Knowledge Sharing and the Sharing Economy in India

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Abstract

This chapter argues for the recognition of knowledge sharing as an integral part of the sharing economy, by taking India as a case study. It analyses the attitudes and practices pertaining to knowledge sharing in India through a mixed methods approach. The quantitative data discussed in the chapter include data from two empirical studies – one on sharing practices of researchers in India and their attitudes towards openness, and the other on perceptions of Indian consumers regarding film piracy and copyright protection. The quantitative findings have been contextualised in an analysis of historical exclusionary structures in India which created intellectual monopolies for privileged sections of the society on lines of gender and caste. The chapter challenges dominant narratives which suggest that knowledge sharing was a common practice in ancient India. Further, the chapter examines two prominent and recent Indian policies which have a bearing on shaping incentives for innovation and creativ-

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ity in the sharing economy, but fail to take balanced and inclusive approaches. Through these analyses, the chapter seeks to establish the need for all stakeholders to recognise the need for equitable knowledge sharing and take appropriate steps to challenge and change the *status quo*.

Keywords

Knowledge sharing · Sharing economy · Intellectual property · Open access · Open science

1 Knowledge and the Sharing Economy

‘Sharing economy’, much like many other evolving phenomena, does not have a shared or universally accepted definition. The World Economic Forum defines it as an economic model which ‘*focus(es) on the sharing of underutilised assets, monetised or not, in ways that improve efficiency, sustainability and community*’.¹ The Oxford Dictionary defines it as ‘*an economic system in which assets or services are shared between private individuals, either free or for a fee, typically by means of the Internet*’.² Despite the differences in the way various people understand this term, it may be fair to say that the sharing economy usually entails the sharing of resources for their optimum utilisation.

The rapidly expanding discourse surrounding this economic system has made certain companies such as Uber and AirBnB instantly associable with it. The argument supporting this association is the model used by such platforms, whereby the utilisation of resources such as vehicles and living spaces is maximised through online platforms. For example, in the case of Uber, the platform connects drivers and travellers, and ensures more optimal utilisation of cars. Similarly, in the case of AirBnB, the platform allows more optimal utilisation of under-utilised residential spaces by connecting those who possess such spaces and those who are seeking accommodation. While these and other similar examples can indeed give rise to exciting discussions on the relevant economic models and desirable changes in the regulatory frameworks, the current discourse on sharing economy has largely ignored the potential of sharing knowledge, one of the most important non-rivalrous resources.³

Many studies have broken the myth that innovations are novel ideas generated by individuals; there has been growing realisation that most innovations are incremental in character, thereby highlighting the importance of knowledge sharing for

¹ World Economic Forum (2018). <https://www.weforum.org/agenda/2017/12/when-is-sharing-not-really-sharing/>

² English Oxford Dictionary (2018). https://en.oxforddictionaries.com/definition/sharing_economy

³ ‘A resource is considered as non-rivalrous in consumption, when the use of the resource does not deplete the resource.’ Gillespie, T. (2007). *Wired Shut: Copyright and the Shape of Digital Culture* (p. 25). Cambridge: MIT Press.

fuelling innovation.⁴ Even though developments in communication technologies have opened up enormous possibilities for sharing and collaboration, it is doubtful whether sufficient steps have been taken to ensure equitable access to knowledge and inclusiveness in knowledge creation. It is in this context that we need to broaden the discussions on the sharing economy to include knowledge resources, so that we can ensure that they, like cars and homes, are better utilised.

Knowledge is non-rivalrous in nature, but we cannot ignore the fact that some of the resources required to produce knowledge may be rivalrous in nature. Further, there may be many external factors that determine the extent to which people can participate in the knowledge creation process. For example, funds and research materials, which are necessary for a research project, may be rivalrous and also scarce, especially in developing economies. Similarly, factors like class, caste, gender, geography, language, and other socio-economic factors may also determine whether a person can access, grow, and succeed in formal systems of knowledge creation. Further, most of the outputs of research and innovation are either captured in different forms of intellectual property (IP) or published in journals and made available only in databases which are paywalled, and thus inaccessible unless hefty fees are paid.⁵ All these factors, coupled with perceptions that trivialise knowledge produced outside mainstream processes, make knowledge production and consumption accessible only to a privileged few in the current scenario. Moreover, the alienation of traditional or grassroots producers of knowledge from the mainstream hinders mutual communication of knowledge and possible collaborations. Hence, any discussion on sharing of knowledge resources in the sharing economy has to necessarily go beyond the resources themselves; it has to include the broader context in which knowledge is produced and consumed.

Optimal utilisation of knowledge requires equitable access to existing knowledge. Since the factors restricting access to knowledge have not been adequately challenged and addressed, we are yet to witness unencumbered knowledge sharing in any country. This has considerably restricted the scope and diversity of innovation. The speed at which innovation can take place is also many a time retarded due to duplication of efforts, which can be prevented to a large extent by providing equitable access to existing knowledge resources. Hence it is important to realise that the discourse surrounding sharing economy is incomplete without studying how knowledge is shared in that economy, and devising mechanisms that can encourage knowledge sharing. This also necessitates broader discussions on sharing of rivalrous resources which underlie knowledge production.

This chapter takes a step in this direction by taking knowledge sharing in India as a case study. It critically analyses the history of knowledge sharing in India,

⁴For example, Mark Lemley has pointed out that innovation is merely an incremental step in an ongoing, widely known stage of research; see Lemley, M. (2012). *The Myth of the Sole Inventor*. *Michigan Law Review*, 110, 709.

⁵For example, a recent study has revealed that 65 of the world's 100 most cited articles are behind paywalls. The Authorea Team. *65 out of the 100 Most Cited Papers Are Paywalled*. https://authorea.com/users/8850/articles/125400/_show_article

examines some empirical findings on attitude towards knowledge sharing and intellectual property ownership in the contemporary Indian society, and, most importantly, explores whether due measures are being taken in India for fostering knowledge sharing in the sharing economy.

We have used the mixed methods approach for the underlying research.⁶ Quantitative data used in the study include data from a survey conducted as part of the Open Science project of the Centre for Innovation, IP and Competition, National Law University, Delhi in 2017.⁷ The respondents in this survey were researchers across various disciplines working in institutions located in India.⁸ The data regarding attitudes towards IP protection are from another empirical study conducted by one of the authors on perceptions of people in India regarding IP infringements.⁹ For the qualitative data used in the chapter, we have relied upon books and articles that examine the Indian attitudes and behaviour as regards knowledge sharing from a historical perspective. In order to infer whether appropriate efforts are being made in India for fostering knowledge sharing in the sharing economy, the chapter will critically analyse two of the recent innovation-related policies in the country – the National IP Policy, 2016 and the Startup India Action Plan, 2016.

2 Historical Perspectives on Knowledge Sharing in India

2.1 Perspectives on Knowledge Sharing in Ancient India

While not many scholars have engaged in a rigorous historical analysis of knowledge sharing in India, dominant narratives surrounding this issue have portrayed India as a nation which has historically been morally opposed to restrictions on knowledge sharing.¹⁰ For example, Carl Malamud, prominent public domain activist and founder of PublicResource.org, has noted in his recent book, *Code Swaraj*, that he believes India is the ideal place for starting a global revolution in universal

⁶ ‘The mixed methods approach in research generally refers to research that involves collecting, analyzing and interpreting quantitative as well as qualitative data in a single study or in a series of studies that investigate the same underlying phenomenon.’ See Leech, N.L. & Onwuegbuzie, A.J. (2009). A typology of mixed methods research designs. *Quality & Quantity* 43(2), 265. However, some scholars interpret the term broadly, to also include a mix of quantitative methods or a mix of qualitative methods. See, for example, Brannen, J. (2005). *NCRM Methods Review Papers, NCRM/005. Mixed Methods Research: A discussion paper* (p. 4). <http://eprints.ncrm.ac.uk/89/>

⁷ Open Science Survey – India (2017). <https://osf.io/9c6af/>

⁸ Centre for Innovation, Intellectual Property and Competition. Open Science Survey Methodology. <http://ciipc.org/projects/open-science-for-an-innovative-india/open-science-survey/open-science-survey-methodology/>

⁹ Scaria, A.G. (2014). *Piracy in the Indian Film Industry: Copyright and Cultural Consonance* (pp. 103–137). Cambridge University Press.

