emotional wealth theory is used to understand family values (Sánchez et al., 2021; Romero et al., 2020; Razzak et al., 2020), while stewardship and stakeholder theories explain the relationship between board structure and philanthropic engagement (Lin et al., 2021; Löhde et al., 2021; Afonso et al., 2021; Medina-Craven et al., 2021; Azizi et al., 2022; Spielmann et al., 2022). Regression analysis is employed to test the strength of the relationship between board composition and profit-sharing mechanisms.

Research Questions a) What motivates the next generation of IFF board members to continue their families' traditions of corporate charity? b) Do new board members align CSR activities with family values? c) How does board structure shape philanthropic strategies in high-risk emerging markets?

Hypotheses H1: Board structure in IFFs does not consider corporate philanthropy as a barrier to profit maximization. H2: IFF boards align CSR activities with family values. H3: Family businesses in India perceive emerging markets as high-risk environments, motivating profit-sharing initiatives.

Findings The study supports all three hypotheses. Board structures in IFFs endorse corporate philanthropic activities, with members viewing CSR as an expression of family values and traditions. CSR is also used strategically to build competitive advantage and improve the firm's image in high-risk markets. Increasingly, IFFs allocate profits to innovation and skill development initiatives that support both nonprofit goals and government programs under the National Policy for Skill Development & Entrepreneurship (NPSDE), 2015 (www.msde.gov.in).

Scope and Limitations This research examines the impact of IFF board composition on family philanthropic activities, highlighting how family businesses balance traditional profit-sharing with investments in workforce development. Family firms and values differ significantly across contexts, with India's FFs often governed by immediate family members and relatively few independent directors. This study is limited to the analysis of 2% profit distribution for CSR and skill development initiatives in India.

Importance and Managerial Implications Family firms in India do not merely participate in CSR—they use it strategically to reinforce family identity and gain competitive advantage. Understanding board-level motivations and decisions is critical for managers and policymakers seeking to promote effective CSR practices. This research provides insights into IFFs' allocation of profits toward philanthropic activities and workforce development, offering lessons for sustaining competitive family businesses in an emerging market context.

Title: Tokenism and Gender-Lens Investing: The Ripple Effect of Regulations

Authors: Debarati Basu (Shiv Nadar University), Shreyashi Chakraborty (University of Greenwich, London, UK), and Sushobhan Paul (Shiv Nadar University)

ABSTRACT

Regulations requiring women directors are often met with tokenism. Many firms in India responded to such mandates by appointing female family members to comply and seek legitimacy without any real benefit of diversity. How do investors react to such firm behavior? Can the mandate aimed at greater gender inclusion result in unexpected investor backlash? A dataset of 231 IPOs across 12 years reveals that tokenism leads investors, especially informed investors, to react negatively to gender diversity in top management. Investors are sensitive to lackadaisical regulatory responses and inefficiently prescribed regulations, which may have negative repercussions in the gender context. This negative ripple effect on unregulated firms raises significant questions about the value of such regulations on equity and inclusion. Understanding how firms, regulators, and investors behave with respect to gender diversity informs capital-raising decisions, policy, and society.

Title: Workplace Advantage of Inclusion of People with Disabilities

Authors: Neha Kumari (O P Jindal Global University, Sonipat) and Bhairab Chandra Patra (IIM Sambalpur)

ABSTRACT

The aim of this research is to find the important factors responsible for enabling people with disabilities (PWD) in the labour market, which is beneficial for both the disabled and the companies. Subsequently, this study identifies the cause-and-effect relation between the factors and extends it by incorporating fuzzy logic to handle uncertainties and vagueness in the decision process. This allows for a more in-depth examination of the variables affecting the employment of PWD. According to the findings, embracing diversity and inclusivity helps businesses achieve a competitive edge and improve their brand reputation. Businesses that embrace disability inclusion gain from a more varied and engaged workforce and a more inclusive and equitable society. To the best of the authors' knowledge, limited researchers have used the fuzzy DEMATEL methodology in disability studies, and this study is the first to attempt to use the technique of fuzzy DEMATEL in disability studies, which adds to the study's novelty.

Title: Corporate Sustainability Implementation in the Asian Automotive Industry: An Analysis of Sustainability Reports

Author: Dolendra Paudel (Presidency College of Management Sciences, Purbanchal University)

ABSTRACT

This study examines corporate sustainability implementation in leading Asian automobile firms through in-depth scrutiny of sustainability reporting frameworks, environmental performance indicators, and governance structures. Adopting content analysis research design, this research analyzed 18 sustainability reports of six leading companies (Toyota, Nissan, Honda, BYD, Geely, and Hyundai) for the period 2022-2024, supplemented with regulatory filings and third-party ESG ratings. This study reveals high heterogeneity of sustainability maturity across Asian markets. Japanese and South Korean producers demonstrate higher consistency of global reporting standards (GRI, TCFD, SASB) with governance transparency scores of 4.37-4.57, while Chinese producers have significantly lower scores (2.90-3.17). Conversely, Chinese firms have more ambitious environmental targets, with BYD achieving 65% utilization of renewable energy versus 19-28% for Japanese firms and carbon neutrality targets by 2030 vs. 2050 for Japanese firms. 156 unique implementation challenges are identified by the research, and supply chain complexity (100% incidence, 4.2 severity score) and technology transition costs (83% incidence, 4.0 severity score) are major roadblocks that require industry-wide collaboration. Five-year cumulative financial requirements for sustainable transformation are put at $31.1 billion. These findings provide insights into divergent evolutionary paths of sustainability adoption in institutional contexts, suggesting that technological advancement can precede governance maturation in developing economies. The research contributes to corporate sustainability literature by demonstrating how environmental performance and governance transparency can develop simultaneously, particularly in rapidly industrializing markets with conducive policy settings.

Title: Institutionalization of Corporate Social Responsibility in India – Analyzing Vulnerabilities Due to Coercion Mechanism

Authors: Dinesh Gupta (Guru Gobind Indraprastha University), Sanjay Kumar (Guru Gobind Indraprastha University), Santosh Kumar (PNC Bank), and Sarvesh Kumar (Central University of Himachal Pradesh)

ABSTRACT

Corporate Social Responsibility (CSR) has evolved from voluntary non-essential activity to one of the core corporate governance activity to the institutions worldwide. Worldwide, CSR has been widespread institutionalized in multinational corporations for various reasons. In the Indian context, CSR has been mandated by law resulting in its institutionalization across the economy. Despite its long history and current legal mandate in India, it faces significant challenges like justifying CSR from a business perspective, deviating from its impacts on the communities it aims to benefit. The inadequacy of CSR's institutionalization in addressing long-term social vulnerabilities, along with questions about the sincerity, motivations, and ethical basis of CSR continue to raise concerns about its integrity. This paper introduces a social mechanism-based framework that identifies four mechanisms—discourse, mimesis, normative learning, and coercion—that contribute to the institutionalization of CSR. A two-year study on CSR practices within Indian listed companies is conducted to examine the CSR institutionalization. The study found that organizations adopting CSR voluntarily, driven by intrinsic values, are more likely to integrate CSR authentically. However, organizations using 'Coercion' social mechanisms, while ensuring immediate compliance, undermines the authentic institutionalization of CSR.

Title: Analytical sustainability assessment through financial metrics to uncover potential improvement opportunities

Authors: Lokendra Sharma (Cognizant Consulting) and Ushasi Sengupta (TCS)

ABSTRACT

Sustainability is the most important proposition in the strategy of the company, which transcends sectors and geographies. Its significance is particularly pronounced in process and manufacturing industries, where operations are intrinsically linked to carbon emissions, chemical waste, and other environmental impacts.

Moreover, each process/ manufacturing company is unique and complex in terms of its operations, resources, geography, statutory requirements, product portfolio etc. So, to analyze sustainability efforts (how much sustainability can be improved), of a particular company in comparison to other companies, there is a requirement of sustainability indexing. And indexing, in essence, is giving a number to subjective observations i.e., converting qualitative assessment to quantitative assessment. This is what various global sustainability rating agencies are doing. Though it offers ample benefits in understanding sustainability for a particular company, it has an inherent limitation of subjectivity. For instance, a sustainability initiative taken by a process company located in the Middle East can't be compared with a sustainability initiative taken by another process company located in Europe or India.

Thus, we have two opposing objectives- while we want to assess a particular company and evaluate their standing in comparison to other companies (peer benchmarking) but the ratings provided are primarily subjective while assessing their sustainability efforts.

Thus, to resolve this sustainability indexing conundrum, we are exploring assessment in the amalgamation of financial analysis to reduce the subjectivity as much as possible, as financial metrics are essentially numbers and numbers can be compared with each other. For instance, the revenue of the process company located in the Middle East can be compared with the revenue of another process company located in France or India, as there is no subjectivity in the revenue figure.

This paper covers important aspect of sustainability for a process company. Then deep dived into various global sustainability indexes, and their limitations. We then elaborated how to augment the Sustainability assessment with financial analysis using regression and derive sustainability improvement opportunity. Lastly, we established the conclusion with our framework through a case study of one of the prominent process chemical companies.

Title: Financial Forecasting through Corporate Social Responsibility: An Interpretable Machine Learning Approach


Authors: Suha Bilquis (Aligarh Muslim University), Solmaz Husain (Gautam Buddha University), Hina Siddiqui (Faculty of Management Studies and Research), and Saib Fakhar (New Delhi Institute of Management)

ABSTRACT

Corporate social responsibility (CSR) has become an integral part of corporate strategy, yet its effect on corporate financial performance (CFP) remains contentious. Much of the existing research relies on traditional statistical approaches, which tend to miss the intricate, nonlinear dynamics between CSR and CFP. This study re-examines the link between CSR and CFP by assessing how well CSR predicts financial performance and by identifying which CSR dimensions most significantly influence financial outcomes, using interpretable machine learning techniques—specifically Shapley Additive Explanations (SHAP). Using data of NSE 200 Indian firms between 2014 and 2024, the study finds that CSR does affect CFP, but its influence is weaker compared to factors such as firm-specific characteristics, ownership patterns, and board structure. Among the CSR components, governance shows the most substantial effect, positively influencing market valuation but negatively impacting profitability. These insights question the assumption that strong CSR always leads to better financial performance and highlight the importance of understanding CSR's nuanced role alongside other organizational and financial drivers.

Title: Impact of Fintech on Clean Energy (SDG 7) and Global Partnerships (SDG 17)

Authors: Priya Choudhary (Department of Management Studies, IIT Madras, Chennai) and M. Thenmozhi (Department of Management Studies, Head, CAMS-IITM Fintech Innovation Lab, IIT Madras)

ABSTRACT

The emerging growth of fintech plays a substantial role in the arena of sustainability. Governments and policymakers are inquisitive to comprehend its role in attaining long-term economic, environmental and energy growth. This study adopts a novel research perspective that examines the influence of fintech on affordable and clean energy (SDG 7) and global partnership (SDG 17) across 67 countries from 2011 to 2021. By using the fixed effect model, our study finds that increasing growth of fintech enhances affordable and

clean energy (SDG 7) and supports international collaborations (SDG 17). We find that fintech significantly supports affordable and clean energy (SDG 7), particularly in countries with higher financial market growth, developed financial institutions, greater economic readiness and more pronounced effect is observed in developing economies and higher-income countries. Conversely, fintech fosters global collaboration (SDG 17), especially benefiting countries with less developed financial institutions, lower economic readiness and particularly in countries with civil law and lower- and middle-income economies. These insights help policy implementation in specific country contexts, ultimately enhancing the scalability and impact of fintech-driven solutions for clean energy and global partnership.

Title: Developing a Taxonomy of Circular Business Model Innovations in Healthcare

Authors: Jacopo Parma (Eindhoven University of Technology), Myriam Cloodt (Open Universiteit), Duygu Keskin (Eindhoven University of Technology), and Vikrant Sihag (Eindhoven University of Technology)

ABSTRACT

Introduction Healthcare systems globally face an urgent need to transition toward sustainability. Healthcare plays a critical role in safeguarding human health, yet paradoxically, it also contributes significantly to environmental degradation, a key determinant of public health. The sector is responsible for approximately 4.4% to 5% of global greenhouse gas emissions , placing it among the top emitters worldwide. In several countries, healthcare accounts for up to 10% of national emissions, underscoring the systemic nature of its environmental footprint (Watts et al., 2021; Pichler et al., 2019). Beyond carbon emissions, healthcare systems generate vast amounts of waste, including hazardous materials and single-use products, and consume large quantities of energy, water, and raw materials through complex global supply chains. A single primary care consultation can generate nearly 5 kg of CO□-equivalent (Forster et al., 2021), and procedures such as cataract surgery or dialysis can result in hundreds to thousands of kilograms of emissions per patient per year (Sherman et al., 2021). Furthermore, significant emissions originate not only from medical treatments but also from mobility (patients and staff), heating, pharmaceuticals, and medical equipment (Forster et al., 2021; Rizan et al., 2020). To advance this agenda, innovations in business models are essential. Business models articulate how organizations create, deliver, and capture value, and their innovation is seen as a pivotal mechanism for systemic change. Within the context of CE, Circular Business Model Innovations (CBMIs) are emerging as promising frameworks for aligning economic performance with environmental and social value. These innovations seek to slow, narrow, and close resource loops, reducing virgin material input and minimizing waste and emissions throughout organizational ecosystems (Bocken et al., 2016; Geissdoerfer et al., 2018). In heavily regulated, high-stakes sectors like healthcare, CBMIs must also accommodate stringent requirements related to hygiene, safety, and public procurement. The potential economic and environmental benefits of sustainability innovations like CBMIs are significant. It is well disseminated that business model innovation is an essential bottom-up engine that can stimulate the healthcare companies to accelerate the transition to a circular economy (Lüdeke□Freund et al., 2019). The private sector is a vital part of the healthcare ecosystem, complementing public healthcare systems by providing additional capacity, innovation, and investment. It often plays a pivotal role in scaling up new technologies, improving service delivery, and introducing efficiency-enhancing practices . Despite their growing relevance, the literature on CBMIs in healthcare remains fragmented and underdeveloped. Existing studies tend to be conceptual or narrowly scoped, often lacking integration with established circularity metrics or sustainability frameworks (e.g., Lüdeke□Freund et al., 2019; Pieroni et al., 2020; Smol et al., 2024). In particular, there is a notable absence of systematized knowledge that links CBMIs with both the 10R framework (refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle, recover) (Ciano et al., 2025; Skärin et al., 2022) and the Triple Bottom Line (TBL) dimensions—economic, environmental, and social sustainability (Velenturf & Purnell, 2021). Bridging this gap is crucial, as it enables a more holistic understanding of how circular business model innovations contribute not only to resource efficiency and waste minimization but also to broader sustainability goals. Finally, this structured mapping provides a basis for understanding the extent to which the existing CBMI literature supports the full spectrum of circular economy strategies and highlights areas for further research and development.

Literature Review Circular Economy (CE) discourse has evolved significantly, but its application in healthcare has unique challenges and implications. Prior studies (e.g., Hobson & Lynch, 2016; Jaeger-Erben et al., 2021) have critiqued CE's alignment with ecological modernization, warning that economic and environmental goals often overshadow social dimensions. Acknowledging this, our research emphasizes a more holistic approach that integrates the TBL framework—not only capturing environmental and economic gains but also examining behavioral dimensions, such as stakeholder engagement, organizational culture, and adoption practices. Moreover, the 10R framework provides a nuanced lens for understanding resource management strategies. While widely cited in CE literature, its application in healthcare remains underexplored. Although the 10R framework is widely referenced in mainstream circular economy literature, its application in healthcare settings remains underexplored. For instance, the ESCH-R project notes that the academic literature on circular economy in the healthcare sector is still nascent, with significant gaps in comprehensive frameworks, interdisciplinary approaches, and empirical data, particularly regarding the practical deployment of 10R interventions (Huijben et al., 2025). Our research bridges this gap by explicitly mapping existing CBMIs in healthcare against the 10R framework to assess the level of circularity achieved and trade-offs involved.

Objectives This paper addresses the critical gap in CBMI research by proposing a theoretically grounded and empirically validated taxonomy of Circular Business Model Innovations in the healthcare sector. The taxonomy will integrate: • The 10R strategies, which provide a hierarchy of circularity measures from resource prevention to material recovery; • The Triple Bottom Line framework, which evaluates impacts across environmental, economic, and social domains; • The roles of stakeholders in CBMI implementation, including hospitals, suppliers, policy-makers, and patients. High-complexity, high-stakes service systems—such as healthcare networks—are characterized by interdependent actors, dynamic decision-making, institutional heterogeneity, and high regulatory pressure, where outcomes have significant human, societal, and legal consequences (Chandler & Vargo, 2011). In these systems, complexity stems from the coordination of multiple stakeholders across public and private sectors, involving different priorities, data silos, and performance metrics (Geissdoerfer et al., 2018). Unlike product-based systems, where firms may exert tighter control over processes and materials, service systems like hospitals are embedded in institutional frameworks with fragmented ownership and unclear responsibility over circular investments and risks (Lüdeke-Freund et al., 2019; Bocken et al., 2014). As a result, the current CBMI literature, which largely focuses on discrete firm-level innovations and closed-loop supply chains, lacks the analytical tools and governance models necessary to address circularity in such open, high-stakes contexts. The objective is to offer both a descriptive framework that enables researchers, practitioners, and policy-makers to analyze, evaluate, and design circular business models in healthcare systems. By embedding CBMIs within such high-complexity systems, this work extends current theory to account for capital responsibility, inter-organizational governance, and adaptive implementation under real-world constraints, thereby filling a key gap in both CBMI and service systems literature.

Methodology This study employs a Design Science (DS) methodology, which is especially suited for practice-oriented research in complex systems. The DS approach combines systematic theory-building with empirical validation and stakeholder engagement. The central research question guiding the study is: What Circular Business Model Innovations currently exist in the healthcare sector, and how can they be categorized into a comprehensive taxonomy using the 10R framework and Triple Bottom Line principles? The research proceeds in three stages: 1. Systematic Literature Review (SLR): An extensive review of academic and grey literature will identify and categorize existing CBMIs in healthcare. Sources will include peer-reviewed journals, policy documents, and CE strategies. 2. Thematic Coding and Taxonomy Development: Extracted data will be coded according to the 10R and TBL frameworks. To enrich these models, inductive coding will be combined to capture emergent themes beyond their scope, enabling the development of an expanded taxonomy that reflects both established and novel insights. The resulting taxonomy will define categories based on dominant resource strategies, stakeholder involvement, and multidimensional value creation. 3. Empirical Validation: The preliminary taxonomy will be tested and refined through 3–5 case studies in Dutch hospitals and their supply chains. These case studies will focus on product categories with varying characteristics, such as low-volume/high-value items (e.g., surgical tools) and high-volume/low-value items (e.g., disposables). Data will be collected through semi-structured interviews and co-creation workshops with key stakeholders in the ESCH-R Consortium. The validation process will assess the taxonomy's clarity, utility, and completeness. Insights from practitioners will be used to iteratively improve the framework's descriptive accuracy and prescriptive relevance.

Results The primary output of this study will be a comprehensive taxonomy of CBMIs applicable to the healthcare sector. This taxonomy will: • Illustrate how CBMIs vary across circularity strategies and sustainability dimensions; • Reveal the trade-offs and complementarities between economic efficiency, environmental performance, and social value; • Highlight gaps or extensions to existing models; • Identify key actors, mechanisms facilitating CBMI adoption; • Provide scalable templates for stakeholders to replicate or adapt successful CBMI practices. Additionally, the research will generate case-based typologies that link specific business model logics (e.g., product-as-a-service, sharing platform, take-back schemes) with stakeholder configurations and regulatory constraints in the healthcare domain.

Discussion From a theoretical perspective, this research advances the understanding of CBMIs as institutional innovations in high-stakes environments (e.g., Bocken et al., 2014; Geissdoerfer et al., 2020; Lüdeke-Freund et al., 2019). It integrates sustainability science, circular economy principles, and business model literature into a unified analytical framework. By grounding the taxonomy in empirical cases, it strengthens the bridge between abstract principles and practical implementation. From a practical standpoint, the taxonomy can guide hospital administrators, healthcare suppliers, and policy-makers in evaluating circularity initiatives. It can also inform corporate sustainability strategies by demonstrating how CBMIs contribute to long-term resource stewardship and social responsibility, in alignment with TBL. Moreover, the research offers implications for healthcare stakeholders. It identifies barriers (e.g., procurement policies, risk aversion, hygiene standards) and enablers (e.g., cross-sectoral collaboration, green innovation funding) that influence CBMI uptake. These findings will be relevant for institutions designing policy instruments to accelerate circular transitions.

Conclusion As healthcare systems strive to meet sustainability targets under complex institutional and operational constraints, innovative business models offer a promising pathway. By proposing and validating a taxonomy of Circular Business Model Innovations, this research contributes actionable knowledge to both academia and practice. It not only enriches the theoretical discourse on CBMIs but also equips stakeholders with tools to implement meaningful, measurable change in healthcare sustainability.

Title: Sustainable New Space Ecosystem- Examining the Role of Democratic Space Governance

Author: Rahul Gupta (Scientist, Space Applications Centre, ISRO/ DoS)

ABSTRACT

In recent decades, the rapid advancement in space technologies and the emergence of new actors like aspiring economies, private corporations and academic institutions, have transformed outer space into a dynamic, contested and congested domain. This new space ecosystem has resulted into significant achievements, including satellite-based services that support communications, weather forecasting, disaster management, and navigation systems, profoundly impacting societies across the globe. But this competitive and unsustainable expansion has raised questions on existing space governance framework, largely rooted in the Outer Space Treaty of 1967, which reflects the geopolitical realities of the mid-20th century. This framework is increasingly seen as inadequate to address contemporary challenges such as orbital debris, space traffic management, commercialisation, and equitable access. While space is legally designated as the "province of all mankind", it is governed undemocratically with unevenly distributed benefits. The call for the democratisation of space governance has grown louder, especially from countries of the Global South which demand a more inclusive and equitable international order in outer space. Their positions often emphasize space as a "global commons", promoting capacity-building and equitable access to orbital slots and frequencies. The principles of "common but differentiated responsibilities" (CBDR), derived from environmental law, have also found resonance in their demands for space governance reform. The central research problem, therefore, is to understand how space governance can be democratized to foster sustainability in New space.

The existing literature have examined the evolving trajectory of space governance in response to shifting technological, political and legal dynamics. The foundational principles of space governance include the peaceful use of outer space, the prohibition of national appropriation, and the designation of space as the province of all humankind. The Outer Space Treaty 1967, together with subsequent treaties like the Rescue Agreement (1968), the Liability Convention (1972), and the Registration Convention (1975) form the core of what is now known as the "International Space Law Regime". Recent years have seen multilateral bodies like the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) and its Legal and Scientific & Technical Subcommittees engage in dialogues over long-term sustainability and regulatory frameworks. Additionally, national legislation of space-faring countries, such as the U.S. Commercial Space Launch Competitiveness Act (2015) and Luxembourg's Space Resources Law (2017), have raised concerns over the unilateral interpretation of space property rights, challenging the foundational norms of International Space treaties. Finally, the emerging challenges of militarisation, space resource extraction, and commercialisation raise normative questions that remain inadequately addressed in existing literature. As private actors gain prominence and countries begin staking claims to extra-terrestrial resources, the role of inclusive and democratic governance mechanisms becomes even more crucial for space sustainability.

