

Intellectual Property, Benefit Sharing and Ethical Commercialization of Indian Knowledge Systems: A Sustainable Management Perspective

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Abstract

Indian Knowledge Systems (IKS) represent a rich, historically embedded body of knowledge encompassing traditional medicine, ecological stewardship, agriculture, and community-based governance. In recent years, the commercial utilization of IKS—particularly in sectors such as AYUSH, herbal pharmaceuticals, nutraceuticals, and biodiversity-based enterprises—has expanded significantly. However, this commercialization raises critical concerns related to intellectual property protection, equitable benefit sharing, and ethical management. Conventional intellectual property regimes inadequately address the collective, intergenerational, and culturally embedded nature of IKS, often resulting in misappropriation and exclusion of knowledge holders from value creation.

Drawing upon stakeholder theory, institutional theory, and sustainability-oriented management literature, this conceptual paper develops an integrative framework for the ethical commercialization of Indian Knowledge Systems. Using Indian case illustrations including the Traditional Knowledge Digital Library (TKDL), AYUSH-based enterprises, and tribal medicinal plant initiatives, the study proposes a conceptual model and theoretical propositions linking ethical governance to sustainable value creation. The paper contributes to management scholarship by positioning ethical IKS governance as a strategic capability for inclusive and sustainable development, with implications for managers, policymakers, and researchers.

Keywords: Indian Knowledge Systems; Access and Benefit Sharing; Intellectual Property Rights; Ethical Commercialization; Sustainable Management

Introduction

Indian Knowledge Systems (IKS) encompass a wide spectrum of knowledge traditions developed over centuries, including Ayurveda, Yoga, Unani, Siddha, traditional agricultural practices, water management systems, and ethnobotanical knowledge preserved by tribal and indigenous communities. These systems are deeply rooted in principles of harmony with nature, intergenerational responsibility, and collective well-being.

In the contemporary sustainability discourse, IKS has gained renewed attention due to its relevance for biodiversity conservation, climate resilience, and low-resource innovation. India’s National Education Policy (NEP) 2020 and recent policy initiatives emphasize the integration of IKS into education, research, and innovation ecosystems. At the same time, increasing commercialization of IKS-based products by domestic and multinational firms has

raised ethical and managerial concerns related to intellectual property rights (IPR), benefit sharing, and community consent.

Against this backdrop, the present paper addresses the following research question:

How can ethical intellectual property governance and benefit-sharing mechanisms enable the sustainable commercialization of Indian Knowledge Systems?

Literature Review and Theoretical Foundations

Indian Knowledge Systems and Sustainability

IKS promotes sustainability through holistic worldviews that integrate ecological balance, social equity, and long-term well-being. Traditional Indian practices such as mixed cropping, organic farming, water harvesting systems (e.g., stepwells and tanks), and herbal medicine exemplify sustainable resource management and resilience (Ananya et al., 2019). Recent management and sustainability studies increasingly recognize IKS as a valuable intangible asset capable of contributing to sustainable innovation, circular economy practices, and inclusive growth.

Intellectual Property Rights and Indian Knowledge Systems

Conventional intellectual property regimes are primarily based on individual authorship, novelty, and time-bound exclusivity. These principles conflict with the collective, cumulative, and intergenerational nature of IKS. This mismatch has resulted in well-documented cases of biopiracy involving Indian medicinal and agricultural knowledge, prompting legal and institutional responses at both national and international levels.

India’s experience highlights the limitations of existing IP frameworks and underscores the need for alternative or *sui generis* protection mechanisms that recognize customary laws, community ownership, and ethical use of traditional knowledge.

Access and Benefit Sharing in the Indian Context

India has developed legal frameworks aligned with the Convention on Biological Diversity (CBD) and the Nagoya Protocol, most notably the Biological Diversity Act, 2002. Access and Benefit Sharing (ABS) mechanisms under this Act aim to ensure that benefits arising from the commercial use of biological resources and associated traditional knowledge are fairly and equitably shared with local communities.

Despite this progressive framework, empirical studies indicate that ABS implementation faces challenges such as weak enforcement, limited managerial awareness, procedural complexity, and power asymmetries between firms and local communities.

Stakeholder and Institutional Theory Perspectives

Stakeholder theory emphasizes the moral and strategic importance of indigenous and local communities as primary stakeholders in IKS commercialization. Ethical engagement with these stakeholders enhances legitimacy, trust, and long-term value creation (Yadav et al., 2025). Institutional theory further explains how regulatory pressures, normative expectations, and cultural-cognitive legitimacy influence ethical business behavior, particularly in emerging economy contexts such as India.

Indian Case Illustrations

Traditional Knowledge Digital Library (TKDL)

The Traditional Knowledge Digital Library (TKDL) is a landmark Indian initiative aimed at preventing the misappropriation of traditional medicinal knowledge by documenting formulations in multiple languages and formats accessible to international patent offices. While

the TKDL has been effective as a defensive intellectual property mechanism, it does not directly facilitate benefit sharing with knowledge-holding communities.

Management Implication: Ethical commercialization requires proactive benefit-sharing and partnership strategies beyond defensive documentation.

