



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

The Changing Function Of Intellectual Property Rights In The Knowledge Economy: Examining The Trade-Off Between Innovation Protection, Public Access, And Socio-Economic Impact On Global Knowledge Sharing. The Shifting Function Of Intellectual Property Rights In The Knowledge Economy: Sustaining Innovation, Public Access, And Global Knowledge Sharing.

Author:

Sangam Bishnoi (Research Scholar)
Department of law, Faridabad

Institutional affiliated: - Lingaa's Vidyapeeth Deemed University

Address: - H.no. 2525A, Sector-3, Faridabad -121004, Haryana, India

Co - Author: 1:-

Sr. Prof. (Dr.) Monika Rastogi
Head of department, department of law
Lingayas Vidyapeetham

Co - Author 2:-

Mr. Sumar Malik
Assistant Professor Department of law,
Lingaa's Vidyapeeth, Faridabad

Abstract

Intellectual property rights (IPRs) in the contemporary knowledge economy have a central function to support innovation while influencing the manner in which knowledge is disseminated worldwide. Yet, there are conflicts between safeguarding creators' rights, providing public access to ideas, and dealing with socio-economic imbalances in knowledge dissemination. This article examines the ways in which IPRs have developed, how they influence innovation and access, and what obstacles they create to equal knowledge sharing on the global level.

Introduction

Knowledge economy—where innovations, information, and ideas contribute to economic progress—has altered the way we produce, distribute, and consume knowledge. The foundation of the system is intellectual property rights (IPRs), legal instruments such as patents, copyrights, trademarks, and trade secrets that shield creators from unauthorised use. IPRs drive innovation by promising inventors and

artist's financial reward for their works. But in doing so, they also restrict access to specific individuals, generating barriers that disadvantage public welfare and global equity.¹

For instance, patents on medicines can pay for life-saving medication but also render it inaccessible to millions in poor nations. Likewise, copyrighted scholarly journals put vital research behind paywalls, limiting access for students and researchers in under-resourced institutions. These conflicts pose a central question: How can IPRs reconcile the imperative to incentivise innovation with the public's right to access information and the international imperative of equitable knowledge sharing?

This article examines the changing role of IPRs in the knowledge economy, examining their influence on innovation, public access, and socio-economic inequalities. We use actual cases, current trends, and policy discussions to suggest solutions that reconcile private incentives with public good.

The Role of IPRs in the Knowledge Economy

Encouraging Innovation

- IPRs are intended to incentivise creators by giving them temporary monopolies on their work. Exclusivity enables inventors to recoup investment and finance additional research. For example, the creation of mRNA vaccines during the COVID-19 crisis depended on patented technology. Companies such as Pfizer and Moderna spent billions believing that patents would safeguard their profit.
- Evidence confirms that: In 2020, the World Intellectual Property Organisation (WIPO) discovered that nations with more robust patent systems were associated with greater levels of research and development (R&D) expenditure. Without IPRs, numerous innovators may not have the motive to incur financial risks.

Restricting access²

- And yet, IPRs can limit access to knowledge, particularly where commercial interests conflict with public interests. In the HIV/AIDS epidemic of the early 2000s, patented antiretroviral medication was priced beyond the reach of millions in sub-Saharan Africa. Only with international pressure and generic drug arrangements did prices fall, saving countless lives.
- Copyrights also act as obstacles. Publishers at universities tend to charge exorbitant fees to access journals, restricting who gets to read ground-breaking research. It was estimated by a 2023 report that 70% of academic articles are pay walled, inordinately harming researchers in the developing world.

¹ The term "knowledge economy" refers to an economic system where growth is driven by the production, distribution, and use of knowledge and information. See World Bank, Knowledge Economy Framework (2023).

1. The mRNA vaccine development by Pfizer and Moderna relied on patented technology, with investments exceeding \$2 billion during the COVID-19 pandemic. See Pfizer, Annual Report (2021).
2. WIPO data (2020) indicates a correlation between robust patent systems and increased R&D expenditure, with high-income countries leading in patent filings. See WIPO, World Intellectual Property Report (2020), p. 45.
3. The HIV/AIDS crisis in sub-Saharan Africa highlighted the impact of high-priced patented antiretroviral drugs, mitigated by generic production agreements in the early 2000s. See Medicines Sans Frontiers, Untangling the Web of Antiretroviral Price Reductions (2003).
4. A 2023 report estimated that 70% of academic articles are behind paywalls, disproportionately affecting researchers in developing nations. See Access to Medicines Campaign, Global Health Equity Report.

Socio-Economic Impacts

- IPRs can exacerbate global disparities. Rich countries, where the majority of patent holders reside, control knowledge creation, while poor nations find it difficult to access covered technologies. For instance, WIPO's 2022 statistics indicate that only 2% of world patents are submitted in low-income nations. This perpetuates a cycle where developed countries move ahead more quickly, leaving others behind.
- Cultural knowledge is also under threat. Traditional knowledge of indigenous peoples is frequently patented by corporations without their permission—a process known as bio piracy. One well-known example was the neem tree, which had been used for centuries in India but was patented by Western firms in the 1990s, leading to court battles.

