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Digital Exhaustion of Patent Law: A Comparative Study of India and the United States

Arya Verma[a] Krishna Shelke[b]

[a]National Law University, Delhi, India [b]National Law University, Delhi, India

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The extent of control over the use, resale, or distribution of the patented product that a patent holder can exercise after the first authorised sale of the patented product is decided by the doctrine of patent exhaustion. With the rapid digitisation of goods and services, the traditional understanding of this doctrine is confronted with challenges never seen before. This paper undertakes a comparative study of the patent exhaustion system in India and the United States, in particular, its application to digital goods and technologies. The article looks into the legislative setups, judicial developments and policy aspects of both jurisdictions. It contends that although India has embraced an international exhaustion model that is, in some ways, more friendly to the consumer, it still lacks a comprehensive judicial and legislative structure to deal with digital exhaustion. Based on the United States Supreme Court's monumental decision in Impression Products Inc. v Lexmark International Inc., the article suggests specific reforms in India's patent exhaustion system.

Keywords: *digital patent exhaustion, international exhaustion, software patentability, post-sale restrictions.*

INTRODUCTION

The advent of digital technologies has drastically transformed the structure of intellectual property rights, including the patent exhaustion concept. Patent exhaustion, also known as the 'first sale doctrine,' indicates that once a patent holder permits the selling of a patented

article. Their patent rights over that specific article are terminated, and they cannot enforce those rights against the buyers who come later. This principle is extremely indispensable for the economy: it eliminates the possibility that patent owners might use their exclusive rights to demand several royalties from different stages of the distribution chain and also prevents them from placing post-sale restrictions that lead to market distortions.

The traditional definition of the doctrine was elaborated in the Motion Picture Patents Co. v Universal Film Manufacturing Co. case, where the court held that a right to sell is exhausted by a single, unconditional sale, the product is thereby taken outside of the patent monopoly and becomes free from all the restrictions which the seller might try to impose on it.[1] The Supreme Court's rulings in Quanta Computer Inc. v LG Electronics Inc. and most recently, in Impression Products Inc. v Lexmark International Inc., have reinforced this notion in the United States and have explicitly denied post-sale restrictions as a means of avoiding the doctrine of exhaustion.[2]

In India, the issue of patent exhaustion is largely legislated through Section 107A[3]. This section implements the idea of international exhaustion of rights, which means that the patented goods imported can be those that were legally sold by the patent owner or with his approval anywhere in the world. Yet, the Indian patent system is still quite unfamiliar with the cases of digital patents and raises a lot of difficulties with interpretation.

LITERATURE REVIEW

Compared to the extensive American academic discussions, Indian scholarship on patent exhaustion is still at a relatively early stage. N.S. Gopalakrishnan and T.G. Agitha, in their influential book Principles of Intellectual Property, consider exhaustion as a major limitation on patent rights, but they point out that Indian law is still unclear in setting criteria for its implementation.[4] In line with this, Shamnad Basheer, a leading intellectual property professor in India, has argued time and again that India must come up with a well-thought-out exhaustion system so as not to discourage the creation of new works while also allowing the general public to have access to knowledge, as post-sale restrictions may conflict with the

[1] *Motion Picture Patents Co v Universal Film Mfg Co* [1917] 243 U S 502
[2] *Quanta Comput Inc v LG Electronics Inc* [2008] 553 U S 617; *Impression Products, Inc. v. Lexmark International, Inc.* [2017] 137 S. Ct. 1523
[3] Patents Act 1970, s 107A
[4] N S Gopalakrishnan & T G Agitha, *Principles of Intellectual Property* (1st edn, EBC 2009)

public interest objectives of the Patents Act. In his book Gearing Up for Patents - The Indian Scenario, Prabuddha Ganguli pointed out that there are major differences between India's patent system and global standards, mainly in the field of technology-intensive sectors, and he stressed that the country should make changes to its institutions to be able to face new IP challenges.[5] P. Narayanan's major work on patent law also considers exhaustion as a limitation imposed by the law, but only in a physical sense and so not involving the digital aspects of patent law, simply because at that time these topics had not been explored by experts.[6] Feroz Ali Khader, in his book The Law of Patents: With a Special Focus on Pharmaceuticals in India, highlights the conflict between TRIPS requirements and India's developmental goals; a conflict that is felt more strongly when it comes to digital patent rights and downstream uses.