This research addresses the following questions:

1. Whether modern space activities pose significant environmental and sustainability challenges, and whether current international mechanisms sufficiently address these issues? 2. Whether the historical and contemporary structures of global space governance have evolved in ways that reflect equitable representation and participation of all nations, and whether democratising the space governance can address this? 3. Whether specific policy measures can be identified and implemented to promote more equitable, inclusive and sustainable global space economy?

The research has been framed around the primary hypothesis that the current space governance regime inadequately reflects the interests and needs of the developing nations. To test this hypothesis, qualitative content analysis of international legal instruments such as the Outer Space Treaty (1967), Moon Agreement (1979), and UNCOPUOS documents, including the Long-Term Sustainability (LTS) Guidelines and COPUOS session reports, have been undertaken. The second hypothesis focuses on the potential link between democratised space governance mechanisms and the achievement of sustainable and equitable outcomes in outer space activities. Data collection for this hypothesis involves examining international sustainability frameworks such as the UNCOPUOS LTS Guidelines, the Space Debris Mitigation Guidelines of the Inter-Agency Space Debris Coordination Committee (IADC) and environmental policies promoted by the European Space Agency (ESA) and NASA. In addition, national space policies from emerging space powers like India and South Africa are analysed. Case studies such as India's Mars Orbiter Mission (Mangalyaan), South Asia Satellite initiative and the BRICS Space Cooperation Framework are evaluated to demonstrate how inclusive participation contributes to sustainable practices in space activities.

This work addresses the complex intersection of space exploration, global co-operation, sustainability and the equitable distribution of benefits derived from space. It finds that the established space-faring nations' strategic interests reflect in the existing space governance frameworks. A major finding is the exclusionary nature of many space governance mechanisms that fail to represent the interests and contributions of the Global South. The research also revealed significant gaps in the governance of space activities that threaten the long-term sustainability of space exploration. Space debris, environmental impact and the increasing commercialisation of space are all issues that require urgent attention. The current legal framework, primarily grounded in the Outer Space Treaty (1967), has proven inadequate in addressing these challenges. A recurring theme in the study was the call for reform in the legal frameworks governing space. The Outer Space Treaty 1967, while ground breaking at the time of its creation, no longer addresses the complexities of modern space activities. The lack of clear regulations on space resource utilisation, the privatisation of space assets and the management of space debris calls for new collaborative model of space governance with modifications to existing agreements that prioritise sustainability, equity and cooperation.

This research makes several important contributions to the fields of space governance and sustainable space. It provides a nuanced understanding of the democratisation of space governance, focusing on the critical role of emerging space powers in advocating for inclusive policies and practices in space exploration. It bridges multiple disciplines, including international law, political science, environmental studies and technology policy. It draws on theoretical frameworks of global governance, international cooperation and sustainability, offering interdisciplinary insights into how space governance can evolve to meet the needs of a

rapidly changing world. The research provides an integrated view of the challenges facing space exploration and suggests a holistic approach to addressing these challenges through collaborative governance and sustainable practices.

The field of space governance is rapidly evolving, with new legal frameworks, technological advancements and commercial developments emerging frequently. As a result, some of the recommendations made in this research may need to be revisited as new challenges and opportunities arise in the coming years, although the study's core themes of equity, sustainability and international cooperation remain highly relevant. While this work focused on the legal, policy and governance aspects of space exploration, future research could benefit from a more technical focus, examining how technological advancements in satellite technologies, propulsion systems or space mining could shape the space governance for sustainability. With the growing influence of private companies in space exploration, there is a need for research into how these companies can be effectively regulated to ensure they align with international space law and global sustainability goals.

Title: Guided By Stars: Employee Ratings and the Future of Firm Performance

Authors: Prakarsh Singh (Professor, Plaksha University) and Rohit Duwadi (Research Fellow, Plaksha University)

ABSTRACT

In the digital age, employee reviews on platforms like Ambition Box and Glassdoor have emerged as a novel form of stakeholder voice, offering real-time, crowd-sourced insights into a firm's internal environment. These platforms allow employees to anonymously evaluate their companies across dimensions such as culture, compensation, work-life balance, and job security. Despite their widespread use by job seekers and HR departments, the predictive power of these reviews for financial outcomes remains underexplored, particularly in emerging markets like India (Gimpl, 2025; Aguinis & Glavas, 2012). Prior studies have linked employee satisfaction to firm value and customer outcomes, highlighting the potential of internal sentiment as a leading indicator of corporate performance (Edmans, 2012; Wu, 2022; Kirk, Ray, & Wilson, 2013). This study aims to bridge that gap by investigating whether employee perceptions can anticipate a firm's financial and market performance. This research examines whether specific employee sentiment dimensions affect two key indicators of firm performance: Return on Assets (ROA) and annual stock returns. It evaluates whether attributes like internal culture, flexibility, and compensation are more predictive than others, and whether their impact varies by firm size, across large-cap, mid-cap, and small-cap firms. The study contributes to the growing literature on intangibles and environmental, social, and governance (ESG) metrics by linking soft employee perceptions to hard financial results. The analysis is based on a novel panel dataset of 150 NSE-listed firms from 2017 to 2024, covering over 800 firm-year observations. Companies span various industries and are categorized into large-cap, mid-cap, and small-cap segments based on NSE classifications. Employee ratings from Ambition Box and Glassdoor are aggregated annually across seven dimensions: company culture, work-life balance, work satisfaction, job security, salary and benefits, promotions/appraisals, and skill development. Each rating is standardized using z-scores to ensure comparability and to allow interpretation of regression coefficients in percentage terms. To assess the impact of employee sentiment on firm outcomes, the study employs fixed-effects panel regression models. This approach controls for unobserved, time-invariant firm-specific characteristics and includes controls for firm size (log of total assets), year dummies, and lagged dependent variables. Two separate models are used: one with ROA and another with stock returns as the dependent variable. Additionally, subsample analyses for large-cap, mid-cap, and small-cap firms examine whether effects differ by firm scale. Results show a nuanced relationship between employee sentiment and firm performance. A one standard deviation increase in company culture ratings is associated with a 1.4% rise in ROA, suggesting that strong internal culture enhances productivity. On the contrary, work satisfaction and work-life balance ratings are negatively associated with ROA, with reductions of 1.3% and 0.9%, respectively. These results may indicate a trade-off between employee comfort and operational efficiency, especially in cost-conscious firms. In contrast, the stock market reacts differently. A one standard deviation increase in work-life balance ratings leads to a 10.2% rise in stock returns, implying that investors

value flexibility and employee well-being. However, job security is negatively linked to returns, with a 10.8% drop for each standard deviation increase, possibly due to concerns about rigidity or inefficiencies. Similarly, skill development is associated with a 10.3% decrease in returns, potentially viewed as a cost centre with delayed payoffs. Interestingly, company culture does not significantly influence stock returns, highlighting a disconnect between what drives operational performance and what attracts investor interest. Firm size heterogeneity further clarifies these dynamics. In large-cap firms, company culture and promotion ratings are significantly associated with higher ROA (1.5 - 3.2%), and work-life balance strongly correlates with stock returns. These results are consistent with the idea that larger firms, with better governance and greater analyst coverage, transmit employee sentiment more effectively to external markets. Mid-cap firms show responsiveness to culture and job security in their ROA outcomes but weaker capital market effects. Small-cap firms display statistically insignificant results, likely due to lower visibility and fewer reviews. The findings have several implications. Theoretically, they extend the literature on ESG and intangibles by illustrating that employee-generated data, while subjective, contains predictive signals. The divergence in the impact of employee sentiment on ROA versus stock returns suggests differing priorities between internal operations and investor perceptions. Practically, the study informs corporate strategy: firms can prioritize culture and appraisals to enhance internal efficiency while projecting flexibility and employee empowerment to appeal to investors. However, the study is not without limitations. Publicly posted reviews may suffer from self-selection bias, where only extremely satisfied or dissatisfied employees leave feedback. Additionally, despite using lagged predictors to mitigate reverse causality, the observational nature of the study limits causal claims. Future work could incorporate natural experiments, sentiment analysis of review text, or explore specific sectors to deepen understanding. In conclusion, employee reviews, once dismissed as anecdotal, have evolved into valuable indicators of a firm's health. This study provides robust evidence that employee sentiment can forecast both profitability and market valuation. Firms and investors should not overlook these voices; in an era of transparency and stakeholder capitalism, employee perceptions offer strategic insights that are too valuable to ignore.

Title: Greenwashing: Corporate risks, ethics and sustainability

Author: Manali Paranjpe (The Conference Board)

ABSTRACT

Greenwashing: Corporate risks, ethics and sustainability
At its core, greenwashing is an ethics issue.
And no matter the number of regulations around the globe, it is still rampant.
What are we missing?

This paper is a deep dive into corporate greenwashing across the globe, and presents top 5 key learnings from these instances.

Lesson no. 1: Be serious about and review your advertising.

When KLM decided to advertise its eco-friendly flying in Europe, it did not consider that what it said in its advertisements did not match with the actual numbers, science and actual environmental footprint. While making customers believe that flying with KLM helped them achieve a better net zero target and contribute to removal of excess carbon, what the airline was engaging in was greenwashing: misleading consumers to take an economic decision based on an incorrect environmental claim. What followed were court proceedings, a hefty fine, and a loss of reputation for the airline that can never be quantified.

While new regulations are being drafted and processed in various jurisdictions, for example the Green Claims Directive in the EU, companies must not lose focus of the fact that irrespective of the existence of an anti-greenwashing law, their liability under corporate law, environmental law and tort law continues to exist. In

many instances companies do not measure advertising against the strict yardstick of greenwashing leading eventually leading to issues, both at a company level and the environmental level.

In India, under the Central Consumer Protection Authority (CCPA), Guidelines for Prevention and Regulation of Greenwashing or Misleading Environmental Claims, 2024 regulate greenwashing, focusing on it from an advertising and consumer rights perspective, more than an environmental impact angle. The latter is left to companies-to decide what is right and what is wrong.

Lesson no. 2: Know your science: this is not only about the law.
In the US, Keurig sold to its customers, more than just single use coffee pods: a promise from a company and a consumer belief: that they could recycle the pods by just trashing them in recycling bins. The tonnes of plastic pods that could not be recycled led eventually to a $1.5 million fine levied on the company by the SEC.

Keurig's failure sits at a very interesting intersection: of scientific and practical implementation of recycling on one hand and of high investor pressure to meet sustainability targets. In a bid to fulfilling sustainability reporting and showcasing the sustainability achievements of the company, companies often make the mistake of not backing up crucial information with scientific analysis. What may look good in an ESG report may not be scientifically accurate, but it is the latter that stakeholders look for, not the former.

Lesson no. 3: Boards and management may be sued and be held responsible.

In 2023, ClientEarth sued Shell's directors in the UK. It was pathbreaking, since it was the first lawsuit globally to hold the board responsible for inadequate climate strategy and failing to prepare the company for the net-zero transition. While this is not overt greenwashing, boards may be held responsible for incorrect climate claims, in breach of their fiduciary duties. As jurisprudence on this is developing across the globe, boards and management must be cautious about any green claims they make or support.

Lesson no. 4: Words are vital, trust is non-negotiable.

S. C. Johnson, makers of Windex cleaner spray in the US, did not differentiate between 'ocean plastic' and 'ocean bound plastic' when they pitched their product to consumers. While consumers bought the idea that the spray bottles were made from 100 percent ocean plastic – plastic removed from the oceans, it was not true. The bottles were made from 'ocean bound plastic' i.e. plastic sourced from plastic banks – plastics collected on land that would have otherwise ended up in the ocean. A claim that Windex is 'non-toxic', was also called in question in a lawsuit against S. C. Johnson in 2020, with the argument that its ingredients are harmful to people, animals, and the environment.

Misleading consumers even by slight variations of terminology is a breach of trust. Closer home, there are several cases of misuse of '100 percent natural', 'chemical free', and 'biodegradable'.

Lesson no. 5: Greenhushing, greenblushing and greenwishing are subsets of greenwashing.

Greenhushing i.e. not communicating sustainability/environmental impact to stakeholders for the fear of scrutiny, greenblushing i.e. omitting to disclose to stakeholders the positive outcomes of the company's environmental initiatives fearing questions, and greenwishing i.e setting over-ambitious corporate environmental targets without having the means or the plan to achieve them: all are in one way or the other, facets of the larger universe of greenwashing.

In the UK, Anglican Water, responsible for providing drinking water, disclosed how it created wildlife-friendly wetlands, and concealed information related to it releasing sewage into the environment. When it pleaded guilty of millions of litres of untreated sewage overflowing from a water recycling centre in Essex, it faced a fine of £2.65m. On similar lines of greenhushing, omission of vital environmental information from stakeholders is also a form of greenwashing.

Greenwashing gets called out most frequently as an environmental issue but very few times as a hardcore 'corporate ethics issue'. Companies have to navigate a complex maze of business, consumer rights, stakeholder and market expectations and environmental and social footprints. A robust culture of corporate ethics shall help companies stay clear of greenwashing.

In India, regulation of greenwashing is split across different regulations: advertising guidelines, the SEBI BRSR framework, duties of directors under the Companies Act, 2013, and tort law. As an ethics issue, companies ought to build anti-greenwashing measures into their strategy, whether a comprehensive anti-greenwashing law at the national level exists or not.

Companies that get their environmental claims right stand to gain a competitive advantage over those that mislead, intentionally or otherwise.

Title: Linking Risk Governance to Bank Stability: An Empirical Examination

Authors: Mehak Khanna (Indian Institute of Technology Kharagpur) and Abhijeet Chandra (Indian Institute of Technology Kharagpur)

ABSTRACT

This study involves the development of a risk governance index for banks. The index is developed by aggregating sub-indices based on the Basel lines of defence and board oversight. The sample includes listed commercial banks, including private and public sector banks, over the period 2007- 2020. The index is constructed using the linear non-weighted method of aggregation. The paper further attempts to determine the effect of the implementation of risk governance practices on the stability of banks. We employ the z-score to determine the stability of banks. Empirical findings suggest that risk governance has a negative relationship with the stability of banks.

Title: Transformational Leadership for Energy Transition: A Case Study of Institutional Innovation in Gujarat's Power Utility GUVNL

Authors: Jai Prakash Shivahare (IIM Indore) and Nitesh Bidarkar (GUVNL)

ABSTRACT

1. Introduction: India's commitment to achieving net-zero emissions by 2070 has elevated climate transition to a national development priority. This paper examines how state utilities, traditionally seen as operational arms, are evolving into strategic climate actors. Gujarat Urja Vikas Nigam Limited (GUVNL), the state's power sector holding company, exemplifies this shift through an institutionalised approach integrating infrastructure, policy, digital governance, and human capital development. The analysis is anchored in the Multi-Level Climate Governance (MLCG) framework, which explains how sub-national entities shape climate outcomes through vertical (federal-state) and horizontal (peer-to-peer) alignments (Gregorio, et al., 2019) . The paper also draws on the energy justice framework (Sovacool, et al., 2016) to assess equity, affordability, and inclusiveness in GUVNL's programs, including decentralized renewables and women-focused leadership initiatives.

2. Objectives: The paper assesses GUVNL's alignment with India's net-zero and energy justice goals, explores institutional innovations transforming utilities into climate leaders, and highlights the utility's role in digital governance, decentralized energy, and workforce transition through a just transition perspective.

2. Materials & Methods/ Methodology: 2.1 Conceptual Framework The study is grounded in the Multi-

Level Climate Governance (MLCG) framework (Gregorio, et al., 2019) , which explains how sub-national actors influence and implement global climate goals through vertical (national-state) and horizontal (peer-to-peer) alignment. The energy justice framework (Sovacool et al., 2017); (Kirsten, Jenkins; Darren, McCauley; Alister, Forman;, 2017) is applied to assess distributional fairness and inclusiveness in the utility-led energy transition. 2.2 Research Design This is a qualitative case study supported by secondary data from planning documents (CEA Resource Adequacy Plan), GUVNL's energy transition plan and annual reports, policy reports, and evaluation studies from multilateral and national bodies, along with comparative literature on global utility reform.

3. Results and Discussion:3.1. Aligning with Resource Adequacy and RE Goals GUVNL's response to the Central Electricity Authority's projection of storage and clean energy needs includes procurement of 24.5 GW of renewable energy PPAs and tenders for 6500 MWh standalone and 1,600 MWh long-duration battery storage. This aligns with resource adequacy goals and supports grid flexibility, while also laying the groundwork for India's high-RE future. 3.2 Institutional Innovation through C-NET and GETRI Central to Gujarat's climate strategy is Center for Net-zero Energy Transition (C-NET), India's first state-utility-promoted climate think tank established by GUVNL within rebranded GETRI. C-NET promotes hybrid GHG accounting and supports policy advisory, capacity building, and applied research. It collaborates with leading institutions like IITs, IIMs, GIZ, AEEE, NISE, CEEW, LDES Council, and IHA. By embedding sustainability and equity into utility operations, C-NET advances just transition principles and bridges the gap between strategic planning and grassroots climate action. 3.3 Digital Governance and System Planning GUVNL has launched Akshay Urja Setu, a digital platform linking RE project approvals with real- time transmission planning, thus addressing chronic delays and investor risks. Additional tools like GeoUrja, E-Vidhyut Seva, and the Centralized Processing Centre (CPC) have transformed legacy processes, enabling demand-responsive, climate-aligned governance. 3.4 Leadership Development and Workforce Reform Through GETRI, GUVNL has implemented a five-tiered Leadership Development Program (LDP) encompassing Ignite, Solve, Lead, Represent, and Transform. A parallel LDP track for selected women officers, ensures gender-sensitive leadership development. Complementary initiatives include a merit-based Fast Track Promotion Policy, education and research policy, and mandatory training under the Employee Development Program for GUVNL's workforce of 65,000 employees. Initiatives such as Manthan, PAHAL, and the Ideation Premier League promote employee-led innovation and reinforce distributed leadership aligned with energy transition needs. Together, these platforms embed organizational learning theory (Argyris & Schön, 1996) and distributed leadership into utility management, enabling frontline-to-boardroom alignment. 3.5 Advancing Energy Justice through Decentralized Solar GUVNL has empowered over 9 lakh rooftop solar users with an aggregated capacity of more than 5000 MW and implemented 1,700 MW under the PM-KUSUM scheme, including solarized agriculture feeders. These programs promote prosumers among farmers and residential consumers. However, challenges remain in extending such benefits to MSMEs, low-income groups and rural users, highlighting the need for differentiated policy support. 3.6 Alignment with Global Literature The case resonates with global findings: (Frei, et al., 2018) observed a lag in utilities' response to decentralization and integration challenges. Kirsten et al., (2017) emphasized the centrality of utilities in building "electric cities." Germany's experience (Gabriel & Ignazio, 2017) reveals how inclusive, participatory models reduce conflict in energy transitions. GUVNL's approach integrates these insights while contextualizing them for India's socio-political landscape

4. Practical Implications: 4.1 Policy and Governance GUVNL's case study offers a replicable model for integrating climate goals into utility operations while ensuring affordability, establishing institutions like C-NET to bridge policy and practice, and fostering participatory innovation and community-led energy transition. 4.2 Contribution to Responsible Capitalism GUVNL's transformation aligns with the IRCC themes of responsible institutions and just transitions. Its emphasis on accountability, inclusiveness, and long-term planning contributes to a more resilient and equitable energy system, critical for India's climate and development goals. Conclusion GUVNL's multi-pronged strategy, spanning clean infrastructure, digital governance, institutional innovation, workforce transformation, and community engagement recasts state utilities as strategic enablers of climate action. It reflects a bold shift from transactional service delivery to anticipatory public sector leadership aligned with global climate goals.

POSTER PRESENTATIONS

Title: Linking Sustainable Curriculum Design with stakeholder engagement: An examination of the integration of UN SDG 4 and 17 in higher education

Authors: Usha Shree Rathod Bhukya (SR University, Warangal), Rajya Laxmi Muddasani (SR University, Warangal), and Rajan Kumar Gangadhari (SR University, Warangal)

Submission ID : 33

Corporate Governance, Corporate Sustainability, & Responsible Capital (CSCG)

Linking Sustainable Curriculum Design with Stakeholder Engagement: An Examination of the Integration of UN SDG 4 and 17 in Higher Education

Usha Shree Rathod , SR University
Rajya Laxmi Muddasani , SR University
Rajan Kumar Gangadhari, SR University

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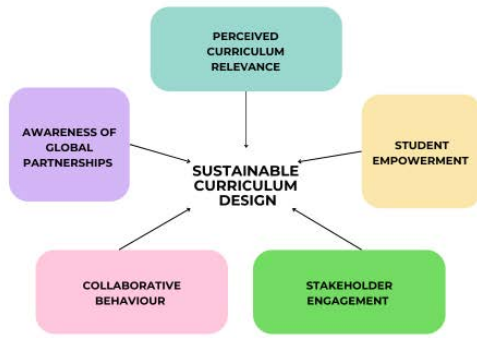
The problem statement

- 80% of graduates in India lack employability skills (Unstop Talent Report, 2025).
- AI will replace around 400 million jobs by 2030 (McKinsey, 2024).
- Technology change will significantly impact their jobs over the next three years (PWC, 2025).

Objectives

- To examine the role of stakeholder engagement in sustainable curriculum design.
- To explore how SDG 4 and SDG 17 can be integrated into higher education curriculum.
- To evaluate the relationships between curriculum design, relevance, student empowerment, global partnerships awareness, and collaborative behavior using SEM.



