# BRIDGING GENDER AND ECONOMIC GAPS: THE IMPACT OF INTELLECTUAL PROPERTY IN INDIA

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## ABSTRACT

*This research explores the transformative role of Intellectual Property (IP) in bridging gender and economic disparities in India. It examines how IP systems, policies, and protections can empower women through innovation, entrepreneurship, and knowledge-based activities. Despite India's advancements in IP legislation and its position in the global knowledge economy, persistent gender inequalities—particularly in labor force participation, education, and access to resources—continue to hinder inclusive growth. The paper evaluates how women face systemic barriers in accessing and benefiting from IP rights, including limited awareness, cultural constraints, and lack of institutional support. Through analysis of successful case studies and government initiatives like "She is an IP" and StartUp India, it identifies pathways to improve women's economic empowerment and innovation capacity. It further underscores the potential of IP to generate employment, protect traditional knowledge, and support sustainable development, especially when inclusive of rural and marginalized women. The study concludes that for IP to be a truly empowering tool, India must invest in gender-sensitive legal frameworks, targeted awareness programs, and mentorship networks. Only by democratizing access to IP can India foster equitable economic participation and innovation-driven growth.*

*KEYWORDS*: Intellectual Property, Gender Equality, Economic Empowerment, Innovation, Women Entrepreneurs.

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## 1. INTRODUCTION

This article examines the role of Intellectual Property (IP) in bridging gender and economic gaps in India. It evaluates existing Digital Women's Livelihoods Initiatives across sectors and documents key stakeholders supporting these initiatives, including the government, knowledge-based non-profit organizations, private organizations, microfinance institutions, design and technology companies, and public sector organizations. It further analyzes sexual and reproductive health and rights in conjunction with the gender gap in knowledge production, connectivity, and use in the Internet of Things (IoT) sector.

Intellectual property (IP) rights were originally used to bridge the gap between a few firms or people with temporary monopoly power and the end-users or wider society with non-price conditions that limited access to the intellectual property created with public funding or resources. This was clearly the case for etchings of the Old Masters, recordings of Shakespeare's plays, and so forth. More recently, of course, other forms of IP protection were introduced to promote private profits from locally developed agricultural or pharmaceutical innovations. Included were genetic resources and αγέντα that were traditionally developed for local food production, medicinal, or other purposes.

The spread of this framework over a very wide part of the world had two main consequences. First, a fairer solution to a severe contract failure—poachers had a much greater incentive to invest than growers, as profits were readily available at the global price—produced an entire new range of contractual and legal problems regarding the barrier to access services (Dosi & E. Stiglitz, 2014). Secondly, its widespread adoption gave rise to new regional and international institutions and rules to protect intellectual property and new financial and political legitimacy structures.

## 2. UNDERSTANDING INTELLECTUAL PROPERTY

One of the most remarkable developments out of post-World War II reconstruction efforts was the emergence of a transatlantic partnership to govern the process of innovation. At the time, the emergence of an integrated economic and political space on

both sides of the ocean rested upon the establishment and strengthening of entities responsible for collective management of the processes of monetary stability, trade, and technical standards in an era of growing economic interdependence and cross-border flows of goods, capital, people, and technology.

After the collapse of the Bretton Woods system, the industrialized economies of Western Europe and North America joined together in a multi-faceted institutional partnership to regulate the globally-integrated processes that played a role in economic growth and social development. The United States had emerged from the war economically revitalized and politically fortified, and its creative industries, from film-making to music to the fashion business, would set the cultural tone for the coming half century. However, it would be the creation of the European Economic Community that would challenge the balance of economic power on the continent.

Analyzing the role and impact of Intellectual Property (IP) in the economy of developing countries in a globalizing world is an important prerequisite for understanding to what extent the size, growth pattern, structure, and dynamics of developing economies differ from classical development theories. For many decades, it has been believed that slow economic development is the universal fate of developing countries until they can gradually follow in the footsteps of industrialized countries. It has also been believed that "catching-up" efforts can be successful as soon as institutions become effective enough to impart democratization, free markets, and western-style property rights (Dosi & E. Stiglitz, 2014).