¹⁰ See generally: Ganapathi, J. & Pulla, V. (2015). *Intellectual Property Rights and the Ancient Indian Perspective*. <http://www.spaceandculture.in/index.php/spaceandculture/article/view/147>

access to knowledge as ‘[it]...is a principle that runs deep in the history of India’.¹¹ In order to justify this, he refers to translated excerpts from ancient Indian texts that say that knowledge can never be on sale, and that a teacher is bound to impart knowledge to a willing pupil.¹²

Similar views have also been expressed by Prabha Sridevan, a retired judge of the Madras High Court, and she too alludes to excerpts from different religious texts.¹³ In her work, she has highlighted the emphasis of the Upanishads, one of the ancient Hindu texts, on the public benefit aspect of knowledge. She has also quoted excerpts from other texts which say that noble thoughts should come from all sides, and that knowledge alone can set one free.¹⁴ She argues that India has always recognised that intellectual property rights are not natural rights.¹⁵ In this regard, she points out the lack of any tradition in India that allowed teachers to claim authorship or other rights over knowledge.¹⁶ She also highlights that most ancient texts indicate that taking monetary benefits for imparting knowledge was not a socially acceptable practice in ancient India.¹⁷ According to her, teachers were viewed as mere custodians of knowledge who had the responsibility of imparting education for the benefit of the public.¹⁸

While it may be true that such references to virtues of knowledge sharing can be seen in many of the ancient Indian texts, it is important to look beyond literal translations of selected excerpts from ancient texts, in order to understand social realities. Imposition of monetary restrictions is not the only way to obstruct access to knowledge; many other dimensions like gender and caste must be taken into consideration for a more holistic view of the state of knowledge sharing in ancient India.

2.2 Gender-Based Restrictions to Knowledge

When one looks at the question of gender-based restrictions, it can be seen that like most of the rest of the world, such restrictions have been existing in the Indian society too. It is nearly impossible to understand and encapsulate with certainty and

¹¹ Malamud, C. & Pitroda, S. (2018). *Code Swaraj: Field Notes from the Standards Satyagraha* (p. 167). <https://archive.org/details/CodeSwaraj>

¹² Ibid., p. 168.

¹³ Sridevan, P. (2015). *Intellectual Property in the Ancient Indian texts*. In Irene Calboli, Srividya Raghavan (Ed.), *Diversity in Intellectual Property: Identities, Interests, and Intersections* (p. 232). Cambridge University Press.

¹⁴ Ibid., p. 234.

¹⁵ Ibid.

¹⁶ Ibid., p. 237.

¹⁷ Ibid., p. 238. Some accounts suggest, however, that teachers used to collect non-monetary ‘guru-dakshina’ or rewards from their students. See Shankar, S. (1994). The Thumb of Ekalavya: Postcolonial Studies and the ‘Third World’ Scholar in a Neocolonial World. *World Literature Today*, 68(3), p. 482.

¹⁸ Sridevan, P. (2015). *Intellectual Property in the Ancient Indian Texts*. In Irene Calboli, Srividya Raghavan (Ed.), *Diversity in Intellectual Property: Identities, Interests, and Intersections* (p. 235). Cambridge University Press.

completeness the history of women's education in India. There are many reasons behind this, including the lack of uniform documentation and the diversity of women's experience on lines of caste, religion, class, and geography. Some historians are of the opinion that the Vedas, one of the oldest recognised scriptures of Hinduism, suggest that men and women should enjoy equal positions and freedoms in society with respect to education, religious sacrifice, and marriage.¹⁹ According to them, universal education, minimum standard of education for all, gender neutral 'Upanayana' or initiation ceremonies for introduction to the process of learning, and knowledge of all known branches of culture, knowledge, and religion, were prescribed.²⁰ The same was apparently observed in Islam, where religious books laid down that seeking of knowledge is as incumbent upon a male as upon a female.²¹

While the exact timing or reasons behind complete divergence from these texts are not clearly known, social evils such as child marriage, sati, and the purdah system are considered possible ways in which the patriarchy sought to curb rights and freedoms of women. Child marriage forced prepubescent girls into marriage, often with much older men of higher social status. The practice of 'sati', followed by Hindus in some parts of the country, forced widows to give up their lives along with their dying or dead husbands. The purdah system, whose name originated from a Persian word meaning curtain, was prevalent in both Hindu and Muslim societies.²² Women had to wear veils or pieces of clothing covering their heads, and were confined behind walls or partitions, segregated from the outside world which could only be enjoyed by men. Most Christian nuns also had to wear pieces of clothing covering their heads. A combination of such practices and traditions cemented women's roles in society as subservient and subordinate to those of men.

Owing to various social changes, women were denied entry to the study of sacred texts, Upanayana began being prescribed only for men, and gradually, right to all kinds of education were restricted.²³ At tols or pathshalas, which were Hindu schools of higher learning, boys belonging to families enjoying higher social status were given free education through stipends and scholarship donations from kings or wealthy persons.²⁴ Even elementary schools were attended only by boys belonging to upper castes, and sons of rich landlords and agriculturalists.²⁵ Among Muslims, Maktab or elementary school, which focused on Quran studies, were attended by both boys and girls, where they learned to read and write.²⁶ However, Madrasahs, which were Islamic institutions of higher learning, could only be attended by select

¹⁹ Mathur, Y.B. (1973). *Women's Education in India 1813–1966* (p. 1). Asia Publishing House.

²⁰ Ibid.

²¹ Bhattacharya, S., Bara, J., Yagati, C.R., Sankhdher, B.M. (Ed.) (2001). *The Development of Women's Education in India: A Collection of Documents 1850–1920* (p. 517). Kanishka Publishers.

²² WikiGender (2015). <https://www.wikigender.org/wiki/purdah/>

²³ Mathur, Y.B. (1973). *Women's Education in India 1813–1966* (p. 2). Asia Publishing House.

²⁴ Ibid., pp. 2–3.

²⁵ Ibid.

²⁶ Ibid., p. 3.

groups of boys.²⁷ There are not many documented references relating to denial of education for Christian women in India that can lead to concrete conclusions on this matter. However, the fact that Christian women were also facing discrimination on most other issues like property rights makes one reasonably assume that their situation was not much different.

In Buddhism, comparatively more inclusive practices were observed as regards education of men and women. Buddhist ideology included belief in kindness towards all living beings, and faith in the essential equality of man and woman in the journey towards salvation.²⁸ Interestingly, while women were imparted education, their teachers were their fathers, brothers, and uncles.²⁹ Moreover, while women could enter monasteries and continue their education while being in the monastic order, there were different and discriminatory rules for men and women for entry into monasteries.³⁰

Prohibition of women from education was motivated mainly by concerns regarding the subversion of patriarchal power. It was believed that education would make girls 'dushta' (wicked or immoral) and less amenable to discipline and submission to their parents' choice of husband.³¹ Since they were 'too useful' in the house, education was feared to make them forget and despise ordinary household duties if they learned how to read and write.³² Therefore, women's enlightenment was considered to be dangerous due to the apprehensions regarding the prospect of 'violent' social upheaval, the idea of women earning their own livelihood apart from their families was considered repugnant, and superstitions regarding educated women made society believe in misconceptions about educated women.³³ These superstitions propagated beliefs that educated women are likely to be childless and their husbands are likely to die young.³⁴

The prohibition of women from meaningful education and enforcement of child marriage also had other related effects on women's education. For example, since women – particularly those from upper castes – were not allowed to have their own livelihood, and there was no tangible financial benefit arising out of their education, parents had no motivation to invest time in their education.³⁵ Further, insufficiency of educated and working women resulted in low numbers of women teachers in

²⁷ Ibid.