Underlying Theories
Constructivist Learning Theory
Stakeholder Theory
Actor–network theory

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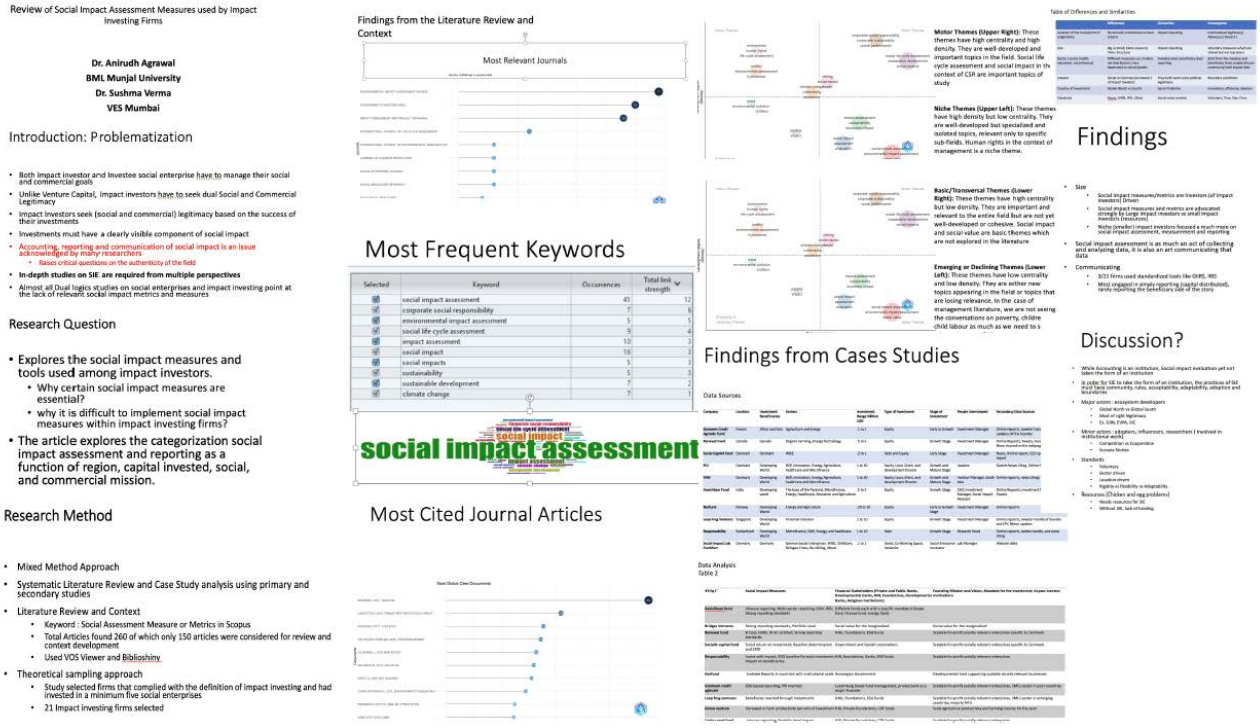
Indian Management Research Conference
December 5-7 2025 | Indian Institute of Management, Ahmedabad

IMRC 2025
India Management Research Conference
IIM Ahmedabad

Title: Review of Social Impact Assessment Measures Used by Impact Investing Firms

Authors: Anirudh Agrawal (BML Munjal University) and Sushma Verma (Vivekanand Educations Society's Institute of Management Studies and Research)



Title: BALANCING PROFITABILITY PROMISES AND SUSTAINABILITY PRIORITIES: An examination of Revised Stakeholder-Oriented Theory for Resource Utilization and Sustainability Compulsion

Authors: Raja Emani (IIM Sirmaur) and Ashish Goel (IIM Sirmaur)

Submission ID - 108
Track 8
CSCG (IRCC 2025)

BALANCING PROFITABILITY PROMISES AND SUSTAINABILITY PRIORITIES

An examination of Revised Stakeholder-Oriented Theory for Resource Utilization and Sustainability Compulsion

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INTRODUCTION: The study examines how firms balance short-term profitability with long-term sustainability by integrating Stakeholder-Oriented Theory and the Resource-Based View (RBV). The research is grounded in the observation that firms increasingly face conflicting pressures—investors demand immediate financial returns while communities, regulators, and stakeholders push for sustainable practices with delayed benefits.

The paper contributes to the literature by exploring the interplay between resource utilization, profit appropriation, and sustainability imperatives. highlighting how managerial decision-making must navigate tensions between economic performance and ecological responsibility.

Using Tata Industries Limited (TIL) as a case study, the research provides empirical grounding to these theoretical debates. By addressing the underexplored relationship between profit pressures and sustainable resource allocation.

CONCEPTUAL GROUNDING: The paper employs four interlinked theoretical perspectives to build a cohesive framework explaining their connections in the literature can be summarized as follows:

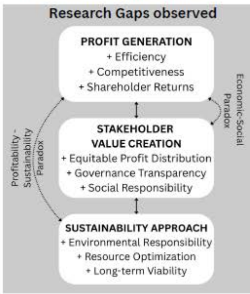
- Stakeholder Theory (Freeman, 1984)
- Resource-Based View (RBV) (Barney, 1991)
- Incomplete Contract Theory (Grossman & Hart, extended by Barney, 2018)
- Institutional Theory (Gao & Bansal, 2012)

The paper conceptually integrates these dynamics within real-world governance and sustainability pressures.

METHODOLOGY: The study adopts a descriptive-exploratory case study approach to examine how profitability pressures influence resource utilization and economic sustainability.

Using Tata Industries Limited (TIL) as the focal case, it draws data from annual and CSR reports (2020-2024), industry benchmarks, and stakeholder analyses to capture financial and sustainability dynamics.

Through triangulation of financial, operational, and CSR data, the study provides an understanding of managerial decisions under profit pressure affect sustainable resource allocation & long-term economic resilience.



Financial Overview of Tata Industries Limited (TIL) (FY 2021-24)

Financial Year	Total Income (₹ Cr)	Total Expenditure (₹ Cr)	Net Profit/Loss (₹ Cr)	CSR Expenditure (₹ Lakh)
2021-22	253.32	354.12	-1050.2	195.3
2022-23	337.72	376.54	-863.46	20
2023-24	318.13	504.43	-177.84	0

Note: Compiled from TIL company annual and CSR reports, 2020-2024

Proposition 1: Profit-generation pressures push managers toward short-termism, undermining sustainability.

Financial Indicator	Evidence From Data Files
Net Loss FY 2021-22	₹1,050.20 crore (consolidated)
Net Loss FY 2022-23	₹863.46 crore (consolidated)
Loss on Sale of Long-Term Investments (FY 2022-23)	₹2,071.39 crore
Finance Costs FY 2021-22	₹68.87 crore
Finance Costs FY 2022-23	₹106.12 crore
Exceptional Impairments FY 2021-22	₹499.43 crore impairment losses
CSR Spend Decline (2021-23)	2021-22: ₹195.30 lakh to 2022-23: ₹20 lakh

Proposition 2: Profitability pressure leads to resource overutilization and weakens economic sustainability.

Operational/Financial Indicator	Evidence From Data Files
Increase in Total Expenditure FY 2021-22 → FY 2022-23	₹35,292.48 lakh → ₹37,654.32 lakh
Inventory Build-Up (Indicating Overproduction)	Change in inventories FY 2022-23 = -₹187.18 lakh (inventory increased)
Employee Cost Increase	₹11,729.52 lakh → ₹13,486.37 lakh (FY 21-22 to FY 22-23)
Depreciation Levels	Depreciation consistently above ₹3,000 lakh per year
Expenses Rising Faster than Income	Income ↑ from ₹25,338.13 lakh → ₹33,772.49 lakh; Expenditure ↑ from ₹35,292.48 lakh → ₹37,654.32 lakh
Long-Term Decline in Profitability	Recurring multi-year losses: -₹1,050.20 crore → -₹863.46 crore → -₹177.85 crore
No CSR Investment (FY 2023-24)	CSR Spending = ₹0

CONCLUSION: The conflict between profitability and sustainability arises from firms' tendency to prioritise short-term financial performance over long-term stakeholder value. The paper argues that integrating stakeholder-oriented theory with the resource-based and incomplete contract perspectives enables a more balanced view of strategic advantage grounded in fairness, resource efficiency, and ecological responsibility.

Sustainable profitability, therefore, depends on transparent governance, equitable profit sharing, and innovation-led sustainability practices. The study concludes that organizations adopting this revised-stakeholder engagement conceptualization fosters resilience and innovation.

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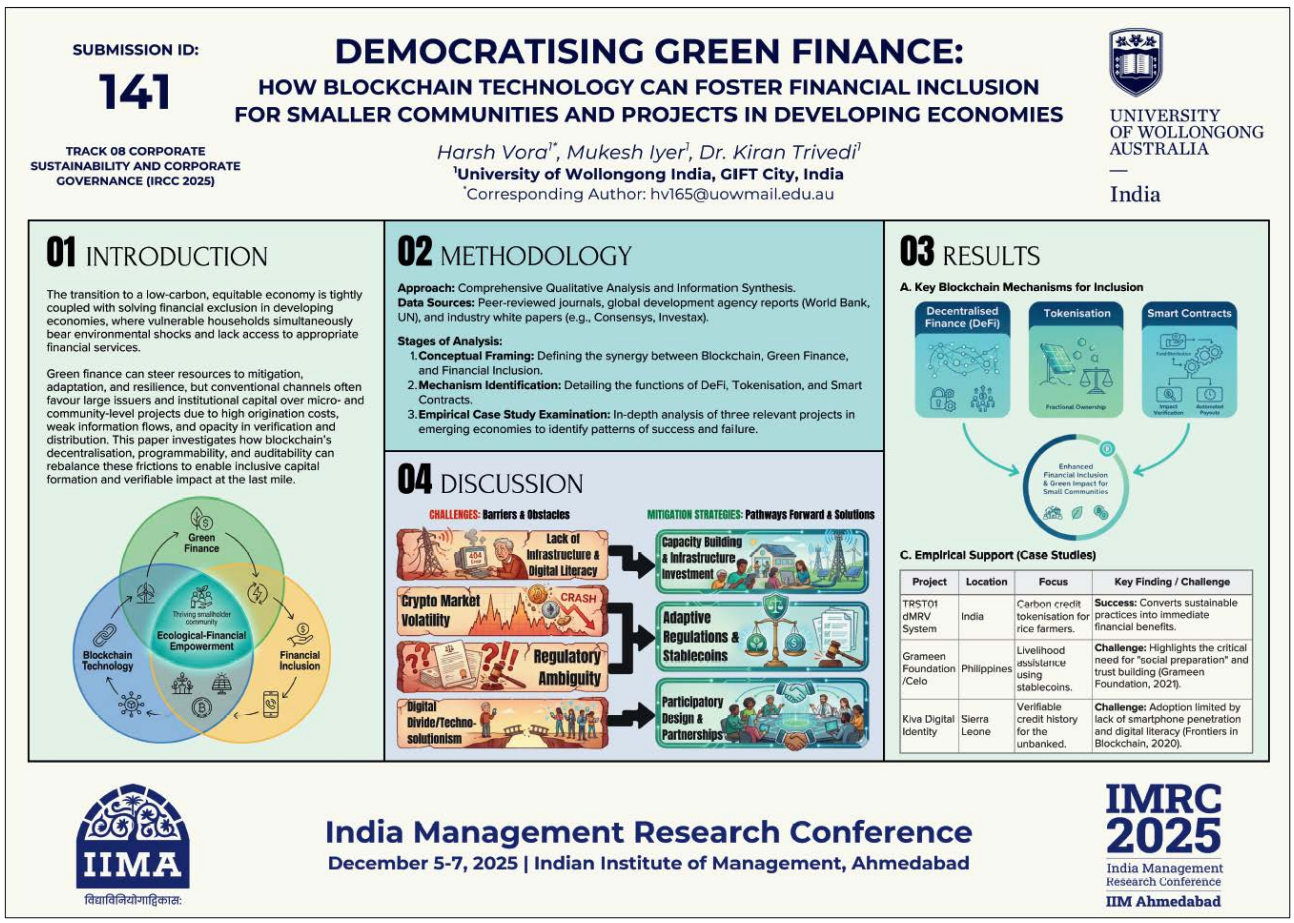
INDIAN MANAGEMENT RESEARCH CONFERENCE
DECEMBER 5-7, 2025 | INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD

IMRC 2025 India Management Research Conference IIM Ahmedabad

Title: Democratising Green Finance: How Blockchain Technology Can Foster Financial Inclusion for Smaller Communities and Projects in Developing Economies

Authors: Harsh Vora (University of Wollongong (UOW), India), Mukesh Iyer (University of Wollongong (UOW), India), and Kiran Trivedi (University of Wollongong (UOW), India)



Title: The Psychology of Green Investing: A Behavioral Finance Approach to Sustainable Decision Making

Authors: Karimunnissa Begum Shaik (Vignan's Foundation for Science, Technology and Research) and Srinivasa Rao Yadavalli (Vignan's Foundation for Science, Technology and Research)

ABSTRACT

Green investment and sustainable finance have seen an extraordinary upsurge in interest as a result of the fundamentally altered global financial ecosystems brought about by the growing urgency of tackling climate change (IPCC, 2018). Green investing has become a key tactic to reroute funds toward sustainable development objectives. This involves investors incorporating environmental, social, and governance (ESG) considerations into their portfolio choices (Friede, Busch, &Bassen, 2015). Even while institutional investors and legal frameworks have established the framework for ESG markets, little is known about the behavioral aspects impacting the engagement of individual investors, especially in developing nations like India (Riedl&Smeets, 2017). In this research,The Psychology of Green Investing: A Sustainable Decision-Making Method Based on Behavioral Finance By examining how psychological factors, cognitive biases, and financial literacy levels influence sustainable investment decisions made by Indian retail investors, Making fills this crucial gap.

This study, which has its roots in behavioral finance, which questions the conventional wisdom that investors are just rational (Barberis&Thaler, 2003; Statman, 2008), contends that a complex interaction between emotionally motivated and rational considerations affects sustainable investing. Using the Theory of Planned Behavior (Ajzen, 1991) as a foundation and environmental psychology (Peattie, 2010) as an extension, the study looks at how factors like perceived moral responsibility, environmental concern, risk perception, herding, and overconfidence bias either help or hurt green investing behavior.

To capture both breadth and depth, the study uses a strong mixed-methods approach. Using established measures for dimensions such as behavioral biases (Thaler&Sunstein, 2008), financial literacy (Lusardi & Mitchell, 2014), and environmental concern (modified NEP scale), the quantitative phase polled 400 retail investors in Tier-1 and Tier-2 Indian cities. To determine the explanatory power of psychological constructs and test proposed routes, structural equation modeling, or SEM, was utilized. In addition, 20 in-depth interviews with seasoned green investors, financial advisors, and ESG product specialists were conducted as part of the qualitative phase. Interviews thematically coded: motivators, obstacles.

Green investing is greatly impacted by psychological variables, as the results demonstrate. According to Joshi and Rahman (2017), environmental concern was the most powerful positive predictor, indicating that pro-environmental sentiments are associated with a greater desire to invest in ESG products. According to Montford and Goldsmith (2016), this link was found to be moderated by financial literacy and ESG awareness, with financially literate investors better able to recognize "greenwashing" and evaluate sustainability promises critically. Herding behavior and overconfidence bias, on the other hand, were shown to be major obstacles, as many participants acknowledged that they preferred to follow trends or peers over performing in-depth investigation (Chen & Wang, 2021).

Over 54% of the variance in green investment intention was explained by the SEM model, which showed excellent fit (CFI = 0.952, RMSEA = 0.050), confirming the importance of both cognitive and non-cognitive components. These findings were enhanced by qualitative research, which showed that many investors experience emotional fulfillment—a "warm glow" impact, as Andreoni (1990) put it—when they match investments with their environmental identity, legacy goals, or personal values. Global concerns over the legitimacy of ESG frameworks were echoed by the frequent citation of impediments such information asymmetry, uneven ESG ratings, and a lack of defined benchmarks (Khan, Serafeim, & Yoon, 2016).

These observations have applications. To improve ESG awareness and lessen behavioral biases, policymakers should give investor education first priority (Lusardi & Mitchell, 2014). By providing transparent sustainability labels and more lucid ESG products, financial institutions can foster trust (Brière et al., 2017). Investors can be guided toward more environmentally friendly selections without sacrificing their independence by using

subtle cues, such as sustainability-focused robo-advisors or default green options (Thaler&Sunstein, 2008).

India's green finance strategy gains from the study's policy insights, which advocate verified sustainability certifications, standardized ESG reporting, and incentives for retail investor participation. By highlighting psychological enablers and barriers (Kaur & Singh, 2024), the study supports essential measures aligned with India's net-zero goals and growing retail financial engagement.

This research is not without limits, despite its contributions. Since the sample is urban-centric, it might not accurately reflect the dynamics of investors in rural or semi-urban areas, where financial literacy and ESG awareness may vary greatly (Wüstenhagen, Wolsink, &Bürer, 2007). Causal inferences are limited by the cross-sectional design, and self-reported data may add social desirability bias.

This work should therefore be expanded upon in a number of ways in future research initiatives. First, long-term research can investigate whether aspirations to make green investments result in longer-term, cross-economic cycle behavior (Nilsson, 2009). Behavioral biases in sustainable finance may be mitigated by cultural norms, according to comparative cross-country studies (Farooq &Mulyadi, 2022). Moreover, experimental designs evaluating the effectiveness of various nudges—like social norm messaging, sustainability defaults, or green loyalty programs—would provide useful information for product designers and policymakers (Thaler&Sunstein, 2008). Blockchain-based green certifications and AI-driven ESG advice are two emerging concepts that merit investigation to determine whether technology may reduce the hazards of greenwashing and bridge knowledge asymmetries (Zhan et al., 2024).

The study's findings highlight the fact that green investing is influenced by a wide range of psychological aspects, social effects, and cognitive shortcuts rather than just logical risk-return calculations. The results show that developing a strong green investment culture necessitates more than just legal frameworks; it also calls for a comprehension of investor psychology and customized treatments that match sustainability requirements with financial incentives. This study adds significant knowledge for scholars, practitioners, and policymakers dedicated to expanding sustainable finance in India and beyond by shedding light on the behavioral pathways and useful levers for change.

Title: Analysing the Determinants of ESG Based Disclosures for Investor's Decision Making in Emerging Economies

Authors: Pramahender Singh (Kurukshetra University) and Dr. Himanshu (Netaji Subhas University of Technology (NSUT)

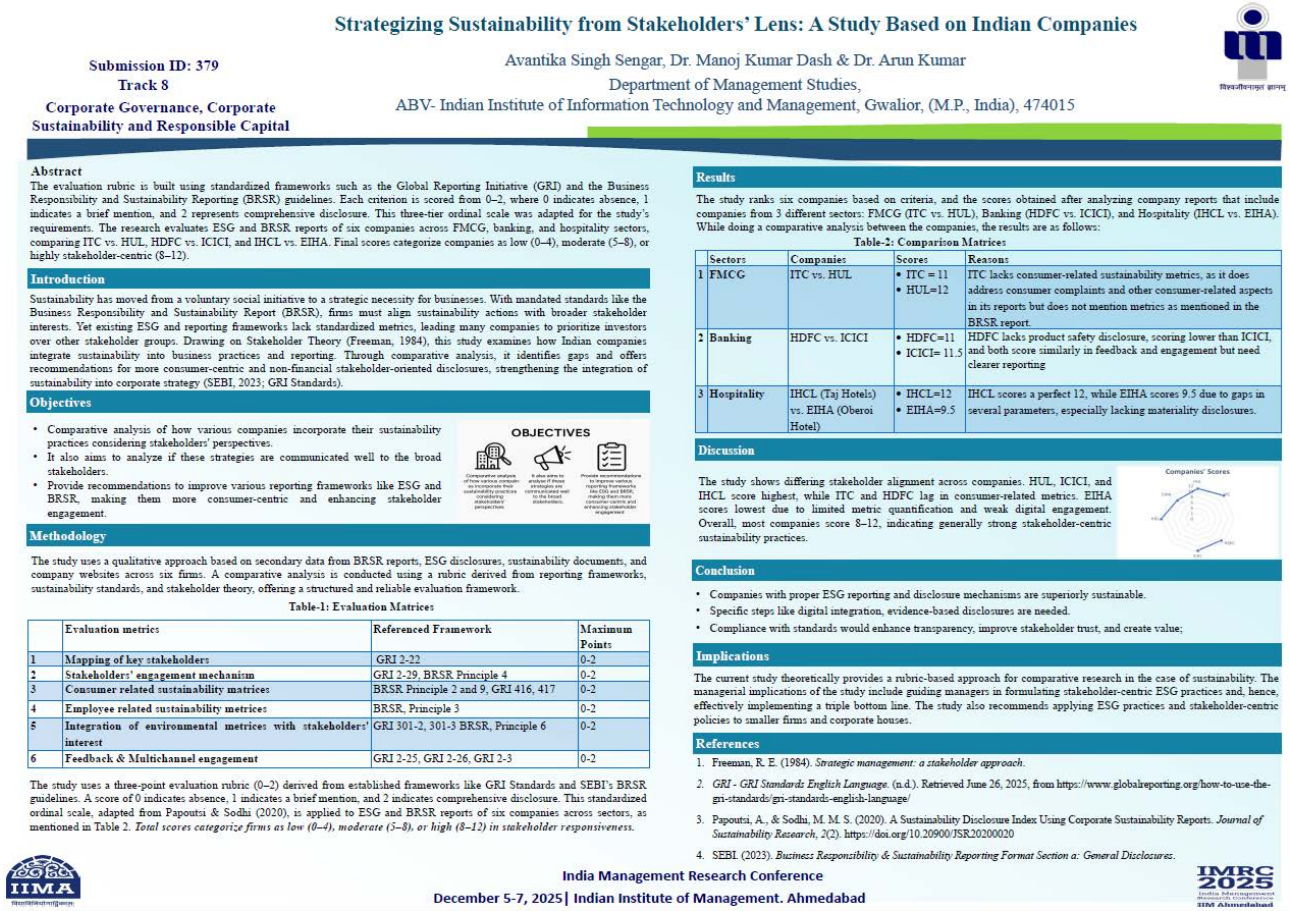
ABSTRACT

Environment Social and Governance (ESG) based framework and reporting focus on reporting by companies about their sustainable practices and environment based operations such as reducing greenhouse, gas emission reductions, and sustainable production by these firms. ESG disclosures related requirements were necessary in emerging economies like India, which provides valuable non-financial information to investors, information such as integration and exploration of sustainable business models by existing firms. It also involves analysing and presenting climate change effects on businesses, greenhouse gas emission, decarbonisation, mitigation of climate change risks and adaptations. Present study aims to measure key determinants, which affects ESG disclosure in emerging economies such as India. This study is conducted in two phases, at first phase extensive literature review and expert opinion have been used to identify key determinants which affects ESG disclosures and framework from investors point of view and at second stage these identified variables will be prioritized using MCDM techniques based on their relative weights and relative importance. Present study seeks to explore and identify key determinants, which affects ESG based disclosures and reporting in India, and prioritizing these identified variables based on their relative importance and contextual interrelationship among identified variables using multi criteria decision-making (MCDM) technique and expert opinions. The study found that key determinants, which affect effective implementation, disclosure and framework, are materiality, lack of standardized reporting directives and

norms and enhanced firm value and corporate image. Factors, which have been given highest weights under sub criteria, are "lack of quality data, insufficient reporting, financial stability and depletion of natural resources" which affects effective and material based sustainable reporting in emerging economies such as India.

Title: Strategizing Sustainability from Stakeholders Lens: A study based on Indian Companies

Authors: Avantika Singh Sengar (ABV-IIITM Gwalior) and Dr Manoj Dash (ABV-IIITM Gwalior)



Strategizing Sustainability from Stakeholders' Lens: A Study Based on Indian Companies

Submission ID: 379
Track 8
Corporate Governance, Corporate Sustainability and Responsible Capital

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Abstract

The evaluation rubric is built using standardized frameworks such as the Global Reporting Initiative (GRI) and the Business Responsibility and Sustainability Reporting (BRSR) guidelines. Each criterion is scored from 0–2, where 0 indicates absence, 1 indicates a brief mention, and 2 represents comprehensive disclosure. This three-tier ordinal scale was adapted for the study's requirements. The research evaluates ESG and BRSR reports of six companies across FMCG, banking, and hospitality sectors, comparing ITC vs. HUL, HDFC vs. ICICI, and IHCL vs. EIHA. Final scores categorize companies as low (0–4), moderate (5–8), or highly stakeholder-centric (8–12).