## 2.1. TYPES OF INTELLECTUAL PROPERTY

Intellectual property is any intellectual creation used in commerce, such as design, writing, art, or other inventions. Intellectual property gives certain rights to individuals to exclude others from the use of specific intangible creations for a certain period. These intangible creations could take the form of tangible products, like novels, music CDs, or mosquito-repellent coils, etc., but the intellectual property rights do not cover the products (Hati, 2006). The Law protects intangible creations, like ideas and technical solutions. Patent/Copyright is a right granted to use an invention, while a literary or

artistic work can be patented. The owner of the patent can prevent the manufacture, use, or sale of the patented product in countries where the patent is registered. Various kinds of intellectual property constitute intellectual property rights (IPRs), which are assigned by statute as well as internationally recognized conventions. These rights mainly enforceable in the country in which they are granted include copyright and related rights, trademarks, geographical indications, industrial designs, patents, layout designs of integrated circuits, trade secrets, breeder's rights, and utility models. There are also international treaties granting a certain life or legal existence to the rights, such as the Berne Convention, Treaty on Trade Mark Law Treaty (TLT), Rome Convention 1961, WTO/TRIPS agreement, and the Patent Cooperation Treaty of World Intellectual Property Right Organization (WIPO). The relevance and importance of different categories of IPRs vary from country to country (J. Gervais, 2005).

## 2.2. IMPORTANCE OF INTELLECTUAL PROPERTY

Intellectual property is an amalgamation of two words: intellectual and property. The word "intellectual" refers to the brain, intellect, cognitive processes, and thoughts. Property refers to possession or ownership. Hence, intellectual property is the creation or ownership of ideas and thoughts. It consists of the ideas, creations, technologies, etc. of the human mind, which result in invention, innovation, and creative works. Like any other property, intellectual property is created by man. It can be held and were sitting on the minds of human beings (Drita Bejtullahi & Robert Dumi, 2017). Intellectual property needs protection because it cannot be distinguished from its owner. As a creator or inventor comes up with an original idea, it cannot be examined or separated from the inventor. It is the thought or idea that conceives or denounces or autographs it.

Intellectual property, therefore, is a nervous energy of the mind that has to put down on paper or a computer hard disc. Most inventions, designs, discoveries, works of art, literature, music, etc. cannot be patented because they consist of new combinations of old ideas (Hati, 2006). However, any buyer who has bought them at a price can repeat or reproduce them. The law allows such copying. Patents require novelty. Copyright and design rights subsist in the work of by-products of the mind: price and patent laws in

utilities. The world would be in a disorganized condition without some protection of intellectual property. Without patents, things protected from imitation or imitation thien a race between inventors and so many, and the unpatented invention would soon be surpassed by others. Copyright ensures the payment of authors, composers, artists, and others against unauthorized copies of their works. These personages would soon dwell in poverty without it. Rotational rights would make thinking irrelevant. There would be a return to the epoch of the miracle workers. Great inventors and inventive nations, such as mechanical contrivances to lessen labor in their factories, would not be propounded by the means used to protect inventions increasing production or lowering the price.

## 3. GENDER AND ECONOMIC DISPARITIES IN INDIA

India ranked 125th out of 159 countries in the United Nations Gender Inequality Index 2015, suggesting a relatively unequal society (Thelwall et al., 2018). Of all females aged 15 or over, 27% are employed compared to 79% of males. India was rated below average for the world for gender inequality. India was also found to be particularly unequal for labour market participation. In terms of education for females aged 25-34, India is slightly more equal than average and less than average. Girls from wealthier districts in India are more likely to be educated, although co-residing with in-laws negatively impacts education. India has a long history of gender inequality that has to a relatively large extent continued into modern times. The discriminatory system in caste and gender against women has originated in early Indian society under the auspices of religion. This persuaded women to restrict themselves to their households and get them disconnected from the world outside. In the most recent decades, differences in educational attainment, health, employment, and political power between genders have been declining in many countries, but not in India. The consequence to development in India has been persistent gender discrimination in almost all fields. In many of these fields, this can be attributed to the caste and, more specifically, to the ills of patriarchy (BLIZKOVSKY, 2015). While the growth and resilience of the Indian economy has been remarkable, as in all rapidly expanding economies, it conceals great inequalities, notably pervasive gender and rural-urban divides. From the Global Gender Gap perspective, India ranks 112th, 138th and

131st for Economic Participation and Opportunity, Political Empowerment, and Education Attainment, respectively.