²⁸ Indian Woman Down The Ages (p. 45). http://shodhganga.inflibnet.ac.in/bitstream/10603/226/6/06_chapter2.pdf

²⁹ Indian Woman Down The Ages (p. 47).

http://shodhganga.inflibnet.ac.in/bitstream/10603/226/6/06_chapter2.pdf

³⁰ Ibid., pp. 45 and 47.

³¹ Mathur, Y.B. (1973). *Women's Education in India 1813–1966* (p. 40). Asia Publishing House.

³² Bhattacharya, S., Bara, J., Yagati, C.R., Sankhdher, B.M. (Ed.) (2001). *The Development of Women's Education in India: A Collection of Documents 1850–1920* (p. 206). Kanishka Publishers.

³³ Ibid., p. 364.

³⁴ Ibid.

³⁵ Mathur, Y.B. (1973). *Women's Education in India 1813–1966* (pp. 40–41). Asia Publishing House.

schools, which further discouraged parents from sending their daughters to school.³⁶ While some scholars argue that the purdah system impeded women's education, some others suggest that parents' insistence on separate schools for girls and boys, and women teachers in girls' schools, benefitted girls' education in places like Punjab.³⁷

Even when educational reforms were sought to be introduced, the supporting reason had little to do with women's rights and more to do with the advantages that could accrue to men as a result of women's education. While it is not clear if reformers cited such reasons as part of their strategy to convince men in power to remove prohibitions on women, it is interesting to note the glaring absence of women's rights discourses in these historical accounts. It was often claimed that women's education should be encouraged since the same has far greater impact on the educational and moral tone of the people than men's education does.³⁸ Apparently, impetus for reforms in women's education was given by educated men who wanted educated wives for their sons, and fathers who wanted to educate their daughters to increase their prospects of being viewed as superior wives and mothers.³⁹

Moreover, some opinions suggest that the nationalist movements that arose in response to centuries of British rule in India subsumed the movement for women's education into its larger agenda of strengthening and enlightenment of Indian society.⁴⁰ Therefore, one may conclude that even the reforms that were initiated to strengthen women's education, reinforced the social roles prescribed by patriarchy or larger societal goals. It is thus no surprise to see that educational policies which were meant to be reformative, suggested that girls be taught 'feminine' subjects such as hygiene, domestic science, needlework, music, and home science; whereas subjects like physics, chemistry, and mathematics were considered as 'masculine' subjects.⁴¹ The 1913 Resolution on the Educational Policy of the Government of India, recommended that while designing the curricula, 'practical bias' with reference to the social position women occupy would be important.⁴² Books recommended for girls were simpler in treatment and narrower in the range of subjects than those recommended for boys, as considered appropriate according to dominant public opinion.⁴³ It may be safe to say that such restrictions and emphases on social

³⁶ Ibid.

³⁷ Chanana, K. (2001). *Interrogating Women's Education- Bounded Visions, Expanding Horizons* (pp. 101–102). Rawat Publications.

³⁸ Indian Educational Policy, Calcutta, 1904, p. 27, referred to in Mathur, Y.B. (1973). *Women's Education in India 1813–1966* (p. 10). Asia Publishing House.

³⁹ Mathur, Y.B. (1973). *Women's Education in India 1813–1966* (p. 62). Asia Publishing House.

⁴⁰ Bhattacharya, S., Bara, J., Yagati, C.R., Sankhdher, B.M. (Ed.) (2001). *The Development of Women's Education in India: A Collection of Documents 1850–1920* (p. xxx, Introduction). Kanishka Publishers.

⁴¹ Education Commission of 1882, mentioned in Chanana, K. (2001). *Interrogating Women's Education- Bounded Visions, Expanding Horizons* (p. 111). Rawat Publications.

⁴² Bhattacharya, S., Bara, J., Yagati, C.R., Sankhdher, B.M. (Ed.) (2001). *The Development of Women's Education in India: A Collection of Documents 1850–1920* (p. 368). Kanishka Publishers.

⁴³ Ibid., p. 353.

roles, which are based on patriarchal interests, still continue to hinder women from entering the knowledge production process, continuing in it, and breaking glass ceilings.

2.3 Caste-Based Restrictions to Knowledge

Apart from gender, it is impossible to provide any historical account of India without discussing the Chaturvarna system. It has impacted most aspects of social life in India, and has played a major role in preventing dissemination of knowledge. The Chaturvarna system divides the Hindu society into four groups called varnas, based on birth. Those who didn't fall into any of these four groups, known as 'Ati-shudras' in some parts of the country, were the 'avarnas' who were considered 'achhoot' or untouchable.⁴⁴ Although many texts use the terms 'caste' and 'varna' interchangeably, it must be clarified here that castes are sub-categories that may be classified under different varnas. Thus, a varna may encompass hundreds of castes as sub-categories.⁴⁵ Rights and obligations based on varna were reinforced by penal sanctions ordained in Manusmriti ('Laws of Manu'), one of the most authoritative Hindu law texts.⁴⁶

According to Manusmriti, the Brahmins are supposed to cultivate knowledge, the Kshatriya should bear arms, Vaishya should engage in trade, and the Shudra should serve, and strict adherence to this framework is expected from all.⁴⁷ This hierarchical system based on birth has determined, and – in many contexts – continues to determine, many social rules and mores not just in the Hindu sections of India, but in Indian society as a whole. While Brahmins had the highest privileges ranging from access to temples to access to education and teaching, the Ati-shudras were treated as 'untouchables' in the society, based on rigid notions of purity and pollution.⁴⁸ Some significant legal efforts have been made in India to address many of the social evils which have their bases in the varna system, by incorporating specific provisions in the Constitution as well as through criminalisation of certain discriminatory acts with the help of special legislations.⁴⁹

⁴⁴ Ambedkar, B.R. (2014). *Who Were the Shudras?* India: Ssoft Group. <http://www.satnami.com/WHO%20WERE%20THESUDRAS.pdf>. The untouchables predominantly carry out menial jobs which were considered 'impure' or unclean, such as manual scavenging (removal of human excreta for disposal with bare hands), burning corpses, skinning dead animals, etc.

⁴⁵ Galanter, M. (1969). Untouchability and the Law. *Economic and Political Weekly*, 4(1/2), 137.

⁴⁶ Ambedkar, B.R. (2007). *Annihilation of Caste* (p. 32). Critical Quest.

⁴⁷ Ibid., p. 33.

⁴⁸ Ibid., pp. 16–18; Ambedkar, B.R. (2014). *Who Were the Shudras?* India: Ssoft Group. <http://www.satnami.com/WHO%20WERE%20THESUDRAS.pdf>

⁴⁹ For example, the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, prohibits caste-based practice of Manual Scavenging or cleaning of human excreta in dry latrines, and the employment of anyone as a 'manual scavenger' in India.