Introduction

Sustainability has moved from a voluntary social initiative to a strategic necessity for businesses. With mandated standards like the Business Responsibility and Sustainability Report (BRSR), firms must align sustainability actions with broader stakeholder interests. Yet existing ESG and reporting frameworks lack standardized metrics, leading many companies to prioritize investors over other stakeholder groups. Drawing on Stakeholder Theory (Freeman, 1984), this study examines how Indian companies integrate sustainability into business practices and reporting. Through comparative analysis, it identifies gaps and offers recommendations for more consumer-centric and non-financial stakeholder-oriented disclosures, strengthening the integration of sustainability into corporate strategy (SEBI, 2023; GRI Standards).

Objectives

- Comparative analysis of how various companies incorporate their sustainability practices considering stakeholders' perspectives.
- It also aims to analyze if these strategies are communicated well to the broad stakeholders.
- Provide recommendations to improve various reporting frameworks like ESG and BRSR, making them more consumer-centric and enhancing stakeholder engagement.

Methodology

The study uses a qualitative approach based on secondary data from BRSR reports, ESG disclosures, sustainability documents, and company websites across six firms. A comparative analysis is conducted using a rubric derived from reporting frameworks, sustainability standards, and stakeholder theory, offering a structured and reliable evaluation framework.

Table-1: Evaluation Matrices

	Evaluation metrics	Referenced Framework	Maximum Points
1	Mapping of key stakeholders	GRI 2-22	0-2
2	Stakeholders' engagement mechanism	GRI 2-29, BRSR Principle 4	0-2
3	Consumer related sustainability matrices	BRSR Principle 2 and 9, GRI 416, 417	0-2
4	Employee related sustainability metrices	BRSR, Principle 3	0-2
5	Integration of environmental metrices with stakeholders' interest	GRI 301-2, 301-3 BRSR, Principle 6	0-2
6	Feedback & Multichannel engagement	GRI 2-25, GRI 2-26, GRI 2-3	0-2

The study uses a three-point evaluation rubric (0–2) derived from established frameworks like GRI Standards and SEBI's BRSR guidelines. A score of 0 indicates absence, 1 indicates a brief mention, and 2 indicates comprehensive disclosure. This standardized ordinal scale, adapted from Papoutsi & Sodhi (2020), is applied to ESG and BRSR reports of six companies across sectors, as mentioned in Table 2. *Total scores categorize firms as low (0–4), moderate (5–8), or high (8–12) in stakeholder responsiveness.*

Results

The study ranks six companies based on criteria, and the scores obtained after analyzing company reports that include companies from 3 different sectors: FMCG (ITC vs. HUL), Banking (HDFC vs. ICICI), and Hospitality (IHCL vs. EIHA). While doing a comparative analysis between the companies, the results are as follows:

Table-2: Comparison Matrices

	Sectors	Companies	Scores	Reasons
1	FMCG	ITC vs. HUL	• ITC = 11 • HUL=12	ITC lacks consumer-related sustainability metrics, as it does address consumer complaints and other consumer-related aspects in its reports but does not mention metrics as mentioned in the BRSR report.
2	Banking	HDFC vs. ICICI	• HDFC=11 • ICICI= 11.5	HDFC lacks product safety disclosure, scoring lower than ICICI, and both score similarly in feedback and engagement but need clearer reporting
3	Hospitality	IHCL (Taj Hotels) vs. EIHA (Oberoi Hotel)	• IHCL=12 • EIHA=9.5	IHCL scores a perfect 12, while EIHA scores 9.5 due to gaps in several parameters, especially lacking materiality disclosures.

Discussion

The study shows differing stakeholder alignment across companies. HUL, ICICI, and IHCL score highest, while ITC and HDFC lag in consumer-related metrics. EIHA scores lowest due to limited metric quantification and weak digital engagement. Overall, most companies score 8–12, indicating generally strong stakeholder-centric sustainability practices.

Conclusion

- Companies with proper ESG reporting and disclosure mechanisms are superiorly sustainable.
- Specific steps like digital integration, evidence-based disclosures are needed.
- Compliance with standards would enhance transparency, improve stakeholder trust, and create value;

Implications

The current study theoretically provides a rubric-based approach for comparative research in the case of sustainability. The managerial implications of the study include guiding managers in formulating stakeholder-centric ESG practices and, hence, effectively implementing a triple bottom line. The study also recommends applying ESG practices and stakeholder-centric policies to smaller firms and corporate houses.

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India Management Research Conference
December 5-7, 2025| Indian Institute of Management. Ahmedabad

Title: Beyond Tier 1: Building Transparency and Engagement in Sub-Tier Supply Chains

Author: Nagaraju Ravulaparthy (PGRRCDE, Osmania University)

ABSTRACT

The growing complexity and fragmentation of global supply chains have highlighted the importance of gaining clear visibility and fostering meaningful relationships beyond first-tier suppliers. Yet, many organizations, with up to 65% of procurement leaders acknowledging this gap, still lack crucial insight into their deeper sub-tier networks. This lack of visibility is concerning since a striking 85% of supply chain disruptions, including material shortages, operational delays, and ethical issues like child labor, arise at Tier 2 or even lower levels of these hidden segments. This research tackles the many challenges involved in improving transparency and engagement in these critical sub-tiers. It covers issues like widespread data fragmentation, the understandable reluctance of suppliers to share sensitive information, significant technological integration challenges across different systems, and the complexities of navigating changing regulatory landscapes.

This study argues that the lack of visibility in sub-tiers is more than just an information gap; it shows a deep systemic weakness. This weakness increases risks and can lead to failures in several key areas: operational continuity, ethical behavior, brand reputation, and financial performance. The hidden long-term costs of doing nothing, such as delayed decisions, unmanaged risks, and missed chances for efficiency, often far exceed the perceived initial costs of investing in strong transparency initiatives.

To clarify the complex dynamics of multi-tier relationships and guide effective strategies, this study uses well-established theoretical frameworks. Agency Theory highlights the issues that arise from unequal information and potential conflicts of interest when Tier 1 suppliers manage their own sub-suppliers. This points to the need for aligned incentives and oversight. Resource Dependence Theory shows how focal firms depend on opaque sub-tiers for key resources, making them vulnerable to disruptions, which leads to strategies for managing those dependencies through diversification or control. Institutional Theory explains why companies respond to pressure from consumers, NGOs, and regulators to promote ethical practices and sustainability throughout their supply chains, seeking legitimacy beyond just efficiency. Social Network Theory offers a strong way to map complicated multi-tier interdependencies, identify key points, and understand how information moves or is blocked in the network, revealing single points of failure. Finally, Transaction Cost Economics looks at the economic considerations of governance choices, showing how digital technologies can lower costs related to uncertainty and opportunism in unclear markets, making deeper engagement with sub-tiers more feasible financially.

The research suggests a strategic, multi-faceted approach aimed at greatly improving sub-tier transparency and engagement. This approach combines advanced technologies with strong, human-centered supplier engagement practices. On the technology side, the study highlights the transformative power of AI-driven mapping and predictive analytics. AI, including Large Language Models (LLMs), can systematically map complex supplier networks from large amounts of data, uncovering hidden relationships, risks, and opportunities across multiple tiers. AI and machine learning also automate data collection, verification, and risk prediction, filtering out unnecessary information to provide useful insights. The use of blockchain technology and the Internet of Things (IoT) offers better traceability and builds trust. Blockchain provides a secure, tamper-proof ledger for sharing real-time information, addressing data silos, fraud, and traceability, while IoT allows for detailed, real-time data capture essential for complete visibility. Additionally, advancements in data analytics and cloud platforms make it easier to collect, store, and analyze complex supply chain data, often through cloud-based visibility platforms that speed up decision-making and improve responsiveness.

Importantly, technology works alongside strong, human-centered supplier engagement practices. This starts with prioritizing suppliers based on their emissions footprint, climate impact, and overall spending, as shown by Salesforce's yearly review of key suppliers. Multi-tier engagement models go beyond a one-size-fits-all approach, promoting tailored strategies, such as "Transform the category" for critical high-impact suppliers and "Engage selectively" or "Let the market provide" for others. This includes direct engagement with sub-tier suppliers through joint audits and collaborative compliance programs. Training and support for suppliers are essential, offering resources and guidance on sustainability standards, environmental management, and

ethical practices, as demonstrated by Philips' Supplier Sustainability Performance (SSP) Program. Incentive systems are crucial for encouraging commitment, with leading companies tying executive bonuses to ESG performance or embedding sustainability commitments into supplier contracts. Collaborative improvement plans help build long-term, mutually beneficial partnerships.

Real-world examples show the concrete benefits and various methods for achieving sub-tier visibility. Walmart's blockchain for food traceability reduced tracking time from seven days to 2.2 seconds, improving food safety. Salesforce's supplier engagement program requires 60% of suppliers to set science-based targets and includes climate commitments in contracts to drive compliance. Philips' Supplier Sustainability Performance program, which recognizes that its supply chain contributes to 71% of its total emissions, includes strict environmental and social standards, leading to reduced emissions and better transparency. Other cases, such as Starbucks' over $500 million savings from sustainable supply chains, highlight significant economic benefits. Examples like OEM multi-tier mapping, Maersk and IBM's TradeLens, Gore-Tex's Tier 2 innovation, L'Oréal's trust-based communication, Toyota's targeted approach, and the synergistic Coca-Cola/ McDonald's partnership further demonstrate successful strategies.

The overall findings clearly show that effective sub-tier engagement creates a significant positive impact, reaching far beyond mere compliance for the main company. It drives transformations throughout the entire supply chain ecosystem, resulting in more resilient, ethical, and efficient practices across the network. This research contributes greatly to understanding multi-tier supply chain dynamics and calls for a shift: moving from transactional relationships to building strategic, value-driven partnerships with key sub-tier suppliers. Such partnerships are vital for unlocking greater value in terms of improved resilience, operational efficiency, and a sustainable competitive edge in an increasingly connected global economy.

Title: Sustainable Operations and the Circular Economy in the context of textile supply chains – Case study of Patagonia

Author: Jia Bhanushali (Indian Institute of Management Ranchi)

FROM PATAGONIA TO PAN-INDIA: A SUSTAINABLE CIRCULAR OPERATIONS FRAMEWORK FOR TEXTILE SUPPLY CHAINS

Jia Paresh Bhanushali, Indian Institute of Management Ranchi

IIM RANCHI

INTRODUCTION

- Every year, the textile sector emits **2-8%** of the world's greenhouse gases and uses the equivalent of **86 million Olympic-sized swimming pools** of natural water resources.
- The industry is responsible for an estimated **8–10%** of global greenhouse gas emissions.

RESEARCH GAP

- Limited studies explore how global circular models can be adapted for resource-constrained, MSME-dominated textile ecosystems like India.

OBJECTIVE

- **This study aims to**
- demonstrate the **circular operations model** of Patagonia as directly in alignment with principles of **circular economy** and **stakeholder theory.**
- How can a **successful circular economy model**, as seen in global pioneers like Patagonia, be adapted and implemented across **India's textile supply chains?**

METHODOLOGY

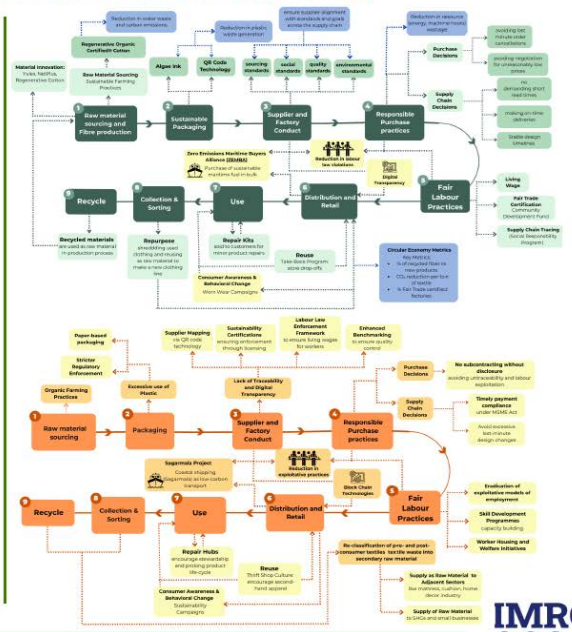
- The study employs a **theory-driven qualitative analysis** of Patagonia's operational practices, integrating insights from **stakeholder theory**, the **circular economy framework**, and **Nidumolu, Prahalad**, and **Rangaswami's** Five Stages of Sustainable Company Development.
- The methodology involves a directed content analysis of lab reports and company publications aligned with established theoretical frameworks in the field of sustainable operations.

KEY FINDINGS

- The results show that Patagonia's current business model is directly in alignment with all three principles of the circular economy as well **stages 2 ,3, and 5** of **Nidumolu, Prahalad, and Rangaswami's Five Stages of Sustainable Company Development** as well as **stakeholder theory**.
- An **adaptation model** has been built of circular operations in the Indian textile Context.

Note:Data was sourced from Patagonia sustainability reports (2018–2023), supplier manuals, Fair Trade documents, circularity audits, and public disclosures.

SUSTAINABLE CIRCULAR OPERATIONS FRAMEWORK (PATAGONIA → INDIA ADAPTATION)



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IMRC 2025 India Management Research Conference IIM Ahmedabad

Title: MEASURING GREEN FINANCE ADOPTION IN INDIAN COMMERCIAL BANKS: A CONSTRUCTIVE INDEX-BASED APPROACH

Authors: Moksha Chodha (Guru Nanak Dev University) and Sonia Kundra (Guru Nanak Dev University)

Submission ID: 434

Track 08: Corporate Sustainability and Corporate Governance (IRCC 2025)

MEASURING GREEN FINANCE ADOPTION IN INDIAN COMMERCIAL BANKS: A CONSTRUCTIVE INDEX – BASED APPROACH

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Keywords: Green Finance, Sustainable Banking, ESG Disclosure, Index Construction

INTRODUCTION

- The accelerating global climate crisis has placed sustainability at the forefront of financial sector reforms.
- India faces a $2.5 trillion climate finance gap to meet its 2070 net – zero target.
- The financial sector, particularly, Commercial banks play a critical role in mobilizing capital for green transition by aligning lending and investment portfolios with low – carbon objectives.

RESEARCH GAP

While green finance is gaining momentum in India, existing research in green finance in Indian commercial banks suffers from fragmented disclosures, inconsistent metrics, and the absence of a standardized index that captures lending practices, governance quality, and operational sustainability. There is also a lack of evidence-based, indicator-driven content analysis to compare banks' green finance maturity. Consequently, there is no holistic, replicable tool to benchmark green finance adoption across Indian commercial banks—representing a critical gap that this study addresses through the development and pilot testing of a comprehensive Green Finance Adoption Index (GFAI).

OBJECTIVES & METHODOLOGY

- The primary objective of this study is **to conceptualize and design a structured multi – dimensional Green finance Adoption Index (GFAI)** tailored to the Indian banking sector.
- To **identify key dimensions and indicators** of green finance adoption based on global sustainability frameworks such as TCFD, GRI, and India's BRSR Guidelines.
- To establish a transparent scoring methodology based on qualitative content analysis of publicly available bank disclosures.
- To **pilot test the GFAI on a selected set of Indian commercial banks** using evidence extracted from their Annual Reports and BRSR/Sustainability disclosures to evaluate the index's practical applicability.

The methodology is anchored in Index Development and pilot design. **Three core dimensions** have been selected after extensive review of the existing literature and frameworks (TCFD, GRI, SEBI'S BRSR and UNEP FI principles for responsible banking). Each dimension includes **6 – 7 specific indicators**, chosen for their relevance, measurability and alignment with disclosure norms.

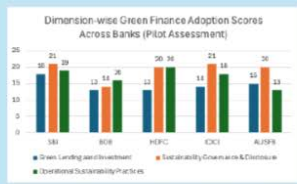
A standardized **0 - 3 scoring scale** has been developed to assess each indicator based on the clarity and quality of public disclosures

No information disclosed | General disclosure with no quantitative data | Partial data, lacks completeness & targets | Disclosure is detailed, quantified, including targets

GFAI Dimensions

RESULTS & DISCUSSION

For pilot – testing of the Index framework, a purposive **sample of five commercial banks** is selected to represent diversity in ownership and size.



- Strong variation observed across banks in all three dimensions.
- Governance & disclosure is the highest – scoring dimension for SBI, HDFC, and ICICI reflecting structured ESG Committees, climate risk processes, etc.
- SBI leads in Dimension 1 with clear policies and product level disclosures.
- Operational sustainability is strongest in HDFC and SBI.
- Governance maturity appears closely linked to stronger green finance adoption and more credible sustainability strategies.
- Overall, Governance emerges as the most advanced dimension, reinforcing the link between internal ESG structures and the credibility of green lending and sustainability practices.

CONCLUSION

The pilot application of the Green Finance Adoption Index (GFAI) demonstrates that Indian commercial banks exhibit heterogenous levels of green finance adoption across lending activities, governance structures, and operational sustainability.

The Index provides a diagnostic tool that enables banks to identify structural gaps in climate governance, disclosure quality, and operational sustainability. The Index also supports supervisory and policy functions by offering a structured approach to benchmark banks' readiness for India's green transition.

The validated Index also offers a replicable framework for future empirical studies examining the determinants and outcomes of green finance adoption.

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Title: Green Claims, Grey Zones: A Multi-Level Exploration of Sustainability Communication, Greenwashing, and Regulatory Assemblages in Indian Industry

Authors: Sonia Kataria (MICA, Ahmedabad) and Vaishali Singh (Amity Global Business School, Ahmedabad)

Easy chair Submission no – 495
Track no – 8
Corporate Sustainability and Corporate Governance

Green Claims, Grey Zones: A Multi-Level Exploration of Sustainability Communication, Greenwashing, and Regulatory Assemblages in Indian Industry

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Introduction

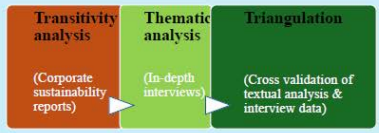
With the evolution of sustainability from a corporate objective to a regulatory and societal necessity, brands are giving greater importance to sustainability communication to better connect with stakeholders. As sustainable communication rises, so does greenwashing, accompanied by exaggerated sustainability claims . Despite regulatory efforts to curb greenwashing, it remains unclear as to how organizations align their in-house activities, stakeholder communications and external reporting. This study investigates the underlying dynamics shaping sustainability communication in Indian companies focusing on the transition from authenticity to performative action. This study examines how sustainability communication is understood and executed at various organizational levels, how they are shaped by regulatory frameworks, internal processes and communication strategies.

Objectives

- To examine manifestation of sustainability communication at micro (individual), meso (organizational), and macro (societal) levels within Indian companies.
- To explore the drivers and barriers that shape whether sustainability narratives are ethical or performative.
- To design a multi-level conceptual framework which represents the assemblage-like nature of sustainability communication of modern Indian industry.

Methodology

The study follows a qualitative, multi-method research design. The first dataset comprises of **50 corporate sustainability reports**, collected using NVivo 14's N-Capture tool and analyzed using **Transitivity Analysis**, a technique rooted in systemic functional linguistics, used to analyze how agency and responsibility are highlighted—or masked—in organizational communication.



18 in-depth interviews with corporate sustainability officers, marketing executives, and board members were conducted as part of second dataset. Interviews probed internal understanding of sustainability communication, compliance practices, and strategic narratives. Thematic analysis of the data was performed, and insights from textual analysis and interview data were cross validated through triangulation. To ensure methodological trustworthiness and rigor, audit trails, member checks, and coder triangulation were employed.

Key Findings

The study is ongoing with some preliminary findings:

At the **micro level**, the study found significant variability in employee engagement. In firms promoting participatory "green talks" and internal sustainability efforts, employees reported a strong sense of ownership and involvement. In contrast, some organizations treated sustainability as a managerial mandate lacking personal engagement, leading to superficial participation and lack of authenticity.

At the **meso level**, organizational communication spanned from highly integrated to sporadic. Firms that incorporated sustainability KPIs within their culture and governance demonstrated stronger alignment between internal practice and external narrative. In contrast, other firms used conventional, impersonal language—resorting to passive voice to avoid assigning responsibility. These patterns are linguistic signs of greenwashing.

At the **macro level**, regulatory compliance was often seen as the endpoint, not the baseline. While SEBI's BRSR Core framework drove standardized reporting, external campaigns remained superficial, with minimal impact on systems or stakeholder involvement. Some organizations used the mandate as a reputational strategy rather than a platform for structural reform.

Managerial Implications/Conclusion

- Organizations must understand sustainability communication as an ongoing process which is a reflection of an organizations internal values, culture, and intent.
- Furthermore , sustainability must be integrated across all levels of the organization—from employee involvement to strategic leadership. In order to be credible, communication must stem from practice, not just storytelling.

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India Management Research Conference (IMRC 2025) December 5–7, 2025 | Indian Institute of Management Ahmedabad

IMRC 2025 India Management Research Conference IIM Ahmedabad

Title: Implementing Circular Economy Strategies in Foundries: A Path to Sustainable Metal Casting

Author: Nagaraju Ravulaparthy (PGRRCDE, Osmania University)

ABSTRACT

The foundry industry, a cornerstone of global manufacturing, is inherently resource-intensive, relying heavily on virgin raw materials and generating substantial waste. This abstract presents a comprehensive exploration of implementing circular economy (CE) strategies within foundries as a critical pathway towards enhanced sustainability and long-term resilience. Moving beyond traditional linear models, CE principles offer a transformative framework for foundries to minimize environmental impact, optimize resource utilization, and unlock new economic value.

This research will first articulate the foundational CE principles – including "reduce, reuse, recycle, remanufacture, and recover" – and contextualize their relevance to the unique operational characteristics of foundries. We will then delve into specific CE strategies applicable across the foundry value chain. Key areas of investigation include:

1.Closed-Loop Material Systems: Focusing on advanced internal scrap management, increased utilization of high-quality external metallic scrap, and the development of robust systems for sourcing and processing post-consumer and post-industrial waste streams.

2.By-product Valorization: Detailing innovative approaches for the beneficial reuse of significant foundry by-products, such as waste foundry sand (WFS) in construction materials, geotechnical applications, or even internal reclamation for reuse in molding. Similarly, strategies for slag and baghouse dust valorization will be examined.