### 3.1. CURRENT STATE OF GENDER INEQUALITY

Gender is a socially constructed category. It refers to the roles, rights, responsibilities and expectations that societies and cultures view as appropriate for men and women. Gender is a key cause of systematic and persistent inequalities in all aspects of human development, such as education, health, nutrition, work, income and access to and control over resources. The consequences of this discrimination against women, girls and the feminine more broadly deny half the population the right to develop their own potential and be equal partners in progress. Gender inequality continues to be a strong barrier to development not only for women and girls, but also for men and boys and society as a whole. Child mortality, fertility reduction, food shortages and inadequate schooling all can be significantly improved if gender inequalities are bridged. Addressing gender inequality is thus a central goal by itself, as well as a powerful means of addressing the overarching goals of eliminating poverty and improving human development (P. Asalatha & N. Vijayamohanan, 2010).

Both at the aggregate and individual levels, India is one of the most gender unequal countries not only in Asia but also in the broader global context. India ranks 125th out of 159 countries in the United Nations Gender Inequality Index 2015 (GII). India is ranked below average for gender inequality by the World Economic Forum, and gender inequality is far worse in India than other World Bank countries of a similar income group. Gender inequality is particularly acute for labour market participation. Gender disparities in India exhibit stark subnational variation. At the national level, the sex indicator score varies from 0.062 for Delhi to 0.102 for Haryana. Based on economic participation data, gender inequalities are most entrenched in Haryana and Western Uttar Pradesh; states with the best indicators are those with least variation, such as Mizoram, Delhi and Kerala (Thelwall et al., 2018).

The World Bank's 2012 World Development Report on Gender Economics notes that gender equality is smart economics. Unleashing women's economic potentials fuels national productivity and economic growth. Gender equality would boost per capita income growth in India by up to 0.7 percentage points a year, which is significant relative to 7 percent in growth estimates for a country. There are good empirical cases for how economic growth is trod on by gender disparity. Countries that close the gender gap in adult mortality rates reduce the economic growth rate on average by 3.2 percentage points per year relative to countries where the gender gap narrows slower. Gender discrimination lowers economic growth rate in gender biased country, and rates in countries with greater gender imbalance on sex ratios are on average 1.3 percentage points lower than in countries with more balanced sex ratios.

### 3.2. ECONOMIC CHALLENGES FACED BY WOMEN

The role of women in the Indian economy is much lesser than that of men. Wage differences between men and women are alarming and shocking. Women earn Rs. 57 to a man's Rs. 100. They account for only 24% of the labor force, and of these 80% are in the unorganized sector. The overall female work participation rate (FWPR) in India is 25.51%. The new census states that the percentage of women workers increased to only 26%. A good and conservative estimate would be somewhere between 30 and 32%. Whatever may be the case, one thing is correct. This is a very low percentage as compared to many nations around the world. India ranks 120th in participation in jobs. This is a big shame that the nation is not able to utilize half of its human resources. This results in a huge economic loss to the nation (Tyagi et al., 2014).

India could gain an additional 700 billion USD in GDP by 2025 if women were economically active to the same extent as men. Disruption in the male dominated nation would create 335 million jobs. Contrastingly, approximately 160 million women would be aware of issues regarding family restrictions, cultural restraints and gender biases etc. India is a country where both men and women report more complaints but men earn more. Women in India earn 62% of what a man earns for the same job (Misra & Sirohi, 2019). Statistics are not as important as practical fact. In today's world women are doing

wonders and are achieving great things in the country. Empowered women make a better world and even help in nation building. Women are the one half of the economy and ignoring this important half results in non-utilization of a huge amount of talent and skills available in the country. However high the education level of the country be, a large proportion of the population would remain poor and not benefited. Half of this population is able to get only 30-35% income share. Hence the participation of women is equally emphasized. Countries with high performance and growth will be unable to sustain in the future if constraints on women are not removed.

## 4. THE ROLE OF INTELLECTUAL PROPERTY IN ECONOMIC EMPOWERMENT

Ownership and protection of IP is a cornerstone to establishing a trade/economic environment for innovation, creativity, and continued development. Only when innovation is rewarded does a community or a country begin to have the desired effects from their investments in IP development. Individuals or companies that invest in IP, whether they are science-heavy high-tech firms or a lone inventor or artist, often invest considerable human capital in an idea/method/concept that becomes the subject of a patent or copyright application. They may be well aware that other people can easily take advantage of the idea/method in the period prior to their own IP protection – and that their investment could be lost completely, or at least significantly, due to no financial recompense for attractive licensing agreements or diminished competitive advantage.

