



DAILY EDITORIAL ANALYSIS

TOPIC

**DECLINE OF PATENT APPLICATIONS:
CAUSES & CONCERNS**

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Context

- In recent years, there has been a noticeable decline in the number of patent applications filed globally that has raised concerns among policymakers, researchers, and industry leaders about the potential impact on innovation and economic growth.

Global Trends in Patent Applications: Key Observations

- **Slowdown in Global Patent Filings:** WIPO Patent Report 2023 highlighted a deceleration in patent applications globally.
 - ♦ In 2023, international patent filings **decreased by 1.8%**, totaling 272,600 applications.
- **China's Role in Global Trends:** China has been the leading country in patent filings for over a decade.
 - ♦ However, even China's patent applications **saw a slight reduction**, reflecting a broader slowdown in technological innovations.
- **Developed Nations Losing Momentum:** The United States Patent and Trademark Office (USPTO) reported a decline in applications, largely due to economic uncertainties and shifts in corporate R&D priorities.
 - ♦ The US, Japan, and South Korea registered slower growth in innovation-driven patents.
- **Emerging Economies Struggling to Sustain Growth:** Many developing nations, **including Brazil, and South Africa etc.**, have witnessed **stagnation or decline** in patent filings.
- **Declining Patent Applications in India:** According to the **Office of the Controller General of Patents, Designs, and Trademarks (CGPDTM)**, India witnessed a **3.2% decline** in patent applications.
 - ♦ The proportion of **domestic patent filings vs. foreign filings remains low**, with Indian applicants accounting for **only around 30-35% of total patents**.

Factors Contributing to the Decline Globally

- **Economic Uncertainty & Geopolitical Tensions:** Trade wars, sanctions, and shifting regulations (*e.g., the US - China Technology Rivalry*) have created barriers to cross-border R&D collaborations.
 - ♦ As a result, companies are prioritizing immediate profitability over long-term IP investments, leading to a dip in patent filings.
- **Rising inflation and interest rates:** Higher costs of capital have made businesses hesitant to invest in long-term innovation, especially in industries where returns on investment (ROI) are uncertain.
- **High Costs and Complexity:** Small and medium-sized enterprises (SMEs) and individual inventors may find it challenging to bear the costs associated with patent filing, maintenance, and enforcement.
 - ♦ It can deter potential applicants from pursuing patents.
- **Shift Towards Trade Secrets:** Trade secrets offer **indefinite protection** as long as the information remains confidential, whereas patents provide protection for a limited period.
 - ♦ It is particularly evident in industries where rapid technological advancements make long-term patent protection less attractive.
- **Decreasing Disruptiveness:** Research indicates that papers and patents are becoming less disruptive over time.
 - ♦ Innovations today are often incremental rather than groundbreaking, which may result in fewer patent applications.

Reasons for the Decline in India

- **High Costs and Bureaucratic Delays:** Patent application costs in India remain relatively high for startups and individual inventors.
 - ♦ The **average time to grant a patent in India is 4-6 years**, much slower compared to global benchmarks.
- **R&D Investment Gap:** India's expenditure on R&D is **less than 1% of GDP**, compared to countries like *South Korea (4.5%), U.S. (~ 3%) and China (~ 2.2%)*.

- ♦ Lack of investment in innovation impacts the number of patentable inventions.
- **Weak Industry-Academia Collaboration:** Unlike countries like Germany and the U.S., where universities contribute significantly to patents, India's academia-industry linkage remains weak.
 - ♦ University-generated patents in India are far fewer than those in China or the U.S.
- **Abolition of the Intellectual Property Appellate Board (IPAB):** The Tribunal Reforms Act, 2021, abolished the IPAB and transferred its **functions to Commercial Courts and High Courts.**
 - ♦ This has created a void in handling appeals related to intellectual property (IP) cases, leading to potential delays and overburdening of courts.
- **Compulsory Licensing:** Under Section 84 of the Patents Act, India allows for compulsory licensing, enabling third-party manufacturers to produce a patented product without the patent holder's consent in cases of public health emergencies.
 - ♦ India granted a compulsory license for the cancer drug Nexavar (Sorafenib), reducing its cost from 2.8 lakh to 8,800 per month.
 - ♦ While this mechanism ensures affordable access to medicines, it discourages foreign investments and innovation in high-cost research areas.
- **Complex Intellectual Property (IP) Laws:** The Indian patent system is perceived as complicated and time-consuming, leading many firms to avoid filing patents.
 - ♦ The high rejection rate due to procedural issues discourages applicants.
- **Manpower Shortage:** For instance, **India's patent office has significantly fewer personnel** compared to countries like China and the United States.
 - ♦ It leads to delays in processing applications and can discourage inventors from filing patents.