AYUSH-Based Commercial Enterprises

The rapid growth of AYUSH-based pharmaceutical and wellness enterprises demonstrates the commercial potential of IKS. Firms that adopt ethical sourcing practices, fair pricing, and community engagement mechanisms tend to exhibit stronger brand legitimacy, regulatory compliance, and supply-chain resilience (Patel, et al.,2024).

Management Implication: Integrating ABS principles into business models strengthens sustainability performance and stakeholder trust.

Tribal Medicinal Plant and Forest-Based Enterprises

Community-led medicinal plant and forest-based enterprises in regions such as Central and Eastern India illustrate how participatory benefit-sharing arrangements can enhance livelihoods while conserving biodiversity. Capacity building, transparent contracts, and revenue-sharing mechanisms emerge as key success factors.

Management Implication: Community participation transforms IKS commercialization into a co-creation and partnership-driven process.

Research Methodology

This study adopts a conceptual and qualitative research design appropriate for theory building. The analysis draws upon:

- Scopus-indexed academic literature (2018–2024),
- Indian legal and policy frameworks related to IKS, biodiversity, and intellectual property,
- Secondary case studies from AYUSH enterprises and tribal knowledge initiatives.

Stakeholder analysis informs the development of the proposed conceptual framework and model.

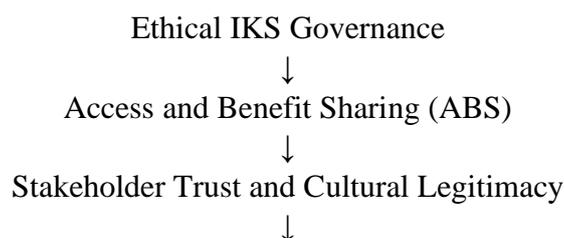
Ethical Commercialization Framework for Indian Knowledge Systems

The proposed framework for ethical IKS commercialization consists of five interrelated dimensions:

1. Prior Informed Consent (PIC) aligned with customary and community norms
2. Participatory Knowledge Validation and Documentation
3. Equitable Benefit Sharing (monetary and non-monetary)
4. Ethical Intellectual Property Governance (sui generis and hybrid systems)
5. Relational Governance and Long-Term Partnership

Conceptual Model

Conceptual Flow



Sustainable Innovation Performance



Inclusive and Sustainable Value Creation

Moderating Variables:

- Strength of Indian regulatory institutions
- Managerial ethical orientation
- Intensity of community participation

Mediating Variable:

- Stakeholder trust

Theoretical Propositions

P1: Ethical governance of Indian Knowledge Systems positively influences equitable benefit-sharing outcomes.

P2: Access and Benefit Sharing practices enhance stakeholder trust and cultural legitimacy of firms.

P3: Stakeholder trust mediates the relationship between ABS mechanisms and sustainable innovation performance.

P4: Institutional support strengthens the impact of ethical IKS governance on sustainable value creation.

P5: Firms that treat IKS holders as strategic partners achieve superior long-term sustainability outcomes.

Managerial Implications

Managers must recognize Indian Knowledge Systems as strategic sustainability assets rather than freely exploitable resources. Ethical IKS governance enhances ESG performance, mitigates reputational and regulatory risks, and supports inclusive innovation in Indian and global markets.

Policy Implications

Policymakers should strengthen ABS enforcement mechanisms, promote community capacity building, and support hybrid intellectual property systems that recognize collective ownership. Greater alignment between NEP 2020, biodiversity policy, and industrial strategy is essential for ethical commercialization

Conclusion

Ethical commercialization of Indian Knowledge Systems requires a fundamental reconfiguration of intellectual property governance, managerial mindsets, and institutional frameworks. Integrating ethical governance and benefit-sharing mechanisms enables sustainable innovation, social legitimacy, and inclusive development. The proposed framework offers a foundation for future empirical research and policy experimentation in the domain of IKS-based sustainable management.

References

1. Berkes, F. (2018). Sacred Ecology (4th ed.). Routledge.
2. Dutfield, G. (2020). Traditional knowledge, intellectual property and biopiracy: Issues and perspectives. *World Development*, 127, 104742.
3. Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & de Colle, S. (2020). Stakeholder theory: The state of the art. *Journal of Business Ethics*, 166(1), 1–18.

4. Government of India. (2002). The Biological Diversity Act, 2002. Ministry of Law and Justice, New Delhi.
5. Morgera, E. (2021). Fair and equitable benefit-sharing at the crossroads of environmental and human rights law. *Review of European, Comparative & International Environmental Law*, 30(2), 147–159.
6. Patel, K., Kumari, P., & Dubey, V. (2024). Smart Education: The Impact of IoT on Learning Environments. *International Journal of Innovations in Science, Engineering And Management*, 223-227.
7. Singh, A., Ahmad, F., Bajpai, P., Ansari, T. M., & Kamal, A. (2019). Cyanosomes: A pilot study. *Chemistry and physics of lipids*, 224, 104728.
8. WIPO. (2022). Traditional Knowledge and Intellectual Property. World Intellectual Property Organization.
9. Yadav, Aditya Singh, Prof. (Dr.) Tulika Saxena, Dr. Amit Kumar Singh, Dr. Sharmila Singh, Dr. Ashok Kumar, and Shivangi Yadav. 2025. “Examining The Role Of Institutional Culture & Power Dynamics In Restrictive Policies And Student Disempowerment In Indian Colleges”. *Metallurgical and Materials Engineering*, May, 127-35.