Theoretically, patent rights were to promote innovation and ultimately economic development – but how can this be proved? The impact of patenting on innovation is complex, poorly measured, and influenced by socio-political and market factors present in individual countries; few contrasts exist between countries with no patents regarding the use of patents. New technology or products may have the impact of simple-to-complex trade or business process, firm/company-to-value chain-to-national/global economy models. Hence, measurement of the effects of the grant of patents upon these numerous dimensions of innovation is often problematic. The only general conclusion that could be drawn is that, in the developed economies, inventions owned by firms are

patented more than those owned individually and that this behaviour is significantly correlated with productivity improvement with entry application in the same firm type, or entering firms.

At the community level, job creation is often viewed as the best measurement of economic activity. In agreement with the global estimates of the role of IP in economic development, jobs in intellectual property-intensive goods and services globally accounted for 44 million jobs and a significant contribution to the economy. In India, jobs in intellectual property-intensive goods and services accounted for 1.8 million jobs, contributing significantly to the economy. Notably, this analysis included indirect jobs created as a result of the activities of IP-intensive firms, the jobs created and wages supported along the global supply chain of these products and industries, and spillover jobs created by and supported by the consumption of services and goods that result from IP-intensive industries.

### 4.1. IP AS A TOOL FOR ECONOMIC GROWTH

The changing notion of IP has made it a tool of economic growth, attracting investments, creating new jobs, and generating revenues. Growth in IP involves creating assets, filling systems, and exploiting it for revenue creation. Factor markets are typically imperfect, necessitating IP tools for promoting innovation and creativity through exclusive rights. The most distinctive feature of IP is that it is typically statutorily encumbered with an exclusivity period. Starting with the initial three categories of IP, Copyright, Patents, and Trademarks, the complexity of IP law has multiplied with the addition of new categories and manifestations. The role of IP in economic growth is bolstered by many pieces of literature. IP itself is regarded as an intangible asset; asset is a prerequisite for investment.

Harmonization tools like TRIPS were sought to create an R&D-friendly investment climate. Efforts were to ensure utilitarian inventions by assuring RoI through the establishment of a suitable legal framework. In spite of the diversity of economic and social environments, countries were seen to devote attention to strengthening their innovation systems. Many believe that it has costed the present-day LDCs at least 7-10 years of technology advancement and thus economic progress (Towhidul Islam, 2021).

Of late, there was a greater focus on how countries were able to develop and achieve enviable GDP growth despite weak or absent IP protections in the world.

### 4.2. CASE STUDIES OF SUCCESSFUL WOMEN ENTREPRENEURS

Roof & Roof Sujatha Enterprises founded in 2007 is situated at Alaknanda, New Delhi. It deals in manufacturing of various types of roof and roof related items like Sun Control Louvers, Control Plaster, White Cotton Canvas, Waterproof Shade Net and Aircraft Hangers. The enterprise was registered as SSI unit in 2012; all products of this unit are patented. The enterprise's product has been thoroughly tested at. It has got ISI certificate for Control Plasters. Owner of the enterprise is a science graduate who always had an idea of setting up her own enterprise. However, the Spline frame roof established by her father came in her use to continue with entrepreneurship. She used to render service regarding installation of the Spline frame roof as well and the research and development possible to remove the defects. Players were immediately following her. By then she had developed other allied products and started manufacturing them. Since it had some notoriety like ISO-9001, EN, etc. the patented products got a favourable response. Modifying the products imported technology from USA and launched new herbaceous individual items of roof. The enterprise reported annual turnover of roughly 68000.00 thousand (56.50 thousand Euros) per annum, which is around 40 percent of the installed capacity.

Postal systems in India have not only remained an important segment of the world's fifth largest postal network, but have also emerged as an important marketing and distribution channel for businesses. Post-privatization postal systems in India have evolved in the form of a hybrid organization providing both reserved as well as unreserved services. Examples from developed and developing nations varying with regard to their telecommunication and postal systems are studied in detail, supported with results from an explorative qualitative case study of the Indian postal system. Practical and managerial implications of the findings for postal systems in present day competitive markets are discussed extensively. Along with the proliferating competition from outside the domain, postal systems across the world are increasingly facing challenges from technology and

the Internet. This has resulted in loss of postal employment worldwide. Efforts by postal systems to cling on traditional letter and mail services have only made the threat of erosion of letter volumes more compelling. As a response, postal systems, including Indian postal systems, are diversifying into e-commerce, and developing and running retail outlets, etc. (Tyagi et al., 2014).