The present paper intends to fill these academic voids by conducting a thorough analysis of the Indian and American ways of dealing with digital patent exhaustion, spotting the strengths and weaknesses in India's legislation and suggesting practical changes.

RESEARCH OBJECTIVES

1. To examine the legislative and judicial framework governing patent exhaustion in India and the United States, with particular attention to their application in digital technology contexts.
2. To analyse the specific challenges posed by digital goods and software technologies to the classical patent exhaustion doctrine in both jurisdictions.
3. To identify areas where India's patent exhaustion regime is deficient relative to the United States and areas where India's international exhaustion model provides comparative consumer welfare advantages.
4. To recommend legislative and judicial reforms that would strengthen India's digital patent exhaustion framework in a manner consistent with its TRIPS obligations and developmental objectives.

[5] Prabuddha Gaganguli, *GEARING UP FOR PATENTS: THE INDIAN SCENARIO* (Universities Press 1998)
[6] P Narayanan, *Patent Law* 421–23 (4th edn, Eastern Law House (ELH) 2017)

RESEARCH QUESTIONS

1. In what ways did the U.S. and India contribute to discussions on the enforceability of post-sale restrictions where patent exhaustion is relevant, and what major differences exist between the two countries' courts and legal methods?
2. Is India's Section 107A of the Patents Act 1970 based on the international exhaustion principle sufficient to resolve the issues of digital patent exhaustion, such as downloads, licensing, and software-embedded goods?

PATENT EXHAUSTION: A CONCEPTUAL FRAMEWORK

The First Sale Doctrine and Its Policy Rationale: Patent exhaustion is based on the basic idea that the exclusive rights of the patent owner are fulfilled by the first authorised sale of the patented item. After the patent owner or a licensee authorised to sell has been rewarded commercially for the invention, the role of patent law in encouraging innovation is completed, and it is no longer reasonable to exert control over the further use of the item. Really, the US Supreme Court in Adams v Burke held that buying a patented machine automatically grants the right to use the machine for its entire useful life, and a patent's expiration or renewal does not change this right.[7]

For policy, patent exhaustion has four aspects: first, it implements the common law principle that personal property should not be unreasonably restricted in its alienation; second, it stops patent owners from making double recovery by demanding royalties at different levels of the distribution chain; third, it keeps intact the distinction between the federal patent law and the common law of contracts and property; and fourth, it safeguards competitive downstream markets by foreclosing post-sale tying arrangements which are anticompetitive.

National versus International Exhaustion: One major difference in the doctrine of comparative exhaustion is between national and international exhaustion.[8] Based on national exhaustion, the patent owner's rights are only exhausted by sales made in the domestic territory. So, an authorised sale abroad does not stop the patent owner from claiming rights against imported products to the domestic market. International exhaustion means that an

[7] *Adams v Burke* [1873] 84 U S 453

[8] *Sebastian International, Inc. v Consumer Contacts (pty) Ltd., D/b/a 3-d Marketing Services,hiltexan Ltd., Fabric Limited, Quality Kingmanufacturing, Inc. and Quality Kingdistributors, Inc.appeal of Hiltexan Ltd. and Fabric Limited* [1988] 847 F 2d 1093 (3d Cir)

authorised sale anywhere in the world exhausts the patent owner's rights not only locally but also globally. Article 6 of the TRIPS Agreement clearly states that each WTO member is left free to decide its own exhaustion regime and that no attempt will be made to harmonise this part of patent law on an international level. First, America has always mainly been a country of national exhaustion, but through Section 107A(b)[9], India has explicitly adopted international exhaustion. Such divergence affects parallel imports, price discrimination across markets, and consumer access to patented goods. The effects of these issues are further exacerbated when considering that in the digital world, goods can be distributed globally at marginal cost.