Global Impacts

- **Reduced Incentives for Innovation:** A decline in patent applications may reduce the motivation for inventors to develop new technologies and solutions.
- **Potential Slowdown in Technological Advancements:** The decrease in patent applications may signal a slowdown in technological advancements.
 - ♦ Patents are often used as indicators of a country's technological prowess and innovation capacity.
- **Rise of Open Innovation and Collaboration:**
 - ♦ **Pharmaceuticals:** Companies are engaging in pre-competitive collaborations to accelerate drug discovery rather than fiercely guarding IP.
 - ♦ **Software and AI:** Open-source AI frameworks have gained prominence, reducing the need for patents.
 - ♦ **Green technology:** Many firms and governments are promoting open-access patents to speed up the adoption of sustainable solutions.

Impact on India

- **Innovation and Startups:** A decline in patent filings could reduce India's ability to foster homegrown innovation, affecting startup growth.
- **Foreign Direct Investment (FDI):** Countries with strong IP protection attract more FDI in high-tech industries. A weak patent system can deter foreign investors.
- **Competitiveness in Global Markets:** India's ranking in the Global Innovation Index may decline if patent activity remains weak.
 - ♦ Countries with strong patenting activity tend to dominate high-tech exports and global R&D hubs.

Global Efforts to Reverse the Decline

- **Policy Reforms and Incentives:**
 - ♦ **United States:** The U.S. Patent and Trademark Office (USPTO) has introduced fast-track programs for certain technologies, such as green energy and AI, reducing approval times.

- ♦ **China:** The China National Intellectual Property Administration (CNIPA) has expanded tax incentives and subsidies for companies investing in R&D.
- ♦ **European Union:** The launch of the **Unitary Patent System** is designed to simplify and reduce the cost of filing patents across EU member states.
- **Digitalization and AI in Patent Offices:**
 - ♦ **AI-Assisted Patent Examination:** Countries like South Korea and Japan are using AI-powered tools to speed up prior art searches and patent classifications.
 - ♦ **Blockchain for IP Protection:** WIPO is exploring blockchain-based patent registries to enhance security and transparency in the filing process.
- **International Collaboration and Harmonization:**
 - ♦ **Patent Prosecution Highway (PPH):** This program allows faster processing of applications in multiple jurisdictions.
 - ♦ **Unified Patent Court (UPC):** The EU's new court aims to reduce litigation costs and improve enforcement across member states.
- **Industry-Led Initiatives:**
 - ♦ **Tech Giants Supporting Open Innovation:** Companies like IBM, Google, and Microsoft are adopting hybrid strategies, patenting key technologies while also participating in open-source projects.
 - ♦ **Venture Capital and IP Investment:** Investors are increasingly funding startups with strong patent portfolios, ensuring continued innovation.

India's Initiatives Boosting Patent Filings

- **National Intellectual Property Rights (IPR) Policy (2016):** It was introduced to promote awareness, simplify patent filing procedures, and encourage commercialization of patents.
- **Startup Intellectual Property Protection (SIPP) Scheme:** It offers startups financial support for patent filings, reducing costs and facilitating faster processing.
- **Atal Innovation Mission (AIM) By NITI Aayog:** It aims to promote a culture of innovation and entrepreneurship in India. It has created four programs to support these functions:
 - ♦ Atal Tinkering Labs;
 - ♦ Atal Incubation Centers;
 - ♦ Atal New India Challenges and Atal Grand Challenges;
 - ♦ Mentor India;
- **Digitalization of Patent Filing:** The introduction of an online filing system and automation of the Indian Patent Office has improved transparency and efficiency in patent processing.
- **Patent Prosecution Highway (PPH):** India signed agreements with countries like Japan to expedite patent examination and reduce approval timelines.
- India joined the agreements like **Nice, Vienna, and Locarno** of World Intellectual Property Organization (WIPO) treaties in 2019 that help **India's Intellectual Property Office (IPO)** classify *trademarks, designs, and other intellectual property* in line with global standards.
 - ♦ **Nice Agreement:** International classification of Goods and Services for the purposes of registration of marks;
 - ♦ **Vienna Agreement:** International Classification of the figurative elements of marks;
 - ♦ **Locarno Agreement:** International classification for industrial designs.

Way Forward: Reviving Patent Growth

- **Strengthening R&D Investments:** India should increase R&D funding to **at least 2% of GDP**, encouraging more innovation in critical sectors.
 - ♦ Providing tax incentives for companies investing in R&D can stimulate patent filings.

- **Simplifying the Patent Process:** Reducing bureaucratic delays and simplifying patent laws can encourage more applicants.
 - ♦ India needs to digitize and fast-track patent examination to match global standards.
- **Encouraging Academia-Industry Collaboration:** Universities should be incentivized to file patents by creating dedicated IP cells.
 - ♦ Collaboration between research institutions and private companies can boost patent output.
- **Making Patents More Accessible to Startups & SMEs:** Lowering application fees and providing legal assistance for startups can increase filings.
 - ♦ Introducing a fast-track patent process for startups can help accelerate innovation.
- **Focus on Emerging Technologies:** India has a strong IT sector and growing AI, blockchain, and biotech industries. Prioritizing patents in these fields can boost India's global patent ranking.

Source: BL

Mains Practice Question

[Q] What are the primary factors contributing to the recent decline in patent applications? Discuss the potential impact on innovation, economic growth, and the legal landscape, and propose measures that could encourage a resurgence in patent filings.