## 5. INTELLECTUAL PROPERTY RIGHTS AND GENDER

The most common connections made between intellectual property rights (IPRs) and gender are either direct ones, linking a woman's access to IPRs to an individual impact on welfare or income, or indirect ones linking economic growth to a reduction in gender disparity (J. Gervais, 2005). There are grounds for both lines of approach, but little analysis of how gender disparity might be affected in concrete terms by the gradual introduction of specific IPRs. It is important to be aware that the development of industries and other arrangements that utilize IPRs depends on a pre-existing level of legal and institutional development and also a group of individuals with sufficient resources and ability to take advantage of new economic opportunities.

A more useful starting point for a discussion of the important links between IPRs and gender might therefore be an investigation of the ways in which IPRs can contribute to that fundamental growth. It is suggested that in a developing economy, the first steps in introducing some IPRs begin a gradual process of economic growth that eventually leads to more significant impact on the gender relations. Protection of agricultural varieties by PCI may be better than nothing, but in the short run, it is unlikely to have any substantial impact on farming styles. It might, however, contribute to crucial factors tending in that direction, especially favoring the presence of entrepreneurs and stimulating further economic development. Many of those sectors, such as pharmaceuticals, software and telecommunications, where IPR-based industries have an initial advantage, are quite capital-intensive. It is therefore unlikely that early growth would be accompanied by an approach to gender parity in the labor market.

Many intermediate developments can be imagined during the process of a less gender-discriminatory synergetic balance of effects of IPRs on gender relations. It has been

suggested that to some extent, much labor or labor force that is released may be employed in wage labor on a new kind of estate. Meanwhile, at least up to a point and not uncommonly with respect to labor-exploiting agricultural varieties, women may satisfactorily remain holders and managers of agrarian resources. To the extent this more complex change occurs, it will bias the impact of new technology, making it less favorable to prevailing property relations.

### 5.1. IMPACT OF IP ON WOMEN'S INNOVATION

It has been a long-held belief that innovation, creativity, and the ability to invent are innate to all humans. However, the Gender Gap Database reveals some startling facts about global patent filings. A staggering 97% of international patent filings (PCT) are male-dominated, with a three out of 107 since 2014, or 2.8% is female-dominated. Women inventors filed only 14% of PCT applications in India. Such disparity also results in a strong disparity in agglomeration of innovation across regions. While previous studies examined women's patenting in high-income countries (L Burk, 2015), a theory of patenting and gender cannot be complete without investigating what happens in emerging economies, where female inventors exist in very different economies than those in which previous studies were conducted. In this context, India's developing economy, a BRICS nation, can bridge that gap.

Women from households with farming, skilled labor, and clerical as opposed to unspecialized professions are less likely to hold patents. The innovativeness of the region matters even more. Residents of post-industrial regions, where high-technology knowledge/innovation-based industries cluster, are more likely to hold patents. This holds for both men and women, although women are less likely than men to have a patent in less innovative regions, the gender gap widens in more innovative regions. Additionally, women inventor applicants are more likely than men to hold patents in multi-inventor and multi-applicant applications (Hati, 2006).

### 5.2. BARRIERS TO ACCESSING IP FOR WOMEN

Impediments to Women's Use of IP Research and Commercialization in India

As India strives to become a Knowledge Economy, intellectual property (IP) is highlighted as the currency of the 21st century. Along with a patent office in every state and government-sponsored workshops to train citizens in IP laws, the present prime minister, Ms. Modi, has started a number of new initiatives aimed primarily at the youth of the nation, encouraging them to invent. However, in this IT and communication age, where innovation, knowledge, and ideas reign supreme, many citizens are unaware of even what IP is, let alone how to protect their knowledge. This low level of awareness has an impact on women in the country, and limiting belief systems extensively restrict their chances of seeking commercial assistance. Though India is undeniably a strong democratic nation, cultural beliefs still hinder bold, brave women from experimenting outside comfortable boundaries to either seek independence or contribute to bettering society. Due to these deeply ingrained beliefs and bias systems, women from marginalized communities and in rural areas are even less likely to seek their rights in any domain, let alone in a newly emerged technology (Paul et al., 2015).

Women are major contributors to micro-, small-, and medium-enterprises (MSMEs), the key engine for growth in the world economy. Women entrepreneurs are acknowledged for their contributions to national economic growth and their pivotal role in poverty eradication by providing employment to the underserved. However, they face a number of constraints related to religion, caste, education, social and cultural beliefs, gender discrimination, lack of collateral, lack of market knowledge, lack of networks and associations, lack of support from the family, and high risk perception regarding their successful existence in the business world. Women entrepreneurs' concerns for family and various household responsibilities restrict them from accessing IP rights.