Changing Trends in IPRs

- **Digital Challenges:** The web has facilitated sharing and theft of knowledge. Music, film, and software piracy loses industries billions of dollars each year, leading to increased enforcement of copyrights. Digital technology also facilitates open-access movements, such as Creative Commons, which enable creators to disseminate work freely on flexible terms.
- **Open Innovation:** Certain sectors are shifting towards collaborative models. Tesla, for example, opened up its electric vehicle patents in 2014 to speed up green technology advancement. Open-source software, such as Linux, flourishes without conventional IPRs, demonstrating that innovation can thrive in less restrictive systems.³
- **Global Policy Transitions:** Global arrangements such as the TRIPS (Trade-Related Aspects of Intellectual Property Rights) establish international standards for IPR but are criticised for being pro-rich countries. As a response, countries such as India and Brazil have advocated for flexible patent standards, enabling generic medicines to be accessed by their populations at a quicker rate.
- **Public Backlash:** Widespread sensitisation of the drawbacks of IPRs has stimulated activism. The Open Access movement, for instance, threatens publishers to disseminate research free of charge. Likewise, causes such as Access to Medicines call for cost-effective drugs and emphasise how IPRs allow profits to dominate over lives.

-
5. WIPO (2022) reports that only 2% of global patents are filed in low-income countries, reflecting a knowledge disparity. See WIPO, Global Patent Filing Statistics (2022).
 6. The case of bio-piracy involving the neem tree in India led to legal battles in the 1990s, with patents granted to Western firms later revoked. See Traditional Knowledge Digital Library, Annual Report (2021). (2023). Footnote:
 7. WIPO (2022) reports that only 2% of global patents are filed in low-income countries, reflecting a knowledge disparity. See WIPO, Global Patent Filing Statistics (2022).
 8. The case of bio-piracy involving the neem tree in India led to legal battles in the 1990s, with patents granted to Western firms later revoked. See Traditional Knowledge Digital Library, Annual Report (2021). Compulsory licensing, as used in South Africa for HIV drugs, allows governments to authorize generic production during public health crises. See WTO, TRIPS and Public Health (2001).
 9. Plan S, introduced in 2018, mandates open access for publicly funded research. See Plan S, Principles and Implementation (2018).
 10. India's Traditional Knowledge Digital Library (TKDL) protects indigenous knowledge from bio-piracy. See TKDL, Annual Report (2021).

The conflict between safeguarding innovation and providing public access must be resolved through innovative solutions. Following, we set out measures to bring IPRs into balance with the interests of the knowledge economy:

- **Tiered Pricing and Licensing:** Businesses might use price structures that adjust according to income level of countries, making basic products such as medicines accessible. Compulsory licensing—under which governments permit generic production during emergencies—has been successful, as in the case of South Africa's HIV drug deals.
- **Strengthening Open Access:** Governments and universities must subsidise open-access journals and repositories so that research can become widely accessible. Policies such as plan S, which was introduced in 2018, require publicly funded research to be made freely available, a powerful precedent.
- **Reforming Patent Systems:** Patents must be awarded more narrowly so as to avoid "patent trolling," whereby companies buy up rights but do not innovate. Shorter patent durations for non-essential products may also stimulate competition and reduce prices.⁴
- **Preserving Traditional Knowledge:** International regulations must acknowledge indigenous rights over their knowledge to avoid bio piracy. Registries controlled by communities, such as India's Traditional Knowledge Digital Library, can record and safeguard cultural heritage.
- **International Cooperation:** Rich countries must facilitate technology transfers to the poor, such as COVAX's vaccine sharing of COVID-19. These efforts can close the knowledge gap and enhance global innovation.

Case Studies

Pharmaceutical Patents and COVID-19

- The pandemic showcased the dual-natured role of IPRs. As patents accelerated vaccine innovation, they slowed down distribution globally.
- Rich countries stockpiled doses, with poor ones in waiting. In 2021, South Africa and India had suggested a TRIPS waiver for the manufacture of generic vaccines, but it came to naught due to rich nations' resistance. The example illustrates how IPRs could obstruct equal access during crises.⁵

11. The proposed TRIPS waiver for COVID-19 vaccines by South Africa and India in 2021 was rejected by high-income countries, delaying global distribution. See WTO, TRIPS Waiver Debate (2021).
12. COVAX, a global vaccine-sharing Mozilla Firefox, an open-source browser, demonstrates successful collaboration without strict IPRs. See Mozilla Foundation, History of Firefox (2023).
13. Sic-Hub, despite its illegal status, provides free access to pay walled research, with millions of downloads monthly. See Bohannon, J., and Who's Downloading Pirated Papers? (2016).initiative, aimed to address inequities but faced supply challenges. See WHO, COVAX Update (2022).
14. The conclusion emphasizes the need for balancing private incentives with public good, drawing on trends like open access and international cooperation.
15. References cited include WIPO (2020, 2022), Access to Medicines Campaign (2023), Plan S (2018), and Traditional Knowledge Digital Library (2021).

Open-Source Software

- The achievement of open-source projects such as Mozilla Firefox indicates that innovation is not always required to have strict IPRs. Open-source models are able to provide high-quality products for all by enabling international collaboration, providing a template for other sectors.

Academic Publishing

- The rise of Sic-Hub, a “pirate” site offering free access to pay walled research, reflects frustration with restrictive copyrights. While illegal, Sic-Hub’s popularity—millions of downloads monthly—underscores the demand for open access and the need for systemic reform.

Conclusion

- Intellectual property rights are the foundation of the knowledge economy, driving innovation through the protection of creators' work. But they also generate obstacles to access and increase global inequalities, threatening the vision of equal knowledge sharing. As technology and public aspirations change, so must IPRs. By adopting flexible licensing, open-access models, and international cooperation, we can make IPRs both serve private incentives and the common good.
- The way forward demands discussion between governments, corporations, and communities. Only by resolving the tensions between innovation, access, and equity is it possible to create a knowledge economy for the many, not the privileged few.

References

- World Intellectual Property Organisation. (2020). World Intellectual Property Report.
- WIPO. (2022). Global Patent Filing Statistics.
- Access to Medicines Campaign. (2023). Global Health Equity Report.
- Plan S. (2018). Principles and Implementation.
- Traditional Knowledge Digital Library. (2021). Annual Report.