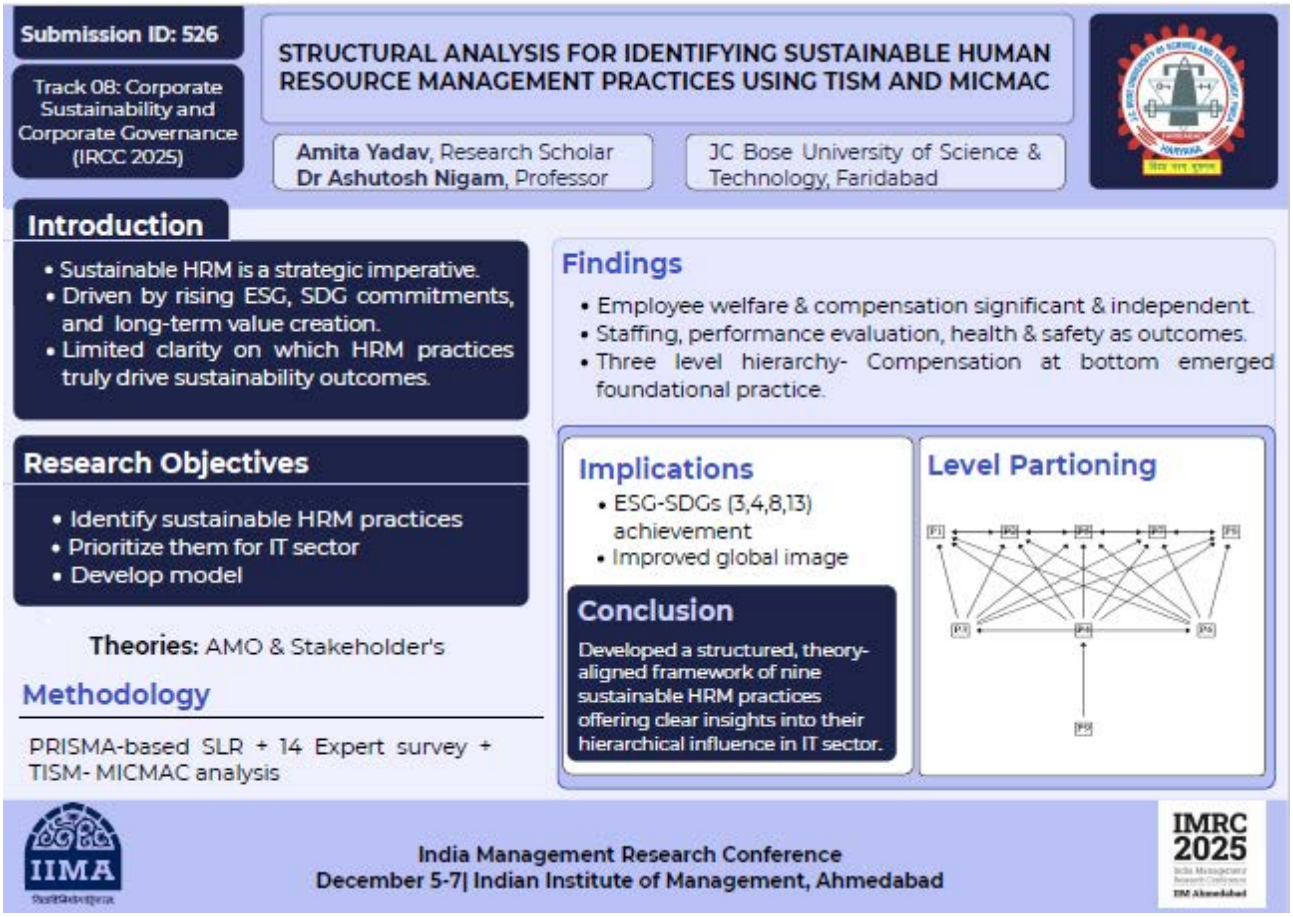
3.Energy and Resource Efficiency: Exploring the integration of energy recovery systems, process optimization for reduced energy consumption, and responsible water management strategies, all contributing to a more circular and resource-efficient operation.

4.Product-as-a-Service (PaaS) and Extended Product Lifespan: While foundries produce components, this research will also explore their role in enabling circularity at the product level, through designing castings for enhanced durability, ease of disassembly, re-manufacturability, and facilitating take-back schemes for end-of-life components.

Furthermore, it will highlight the significant benefits, such as reduced operational costs, decreased environmental footprint, improved supply chain resilience, and enhanced corporate reputation. This research aims to provide actionable insights and a roadmap for foundries seeking to integrate circular economy strategies, fostering a more sustainable and economically viable future for the metal casting industry.

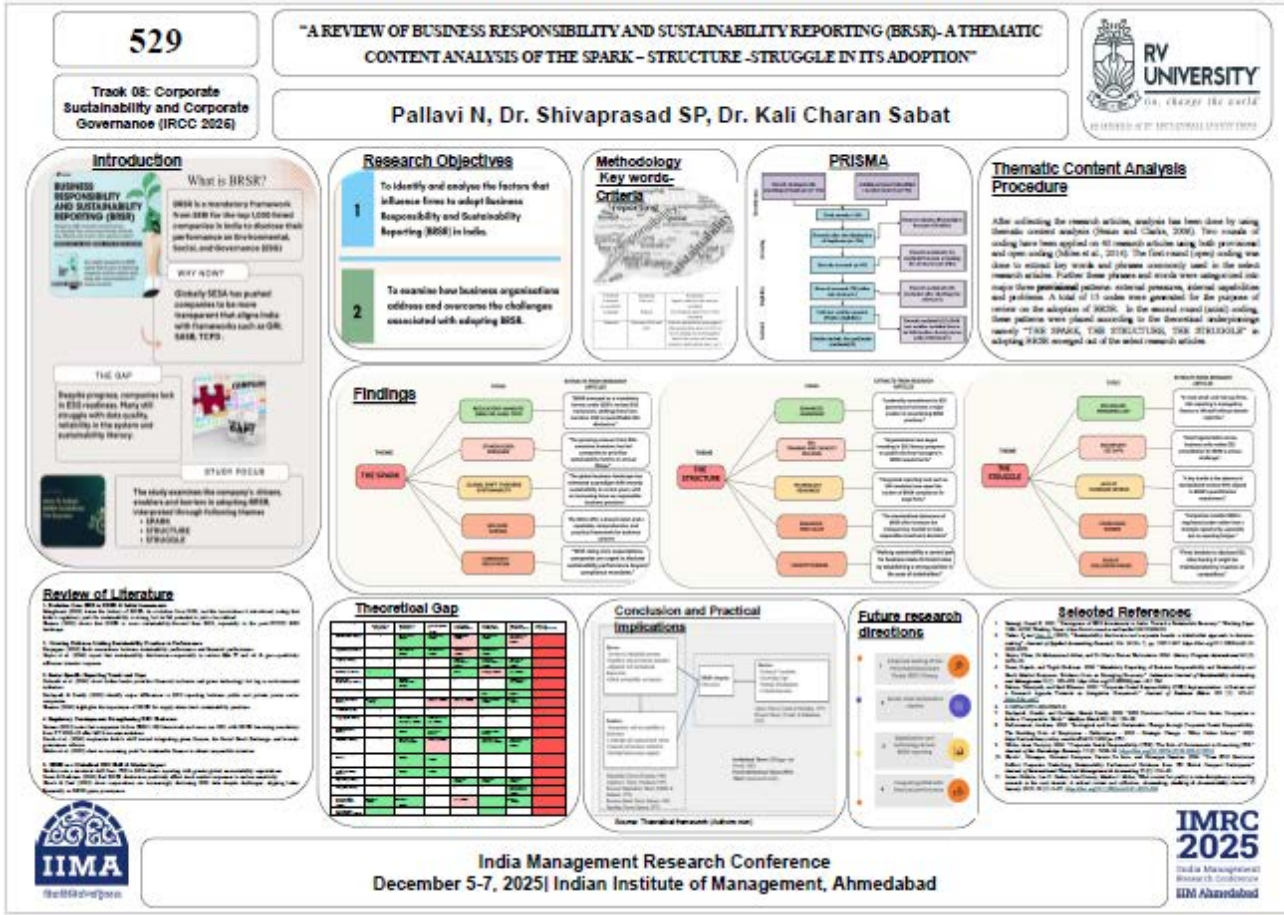
Title: Structural Analysis for Identifying Sustainable Human Resource Management Practices using TISM and MICMAC

Authors: Amita Yadav (J.C. Bose University of Science & Technology, YMCA Faridabad) and Ashutosh Nigam (J.C. Bose University of Science & Technology, YMCA Faridabad)



Title: A Review of Business Responsibility and Sustainability Reporting (BRSR)- A Themantic Content Analysis of the Spark – Structure -Struggle in its Adoption

Authors: N Pallavi (RV University), Sabat Kali Charan (RV University), and Sp Shiva Prasad (RV University)



Title: Regulating Product Recovery in Competitive Markets: A Strategic Analysis of Policy Incentives and Environmental Design

Author: Nidhin John (IIM Kozhikode)

Paper ID 588
Track 8: Corporate Sustainability and Corporate Governance IRCC 2025

Regulating Product Recovery in Competitive Markets
A Strategic Analysis of Policy Incentives and Environmental Design

Nidhin Kurian John

Indian Institute of Management Kozhikode

Motivation and Background

Why product recovery in competitive markets matters?

Firms now operate in regulatory environments where environmental policy shapes competitive advantage.

Extended Producer Responsibility and take back rules push producers to manage end of life recovery, recycling, and disposal.

These rules do not only add cost. They reshape competition, create new capabilities, and can become barriers for weaker rivals.

Flows of products, waste, and monetary incentives under take back regulation.

Governments mainly use three types of instruments for take back

- Taxes or penalties on production or non recovery
- Subsidies for recovery activities
- Joint tax subsidy systems such as deposit refund

Most analytical work studies a single producer. Less is known about what happens when several firms compete under the same rules.

Research Gap and Objectives

- Prior work is mainly from operations and environmental economics and often assumes a monopolist or a centralized system.
- Strategic interactions between several firms under the same Extended Producer Responsibility rules remain under explored.

There is limited understanding of

- How policy instruments influence production and recovery in a duopoly
- How they affect profit, consumer surplus, and social welfare together
- When regulation can create both environmental benefits and competitive advantage

Research questions

1. How do tax only, subsidy only, and joint tax subsidy policies shape output, price, and recovery decisions in a competitive market
2. Under what conditions do these policies support both environmental performance and profitability
3. How do firm capabilities in recovery interact with these policies to shape competitive positioning

Contribution

1. We integrate a game theoretic duopoly model with a strategic management lens.
2. We compare tax only, subsidy only, and joint tax subsidy regimes against a no policy baseline.
3. We show how joint instruments can align circular economy goals with firm level competitive advantage in a competitive setting.

Conceptual Framework and Method

Analytical Model: Setting

- Two manufacturers compete in quantities in a Cournot style market for a durable good.
- A government regulator chooses one policy regime and sets tax and subsidy levels.

Two stage game

- Stage one:Firms choose production quantities while anticipating effects on price and later recovery.
- Stage two: After sales, firms choose how much to recover and recycle, given the policy incentives.

Assumptions

- Linear inverse demand so that closed form solutions are possible.
- Symmetric firms in costs and capacity for the main analysis.
- Constant marginal production cost and per unit recycling cost.
- Recovery cannot exceed units sold.

Solution concept

- Subgame perfect Nash equilibrium using backward induction.
- First solve recovery decisions in each policy regime, then plug into production decision.

Policy Scenarios Compared

Scenario	Policy Instrument	Firm Behavior	Environmental Incentive
A: No Policy	No tax, no subsidy	Firms focus solely on profit from output; recovery is ignored	None — no motivation to recover products
B: Tax Only	Per-unit tax on production	Firms bear cost for environmental harm but lack recovery motivation	Partial internalization of environmental harm; no direct recovery incentive
C: Subsidy Only	Per-unit subsidy for each recovered unit	Firms pursue recovery if subsidy ≥ recovery cost	Strong recovery incentive if economically viable
D: Joint Tax-Subsidy (Deposit Refund)	Charge at production, refund on recovery	Firms recover units to reclaim refund; behavior depends on cost-benefit	Net recovery incentive depends on tax–subsidy gap and recycling cost

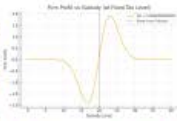
Results & Discussion

Policy scenario	Effective cost / output	Waste / recovery	Profit and consumer surplus	Government budget / social welfare
Baseline No policy	Firms choose profit maximizing output with no policy distortion.	No recycling; all units sold become postconsumer waste.	Profits and consumer surplus are positive.	Environmental cost unaddressed by policy.
Tax only policy	Tax raises effective marginal cost and reduces output vs. baseline.	Waste falls because output is lower, but recovery is not induced.	Market price rises; firm profit and consumer surplus both decline.	Tax revenue offsets damage but lacks circularity.
Subsidy only policy	High subsidy makes recycling cost neutral or profitable and pushes output above baseline.	Firms recover all units; total waste approaches zero, but demand can expand.	Prices fall; consumer surplus rises and firm profits can also increase.	Efficiency or subsidy lowers cost, increasing consumption and offsetting environmental gains.
Joint tax subsidy (deposit refund)	Charge at production and refund at recovery shape a moderate output level between tax only and subsidy only.	If refund covers tax plus recycling cost, full recovery is optimal and waste is minimized.	Market price and consumer surplus remain at balanced, sustainable levels while firms stay profitable.	Fiscal neutrality best aligns waste reduction, profit, consumer welfare, and public budget — making it the most socially preferred policy.

Sensitivity and Policy Calibration

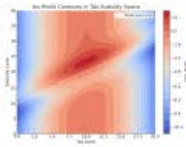
How Policy Parameters Matter?

Figure 1 Firm profit vs subsidy for a given tax



1. Profit is low when the subsidy is below recovery cost plus tax, because the tax burden dominates.
2. As the subsidy just exceeds recovery cost plus tax, profit rises sharply and full recovery becomes optimal.
3. The curve peaks at an interior subsidy level, showing that profit responds in a nonlinear way to policy.
4. Very high subsidies give only limited additional profit once recovery is already complete and may not be fiscally attractive.

Figure 2 Iso profit contours in the tax subsidy plane



1. The warm colored band shows combinations of tax and subsidy where firms remain profitable and recovery is high.
2. The efficient policy zone lies near the line where subsidy slightly exceeds recovery cost plus tax, making recovery attractive without inflating output too much.
3. High tax with low subsidy pushes the firm into low profit or loss regions, even though waste may fall.
4. Very generous subsidies create a large high profit area but impose a high fiscal cost, so the contour map helps identify balanced policy choices.

Managerial Policy and Theoretical Implications

Managerial Implications

Managers should invest early in recovery and eco design capabilities so that environmental regulation becomes a source of competitive advantage rather than a pure compliance cost.

Policy Implications

Joint tax subsidy or deposit refund policies offer the most balanced design by supporting high recovery, viable firms, and a manageable fiscal burden.

Theoretical contribution

The paper shows in a competitive duopoly how Extended Producer Responsibility policies and joint tax subsidy instruments shape strategic choices and can generate durable advantages from recovery capabilities.

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Title: Banana Fibre to Banana Fabric - A Case Study of Circular Economy Business Model and Implementation Strategies

Authors: Harsh Krishna (Chandragupt Institute of Management Patna) and Anjali Singh (Chandragupt Institute of Management Patna)

EASY CHAIR
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Track No: 8

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BANANA FIBRE TO BANANA FABRIC:

A CASE STUDY OF CIRCULAR ECONOMY BUSINESS MODEL AND IMPLEMENTATION STRATEGIES

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ABSTRACT

This case study explores how a Patna-based start-up converts discarded banana pseudo-stems into fibre and fabric using circular economy (CE) principles. It shows how value is created through waste valorization, customized machinery, by-product use, and diversification. The analysis identifies key enablers such as frugal innovation, network building, and dynamic capabilities, as well as challenges like trust deficits and supply chain barriers. Overall, the study offers micro-level insights into CE-driven business model innovation in resource-constrained emerging markets.

Keywords: Circular economy, waste valorization, frugal innovation, business model innovation.

INTRODUCTION

Linear economic systems based on extractive production and high waste generation are increasingly seen as environmentally and economically unsustainable. Circular economy (CE) models address these issues by enhancing resource efficiency, regeneration, and waste minimization through closed material loops. However, CE implementation in emerging economies especially among small start-ups remains insufficiently explored. This study examines a Bihar-based enterprise that converts banana agricultural waste into fibre, fabric, and by-products, highlighting both the opportunities and challenges of adopting CE in rural, resource-constrained industrial settings.

OBJECTIVE

This study aims to explore how circular economy principles can be effectively implemented through innovative business models in the context of an emerging economy. Specifically, it seeks to:

1. To examine the CE-aligned business model adopted by the start-up.
2. To identify micro-level enablers, barriers, and key decision points influencing CE implementation
3. To understand value creation, capture, and diversification strategies, including the reuse of by-products
4. To assess the potential for replication and scaling of similar CE models across comparable industrial and regional settings. These objectives collectively address the gap between CE theory and practice at the grassroots entrepreneurial level.

LITERATURE REVIEW

The circular economy has progressed from basic recycling to CE 3.0 models that emphasize resource value retention, systems thinking, and regenerative design, supported by CE Business Model Innovation frameworks focused on value looping and waste valorization. While research identifies barriers such as weak institutions, technological gaps, and market uncertainty, dynamic capability theory explains how firms sense, seize, and reconfigure resources for sustainable transitions. Yet most CE studies center on developed economies or large firms, leaving micro-enterprises in emerging regions underexplored—an area this case study addresses.

METHODOLOGY

This study uses a qualitative case study approach, drawing on interviews, field observations of fibre extraction and machinery processes, and secondary data such as reports and media sources. These findings were triangulated with CE, CBMI, and dynamic capabilities literature to interpret the start-up's strategies and challenges in a resource-constrained context.

RESULTS AND DISCUSSION

The findings demonstrate that the start-up's CE-oriented business model successfully transforms agricultural waste into valuable products while generating additional revenue streams through by-products such as vermicompost and liquid fertilizer. Local machinery adaptation proved essential, underscoring the relevance of frugal innovation in CE transitions. Market penetration challenges, particularly in the Surat textile industry, highlighted the importance of credibility-building and persistent networking. The firm's strategic diversification into spices and nuts now contributing over half its revenue reflects strong dynamic capabilities and adaptive business thinking. The study also reveals social and environmental benefits, including rural employment and sustainable farming practices. These insights collectively show that micro-enterprises can achieve circularity, but success depends on context-sensitive innovation, flexible strategies, and strong value networks.

CONCLUSION

This case study demonstrates that circular economy principles can be effectively integrated into the core operations of small start-ups in emerging economies through innovative business models rooted in waste valorization, diversification, and contextual engineering. The findings highlight that while grassroots CE initiatives face significant barriers such as technological constraints, market legitimacy issues, and supply chain uncertainties these can be mitigated through dynamic capabilities, trust-building, and adaptive decision-making. The study contributes to CE literature by offering granular, micro-level insights into how circular business models evolve under real-world constraints. For policymakers, the case underscores the need for supportive ecosystems, technical mentorship, and market facilitation to strengthen CE adoption in Tier 2 and Tier 3 regions. Ultimately, this research establishes that CE-driven entrepreneurship can create economically viable, environmentally regenerative, and socially inclusive value chains.

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INDIAN MANAGEMENT RESEARCH CONFRENCE
December 05th to 7th, 2025, IIM Ahmedabad

IMRC 2025
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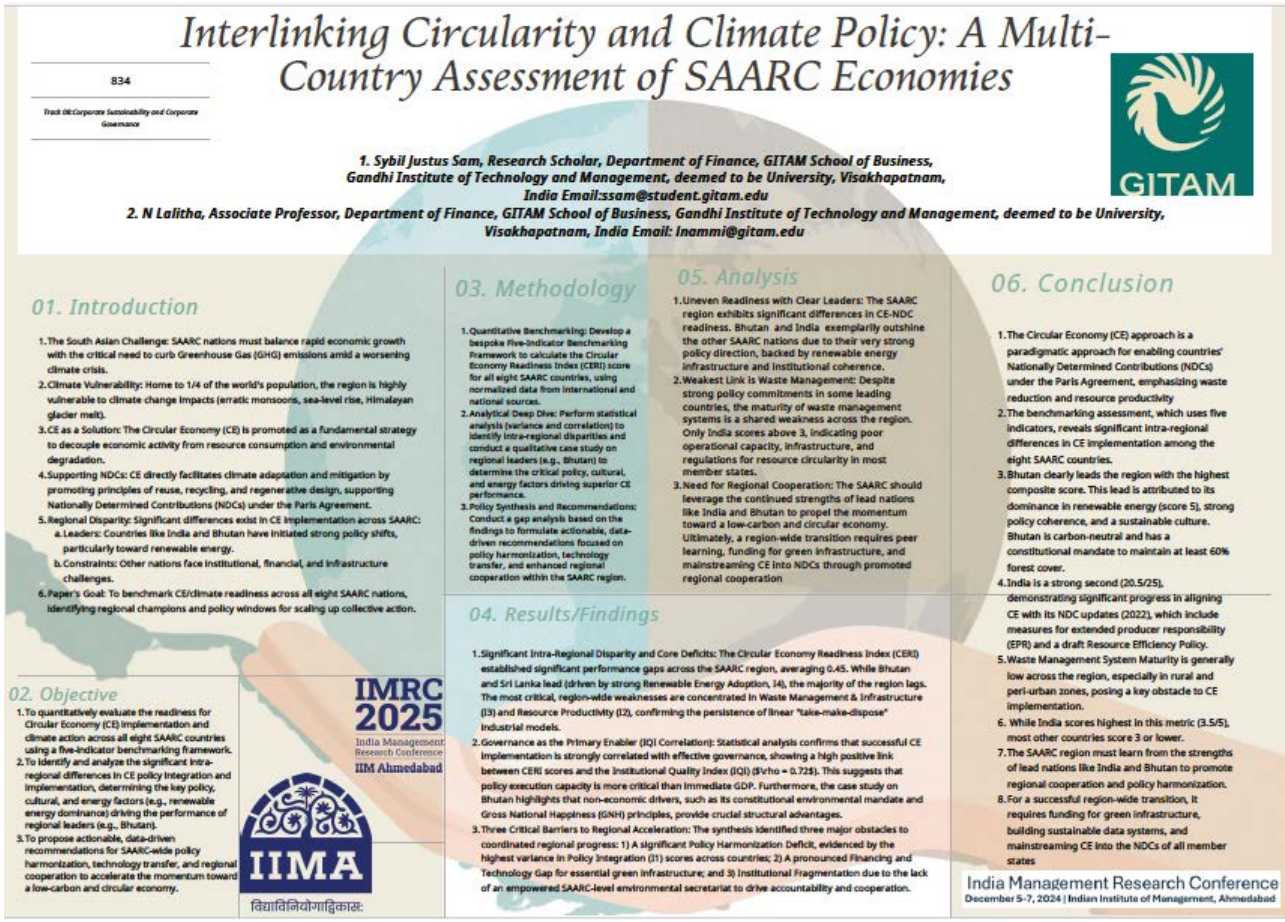
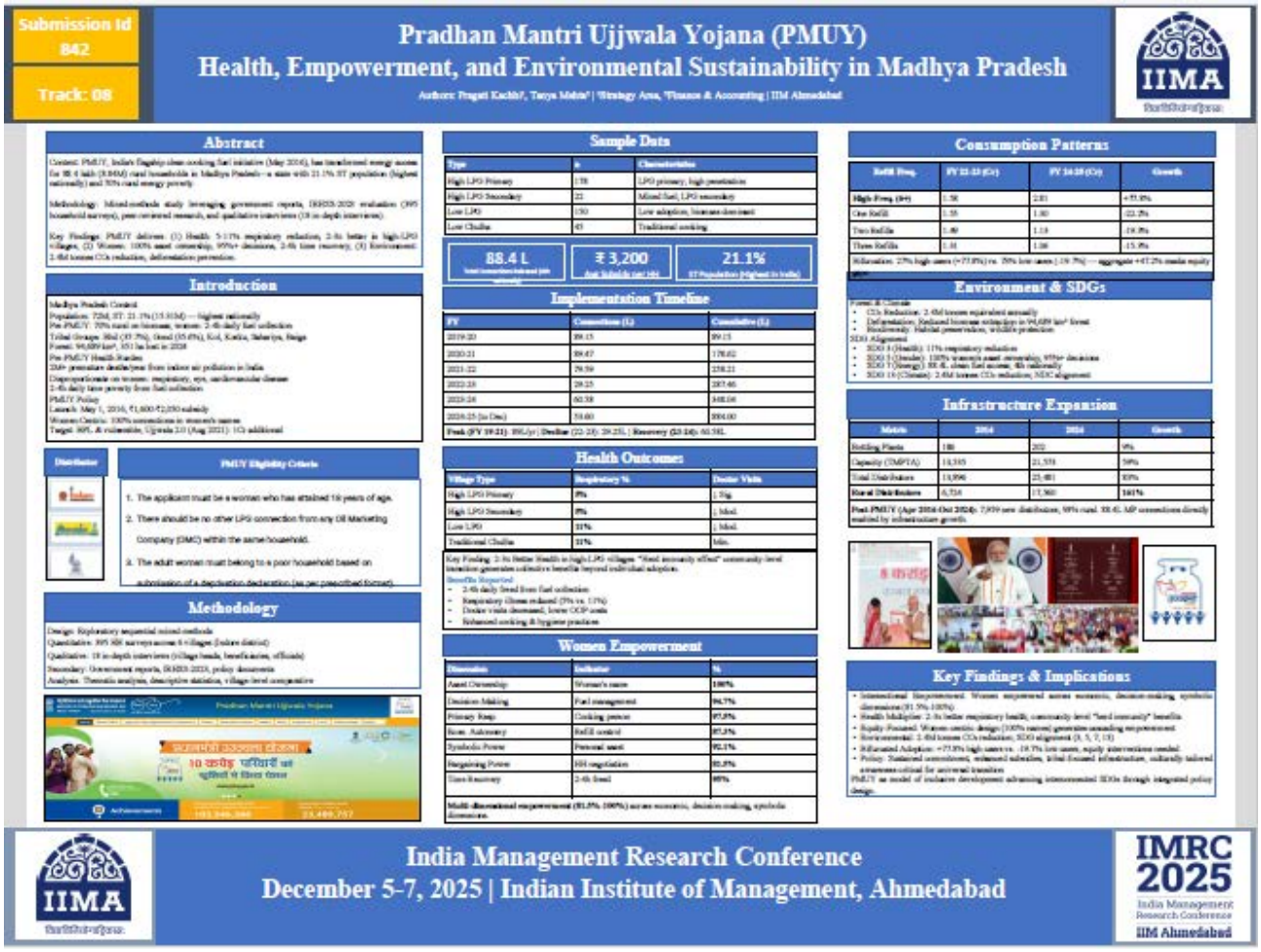
Title: Interlinking Circularity and Climate Policy: A Multi-Country Assessment of SAARC Economies