PATENT EXHAUSTION IN THE UNITED STATES

Legislative Framework: The United States Patent Act, 35 U.S.C. 1-390, does not explicitly provide for the exhaustion doctrine.[10] The doctrine is a judicial creation. Courts have relied on the constitutional goal of advancing 'the progress of science and useful arts' in developing it. One of the main Laut forums for appeals of patent matters is the Court of Appeals for the Federal Circuit. This court's rulings on exhaustion have deeply influenced the markets for innovation.[11]

Key Judicial Developments: From Mallinckrodt to Impression Products: The Mallinckrodt, Inc. v Medipart, Inc. case, decided by the Federal Circuit in 1992, marked a significant divergence from Supreme Court precedent,[12] as it held that a patent holder could escape the exhaustion doctrine by merely stamping 'Single Use Only' on its patented aerosol medical devices. This essentially gave the patent holder the right to sue Medipart for patent infringement because the latter refurbished and resold the used devices. The Federal Circuit argued that its decision was consistent with the Supreme Court's earlier cases since the contractual restriction neither amounted to an antitrust law violation nor to patent misuse.

The stance taken by the Federal Circuit was almost entirely rejected by the Supreme Court in its 2008 decision in Quanta Computer Inc. v LG Electronics Inc here, the Court decided that

[9] Patents Act 1970, s 107A(b)
[10] United States Patent Act 1952, ss 1–390
[11] Rochelle Cooper Dreyfuss, 'THE FEDERAL CIRCUIT: A CASE STUDY IN SPECIALIZED COURTS' (1989) 64(1) New York University Law Review <https://its.law.nyu.edu/faculty/profiles/representiveFiles/dreyfuss -federalcircuit_1E2DAC90-A8A9-2F37-B890A58C68319553.pdf> accessed 30 April 2026
[12] *Mallinckrodt Inc v Medipart Inc* [1992] 976 F 2d 700 (Fed Cir)

LG's patent rights were exhausted in microprocessors when it authorised Intel to manufacture and sell them, even though the contract contained a clause disclaiming any license to Intel's customers. It was decided that the determining factor for exhaustion is the authorised sale itself and not the terms of any accompanying license, making the question of implied licenses to third parties irrelevant since exhaustion by itself brings the defence.

Eventually, there was a clear and final decision by the Supreme Court in Impression Products Inc. v Lexmark International Inc. They held Lexmark's post-sale restrictions like single-use only, and no resale were ineffective to prevent exhaustion. The Court explicitly overruled Mallinckrodt and also held that post-sale contractual restrictions are completely ineffective to prevent exhaustion even if they are violations of antitrust laws or constitute patent misuse. The Court grounded its ruling in the historic policy against restraints on alienation of personal property, citing Lord Coke's seventeenth-century treatise and the common law's longstanding refusal to permit servitudes on chattels.

Digital Exhaustion in the United States: Emerging Challenges: Applying patent exhaustion to digital goods introduces unique issues that the traditional doctrine does not address.[13] Unlike physical goods, digital goods can be copied without any loss of quality. Because of this, a 'used' digital product is the same as a new one. This feature negates the main economic justification for the existence of secondary resale markets because the digital resale would very likely result in the creation of new supply instead of the mere redistribution of a pre-existing article. Conditioning a licensee's authorisation on notification obligations only means that the exhaustion principle will cover all essential uses of a product, as the Quanta case decided, in particular after it was clarified that patent exhaustion does not allow a patentee to enforce post-sale restrictions. The decision implies that patent exhaustion applies to any authorised product regardless of post-sale restrictions. Having acquired an authorised product, the purchaser can use or resell it without bothering the patentee.[14] The case is Most of all important because it was about microprocessor patents. In fact, it changed a lot the way courts see licensed products and shows that licensing alone could not be enough to avoid the application of patent exhaustion.