However, such prejudices and discrimination continue to exist in various extents in different socio-economic contexts.⁵⁰

While the politics and social impact of the system can be studied in a plethora of ways, in view of the focus area of this chapter, we restrict our discussion to the role played by the varna system in limiting access to education and knowledge. According to Manusmriti, three important aspects of life – teaching of Vedas, performing sacrifices, and receiving gifts – were restricted to Brahmins.⁵¹ Only when a Brahmin was unavailable for teaching was a person allowed to have a Kshatriya or Vaishya teacher.⁵² Although originally the varna of a person was determined by an independent body and revised after every 4 years, the Gurukul system replaced this system.⁵³ The Purva Mimamsa, one of the most prominent ancient Hindu philosophical texts, said that as per this system, the Vedas could not be studied unless one undergoes ‘Upanayana’.⁵⁴ Upanayana is a ceremony which marks the acceptance of a pupil by a guru or teacher by giving the former a sacred thread that he is supposed to wear thereafter. In this Gurukul system, only the Acharya of the Gurukul, who was of course a Brahmin, was responsible for performing the ceremony. Although Brahmins had no express right to deny Upanayana to anyone, they had exclusive right to officiate Upanayana, could be penalised for performing unauthorised Upanayana, and were deemed to be unworthy to partake in rituals before God if they instructed or were instructed by Shudras.⁵⁵ This effectively meant that Shudras and Ati-Shudras were continually denied Upanayana, and hence access to education.⁵⁶ By denying education to them, and restricting Kshatriyas and Vaishyas to military and trade, respectively, Brahmins assumed the power to become the only educated class which could control the entire society.⁵⁷ Thus, birth became the most important determinant of one’s worth and rights.⁵⁸

Apart from effectively deciding a person’s rights to basic dignity and resources, the Brahmins also monopolised knowledge by forcibly dominating literary

⁵⁰ Narula argues that the ‘Rule of Caste’ superposes itself on ‘Rule of Law’ in India, making the legal safeguards ineffective in practice. See Narula, S. (2008). Equal by Law, Unequal by Caste: The Untouchable Condition in Critical Race Perspective. *Wisconsin International Law Journal*, 26, 287–289.

⁵¹ Ambedkar, B.R. (2016). *Dr. Babasaheb Ambedkar Writings and Speeches*, Vol 3 (p. 278). <https://archive.org/details/Dr.BabasahebAmbedkarWritingsAndSpeechespdfsAllVolumes>

⁵² Ambedkar, B.R. (2016). *Dr. Babasaheb Ambedkar Writings and Speeches*, Vol 7 (p. 174). <https://archive.org/details/Dr.BabasahebAmbedkarWritingsAndSpeechespdfsAllVolumes>

⁵³ Ambedkar, B.R. (2016). *Dr. Babasaheb Ambedkar Writings and Speeches*, Vol 3 (p. 287). <https://archive.org/details/Dr.BabasahebAmbedkarWritingsAndSpeechespdfsAllVolumes>

⁵⁴ Ambedkar, B.R. (2016). *Dr. Babasaheb Ambedkar Writings and Speeches*, Vol 7 (p. 172). <https://archive.org/details/Dr.BabasahebAmbedkarWritingsAndSpeechespdfsAllVolumes>

⁵⁵ Ibid., p. 174.

⁵⁶ Ibid., pp. 173–174.

⁵⁷ Ambedkar, B.R. (2016). *Dr. Babasaheb Ambedkar Writings and Speeches*, Vol 3 (p. 326). <https://archive.org/details/Dr.BabasahebAmbedkarWritingsAndSpeechespdfsAllVolumes>

⁵⁸ Ibid.

narratives.⁵⁹ Originally, the Puranas – which contained folk narratives – were written by Sutas, a non-Brahmin literary class. Sutas had the hereditary and prescriptive right to retain monopoly over the Puranas. However, they were later ousted by the Brahmins, resulting in the addition of fresh chapters, substitution of old chapters, and substantial change in the content of the Puranas.⁶⁰

It would be a misrepresentation of history, if one looks away from the varna system and all its associated evils, while asserting that India has had an exemplary historical tradition in knowledge sharing. Interestingly, Malamud does mention in his book that Shamnad Basheer had reminded him about these institutionalised restrictions on knowledge flows.⁶¹ During our conversation with Basheer, he reiterated his disagreement with Malamud on this issue.⁶² Further, although Sridevan has in her work asserted that India has a rich tradition in knowledge sharing, she herself has alluded to social conditions and instances that suggest otherwise. For example, she talks about how there was no open publication of knowledge, and how knowledge was restrictively transmitted to prevent its abuse and dilution.⁶³ She also discusses the direct link of knowledge with religion which automatically caused exclusion.⁶⁴ Moreover, she discusses the perfect recitation, high qualification, and specific training or initiation required to access knowledge, apart from having to belong to a hereditary fraternity.⁶⁵ The ability to fulfil these conditions in order to access knowledge was heavily dependent on one's caste.

Although teaching for the sake of money or fee was prohibited, and the IP system as we know it now did not exist, it is important to acknowledge the ruthlessness, rigidity, and pervasiveness of the social systems which heavily restricted knowledge flows.⁶⁶ In many ways, such measures to restrict knowledge flows also resemble the working of the existing trade secrets system. The consequences of a Shudra or Ati-Shudra trying to break the law were inhuman and heinous in nature. Some scholars point out that merely hearing the Vedas could result in their ears being filled with

⁵⁹ Ibid., p. 255.

⁶⁰ Ibid., p. 255.

⁶¹ Malamud, C. & Pitroda, S. (2018). *Code Swaraj: Field Notes from the Standards Satyagraha* (p. 168), available at <https://archive.org/details/CodeSwaraj>

⁶² Telephonic Interview with Shamnad Basheer on 10 March 2018.

⁶³ Prabha Sridevan (2015). *Intellectual Property in the Ancient Indian texts*. In Irene Calboli, Srividya Raghavan (Ed.), *Diversity in Intellectual Property: Identities, Interests, and Intersections* (pp. 235–237). Cambridge University Press.

⁶⁴ Ibid., p. 234.

⁶⁵ Ibid., p. 235.

⁶⁶ Manu (III.150ff.): Classes of Brahmins deemed to be unworthy (to partake) of oblations to the gods and manes: 'He who teaches for a stipulated fee and he who is taught on that condition, he who instructs Shudra pupils and he whose teacher is a Shudra, he who speaks rudely, the son of an adulteress, and the son of a widow.' [Ambedkar, B.R. (2016). *Dr. Babasaheb Ambedkar Writings and Speeches*, Vol 7 (p. 124). <https://archive.org/details/Dr.BabasahebAmbedkarWritingsAndSpeechespdfsAllVolumes>]

molten lead and lac.⁶⁷ Pronunciation of the Vedas could result in slitting their tongue, and if they preserved the Vedas, their body was to be cut through.⁶⁸

Even when some school reforms started being initiated in the nineteenth century, merely opening schools for all castes was not sufficient in breaking social barriers to education. The demands of upper caste Hindus refusing to study with lower caste students were prioritised over the rights of the lower caste students. The colonial government tried to reach a 'resolution' by forcing the few lower caste students who did attend school to sit in a verandah far away from their classroom and classmates.⁶⁹ In some schools, lower caste students were made to sit in separate rooms and barred from accessing the common water supply.⁷⁰ In a way, efforts for inclusion of people belonging to lower castes actually highlighted the stigma and prejudice against them and the discrimination was perpetuated through social exclusionary practices.⁷¹ Given that most authorities reacted to the situation out of fear of boycott by upper caste Hindus, this interaction between students from various castes became cause for more direct humiliation and exclusion of lower caste students.⁷² Many of them were also subjected to persecution when they were permitted entry into ordinary village schools – their stacks of hay were burnt down, arson was attempted on their houses, and they were physically assaulted.⁷³ It needs to be specifically mentioned that even conversion of religion did not save people from such exclusion and prejudices, and they continued to face discrimination.⁷⁴

All these aspects highlight how religion and social mores entrenched social prejudice and exclusion against people belonging to certain social strata, and systemically deprived them of rights including that of access to education.