Author: Sybil Sam (Gitam university)



Title: Just Transition Strategies: A case study on Health, Empowerment and Sustainability (Pradhan Mantri Ujwala Yojana)

Authors: Pragati Kachhi (IIM Ahmedabad) and Tanya Mehta (IIM Ahmedabad)



Title: Biodiversity and Mindful Investing: A Biometric Analysis on Investor Attention and Emotion in Sustainable Investment Decisions

Authors: Dr. Chandni Keswani (Shri Vaishnav Institute of Management and Science), Dr. Prashant Kushwaha (Shri Vaishnav Institute of Management and Science), and Haywantee Ramkisson (University of South Australia)

Title: Empowering the Inner Change Agents: Employee Activation Programs for Advancing Sustainability Goals in Indian Workplaces

Authors: Lakshita Sharma (JECRC University) and Garima Gupta (JECRC University)

Submission Id: 862

Track 8- Corporate Sustainability and Corporate Governance

Empowering the Inner Change Agents: Employee Activation Programs for Advancing Sustainability Goals in Indian Workplaces

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JECRC UNIVERSITY

ABSTRACT

This research shows that how Indian Organizations can turn sustainability from mandate to people driven culture through Inclusive Activation Programs and multiple approaches. Results show that individual values that work conditions support relate to outcomes. These factors produce ownership, meaningfulness and creative responses in individuals. These factors produce visible long lasting sustainability in organizations.

INTRODUCTION

Approaches to **sustainability require action, not only statements of practice.** Individuals in organizations show difficulty with this work because of patterns in behavior and conditions that the workplace provides. **Employee Activation Programs (EAPs) empower employees as change-agents** through approaches that involve challenges, learning with others and recognition. In India, where workplaces show features relating to relationships and change, these programs that activate individuals not only allow organizations to use green practices as a part of daily work but also enables organisation to create a motivated environment, culture and regulatory momentum that allow sustainability deeply into organizational life.

LITERATURE REVIEW

Sustainable Organisation
Sustainability changed from compliance and activities relating to philanthropy as a core part of business strategy. Modern organisation now view sustainability not just as an obligation but as a path to innovation, reputation building and long-term system value.

Employee Eco Behavior
Employees often care about the environment but their action at work depends heavily on whether the organisation supports them. Researches shows that when companies create a supportive and enabling environment, employees are far more likely to act sustainably.

Barriers to Green Actions
Even motivated employees struggle with sustainability due to lack of knowledge, unclear guidance, missing infrastructure and workplace pressures. When sustainability isn't visibly valued in daily routines, it becomes secondary and easily ignored.

Purpose-Driven Behavior
EAPs transform employees from passive participants into proactive contributors. They boost confidence, provide recognition, foster peer learning and address organizational obstacles which makes sustainable practices simpler, more impactful and collaborative.

Research Gap
Although sustainable practices are widely discussed globally there is lack of understanding, how Indian organizations engage and activate employees in this area. Gaps remain in theory, practical evidence and insights specific to the Indian context; which makes this research both timely and crucial.

The Indian Context: A Unique mix of Challenges and opportunities.

SUSTAIN+ FRAMEWORK

- **SUSTAIN+** picture employees as active sustainability change agents, combining awareness, motivation, capability, empowerment and Persistent green actions.
- The **seven pillars** emphasizes on alignment values, providing feedback, tailored incentives, green creativity, inclusive leadership, cross-functional teams and long-term purpose.
- A **"plus"** layer of structural support such as ESG-aligned HR, supportive policies, capacity-building infrastructure and knowledge sharing which is essential to make these people-focused pillars work in practice.

METHODOLOGY

RESEARCH OBJECTIVES

- Demographics affect sustainability behaviour and awareness.
- Linking sustainability goal awareness to pro-environmental attitudes.
- Role of organizational support in activation program and engagement.
- Identifying key barriers and motivators for sustainability action.

RESEARCH HYPOTHESIS

H1: Demographics shape employee sustainability awareness and behavior.
H2: Sustainability goal awareness strengthens pro-environmental attitudes and actions.
H3: Organizational support boosts employee engagement in sustainability initiatives.

DATA SAMPLE

The approach uses a structured measure that provides an **Employee Activation and Sustainability Questionnaire** with four sections. This instrument captures demographics, awareness and attitudes, organizational support and key barriers and motivators for sustainable action.

DISCUSSIONS

CURRENT STATE
High awareness and positive attitudes (82% aware of goals).

IDENTIFIED GAP
Awareness does not significantly change behaviour (awareness-behaviour gap, $p = 0.171$)

KEY DRIVERS
Activation programs → higher perceived support (4.11 vs 3.39, $p = 0.022$) Demographics-neutral.

MAIN BARRIERS
Lack of infrastructure (56%), time constraints (44%), limited training (28%).

MAIN MOTIVATORS
Better infrastructure (64%), training/workshops (48%), recognition (42%).

SUSTAIN+ IMPLICATION
Combine SUSTAIN+ layer of structural enablers in practice.

FINDINGS

ANALYSIS & RESULTS

- **High participation, awareness & support:** 82% aware of sustainability goals; 62% have joined at least one activation program; program participants report higher perceived support (4.11 vs 3.39, $p = 0.022$).
- **Limited demographic effects:** Most demographics don't s affect awareness or behaviour; only gender significantly predicts sustainability attitudes ($F = 6.204$, $p = 0.019$).
- **Awareness–behaviour gap:** Aware employees show slightly higher behaviour scores, but the difference is not statistically significant ($p = 0.171$).
- **Barriers and Motivators:** Lack of infrastructure(56%) and time constraints (44%). Top motivators: better infrastructure (64%) and training/workshops (48%).

CONCLUSION

Results suggest that approaches using policy require development beyond current forms to provide true activation and support for individuals in environmental work. High awareness and program participation exist, but behavior change is still constrained by structural and inclusion gaps. The SUSTAIN+ framework that demonstrates how values show alignment and supporting structures, allow actions for environmental issues. The study shows that investment in systems that provide support and activation, where individuals in the organization function as agents for change within the structure. Findings suggest that focus on infrastructure for environmental issues allows choices that support environmental goals to become the approach that requires less effort for individuals in work settings.

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IMRC 2025

Title: Indigenous knowledge integration, community co-creation models, stakeholder engagement, and sustainable value creation

Authors: Nilam Panchal (Gujarat University) and Kera Ram (Gujarat University)

SUBMISSION ID: 874
TRACK NO: 8
TRACK NAME: Corporate Governance, Corporate Sustainability and Responsible Capital

INDIGENOUS KNOWLEDGE INTEGRATION

COMMUNITY CO-CREATION MODELS, STAKEHOLDER ENGAGEMENT & SUSTAINABLE VALUE CREATION

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ROOTED WISDOM | PLURAL EPISTEMOLOGIES | CONTEXTUAL ADAPTATION

1 Core Rationale

Indigenous Knowledge Systems (IKS) represent **millennia of accumulated ecological intelligence**, embedded in lived experience, cultural memory, and place-based practices. Integrating IKS into development unlocks:

- Context-specific climate adaptation strategies
- Culturally embedded conservation ethics
- Sustainable land-use practices aligned with local ecologies
- Community resilience rooted in identity and heritage

Key Dimensions

-Epistemic Diversity: Recognizing indigenous ways of knowing as scientifically valid and methodologically rich.

-Ethno-ecology: Traditional water, forest, and soil management systems, sacred groves, community-conserved landscapes..

-Ethno-medicine & Health Sovereignty: Local healing systems, herbal pharmacology preventive wellbeing traditions.

-Spiritual-Ecological Worldviews: Nature as kin, stewardship values, cosmologies anchoring sustainable behaviors.

-Intergenerational Knowledge Transmission: Rituals, storytelling, apprenticeship models, cultural continuity mechanisms.

Integration Approaches

- Knowledge co-documentation & community archives
- IKS-integrated climate action plans
- Indigenous data sovereignty protocols
- Inclusion of elders, healers, artisans, pastoralists, and indigenous women in decision forums

2 Community Co-Creation Models

Participatory Innovation
Shared Governance
People-Led Development

Conceptual Foundations

Methodological Tools

- Participatory Rural Appraisal (PRA) & mapping
- Human-Centred Design (HCD) & indigenous design thinking
- Participatory Action Research (PAR)
- Community Innovation Labs (CILs)
- Women- and youth-led development clusters

Outcomes

- Technically sound, culturally coherent solutions
- Strengthened community institutions (SHGs, cooperatives, forest councils)
- Enhanced ownership, reduced implementation gaps
- Diverse livelihood pathways rooted in local skills & knowledge

3 Stakeholder Engagement

Multi-Level Governance
Social Inclusion
Collaborative Ecosystems

Why Stakeholder Engagement Matters

Sustainable development is possible only when **all actors in the system**—state agencies, civil society, academia, indigenous groups, and private sector—operate within a shared vision and **mutual trust.**

Stakeholder Constellation

- **Primary stakeholders:** Indigenous communities, local leaders, women's collectives, youth groups
- **Secondary stakeholders:** NGOs, CBOs, cooperatives, social enterprises
- **Institutional stakeholders:** Local self-governance institutions, departments of environment, tribal development, rural development, and climate departments
- **Knowledge stakeholders:** Universities, think tanks, research institutes
- **Market & financial stakeholders:** Ethical businesses, artisan networks, impact investors, CSR actors

Engagement Mechanisms

- Multi-actor roundtables & consensus-building forums
- Participatory monitoring & evaluation (PM&E)
- Accountability and transparency frameworks
- Social audit processes and community scorecards
- Strengthening polycentric governance structures

Expected Gains

- Reduced conflict & increased policy legitimacy
- Cross-sector innovation through knowledge exchange
- Co-governance models for long-term sustainability

4 Sustainable Value Creation

Green Economy
Circularity
Regenerative Living Systems
Holistic Value Dimensions

Environmental Value

- Biodiversity restoration & landscape rejuvenation
- Regenerative agriculture & water stewardship
- Climate-smart traditional practices integrated into modern frameworks

Economic Value

- Community-led enterprises & local value chains
- Ethical markets, fair-trade systems, indigenous craft economies
- Diversification through eco-tourism, green skills & circular livelihoods

Social & Cultural Value

- Revitalizing cultural expressions, language, and heritage
- Empowerment of women, youth, and traditionally marginalized groups
- Social cohesion, trust, and collective responsibility

Institutional Value

- Revitalizing cultural expressions, language, and heritage
- Empowerment of women, youth, and traditionally marginalized groups
- Social cohesion, trust, and collective responsibility

Integration Approaches

- Evidence-based policy frameworks
- Resilient community institutions
- Data sovereignty & rights-based governance

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India Management Research Conference
December 5-7, 2025 | Indian Institute of Management, Ahmedabad

IMRC 2025
India Management Research Conference
IIM Ahmedabad

Title: Sustainable Human Resource Practices in Indian MSMEs and Future of Work

Authors: Nilam Panchal (Gujarat University) and Kera Ram (Gujarat University)

ABSTRACT

Introduction

With the emergence of Environmental, Social and Governance (ESG) practices, the functioning of Human Resource Management (HRM) is redefined. The traditional functioning focus has been now shifted to Sustainable Human Resource Management (SHRM) which leads to integration of various principles and practices of sustainability into different aspects of HRM ensuring long term organisational success while promoting integrity, equity and economic viability. This paper focuses on the Sustainable Human Resource Practices of Indian Micro, Small and Medium Enterprises. The paper would include the sustainability agenda of various organisations and its employees attitude towards the sustainable HR Practices. It would explore the conceptual framework, applications of HR Practices and practical applications of sustainable HR practices in MSMEs.

Objectives of study :

The objective of study is to analyse the sustainable HR Practices among the Indian MSMEs and its employees.

Design/methodology/approach:

The study adopts a mixed approach for data collection and analysis of the key components of sustainable HR include Green Selection process, Employee well-being programs by the company, lifelong learning by employees, diversity among employees and employee inclusion, and ethical leadership development among Indian MSMEs.

Sampling Plan :

The sampling includes the MSMEs across the nation. The top-level managers of Indian MSMEs are included in the collection of data. The stratified random sampling has been used for the right selection of sample.

Findings and Conclusion

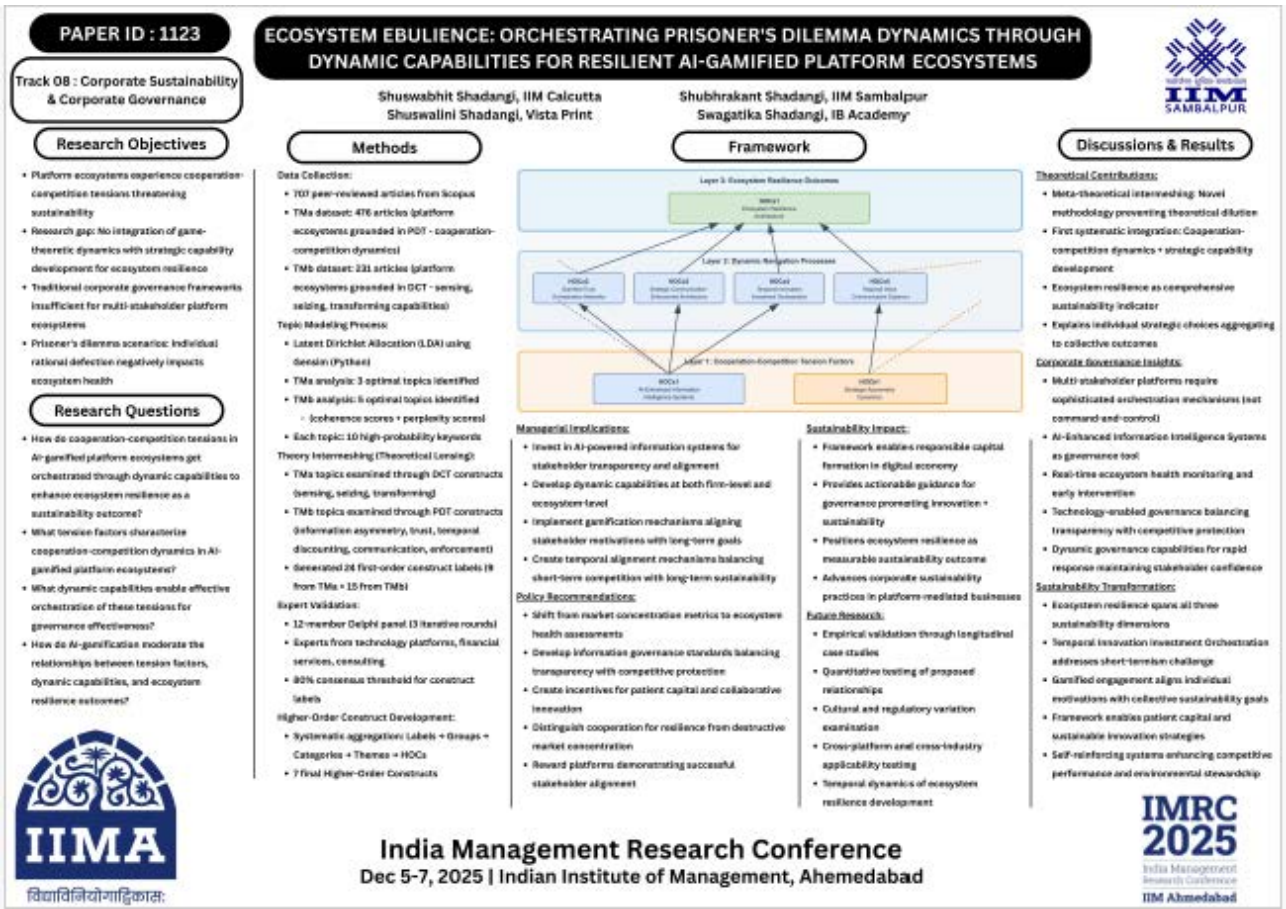
Findings reveal that organizations that prioritize sustainable HRM experience improvement in the employees. Employer branding, increased productivity, and stronger alignment with stakeholder values are the key aspects for the Organisation. The Sustainable HR practices not only contribute to organizational Development but also enhance employee engagement, retention, and innovation. The research identifies that Indian organisations are adopting Sustainable practices due to various factors like policy mandates, empowerment of employees , boosting organizational capacities, knowledge of environment etc. It was found that practices on sustainable human resource management leads to improve personal moral norms, a green mindset, green innovation and more focus towards the steps to save the environment and in turn it leads to green satisfaction, commitment towards organisation and performance of employees.

Originality/value

This study contributes by providing the details of sustainable HRM themes, methods and practices in Indian MSMEs. The insights from MSMEs across India give the deep understanding about the practices followed and the attitude of organisations towards Sustainable HR Practices in India.

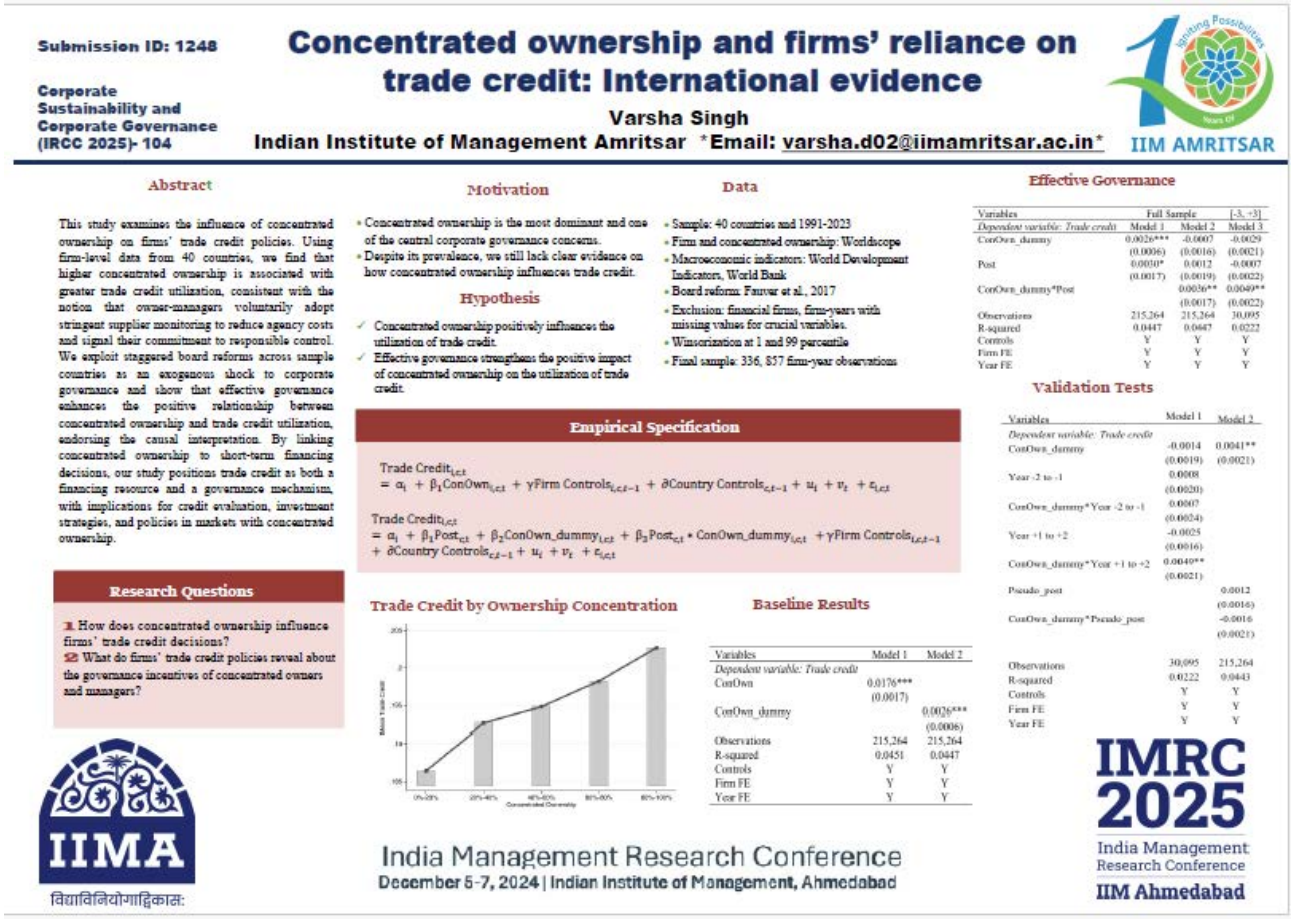
Title: Ecosystem Ebulience: Orchestrating Prisoner's Dilemma Dynamics Through Dynamic Capabilities for Resilient AI-Gamified Platform Ecosystems