[13] Aaron Perzanowski & Jason Schultz, 'Digital Exhaustion' (2011) 58(4) UCLA Law Review
[14] *Impression Products Inc v Lexmark International Inc* [2017] 581 U S 360

Software patents create even more problems: the first is whether software is really a patented item that can be exhausted, and the second is whether every time a patented software method is performed, that would mean that a new use happened and patent rights were triggered. After State Street Bank, a lot of software patents were granted only to be later 'corrected' by Alice Corp. v CLS Bank International from the Supreme Court. The questions arising from this scenario are still quite open-ended and have not been addressed fully by the United States law.[15]

PATENT EXHAUSTION IN INDIA

Statutory Framework: The Patents Act 1970: India's patent exhaustion laws are mainly set out in Section 107A of the Patents Act 1970, which was introduced by the Patents (Amendment) Act, 2002. In particular, Section 107A(b) states that if a person imports a patented product from a person authorised under the law to produce and sell or distribute the product, such importation shall not be deemed as an infringement of patent rights. In fact, this opens a path for parallel imports of legitimately marketed patented products from different countries by establishing a clear system for international patent exhaustion.

Section 48 of the Patents Act confers on patent *holders* exclusive rights to make use, offer for sale, sell or import the patented product in India. Even so, these rights are *inter alia* qualified by the provisions of Section 107A, the Bolar exemption under Section 107A(a) and the compulsory licensing regime under Sections 84-92. Interestingly, practically nothing in India matches the first sale rule of the U.S. - no Indian appellate case has clearly set out when post-sale restrictions may be valid despite the principle of exhaustion.

Software and Digital Patent Limitations: Section 3(k): India's policy for software and digital patents is A lot more restrictive than that of the United States. Section 3(k) of the Patents Act, to be exact, excludes 'mathematical method, business method, computer programme per se, and algorithms' from being patented. The Indian Patent Office has, by its 2017 Guidelines for Examination of Computer Related Inventions, interpreted this clause as meaning that a patent cannot be granted for a software invention unless there is a demonstrable technical effect of the software on the hardware.[16]

[15] *Alice Corp v CLS Bank Int'l* [2014] 573 U S 208
[16] *Ferid Allani v Union of India & Ors* WP (C) 7/2014 & CM Appl 40736/2019

This limited scope has far-reaching effects on the digital exhaustion regime. On one side, it lowers the potential scope of dealing with patent exhaustion in the digital world by capping software-specific patents available for licensing to downstream users. On the flip side, it gives rise to doubts as to whether software-hardware boundary inventions like embedded systems, IoT devices, AI-accelerated chips and telecommunications protocols can fall under the ambit of Indian patent law, and, because of this, whether the principle of patent exhaustion will apply to subsequent dealings involving these items.

India and Standard-Essential Patents in the Digital Sphere: The rising number of standard-essential patent (SEP) disputes in India, mainly in the telecom sector, illustrates the stakes of digital patent exhaustion. Cases like Ericsson v Intex Technologies and Koninklijke Philips N.V. v Rajesh Bansal have led to the enquiry of what conditions exhaust a patent holder's rights downstream because of the manufacturing and selling of SEP-utilising devices. Till now, Indian courts have not given a detailed consideration of how exhaustion works for SEPs; this way, manufacturers and distributors are left in a legal limbo about their downstream liability.