Even today, these prejudices remain alive in various forms and extents, and compensating for the socio-economic gap created by the caste system remains an uphill battle. A combination of socio-economic factors including caste, class, gender, location, and language used to and continue to determine the extent and kind of access one has to knowledge in this country.⁷⁵ One may have to examine present-day attitudes and practices with regard to knowledge sharing, in this socio-historical context.

⁶⁷ Vatsa, R.S. (1912). *The Depressed Classes of India- An Enquiry into their Conditions and Suggestions for their Uplift* (p. 134). Gitanjali Prakashan.

⁶⁸ Ibid.

⁶⁹ Rao, A. (2009) *The Caste Question: Dalits and the Politics of Modern India* (p. 72). University of California Press. <https://www.jstor.org/stable/10.1525/j.ctt1pp88k>

⁷⁰ Ibid.

⁷¹ Ibid.

⁷² Ibid.

⁷³ Ambedkar, B.R. (2016). *Dr. Babasaheb Ambedkar Writings and Speeches*, Vol 5 (p. 41). <https://archive.org/details/Dr.BabasahebAmbedkarWritingsAndSpeechespdfsAllVolumes>

⁷⁴ For example, even after conversion to Christianity, Dalits are often referred to as 'Dalit Christians'. Pervasive caste hierarchies and prejudices continue even within the converted population. See Bauman, C.M. (2008). Redeeming Indian "Christian" Womanhood? Missionaries, Dalits, and Agency in Colonial India. *Journal of Feminist Studies in Religion*, 24(2), 5–27. <http://www.jstor.org/stable/20487924>

⁷⁵ Govind Guru observes the 'ghettoisation into inferiorised manual spheres' of persons belonging to lower castes, due to their generational exclusion from undertaking occupations which provide a

3 Perceptions Regarding Sharing of Knowledge Resources and Ownership of IP in the Contemporary Indian Society

While the previous section highlighted the socio-historical context of knowledge sharing in India, this section intends to provide some insight into the current status of knowledge sharing and perceptions regarding IP ownership in the contemporary Indian society. As mentioned earlier, this section relies primarily on empirical data from two different studies. The first one is an empirical study conducted by the authors with regard to knowledge sharing practices of academic researchers in India. Through this survey, the authors analysed – among other things – the extent to which, and the way in which, the researchers share their publications and data; their general attitudes towards openness and sharing; and the way they consume openly available knowledge. The second one is an empirical study conducted by one of the authors on attitude of consumers in India towards IP protection.⁷⁶ The data from this study provides some insights on perceptions regarding IP ownership, and in particular, the perceptions in Indian society regarding morality of copyright infringement.

3.1 Survey on Knowledge Sharing Perceptions and Practices of Researchers

Our survey on knowledge sharing practices of researchers in India was conducted in two phases; in the first phase, researchers from leading institutions in five disciplines (Economics, Law, Mechanical Engineering, Medicine, and Physics) responded to the questionnaire; whereas in Phase II, the survey was opened to researchers working in any institution in India and belonging to any discipline.⁷⁷

Among the respondents, 86.86%⁷⁸ stated that they think openness is a core value of science. 84.71%⁷⁹ felt that open access improves research, and 87.4%⁸⁰ felt that it provides for more equitable distribution of information. In contrast, only 18.15%⁸¹

room for innovation and imagination. According to him, this has led to lack of context and conditions conducive to contribution to knowledge systems. [Guru, G. (2002). How Egalitarian Are the Social Sciences in India? *Economic and Political Weekly*, 37(50), 5004–5005].

⁷⁶ Scaria, A.G. (2014). *Piracy in the Indian Film Industry: Copyright and Cultural Consonance* (pp. 103–137). Cambridge University Press.

⁷⁷ Centre for Innovation, Intellectual Property and Competition. Open Science Survey Methodology. <http://ciiipc.org/projects/open-science-for-an-innovative-india/open-science-survey/open-science-survey-methodology/>

⁷⁸ N = 373.

⁷⁹ N = 373.

⁸⁰ N = 373.

⁸¹ N = 369.

of the respondents felt that open access reduces the quality of research and 31.3%⁸² felt that it leads to free-riding. These data suggest that in general most of the respondents are in support of openness and sharing of knowledge. But is this support demonstrated in their practices?

In order to determine the nature and extent of their participation in the process of knowledge sharing, we inquired about their consumption of freely available publications and data, as well as their own sharing practices. As expected, a majority of the respondents have relied upon data (59.5%)⁸³ or publications (78.76%)⁸⁴ openly available on the internet for their research. However, when it comes to sharing their own publications, it was noticed that only 35.06%⁸⁵ share their publications through open access repositories. With regard to sharing of data, it was noticed that only a mere 8.4% share through open access repositories.⁸⁶ Similarly, only 9.72% share their publications through their personal website without restrictions, and 3.09% share their data this way.⁸⁷

Interestingly, most of the respondents stated that they share their publications only upon request (56.6%).⁸⁸ Sharing on request is certainly not the most optimal approach for knowledge sharing as the process – knowing the existence of a publication, locating it, approaching the author, and receiving a response from them – involves multiple uncertain steps. Apart from this, 34.03% respondents stated that they share their publications with close friends and trusted acquaintances, 47.22% share with researchers working in their team, and 31.6% share with researchers working in their institution.⁸⁹ 3.82% do not share their publications with anyone.⁹⁰

If the data regarding sharing of publications do not seem promising, those regarding data sharing are even less so. As many as 16.37% stated that they do not generally share data with anyone.⁹¹ 37.17% share data with anyone who asks for them and as discussed above; this is not the most optimal approach with regard to sharing.⁹² 48.67% and 20.35% also mentioned that they share data with researchers working in their team and institution, respectively.⁹³ 25.22% respondents said that they share data with close friends or trusted acquaintances.⁹⁴

Evidently, the results of the survey as regards sharing practices of researchers are quite dismal. Why is that so? What are the factors discouraging them to share,

⁸² N = 361.

⁸³ N = 321.

⁸⁴ N = 372.

⁸⁵ N = 288.

⁸⁶ N = 226.

⁸⁷ N = 226.

⁸⁸ N = 288.

⁸⁹ N = 288.

⁹⁰ N = 288.

⁹¹ N = 226.

⁹² N = 226.

⁹³ N = 226.

⁹⁴ N = 226.

despite being in agreement with the importance of sharing? Are they seeing any benefits while sharing at all? Before we address these important questions, it may also be helpful to look at data from two other important dimensions of our survey.

In any society/country, academic/formally educated researchers are not the only producers of knowledge. Citizens outside of the formal system have always produced rich knowledge. However, those within the formal system are generally perceived as the most prominent producers of knowledge, and their attitudes and practices as regards knowledge sharing have substantial impact on the sharing economy. In this context, it was important to explore how far researchers tried to make their knowledge resources accessible for the broader public. In the context of a multi-lingual country like India, we explored this in two dimensions. Firstly, we tried to explore how frequently the researchers tried to share simplified versions of their findings for laypersons. Secondly, we also explored how frequently research outputs are disseminated in regional languages. The findings on both the dimensions are disappointing. As many as 30.63% of the respondents never shared any simplified versions of research findings, while 29.19% do so only rarely.⁹⁵ Further, the vast majority of respondents (78.85%) never shared translated versions of their research in regional languages.⁹⁶

All these data demonstrate a striking contrast between consumption and sharing habits of researchers in India. But why are Indian researchers reluctant to share their knowledge resources even today? While the socio-historical factors discussed in the previous section might be playing a role in influencing the norms in this regard, it is also important to note that not much effort has been made from the side of policy makers to undo the historical moulding of norms. The general incentive structure for academicians/ researchers today indicates that sharing of results and openness in research have not yet become a priority.