Authors: Shuswabhit Shadangi (IIM Calcutta), Shubhrakant Shadangi (IIM Sambalpur), and Shuswalini Shadangi (IIM Sambalpur)



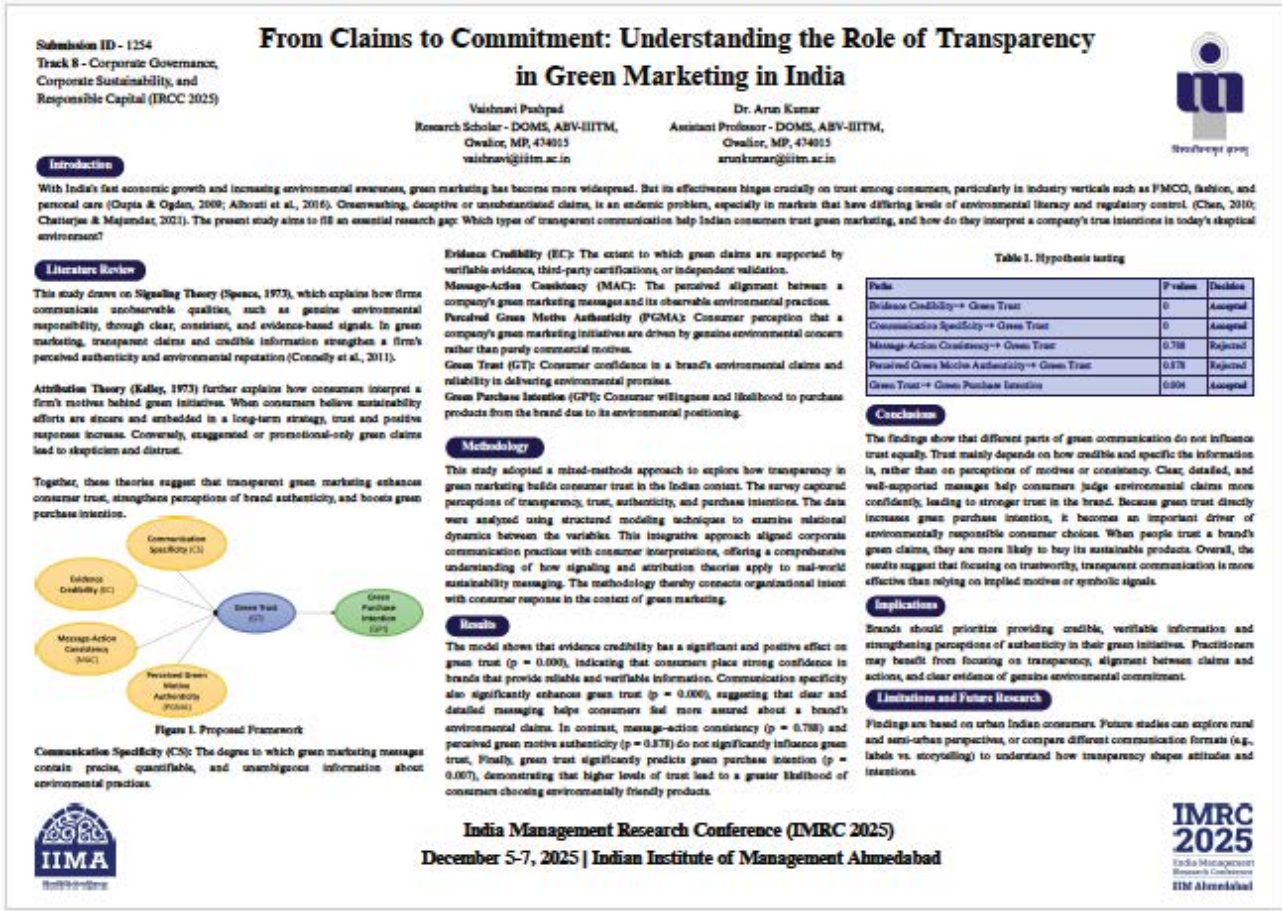
Title: Concentrated Ownership, Effective Governance, and Corporate Trade Credit: International Evidence

Authors: Varsha Singh (Indian Institute of Management Amritsar) and Surender Rao Komera (Indian Institute of Management Amritsar).



Title: From Claims to Commitment: Understanding the Role of Transparency in Green Marketing in India

Authors: Vaishnavi Pushpad (Atal Bihari Vajpayee Indian Institute of Information Technology and Management, Gwalior) and Arun Kumar (Atal Bihari Vajpayee Indian Institute of Information Technology and Management, Gwalior)



Submission ID - 1254
Track 8 - Corporate Governance, Corporate Sustainability, and Responsible Capital (IRCC 2025)

From Claims to Commitment: Understanding the Role of Transparency in Green Marketing in India

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Introduction

With India's fast economic growth and increasing environmental awareness, green marketing has become more widespread. But its effectiveness hinges crucially on trust among consumers, particularly in industry verticals such as FMCG, fashion, and personal care (Gupta & Ogden, 2009; Alhouti et al., 2016). Greenwashing, deceptive or unsubstantiated claims, is an endemic problem, especially in markets that have differing levels of environmental literacy and regulatory control. (Chen, 2010; Chatterjee & Majumdar, 2021). The present study aims to fill an essential research gap: Which types of transparent communication help Indian consumers trust green marketing, and how do they interpret a company's true intentions in today's skeptical environment?

Literature Review

This study draws on **Signaling Theory (Spence, 1973)**, which explains how firms communicate unobservable qualities, such as genuine environmental responsibility, through clear, consistent, and evidence-based signals. In green marketing, transparent claims and credible information strengthen a firm's perceived authenticity and environmental reputation (Connelly et al., 2011).

Attribution Theory (Kelley, 1973) further explains how consumers interpret a firm's motives behind green initiatives. When consumers believe sustainability efforts are sincere and embedded in a long-term strategy, trust and positive responses increase. Conversely, exaggerated or promotional-only green claims lead to skepticism and distrust.

Together, these theories suggest that transparent green marketing enhances consumer trust, strengthens perceptions of brand authenticity, and boosts green purchase intention.

Figure 1. Proposed Framework

Communication Specificity (CS): The degree to which green marketing messages contain precise, quantifiable, and unambiguous information about environmental practices.

Evidence Credibility (EC): The extent to which green claims are supported by verifiable evidence, third-party certifications, or independent validation.

Message-Action Consistency (MAC): The perceived alignment between a company's green marketing messages and its observable environmental practices.

Perceived Green Motive Authenticity (PGMA): Consumer perception that a company's green marketing initiatives are driven by genuine environmental concern rather than purely commercial motives.

Green Trust (GT): Consumer confidence in a brand's environmental claims and reliability in delivering environmental promises.

Green Purchase Intention (GPI): Consumer willingness and likelihood to purchase products from the brand due to its environmental positioning.

Methodology

This study adopted a mixed-methods approach to explore how transparency in green marketing builds consumer trust in the Indian context. The survey captured perceptions of transparency, trust, authenticity, and purchase intentions. The data were analyzed using structural modeling techniques to examine relational dynamics between the variables. This integrative approach aligned corporate communication practices with consumer interpretations, offering a comprehensive understanding of how signaling and attribution theories apply to real-world sustainability messaging. The methodology thereby connects organizational intent with consumer response in the context of green marketing.

Results

The model shows that evidence credibility has a significant and positive effect on green trust ($p = 0.000$), indicating that consumers place strong confidence in brands that provide reliable and verifiable information. Communication specificity also significantly enhances green trust ($p = 0.000$), suggesting that clear and detailed messaging helps consumers feel more assured about a brand's environmental claims. In contrast, message-action consistency ($p = 0.788$) and perceived green motive authenticity ($p = 0.878$) do not significantly influence green trust. Finally, green trust significantly predicts green purchase intention ($p = 0.007$), demonstrating that higher levels of trust lead to a greater likelihood of consumers choosing environmentally friendly products.

Table 1. Hypothesis testing

Paths	P values	Decision
Evidence Credibility→ Green Trust	0	Accepted
Communication Specificity→ Green Trust	0	Accepted
Message-Action Consistency→ Green Trust	0.788	Rejected
Perceived Green Motive Authenticity→ Green Trust	0.878	Rejected
Green Trust→ Green Purchase Intention	0.006	Accepted

Conclusion

The findings show that different parts of green communication do not influence trust equally. Trust mainly depends on how credible and specific the information is, rather than on perceptions of motives or consistency. Clear, detailed, and well-supported messages help consumers judge environmental claims more confidently, leading to stronger trust in the brand. Because green trust directly increases green purchase intention, it becomes an important driver of environmentally responsible consumer choices. When people trust a brand's green claims, they are more likely to buy its sustainable products. Overall, the results suggest that focusing on trustworthy, transparent communication is more effective than relying on implied motives or symbolic signals.

Implications

Brands should prioritize providing credible, verifiable information and strengthening perceptions of authenticity in their green initiatives. Practitioners may benefit from focusing on transparency, alignment between claims and actions, and clear evidence of genuine environmental commitment.

Limitations and Future Research

Findings are based on urban Indian consumers. Future studies can explore rural and semi-urban perspectives, or compare different communication formats (e.g., labels vs. storytelling) to understand how transparency shapes attitudes and intentions.

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Title: Strategic Prioritization of Barriers to the Medicinal and Aromatic Plants-Based Economy in Uttarkashi, Uttarakhand: An Integrated AHP and Fuzzy Logic Approach Towards Sustainable Frameworks

Authors: Manisha Solanki (UPES, School of Business) and Anita Senger (UPES, School of Business).

Strategic Prioritization of Barriers to the Medicinal and Aromatic Plants-Based Economy in Uttarkashi, Uttarakhand: An Integrated AHP and Fuzzy Logic Approach Towards Sustainable Frameworks

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IMRC 2025 India Management Research Conference IIM Ahmedabad — IIMA विद्याविनियोगाद्विकासः

Abstract

The Indian Himalayan Region (IHR) is a globally significant ecological zone, rich in biodiversity and home to a vast repository of medicinal and aromatic plants (MAPs). Among its various sub-regions, Uttarkashi district in Uttarakhand offers a unique opportunity to leverage this natural capital for sustainable rural development. The Bhatwadi block, located in the upper catchment of the Bhagirathi River, exhibits an agro-climatic profile ideal for cultivating high-value medicinal plants such as Ashwagandha, Kutki, Atis, and Jatamansi etc. These plants hold commercial potential in pharmaceutical, cosmetic, wellness, and natural preservative industries. Despite this inherent advantage, the development of sustainable medicinal plant–based rural enterprises in Bhatwadi (least developed block in Uttarakhand) remains nascent, hindered by a multitude of interrelated challenges.

This study, developed under the larger initiative titled "Roots Renewed: Empowering Uttarkashi Towards Advancing Sustainable Frameworks" (NMHS funded project), investigates the multifaceted barriers impeding the growth of a sustainable and community-centered medicinal plant economy in the Bhatwadi block. The research seeks to answer a fundamental question: What are the key economic, social, technical, environmental, and institutional barriers that hinder the development of medicinal plant-based rural enterprises in the region, and how can these be systematically prioritized for policy and intervention design?

To capture the complexity and subjectivity of barriers across economic, social, institutional, technical, and environmental domains, a hybrid Analytic Hierarchy Process (AHP) combined with Fuzzy Logic is employed. Thus, this study was carried out in three phases: Barrier Identification and Structuring; Expert Elicitation and Data Collection; Prioritization Using Fuzzy-AHP Model.

Introduction

❖ The project site deals with Uttarkashi region. Especially focused to the Bhatwari Block and Gangotri.

Key beneficiaries and stakeholders

❖ Small scale industries and local businesses of Uttarkashi area.
❖ Regional communities in terms of employment and upgradation of livelihood.
❖ Local tourism and educational organisations collaborating in terms of data collection.
❖ Regional farmers by getting bio-compost and increment in agriculture marketing.

Prioritizing Barriers to Medicinal & Aromantic Plant-Based Economy in Uttarakashi

Environmental & Climatic Barriers	Agricultural & Technical Barriers	Economic & Market Barriers	Infrastructure & Logistic Barriers	Institutional & Policy barriers	Socio- Cultural & Community Barrier
E1: Unpredictable weather & climate change	A1: Lack of scientific cultivation knowledge	EM1:Price instability & lack of standardization	I1: Poor road connectivity to remote villages	IP1: Lack of supportive government schemes awareness	SC1:Migration and labour shortages
E2: Soil degradation & land erosion	A2:Poor availability of high-quality seeds/planting materials	EM2: Exploitation by intermediaries	I2:Lack of storage & primary processing units	IP2: Ineffective institutional coordination	SC2:Low participation of women in value-added processing
E3: Limited irrigation & water scarcity	A3:Low adoption of modern technologies	EM3: Limited access to credit/finance	I3: Weak digital connectivity	IP3:Complex regulatory framework	SC3:Resistance to shifting from traditional crops
	A4: Pests, diseases & crop management issues	EM4: Weak market linkages	I4: Limited access to transportation	IP4: Limited Extension Services	SC4: Community conflict over forest resource access

Results

➢ **Community engagement model**
UPES along with Bhatwari block authorities would work on Community Engagement Model, integrates organic farming, local entrepreneurship, and environmental sustainability while empowering the community through skill-building and market access. The suggested changes are made in the updated proposal (attached).

➢ **Engagement of key stakeholders to ensure effective implementation:**
Nagar Nigam, Block Development Office, Agricultural Department, MSMEs, NGOs, local SHGs, youth entrepreneurs, and returning migrants and farmers.

➢ **Capacity Building & Skill Development Initiatives**
Organic farming training, train women and youth in value-added product manufacturing, provide business mentorship on supply chain management, branding, and digital marketing, as well as link communities to government subsidies, etc.

➢ **Sustainable Economic Growth & Women Empowerment**
Women-led enterprises, develop cooperatives to connect local producers with global enterprises, enable digital platforms for selling organic products locally and globally.

➢ **Long-Term Sustainability**
To track progress and ensure transparency, a community monitoring committee will be formed.

Acknowledgement
We are thankful to National Mission on Himalayan Studies (NMHS2024-25/SC-XIII/SG/SL-32) for financial support and UPES for overall support.

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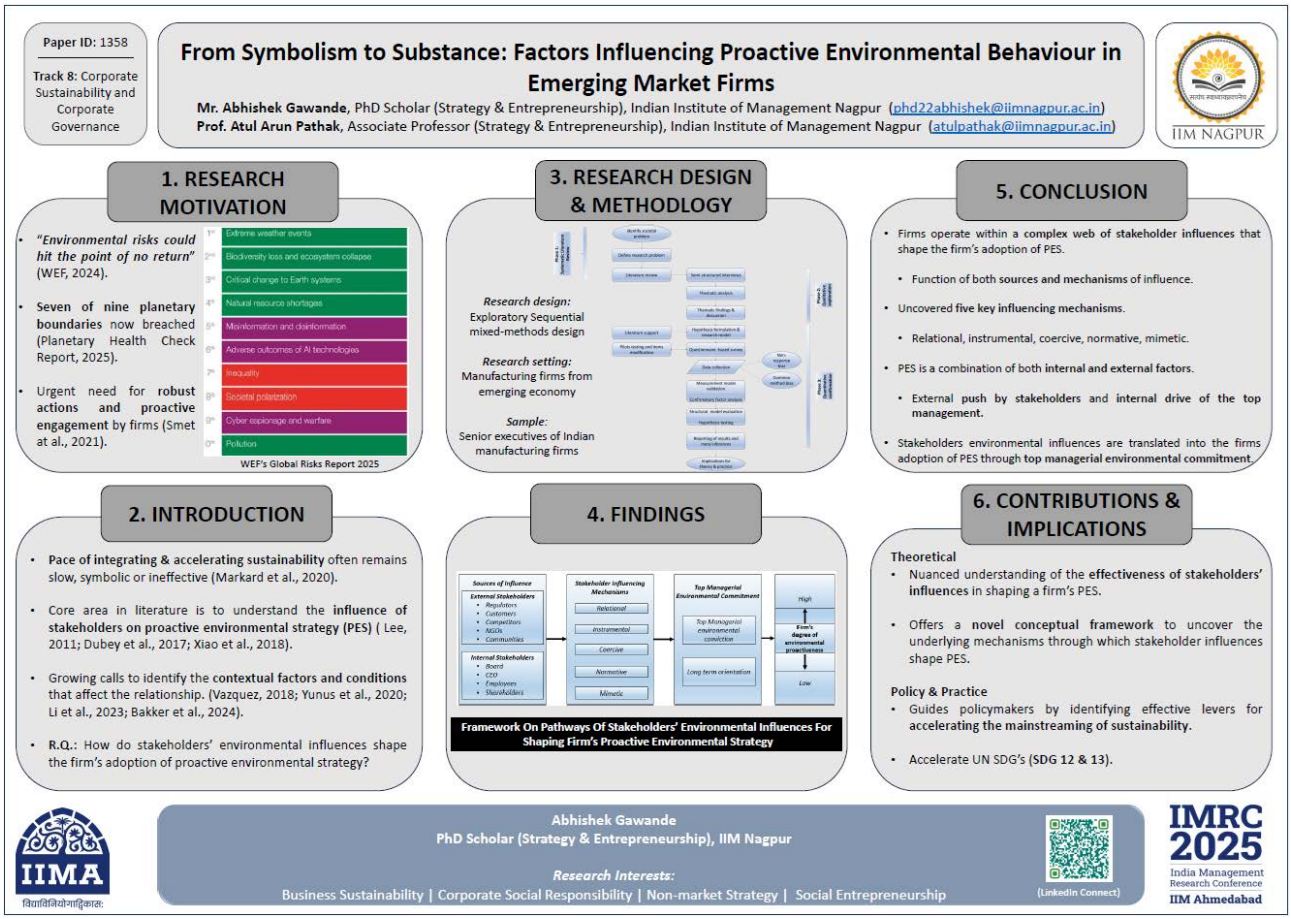
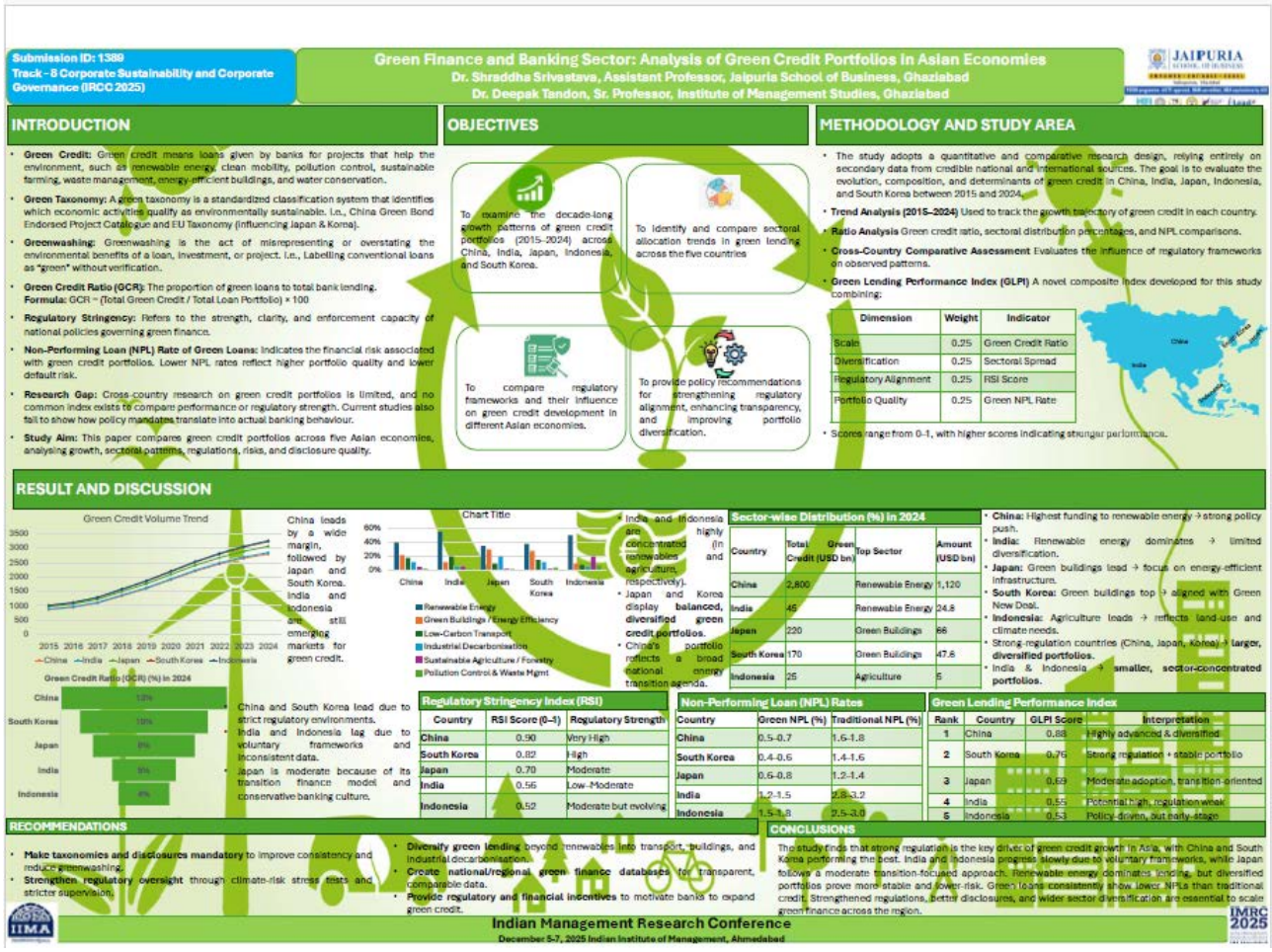
Title: From Symbolism to Substance: Factors Influencing Proactive Environmental Behaviour in Emerging Market Firms

Authors: Abhishek Gawande (Indian Institute of Management Nagpur) and Atul Pathak (Indian Institute of Management Nagpur).



Title: Green Finance and Banking Sector: Analysis of Green Credit Portfolios in Asian Economies

Authors: Dr. Shraddha Srivastava (Jaipuria School of Business) and Dr. Deepak Tandon (Jaipuria School of Business)



Title: Understanding Gen Z's EV consumer perceptions as a strategic driver towards Electric Vehicle adoption in India

Authors: Tarun Verma (IIM Ahmedabad), Devavrat Wagle (IIM Ahmedabad), and Anish Sugathan (IIM Ahmedabad)

Submission ID: 1418

Track 8: India Responsible Capital Conference

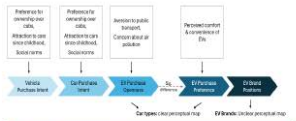
Analysing distinct competitive positions of electric vehicles (EVs) in India through evaluation of consumer perceptions

Devavrat Wagle & Tarun Verma, under guidance of Prof. Anish Sugathan (Indian Institute of Management Ahmedabad)

Abstract

This study seeks to examine the consumer attitudes of Gen Z youth in India towards electric vehicle (EV) cars and their linkages with purchase intentions towards EVs in order to analyse the current market positions of EVs as a category and EV brands within this space.