COMPARATIVE ANALYSIS: WHERE INDIA LEADS AND WHERE IT LAGS

Areas Where India is Leading: India's choice to implement international exhaustion is effectively a consumer-friendly policy decision, something that the United States has been hesitant to completely give up on. Although the Impression Products[17] Court touched upon international exhaustion in the scenario of authorised foreign sales, the U.S. system has, in the main, continued with national exhaustion as the standard, thereby giving patent owners the liberty to divide the world market and keep different prices in different regions. The international exhaustion route taken by India in Section 107A(b) of the Indian Patent Act safeguards consumers from becoming victims of geographic price discrimination and also helps them by allowing the import of legitimately marketed goods from low-cost countries.

Besides that, due to the restrictive nature of India's software patent law under Section 3(k), the opportunity for patent holders to abuse the growing digital market has been curtailed. The situation in America, then again, has been quite the opposite. Here, the rise of software patents has led to the creation of a complex network of IP rights that has not only made

[17] *Impression Products Inc v Lexmark International Inc* [2017] 581 U S _

exhaustion analysis difficult for digital markets but has also given patent holders the means to control not just one but different layers of production through different types of patents (method, apparatus, system). By having stricter patentability norms, India actually decreases this problem, even if it comes at the cost of spurring fewer digital innovations domestically.

The case of India's compulsory licensing system, with the Natco Pharma Ltd. v Bayer Corporation[18] being the deciding moment and the Bayer Corporation v Union of India[19] confirming it at the appellate level, serves as an indicator that the legislature is ready to put patent rights on hold when public interest needs such a step to be taken. This model serves as yet another way to restrain patent holders from exercising their downstream market power excessively in those segments where exhaustion rights probably do not offer adequate protection to the public.

Areas where India is Lacking: Even with all the benefits, India's patent exhaustion system has some serious problems that make it ineffective in the digital economy.

Firstly, there is almost a complete absence of judicial development. Compared to the United States, where litigation over almost a century has resulted in a very rich body of case law from Adams v Burke to Impression Products, Indian courts have so far not really dealt with post-sale restriction cases, digital exhaustion, or the line between patent and contract law in exhaustion. This lack of judicial decisions means that manufacturers, distributors, and consumers are kept in the dark on their rights and obligations in downstream transactions of patented goods.

Secondly, India does not have a legislative setup that covers digital exhaustion, to be exact. The current Section 107A was mainly intended to deal with parallel imports of pharmaceuticals, and the provision does not take into account the intricacies of digital goods, including whether the authorised download of a patented software product, the streaming of a patented digital service, or the sale of a device with patented embedded firmware leads to exhaustion and whether downstream users get any rights from it.

Thirdly, the infrastructure for patent enforcement in India is inadequate, making it difficult to rely on exhaustion rights in reality. The challenges facing downstream purchasers and

[18] *Natco Pharma Ltd v Bayer Corporation* (2013) 54 PTC 571 (IPAB)
[19] *Bayer Corporation v Union of India Through The Secretary & Ors* (2014) SCC OnLine SC 1709

importers in using patent exhaustion as a defence, even where such principles are valid, include delays in the courts, expensive litigation, and a lack of specialised patent courts, except in the four metropolitan High Courts. The 2021 abolition of the Intellectual Property Appellate Board further limits patent disputes to a few generalist High Court benches, thereby reducing the chances of quick and expert resolution of exhaustion defences raised by downstream parties.

Fourthly, the relationship between India's patent exhaustion rules and infringement of standard essential patents (SEPs) in digital telecommunications is both conceptually and judicially at a very early stage. The digital goods requiring standards that are usually covered by SEPs, and exhaustion issues arise from all levels in the supply chain. India is yet to frame a consistent policy for deciding when an upstream SEP licence deprives the patent holder of the right to take action against downstream implementers, exposing the technology industry to a high degree of transactional risk.

RECOMMENDATIONS

On the basis of the foregoing analysis, this article proposes the following targeted reforms to strengthen India's digital patent exhaustion framework.