For example, if one looks at the Academic Performance Indicators (API), developed by the University Grants Commission (UGC) of India, it can be noticed that there has been inordinate focus on number of publications, impact factor of the journal they are published in, and whether the journal is 'national' or 'international'.⁹⁷ There is no regard for quality of the publication or the journal, the social relevance of the underlying research, or sharing practices. As API system has played a key role in determining the appointment and promotion of academics, it could very well be argued that the current system is not incentivising sharing of knowledge, but may only be supporting elitist practices of limiting the sharing of knowledge resources.

Some of our data regarding the perceptions of the respondents regarding benefits they have received from sharing confirm our views on the problems with the

⁹⁵ N = 346.

⁹⁶ N = 350.

⁹⁷ University Grants Commission Regulations on Minimum Qualifications for Appointment of Teachers and other Academic Staff in Universities and Colleges and Measures for the Maintenance of Standards in Higher Education, 2018. https://www.ugc.ac.in/pdfnews/4033931_UGC-Regulation_min_Qualification_Jul2018.pdf. Accessed 21 July 2018.

existing incentive structure. For example, as many as 42.8%⁹⁸ of the respondents stated that they have not received any benefits at all when they shared their publications. Similarly, 60.84%⁹⁹ could not perceive any benefits from sharing their data.

The data also show that fear of plagiarism (15.22%) and fear of use by others for their professional benefits (9.42%) are some of the reasons cited by the researchers for not sharing their publications.¹⁰⁰ In the case of data sharing too, the lack of incentives to share is reflected in the survey results. Most of the funding agencies and institutions in India do not have strong mandates with regard to sharing of data. The data show that lack of mandates from their funding agency and institution has discouraged 11.24% and 15.73% respondents, respectively, while lack of resources has discouraged 7.49% respondents.¹⁰¹ It is also important to note here that as many as 11.61% stated that they do not consider data sharing to be important.¹⁰² However, it is interesting to observe that the most prominent factor that discouraged data sharing is the reluctance to share data before having completed all possible research/ publications based on that data set (44.19%),¹⁰³ which again illustrates that publication, and not knowledge sharing, is the primary incentive for researchers in most Indian institutions.

3.2 Study on Attitude of Film Consumers Towards IP Protection

As discussed at the introductory part of this section, one may read the data and findings on sharing practices of researchers along with the data from another study on attitudes regarding IP protection, for a comprehensive understanding of the attitude towards sharing in the contemporary Indian society. This study was conducted in the context of piracy in the Indian film industry.¹⁰⁴ The objective of the study was to explore, among other aspects, the film consumers' engagement in piracy; and their perceptions regarding social costs, social benefits, legality, and morality of piracy.

While the study showed that the vast majority of respondents had consumed pirated movies through different channels, two dimensions of the study are important in the context of the present discussion – perceptions regarding social costs of piracy and perceptions regarding morality of piracy.¹⁰⁵

⁹⁸ N = 243.

⁹⁹ N = 166.

¹⁰⁰ N = 276.

¹⁰¹ N = 267.

¹⁰² N = 267.

¹⁰³ N = 267.

¹⁰⁴ For a detailed discussion on the methodology used in the study as well as the questionnaire, see Scaria, A.G. (2014). *Piracy in the Indian Film Industry: Copyright and Cultural Consonance* (pp. 219–244). Cambridge University Press.

¹⁰⁵ For a detailed discussion and data on the exposure of the respondents in this survey to different forms of pirated products, see Scaria, A.G. (2014). *Piracy in the Indian Film Industry: Copyright and Cultural Consonance* (pp. 104–111). Cambridge University Press.

The perceptions of the respondents regarding social costs of piracy were measured at three levels – moving from macro to micro levels – perceptions regarding the effects piracy has on the economy, the movie industry, and individuals working in the movie industry. As many as 66.59%¹⁰⁶ respondents stated that they thought pirated movies would hurt the Indian economy, 69.25%¹⁰⁷ said that pirated movies would hurt the existence of the movies industry, and 71.11%¹⁰⁸ felt that piracy would affect the livelihood of diverse persons involved in the creation of movies.

One may read the above data along with the data on the respondents' perceptions regarding the morality of different acts which constitute piracy. Among the respondents, 66.37%¹⁰⁹ thought that it is immoral to stream pirated movies, and downloading of pirated movies was perceived to be immoral by 64.59%¹¹⁰ respondents. Similarly, uploading pirated movies was considered immoral by 64.96%¹¹¹; and buying pirated movie VCDs/DVDs was considered immoral by 64.67%¹¹² respondents. Further, sharing of pirated movies with friends was considered immoral by a substantial percentage of respondents (57.43%).¹¹³

It needs to be specifically mentioned that similar to the findings from the knowledge sharing survey, the results of this survey also paint a very interesting picture of the Indian society – one can see stark divergences between what respondents think about a particular act and how they actually behave. In other words, even though most respondents in this survey were found to be deeply conscious about the social costs of piracy and immorality of different acts perceived as piracy, they were also admittedly engaging in those acts.¹¹⁴

The fact that majority of the respondents considered it immoral to engage in different acts that may constitute copyright infringement illustrates a strong sense of acceptance of intellectual property rights over informational goods. This may be contrasted with the findings from many other countries in Asia, particularly China, wherein some scholars have shown that the concept of intellectual property rights may have been alien to the society for a very long time.¹¹⁵ For example, scholars

¹⁰⁶ N = 452.

¹⁰⁷ N = 452.

¹⁰⁸ N = 450.

¹⁰⁹ N = 455.

¹¹⁰ N = 449.

¹¹¹ N = 448.

¹¹² N = 450.

¹¹³ N = 451.

¹¹⁴ For more detailed discussion and data on the exposure of the respondents in this survey to different forms of pirated products, see Scaria, A.G. (2014). *Piracy in the Indian Film Industry: Copyright and Cultural Consonance* (pp. 104–111). Cambridge University Press.

¹¹⁵ See, for example, Alford, W.P., (1995). *To Steal a Book Is an Elegant Offense: Intellectual Property Law in Chinese Civilization*. Stanford: Stanford University Press. Some of the other Asian countries wherein scholars have tried to analyse IP infringements from a local/comparative cultural context include Indonesia and Thailand. See, for example, Arli, D., et al. (2015). The Impact of Moral Equity, Relativism and Attitude on Individuals: Digital Piracy Behaviour in a Developing Country. *Marketing Intelligence & Planning*, 33, 348 and Kini, R.B., et al. (2004). Shaping of Moral Intensity Regarding Software Piracy: A Comparison Between Thailand and U.S. Students. *Journal of Business Ethics*, 49, 91.

have highlighted the importance given in the Chinese society to sharing as a traditional Chinese cultural value, and examined how such values may affect perceptions of morality with regard to copyright piracy.¹¹⁶ However, due to historical existence of restrictions to access to knowledge on lines of gender, caste, etc., restrictions based on IPR may not have come as a substantial culture shift in India. Hence, it may be reasonably hypothesised that the socio-cultural history of knowledge sharing in India may be contributing to acceptance of intellectual monopolies in India, even though it is difficult to illustrate this empirically.

4 Knowledge Sharing and Some Recent Policies

The previous sections, which focused on historical and contemporary aspects of knowledge sharing and IP protection in India, present a bleak picture regarding knowledge sharing in India. In this context, it may be useful to examine whether any major policy changes are being adopted in India to encourage sharing of knowledge resources in light of the opportunities enabled by the sharing economy. While policies and plans are not enforceable in a court of law, they might be useful documents to better understand the direction policy makers are taking in a relevant area. In order to gauge the degree of importance given by policy makers to knowledge sharing within the broader innovation policy framework, we would like to analyse two recent policies of the government of India – the National Intellectual Property Rights Policy, 2016 and the Startup India Action Plan, 2016. These two policies were chosen for this analysis because they are recent policies which emphasise on innovation. It would be interesting to see the praxis they seek to use to reach that goal and whether the same is conducive to a sharing economy. This part of the chapter provides a critical analysis of these policies from the perspective of a sharing economy which seeks to maximise and diversify innovation.