We found that GenZ are already involved closely in car purchases by their family and intend to buy cars themselves in the future, making their perceptions critical for driving future EV adoption. Vehicle purchase intention is predicted by aversion to taxis, attraction to cars instilled in childhood, and norms of one's social circle. However, car purchase intent is not predicted by social norms. Neither prestige associations nor environmental attitudes significantly relate to vehicle/car purchase intent for Indian Gen Zs. There is a significant difference between openness to EVs and preference for EVs. Car prestige correlates with comfort, enjoyableness, & high-tech, but not performance. On factor analysis, vehicle types sort into a 2x2 perceptual map with SUVs having greater lifestyle value, while EVs hold futuristic appeal. Regression analyses to predict EV purchase intent valued EV convenience and overall implied that non attitudinal factors (e.g., charging infra, etc.) likely play a stronger role at present even for pro-consumers. There is no distinct brand positioning separating various players within the EV space.



Background

Indian consumers have high EV awareness, adoption is still low - only 7.7% of new auto sales in 2024 were EVs (NITI Aayog, 2025; Intage India, 2023) . As such, there seem to be some disconnects in the consumer journey from awareness to purchase, highlighting the need to better study Indian consumers' perceptions towards EVs. Within the consumer landscape, Generation Z (Gen Z) is a particularly important segment – it increasingly influences families' purchase choices, and will soon become the main cohort of new car buyers in the coming years (Ipsos, 2024; Economic Times, 2024).

However, there are very few studies on Gen Z consumers' attitudes towards EVs in India

With a policy vision to drive 30% EV penetration in private cars by 2030 (Government of India, 2025), the government has invested heavily into both EV demand (e.g., ₹10,000 Crore FAME II scheme (2019)) and EV supply (e.g., ₹25,500 Crore PLI scheme (2021), ₹10,900 Crore PM E-DRIVE (2024) scheme) alongside several other policy & regulatory measures.

The market size is projected to stand at $54 billion in 2025 and expected to double by 2029 at a CAGR of 20% (Cornell, 2025). After 12 years of EV promotion, only 2% of India's four-wheelers and 5% of two wheelers are EVs (IBEF, 2024).

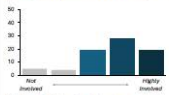
Methodology

Sample: N~75 students, aged 21-28, comprising young, urban, educated cohort from Tier-1 cities, to represent the urban, techno-savvy, and sustainability-conscious group.

Data Collection: We conducted a survey of self-reported attitudes towards purchase intentions, consumer perceptions of EVs, along with simulated customer choice using category samples to be ranked along multiple perceptual parameters

Findings & Discussion

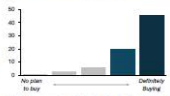
GenZs are highly involved in family car purchases already...



We found **60% of participants** are highly involved in their family's car purchase decisions. This matches findings by McKinsey (2024).

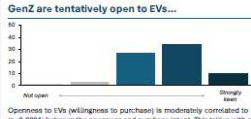
Therefore, **GenZ's opinions** and **purchasing behaviours** are **crucial drivers** of today's car market and the **EV revolution** ahead.

... and intend to purchase cars for themselves in the future



86% of respondents had strong intentions to purchase a car in the future. This is corroborated by McKinsey's (2024) findings that Gen Z (in the US) purchases their first cars earlier than previous generations, with about **76% owning a vehicle by age 21**, compared to **56% of millennials**. As such, GenZ's perceptual patterns become all the more critical, as they will likely become the primary auto consumer base by 2030 when India wants to achieve its EV transition.

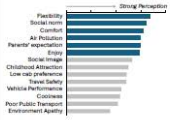
GenZ are tentatively open to EVs...



...but there is a significant gap to purchase preference...

Openness to EVs (willingness to purchase) is moderately correlated to EV preference (EV as first choice), R=0.49, p<0.001. However, there is a significant difference (p<0.0001) between the openness and purchase intent. This tallies with on ground evidence that Indians have high EV awareness, but EV sales in India still lag.

Car perception centers around flexibility, comfort, & social norms more than style & status



Gen Z places the highest importance on **instrumental motives** such as **flexibility and comfort** alongside **affective attributes** such as being **attracted to cars and enjoyment.** The third strong driver is **social attributes** such as societal expectations of owning a car as well as the **influence of friends and family.**

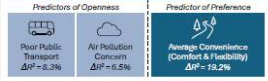
Traditional factors like performance, coolness, and availability of alternatives only had moderate effects. Interestingly, people **do not associate car ownership with apathy for the environment** i.e. owning even ICE cars is considered environmentally okay.

Purchase intent for cars is more individualistic than intent for vehicles overall

Of these, 3 factors are significant predictors of vehicle purchase intent: aversion to using cabs, childhood attraction for cars, and social norms.

However, when we look at predictors for car purchase intent, the picture changes. **Childhood car attraction accounts for 20% variance,** followed by aversion to public transport. The **chief difference is the missing factor - social norms.** Car purchase decisions are primarily individualistic based on personal preferences. Notably, **environmental attitudes are not significant predictors of purchase intent, even negatively.** This indicates that for Gen Z consumers, environmental considerations **do not even enter the purchase decision-making process** despite their generally believed sustainability orientations.

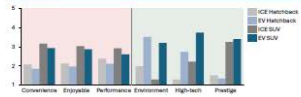
...because drivers of openness are different from those of purchase



Openness to purchase yielded two significant predictors: aversion to public transport, and concern for air pollution which indicates that **more structural barriers such as charging infrastructure, charging time, and range might still be the main determinants of openness to consider EVs.**

For purchase preference/intent though, only 1 predictor mattered: **perceived convenience of EVs.** This further reinforces the hypothesis stated above that **structural factors like charging infrastructure still dominate the decision-making process** and are the key underpinning to whether EVs even make it to the **choice set** for prospective consumers.

EVs are perceived to lag on core functionality but be more high-tech



EVs are consistently regarded worse than their ICE counterparts on convenience & comfort, enjoyableness of driving, and sheer performance, while being accepted as more environment-friendly.

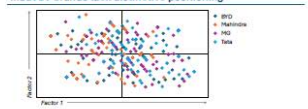
Strikingly, EVs are seen to be more 'hi-tech' than conventional cars, and EV SUVs are seen to be more prestigious than even regular SUVs. Testing this, we found that **prestige perceptions are most correlated with comfort/convenience, being high-tech, & enjoyableness to drive** (β ~ 0.47, 0.47, 0.43), **but not with car performance.**

Car Perceptions cluster clearly into 4 categories...

A principal component analysis with varimax rotation reveals that the perceptions align onto 2 dimensions: **lifestyle value** (convenience, enjoyableness, prestige, and performance) & **futuristic appeal** (environment-friendliness & high-tech perception).

Mapping car categories revealed a clear 2x2 clustering. **SUVs were ranked highly on lifestyle value while EVs were ranked highly on futuristic appeal.**

...but EV Brands lack distinctive positioning



For brand perceptions though, only 1 factor emerges. Even when considering the second factor (eigenvalue ~1), there is **no clear clustering that emerges.** This can have one of **two implications** - either the **brands have not yet established distinct positions within the EV category,** or the **Gen Z sample is not yet aware of specific EV brands.**

Brands current EV model positioning is simply that it is an EV, with limited further differentiation. Further, brands inability to gain mindspace in GenZ despite good general EV awareness bodes poorly for their competitive strategy so far.

Implications

For Policymakers

1. Government needs to aggressively support & **prioritise the development of nation-wide EV charging networks**, especially focused on **Tier-1 and Tier-2** cities. More subsidies and consumer education awareness are unlikely to help bridge the gap from awareness to preference.
2. Launch **targeted educational campaigns** in schools, and colleges, to reinforce climate concerns, **foster attraction to EVs at a childhood stage itself**, and create multiplier effects through families.

For Auto Manufacturers

1. The lack of perceived brand differentiation indicates that brands need to urgently **craft distinctive brand personas** for their EV lineups, perhaps capitalising on its aspiration & high-tech appeal.
2. Actively market EVs to children as cool, fostering future customers, given that childhood attraction accounts for 9% of purchase intent
3. The finding that **environmental attitudes do not predict purchase intent** for cars & EVs, indicates that brands need to position **EVs as great cars to drive, not just eco-friendly alternatives to the mainstream.**

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India Management Research Conference
December 5-7, 2024 | Indian Institute of Management, Ahmedabad
IMRC 2025

AWARDS AND RECOGNITIONS

The conference presented the following Best Paper Awards, celebrating research excellence and impactful scholarship in sustainability, governance and responsible capital.

Best Paper Award (Winner)

"Turning Adversity into Action: Enhancing Sustainability Oversight in Response to ESG Reputation Risk"

Sushil Sainani, Chris Florackis, Omrane Guedhami, and Jeffrey Pittman

Best Paper Award (Runner-Ups)

"Impact of Fintech on Clean Energy (SDG 7) and Global Partnerships (SDG 17)"

Priya Choudhary and M. Thenmozhi

"Green Game in Town: Intra-Industry Spillover Effects of Corporate Green Bond Announcements in the US"

Varun Jindal, Sourav Prasad, and Arun Upadhyay

PARTICIPANT TESTIMONIALS

Being a Board Member and working in a leadership role at an MNC in India, besides being a part-time PhD Scholar, my participation in IMRC 2025 at the Indian Institute of Management Ahmedabad represented a significant milestone in my doctoral journey. My engagement with IMRC 2025 was not limited to the presentation itself; it involved active participation in conference sessions, panel discussions, and informal scholarly interactions, which together enabled me to situate my research within broader conversations in management and interdisciplinary inquiry. The key takeaways from IMRC 2025 were both intellectual and developmental. Academically, the feedback I received helped me refine my theoretical framing and sharpen the articulation of my research contributions. The discussions following my presentation and the exposure to diverse research methodologies expanded my understanding of how similar research questions can be approached from multiple perspectives. Being part of such a prestigious academic forum at IIM Ahmedabad was a deeply affirming experience, reinforcing my sense of belonging within the scholarly community. Overall, I felt a strong sense of professional growth and academic validation. IMRC 2025 was a high-quality academic conference that demonstrated exceptional rigor, intellectual depth, and organizational excellence. The thoughtfully curated sessions, constructive scholarly feedback, and vibrant research exchanges created an enriching environment for meaningful academic engagement. academic experience of the conference. My sincere gratitude to the Professors for their insightful guidance and constructive feedback, which greatly enriched the academic experience of the conference. I also extend my heartfelt thanks to the IT staff for their seamless technical support, ensuring smooth and efficient conduct of all sessions. Special appreciation is due to the coordinators for their meticulous planning and dedicated efforts, which played a crucial role in making IMRC 2025 a well-organized and highly successful event.

Dinesh Kumar Gupta

Participating in Track 8 (IRCC) of IMRC 2025 at the IIMA was a highly enriching experience. The conference provided a rigorous platform for meaningful academic exchange, where high-quality research presentations were complemented by thoughtful discussions and constructive feedback. The diversity of perspectives and methodological approaches significantly deepened my understanding of emerging issues in the field. The networking forum enabled valuable interactions with fellow researchers, senior academics, and practitioners, many of which I believe will lead to future collaborations. Overall, IRCC 2025 was exceptionally well-organized and impactful, reinforcing its role as an important forum for advancing scholarly research and dialogue. One thing I really appreciate that the organisers started PhD networking forum (the job market) that did not exist in India. This help final year PhD students to understand the job market and get opportunities.

Sourav Prasad

This platform reaffirmed the importance of collaborative efforts in shaping a cleaner, greener future. I am grateful to IRCC -IMRC for providing me an opportunity for the second time in such a meaningful space to share ideas and innovations. Travelling all the way from Bengaluru to IIMA and presenting my paper on Indiaâ€™s Electric Vehicle (EV) transition in Track 8 was an enriching and inspiring experience.

Suneeta Hegde

IMRC 2025 was an excellent conference. The sessions I attended were well organised, with strong keynote speakers and presenters, and a variety of research agendas that I found genuinely engaging and practically relevant. As part of the CSCG (IRCC) track, I really appreciated the quality of presentations, especially the strong focus on India and the challenges firms face here. The discussions helped me think more deeply about how sustainability and governance debates are evolving in emerging markets, and I came away with fresh research questions. One of the main thing for me, as an academic from the University of Liverpool (UK), was the opportunity to interact with faculty/PhD students from institutions across India, and especially a chance to engage with faculty at IIM Ahmedabad. These conversations helped me build new connections and explore potential research collaborations. I also enjoyed hearing IIM Directors discuss how the management school model is changing and must adapt in an AI-driven world. Their focus on future graduate skills and B-school relevance was a key takeaway. The AMP Paper Development Workshop was very useful, and I received encouraging feedback and in general enjoyed the discussion. I was also honoured to receive the Best Paper Award, which made the experience even more special (thanks to the committee). Overall, IMRC 2025 was undoubtedly one of the best-organised conferences I have attended. Everything ran smoothly, communication was clear, and the team were incredibly responsive and helpful. I look forward to participating again in 2026.

Sushil Sainani

My journey with IRCC 2025 was both academically enriching and deeply inspiring. Beginning with insightful keynote sessions to attending high-quality presentations and engaging in intense academic discussions, the conference provided diverse opportunities and naturally created a feeling of wanting to be everywhere at once. One of my key takeaways was the exposure to a wide range of high-quality research and interdisciplinary perspectives and understanding that focusing on practical solutions along with discussion could gives impactful results. This conference stood out due to the wide range of opportunities it offered, from insightful keynote sessions to interactive discussions and networking platforms and career opportunities. These exchanges greatly enhanced both learning and collaboration. As I reflect upon my participation, I feel that I have learnt a lot and received constructive feedback on my research work. The experience was personally fulfilling, contributing positively to my academic growth and research confidence. What made the conference exceptional was its ability to offer a complete package of intellectual discussions, networking, and career development opportunities.

Komal Vadhwani

Ircc 2025 has enriched my experience of research multifold times. The session on how to reach ft50 and how can we publish in abdc a and a* was very insightful. I also admired the way session was conducted.The presentations were on time and the session chirs provided very useful and applicable feedback to the papers. I was happy to see the conference committee give an opportunity to the presenter who could not attend due to problems of flight, to present online. I was also grateful for the positive response of the committee when I seeked permission to carry my small child with me inside. Thank you for such a great conference and the humbleness that each member carried whole interacting with the presenters

Vinita Ramchandani

Attending IRCC 2025 was a highly informative and valuable experience. What stood out most was the focused gathering of researchers working in a specific area, which made the presentations, discussions, and networking genuinely relevant. Unlike many research conferences that can feel broad and generic, IRCC offered depth and meaningful engagement. I truly enjoyed being part of IRCC and building connections that I expect will be long-lasting in this field.

Chetana Koulagi

IMRC and IRCC 2025 helped me refine my research direction through high quality discussions and constructive feedback from a diverse academic community.

Nidhin Kurian John

IRCC 2025 was a memorable academic journey for me. I came to know about the conference through my colleagues. Very much thankful to them. When the paper was accepted, it was overwhelming. In the beginning I hesitated as it was a offline conference. Solely on my supervisor's insistence and guidance, I submitted the abstract and which got selected for oral presentation. It was an enriching experience with lot of exposure, had the opportunity to connect with research community, met my favourite author Prof. Neharika Vohra ma'am and discussed about her papers that I have referred in my research. Very much fortunate to meet Prof. Anish Sugathan sir and got his insights for my research topic in the area of corporate Governance. The key takeaway was the editor's panel which was very helpful to understand how to write papers for publishing. Most importantly, I want to mention my panel chair Prof Balagopal Gopalakrishnan sir, whose inputs for improvisation of the paper and suggestions for future research was so impactful. Poster presentations was so delightful and hats off to hospitality provided. IRCC will always be a beautiful memory in my learning and research journey. The conference provided an excellent platform for knowledge exchange and scholarly engagement. The sessions were well-curated, and the overall experience was both insightful and professionally rewarding.

Saritha P

My experience at IRCC 2025 was both intellectually enriching and professionally rewarding. From the outset, the conference provided a vibrant platform for meaningful engagement with scholars, researchers, and practitioners from diverse disciplines and geographic backgrounds. Participating in the technical sessions and research discussions allowed me to gain fresh perspectives on emerging trends, methodological approaches, and real-world applications relevant to my research interests. One of the key takeaways from IRCC 2025 was the depth and quality of scholarly exchange. The presentations were well-structured and thought-provoking, often sparking insightful discussions that extended beyond the sessions themselves. The opportunity to interact with fellow researchers during Q&A sessions and networking breaks significantly enhanced my understanding of interdisciplinary connections and potential future collaborations. What stood out most was the conference's emphasis on fostering an inclusive and collaborative research environment. The organizers ensured smooth coordination, timely sessions, and ample opportunities for interaction, which made participation both comfortable and impactful. Overall, I felt valued as a contributor and motivated to further refine and advance my research based on the feedback and inspiration gained during the conference. IRCC 2025 was a well-organized and intellectually stimulating conference that fostered meaningful research exchange, collaboration, and academic growth. It provided an excellent platform to share ideas, gain valuable insights, and connect with a global research community.

Vaishnavi Pushpad

For me, the conference was full of "Aha" moments. The most unique part about the conference is that it is not strictly an academic conference, not purely industry or consulting event; rather, it is a culmination of all, bringing together diverse expertise and creating a platform for unparalleled idea exchange. Personally, I felt the Eureka moment when the core analysis that I had drawn in my paper was reinforced and expanded upon by the rationale and insights of other presenters. And finally, cherry on the top was Prof. Anish's encouraging nudge to pursue a PhD on the topic.

Lokendra Sharma

IRCC 2025 was a truly enriching academic experience that reaffirmed the value of meaningful research dialogue. The discussions and paper presentations offered deep insights and constructive perspectives that helped refine my research thinking. Engaging with scholars across institutions created valuable opportunities for learning and collaboration. The quality of conversations, especially around sustainability and governance, stood out throughout the conference. Presenting my work and receiving thoughtful feedback was both motivating and affirming. Overall, IRCC 2025 was a rewarding experience that strengthened my commitment to rigorous and impactful research.

Pallavi N

My participation in IMRC 2025 was a highly enriching and meaningful experience in my doctoral journey. As a PhD research scholar, the conference provided an excellent platform to engage with diverse perspectives, contemporary research, and emerging ideas across management and related disciplines. Presenting my research allowed me to receive constructive feedback from senior academicians and peers, which helped me reflect critically on my work and identify areas for further refinement. The research discussions and paper presentation sessions were intellectually stimulating and exposed me to advanced methodologies and interdisciplinary approaches. The networking opportunities were particularly valuable, as I interacted with fellow researchers, faculty members, and industry experts, leading to insightful conversations and potential academic collaborations. Overall, IMRC 2025 significantly contributed to my academic growth, confidence, and motivation as a researcher. IMRC 2025 was a well-organized and intellectually stimulating conference that fostered meaningful research dialogue and collaboration. It provided an excellent platform for young researchers to present their work, gain valuable feedback, and engage with leading academicians in a supportive academic environment.

Usha Shree Rathod

Participating in IRCC 2025 at IIM Ahmedabad was a highly enriching and rewarding experience for me. Presenting my research in the poster session allowed for deeper, more interactive engagement compared to conventional track paper presentations. The format facilitated meaningful one-on-one and small-group discussions, enabling detailed feedback, diverse perspectives, and constructive academic exchange. What stood out most was the multidisciplinary nature of the interactions. Scholars from varied domains engaged with my work, offering insights beyond my immediate area of specialization. This exposure significantly broadened my understanding of how research themes intersect across disciplines and enhanced the overall learning experience. The networking opportunities were equally valuable, fostering connections with researchers and academicians that may lead to future collaborations. Overall, the poster presentation format proved to be more effective and impactful, providing greater visibility, richer dialogue, and a collaborative research environment. IRCC 2025 at IIM Ahmedabad offered an intellectually stimulating platform with excellent opportunities for multidisciplinary research exchange. The poster presentation format was particularly effective, enabling deeper interactions, constructive feedback, and meaningful networking. It was a well-organized and impactful academic experience.

Shraddha Srivastava

ACKNOWLEDGEMENTS

CSCG extends its sincere gratitude to the following individuals and groups for their invaluable contributions to the success of the conference:

- Prof. Gireesh Shrimali and Shri Manu Srivastava, IAS, for delivering the keynote address.
- All panelists for their insightful participation, including Dr. Akshay Jain, Mr. Avnish Kumar, and Mr. Tanmay Pandya.
- Prof. Anish Sugathan, Chairperson, CSCG, for moderating the sessions.
- All reviewers for their dedicated time and effort in evaluating the submissions.
- Faculty members for their constructive feedback and for serving as session chairs during the research paper presentations.
- Mr. Arun Duggal, Founder Donor and the IIMA-PwC ESG Forum for their sustained support in enhancing CSCG's research and outreach initiatives.
- All the PhD, PGP, and PGPX students, Research Associates (RAs) and Academic Associates (AAs) for their active participation.
- Participants from academia, government, and industry for contributing to the rich discussions and knowledge exchange.
- The IIMA Communications Team for their creative and design support.
- The IIMA IT and Administrative Teams for their invaluable logistical assistance in organizing the event.

CONCLUDING REMARKS

The third India Responsible Capital Conference (IRCC 2025), hosted by the Centre for Sustainability and Corporate Governance Research (CSCG) at IIM Ahmedabad from December 05 to 07, 2025, reinforced its role as a key platform for dialogue on sustainability, governance, and the evolving responsibilities of capital. By convening voices from global academia, public administration, the entrepreneurial ecosystem, and industry, the conference facilitated nuanced engagement with the multifaceted challenges of the climate crisis and the institutional responses required to address them.

Spanning three days of intensive deliberation, IRCC 2025 moved beyond broad concepts to tackle specific, high-stakes challenges. The agenda laid special emphasis on the intersection of physical climate risk, renewable energy project structuring, and the entrepreneurial engines driving the green transition, offering a roadmap for navigating the ever-evolving sustainability landscape.

The keynote session exemplified this bridge between theory and practice, linking the rigour of climate risk measurement with the administrative and contractual ingenuity required to de-risk large-scale renewable energy projects. The panel discussion complemented these insights by shifting the lens to entrepreneurial execution, where practitioners shared grounded perspectives on scaling climate solutions, and on the business models and commercialization pathways needed to translate innovation into impact.

The academic tracks provided the empirical backbone of the conference. Research presentations offered imperative insights into diverse areas such as the policy implications of India's EV transition, the mechanics of ESG reputation risk, and sustainable value creation in ecotourism. These contributions, alongside poster presentations by emerging scholars, highlighted the critical role of data-driven research in shaping both public policy and corporate strategy in the area of sustainability while also identifying new directions for inquiry.

Ultimately, IRCC 2025 underscored that the path to a resilient future is not a lone endeavor; it requires collective action. Bridging the gap between conceptual frameworks and scalable impact demands a synchronized ecosystem- one where the strategic weight of corporations and governments aligns with the agility of entrepreneurs and the rigour of academia. Only through this unification of policy, capital, and inquiry can high-level ambition be converted into measurable, on-ground action.

VISUAL HIGHLIGHTS OF IRCC 2025








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