Digital exhaustion can only be dealt with fully by a legislative amendment of section 107A of the Patents Act, which should expressly mention digital exhaustion. Parliament ought to spell out that the authorised download distribution, communication or transfer of a patented digital product is exhaustion of the patent owner's rights in that product, and contractual restrictions after the sale cannot override the statutory exhaustion. This would be a first small step in bringing the Indian legal system in line with the policy rationale in Impression Products, and at the same time preserving the distinctive international exhaustion model of India.

Second, the Patents Act should be amended to contain an explicit prohibition on post-sale restrictions similar to the U.S. rule confirmed in Impression Products. A legislative clause that no contractual clause accompanying the authorised sale of a patented product may restrain the patent owner's rights in that product against downstream purchasers would be a clear legal shield to manufacturers, resellers and both wholesale and retail consumers. Besides, this amendment will greatly limit litigation over the enforceability of restrictions; in

fact, comparable to the U.S. experience, most defendants in consumer cases are not even able to afford litigation at this stage.

Thirdly, India must set up a new specialised rapid judicial panel or create a separate bench in the current High Courts to hear patent exhaustion cases, in particular those arising in the digital technology sector. The removal of the IPAB has resulted in a gap that must be filled by other mechanisms to ensure that patent matters are dealt with by experts, promptly and efficiently. Adopting a similar mechanism to the U.S. International Trade Commission, or the United Kingdom's Intellectual Property Enterprise Court, will result in enhancing the access to justice of smaller downstream players who currently are unable to afford patent litigation.

Fourthly, the Indian Patent Office ought to release detailed instructions on the use of the exhaustion principle regarding digital inventions, in particular at the hardware-software interface. Certain advice must cover (a) the eligibility of devices with patented firmware or embedded systems as 'patented products' under Section 107A(b);[20] what can be considered as an 'authorised' transaction that could bring the triggering of the exhaustion concept in digital distribution; and (c) the function of exhaustion in a case where one multi-purpose device embeds different patents of multiple patent holders who are themselves in different positions on the supply chain. These instructions will bring about commercial certainty without the need for a statutory change.

Fifth, India should take part in international standard-setting forums, including WIPO and the WTO TRIPS Council,[21] to push for the adoption of globally harmonised exhaustion standards that also take into consideration the interests of technology-importing developing countries. Being one of the major importers of digital technologies. India has a great structural interest in ensuring that international norms of exhaustion prevent geographic market segmentation and the use of patent rights to maintain artificially dissimilar prices across different markets.

CONCLUSION

The doctrine of patent exhaustion matters a lot in intellectual property law systems as it compensates the inventors, protects the consumers, and at the same time enables the

[20] Patents Act 1970, s 107A

[21] Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) 1869

competitive downstream markets. The United States, through a series of court decisions spanning over the century and finally deciding the Supreme Court in the case Impression Products, Inc. v Lexmark International, Inc., gives a comprehensive legal structure that considers post-sale restrictions as null and void (not being able to override the exhaustion principle). By adopting the internationally consumer-friendly model of exhaustion in Section 107A, India has not, at the same time, developed an equivalent judicial (post-sale restriction) or legislative (digital copyright exhaustion) system.

In this article, the comparative study shows that India's powerful points - international exhaustion, highly restrictive software patentability, and compulsory licensing - are resulting from institutional design choices influenced by its development stage and the use of TRIPS flexibilities. Unfortunately, these strengths are overshadowed by the lack of judicial doctrine on post-sale restrictions, limited statutory provisions for digital transactions and weak enforcement infrastructure, which even leads to the practical impossibility of exhaustion defences for most downstream defendants.

The adjustments suggested here - legislative specification of digital exhaustion, statutory ban on post-sale restrictions, specialised court systems, patent office instructions, and international lobbying - want to take advantage of the best features of both U.S. and Indian systems. The aim is to set up a consistent digital exhaustion setup that meets India's development needs, offers legal certainty to innovators and businesses, and maintains the essential consumer protection role which the doctrine has been performing since the Motion Picture Patents decision more than a century ago.