4.1 National Intellectual Property Rights Policy, 2016

The introductory statements in the National Intellectual Property Rights Policy include phrases such as ‘holistic, conducive ecosystem’, ‘socio-cultural development’, ‘public interest’, ‘knowledge economy’, and ‘benefit of all’.¹¹⁷ The vision

¹¹⁶See, for example, Swinyard, W. R., et al. (1990). The Morality of Software Piracy: A Cross-Cultural Analysis. *Journal of Business Ethics*, 9, 656 and Ang, S. H., et al. (2001). Spot the Difference: Consumer Responses Towards Counterfeits. *Journal of Consumer Marketing*, 18, 221. On the other hand, some studies have also shown how different, presumably conflicting, traditional cultural values in China may be interacting when it comes to decision making like buying IP infringing products. See, for example, Wan, W. W. N., et al. (2009). Do Traditional Chinese Cultural Values Nourish a Market for Pirated CDs. *Journal of Business Ethics*, 88, 187–194. However, it must be clarified that these studies should also be subjected to further analyses and verification.

¹¹⁷National Intellectual Property Rights Policy, 2016, p. 1.

statement even indicates that the policy was introduced envisaging an India where ‘knowledge owned is transformed into knowledge shared’.¹¹⁸ A superficial glance at these words and phrases may lead to the assumption that the policy seeks to draw attention to the importance of striking a balance between IPR and knowledge sharing.

However, a closer look at the policy document makes it clear that the provisions neither seek to nor end up achieving that. On the contrary, one of the most worrisome aspects of the policy is its singular and inordinate focus on strict IP protection for fostering creativity and innovation.¹¹⁹ While IP protection may incentivise innovation and creativity in certain cases, it is merely one of the many potential incentives. As many empirical studies have shown, innovations and creativity also thrive in the so-called ‘negative spaces of IPR’, where IP protection either does not exist or IP protection is not enforced by right holders.¹²⁰ Moreover, in many ways, stringent IP restrictions may also limit knowledge flows in a way that further innovations that could have been made on the basis of the protected IP are hindered. In order to have a truly innovative society, educational, social, economic, and legal conditions need to work in harmony to ensure that the appropriate rights are prioritised depending on the context.

The introduction to the policy states that the perception that IP protection may not be required must be changed through awareness creation.¹²¹ As one may recall from the discussions in the earlier section on historical aspects of knowledge sharing in India, the generalisation in this statement is based on the faulty presumption that IP protection is alien to Indian society, and that strict exercise of IPR is necessarily better for an innovator or creator.¹²²

Objective 1 of the policy deals with IPR awareness, and emphasises the need to conduct outreach and promotion to make citizens from all sections of the society aware of the economic, social, and cultural benefits of IPRs.¹²³ While it might be important to make citizens aware of their legal and constitutional rights, portraying IPRs as the panacea that can magically transform the innovation landscape may be particularly harmful for the innovation ecosystem in a sharing economy. The policy even talks about high quality and cost-effective innovation in this context, although there is no clarity as to how increased awareness about IPRs would aid that.

Objective 2 focuses on stimulation of IP generation which is envisaged as an end in itself. IP should never be an end, but just one of the many tools which can be used

¹¹⁸ National Intellectual Property Rights Policy, 2016, p. 1.

¹¹⁹ Basheer, S. & Agarwal, P. (2017). India’s New IP Policy: A Bare Act? *The Indian Journal of Law and Technology*, 13(2), pp. 6–13.

¹²⁰ See, generally, Raustiala, K. & Sprigman, C. (2012). *The Knockoff Economy: How Imitation Sparks Innovation*. Oxford University Press.

¹²¹ National Intellectual Property Rights Policy, 2016, p. 3.

¹²² See, also, Basheer, S. & Agarwal, P. (2017). India’s New IP Policy: A Bare Act? *The Indian Journal of Law and Technology*, 13, p. 7.

¹²³ National Intellectual Property Rights Policy, 2016, p. 5.

to reach the goal of innovation.¹²⁴ Here, the policy talks about conducting IP audits, promoting IP registration, and using registered IPRs as a metric to evaluate one's performance. In the absence of any provision urging innovators to share their IP in certain contexts, this again indicates a narrow perception of innovation and may further prevent researchers from sharing their knowledge resources for the broader benefit of the society. Interestingly, the policy gives a cursory nod to 'open source-based research' such as Open Source Drug Discovery (OSDD) in this part, but does not provide any explanations or roadmaps.¹²⁵ While finer details of implementation of open source-based research may not be expected or desirable in this policy, more in-depth discussions on such initiatives would have better highlighted their importance. This is in contrast to many other parts of the IP policy wherein it has provided detailed guidance on how to increase IP awareness, registrations, and enforcement.

Objective 3 deals with the need to have strong and effective IP laws which balance the interests of the IPR holder with the public interest. Among other things, this section talks about the need to update outdated laws; consult stakeholders; enter into treaties; protect traditional knowledge, traditional cultural expressions, and genetic resources; simplify and streamline legal processes; make the legal processes efficient and transparent, and fill in gaps in the existing legal system. However, the lack of clarity as to how to strike the balance of interests leaves much to be desired as regards this policy objective.¹²⁶

Objective 5 talks about the commercialisation of IPRs. The policy says that '[t]he value and economic reward for the owners of IP rights comes only from their commercialization'. We must reiterate that this assertion is unsubstantiated and misleading, since value should be decided by the individual in question, and the system should provide, or at least refrain from denying, non-monetary incentives for innovators and creators.¹²⁷ This part of the policy also mentions that free and open source software should be promoted and open standards should be adopted, but – in the

¹²⁴ Basheer, S. & Agarwal, P. (2017). India's New IP Policy: A Bare Act? *The Indian Journal of Law and Technology*, 13, p. 6.

¹²⁵ Open Science Drug Discovery is an initiative led by Council for Scientific and Industrial Research (CSIR), India which aims to provide a platform for global partnership and collaboration to evolve solutions to complex health issues and develop affordable healthcare. See Open Source Drug Discovery. <http://www.osdd.net/home>. Accessed 25 July 2018.

¹²⁶ *Ibid.*, p. 15.

¹²⁷ Contrary to the perception that patents are primary drivers of innovation, numerous 'important' inventions such as penicillin, x-ray machine, and many life-saving vaccines were never patented by the respective innovators. See Fontana, R., Nuvolari, A., Shimizu, H., & Vezzulli, A. (2013). Reassessing patent propensity: Evidence from a dataset of R&D awards, 1977–2004. *Research Policy*, 42(10), 1780–1792. This is in sharp contrast to innovators like Thomas Alva Edison, who had as many as 1093 patents. See Rutgers School of Arts and Sciences. Edison's patents. Thomas A. Edison Papers. <https://edison.rutgers.edu/patents.htm>. Similarly, unlike The Gillette Company, which is (in)famous for its huge number of patents and closed innovation model, Tesla has shifted to an open innovation model and has promised not to initiate lawsuit against anyone who uses their patented technologies 'in good faith'. See Sansonetti, A., & Purificato, M. (2014). The Open Innovation Paradigm in Electric Vehicle Industry: A case study of Tesla Motors. *LUISS Guido Carli*, 73. <https://tesi.luiss.it/13496/1/purificato-marco-tesi-2014.pdf>, and Rivette, K.G., & Kline, D. (2000). Discovering New Value in Intellectual Property. *Harvard Business Review*, January–February, 58. http://secure.com.sg/courses/ICI/Grab/Reading_Articles/L07_A02_Rivette.pdf

absence of further explanation – we are not sure how exactly this relates to commercialisation of IPRs. Interestingly, although government bodies such as Cell for IPR Promotion and Management (CIPAM) have been given certain responsibilities here to help IPR holders commercialise their IP, no mention has been made of knowledge sharing, even by publicly funded institutions. In fact, the policy encourages publicly funded research laboratories, academia, and other institutions to commercialise their research outputs.

Objective 6 deals with the strengthening of enforcement and adjudication in case of IP infringement, and emphasises on creating awareness about the harm caused by IP infringement. As indicated in the earlier section of this chapter, data from our study show that most respondents were of the view that copyright piracy has social costs at both micro and macro levels. The emphasis on awareness regarding IP protection, in the absence of equal emphasis on knowledge sharing, may further strengthen such perceptions and adversely affect innovation and creativity.

Finally, Objective 7 deals with the strengthening and expansion of '*human resources, institutions and capacities for teaching, training, research and skill building in IPR*'. The prominent way in which this has been envisaged in the policy – introducing and strengthening IP courses in institutions at different levels, but without emphasising on the need for also educating the public about the exceptions provided under different IP legislation – is not likely to encourage creativity or innovation.

Interestingly, at a time when the unlimited potential of sharing and openness in innovation is being explored across the world, the term 'open' has been mentioned in only four sections of the policy, that too in an extremely vague manner.¹²⁸ The term 'share' also makes an appearance just once in this document - in the vision statement - clearly indicating the extent of importance policymakers in India attach to openness and sharing of knowledge resources. While the chances of this IP policy adding any value to the IP system and the innovation ecosystem are low, the extent

¹²⁸ The four sections of the National IPR Policy 2016, wherein the term 'open' appear are:

- 2.10 – Encourage R&D including open source based research such as Open Source Drug Discovery (OSDD) by the Council of Scientific and Industrial Research (CSIR) for new inventions for prevention, diagnosis and treatment of diseases, especially those that are life threatening and those that have high incidence in India;
- 2.17 – Promote 'infusion of funds to public R&D units' as a part of Corporate Social Responsibility to foster a culture of open innovation;
- 5.12 – Promote use of Free and Open Source Software along with adoption of open standards; possibility of creating Indian standard operating environments will be examined;
- 7.9 – Develop distance learning and on-line courses on IP for all categories of users; strengthen IP teaching in open universities and centres of skill development.

This is in contrast with the policy framework adopted in some other parts of the world. For example, the European Union has adopted 'Horizon 2020' to foster open access and open innovation for 'excellent science' and 'smart, sustainable and inclusive growth'. See The EU Framework Programme for Research & Innovation. (2014). HORIZON 2020 in Brief (p. 5). European Commission. https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/H2020_inBrief_EN_FinalBAT.pdf

of damage it may cause to innovations and creativity in a sharing economy could be substantial due to the high emphasis it provides on IP ownership.

4.2 Startup India Action Plan, 2016

Startup India, a flagship initiative of the Government of India, seeks to build an ecosystem that nurtures startups and innovations, and believes that this can drive sustainable economic growth and create employment opportunities.¹²⁹ In this context, it seeks to expand the ‘startup movement’ sectorally and geographically; and the Startup India Action Plan, 2016 came with the objective of supporting this expansion. For the purpose of this chapter, it would be useful to critically analyse the provisions of the Plan that are meant to foster innovation and collaboration. We would like to highlight four aspects of the policy in this regard and raise some key questions.

Firstly, the Plan introduces a scheme for Startup Intellectual Property Protection (SIPP), which is aimed at facilitating the filing of patents, trademarks, and designs by innovative startups. The scheme mainly entails promotion of awareness about and adoption of IPRs; and provision of IPR services and resources, including fee rebates and fast-tracking of patent applications. The entire facilitation fee is supposed to be borne by the central government, and the startup would only be expected to pay statutory fees. But interestingly, no part of the document appears to give any indication that the policy makers asked the most fundamental question – are Indian startups IP consumers or IP producers, or a mix of both? The emphasis provided in the plan for IP protection clearly gives the impression that the policy makers drafted the action plan with the presumption that all startups in India are solely IP producers. If Indian startups are at least partly IP consumers, the Plan should have at least given equal emphasis on facilitating more access to protected IP, including acquisition of IP by the government and open access to such acquired IP.

Secondly, the Plan proposes organisation of fests for showcasing innovation by startups, and for providing platforms for collaboration.¹³⁰ While this is a laudable step, a closer look at the provisions makes one realise that these initiatives are more in the nature of networking platforms for the startups to connect with other stakeholders from the industry and the academia. The policy has completely missed the importance of building open collaborative platforms.

Thirdly, the Plan envisages the setting up of infrastructure and awards for fostering research and innovation. Importantly, it talks about ‘Grand Innovation Challenge’ awards to fund innovations concerning ultra low-cost solutions to local problems. It also lists various measures that the government is supposed to implement for promoting research and innovation among young students. These measures include

¹²⁹ This Plan defines Startup, for the purpose of government schemes, as an ‘entity, incorporated or registered in India not prior to 5 years, with annual turnover not exceeding INR 25 crore in any preceding financial year, working towards innovation, development, deployment or commercialization of new products, processes or services driven by technology or intellectual property’. See Startup India Action Plan, 2016, p. 28.

¹³⁰ Startup India Action Plan, 2016, p. 19.

programmes for providing prototyping support for school children, and supporting student innovations and research. As regards research infrastructure, the Plan discusses the setting up of 31 ‘innovation centres’ and 7 ‘research parks’. The innovation centres will be set up at certain national institutes to augment incubation and R&D efforts, by, inter alia, encouraging student-driven startups from host institutes and providing smooth approvals for incubators. The proposed research parks are expected to allow industry-academia collaborations by enabling research-focused companies to set up base in the park and utilise the hosts’ expertise. The proposed research parks are supposed to have self-sustaining and world-class research infrastructure, and foster meaningful collaboration between startups and the academia. But would these parks be open for all or would it be limited to specific people? When public funds are used for creating infrastructure, it is also important to ensure that such infrastructure can be used by all people, including those from outside the host institutions. Unfortunately, the Plan has not given due importance to creating such open and shared infrastructure.

Finally, like the National IPR Policy, the Startup Plan has also failed to provide sufficient measures that can foster meaningful knowledge sharing and equitable opportunities for innovation. It would have enabled a far more optimal startup ecosystem in India if it had taken into consideration all the potentials of a sharing economy in the innovation process.

5 Challenging the Status Quo: The Way Forward?

The preceding parts of this chapter illustrate that the culture of sharing knowledge in India has historically been riddled by various socio-economic and legal restrictions. Despite the recognition of the need to create and innovate, and the introduction of policies and plans to foster the same, there is a lack of holistic analysis and insightful policymaking. As highlighted previously, inequitable access to knowledge hinders diversity and extent of participation in innovation. It is therefore important to challenge the status quo, and initiate and implement changes that can lead to sharing of both non-rivalrous knowledge, and rivalrous and scarce resources that are required to produce knowledge.

It is beyond the scope of this chapter to highlight the specific legal and policy recommendations for making significant changes to the status quo. However, we hope that the discussions in this chapter will trigger debates that can lead to changes in the attitude towards knowledge sharing. In this context, it is important to highlight that apart from providing access to non-rivalrous and rivalrous resources required for knowledge creation, it is necessary to address the social gaps that hinder participation in the sharing economy. It is therefore crucial to devise and implement meaningful measures to reduce socio-economic gaps based on caste, class, gender, geography, etc. Efforts should also be made to address language gaps and prejudices against knowledge creators from outside the formal research/innovation ecosystem. Only through such an inclusive approach in knowledge creation, can India explore the full potential of a sharing economy.

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