As the knowledge and technology gap between developed and developing countries and between urban and rural populations grows, women living in rural areas find it increasingly difficult to take advantage of the economic benefits offered by innovation and technology. The knowledge-based systems and simple technologies that enable unrestricted and rapid transfer of information and capabilities are advantages that are heavily ignored by rural women. Lack of formal education, social and cultural biases,

lack of financial inclusion, high risk/profit ratio in investing in technology, and lack of personal exposure are the major barriers to accessing tech-based innovations and taking advantage of the benefits of technology in daily life (L Burk, 2015).

## 6. POLICY FRAMEWORK SURROUNDING INTELLECTUAL PROPERTY IN INDIA

IP in the Pharmaceutical Sector in India: Scope of Protection and Key Legislative Framework

In India patents are granted for inventions and process meeting prescribed criteria for patentability and not for product in the form of mere discovery, improvement, method or process (Section 3 of the Patents Act, 1970). The Act in India has a list of exceptions under which the object falls and hence it cannot be patented including the mere discovery of a scientific principle or the formulation of an abstract theory; and the mere discovery of any new property or new use for a known substance or mere use of a known process and many more such exceptions.

In implemented legislative framework for patents and patent application methods were available since time immemorial. Patents for medicines, processes developed therefor for production of medicines, replacement part in engine production, measuring or weighing instrument etc., were being granted since then. In the pharmaceutical sector, comparatively longer duration of protection of patent (e.g. 20 years term as per TRIPS agreement) continued to be an issue after the introduction of the Patents Amendment Act till now in the larger public sector. The uncertainty was in respect of matters like period for filing of reply, performance of promised act, hearing, passing of revocation order, redress against the Controller and the tribunal thereafter etc. (Hati, 2006).

Post-2005, involutive procedures shall be better governed by statutory rules framed under the Tray At Koto Bench burgip Lords Act, 1958, for all IP as opposed to IP-right (product-wise) specific rules hitherto in force. Statutes like the Drug and Cosmetic Act, 1940, the D. E.C. Act, 1945, the Essential Commodities Act, 1955, and the Packaged Commodity Rules, 1977, which are regulatory in nature, continue to remain in operation.

Regulation of biotechnological invention, genetically modified organism for seed bank which are outside the purview of patenting are governed by the act of the Parliament and the rules made there under (Ragavan et al., 2015).

### 6.1. OVERVIEW OF IP LAWS IN INDIA

Intellectual Property includes a set of ideas and suggestions that include right ownership of ideas acknowledges inventors or authors and protects their benefits in a specified way. IP gives certain rights to an individual to exclude others from using specific intangible creations or innovations for a certain period of time (Hati, 2006). IP rights can also be termed as exclusive rights granted by the government for specific purposes. These rights can be enforced through courts, as the IP law provides protection against discrimination but does not stipulate any judgment regarding the merit of IP. The law gives protection to intangible creations, such as ideas, technical solutions, literary and artistic works, symbols, and the creation of its reputation in the market. Intellectual Property Rights is an exclusive right granted to inventors for their invention which is a new process or product involving an inventive step that offers the ability of industrial application. The scope of their IPR can extend to the area of product, process, or both covering 20 years. On a more general basis, the owner of a patent can prevent the manufacture, use, or sale of the patented product in the countries where the patent has been registered. Patent rights operate very effectively in the developed world for the protection of patentable subject matter (Ragavan et al., 2015). The economic interpretation of subject matter protection through patents is sometimes comprehended differently in the developing countries, and comparatively less importance is attached to innovation and thus to patenting; this is more so in developing countries like India where until the present were supervised by patent product and process protection norms leading in a tacit derogation of product patents. Nonetheless, because of the changed economic and political climate, the government is pondering over and initiating the processes of patenting by modifying its patent laws and trying to affect a balance between the multi-faceted need of augmenting local R&D base and safeguarding widely known and used traditional knowledge and bio-resources.

### 6.2. GOVERNMENT INITIATIVES FOR WOMEN IN IP

This section highlights the efforts undertaken by the Government of India (GoI) to promote women's involvement in the capacity of creative thinkers, innovators, and entrepreneurs by harnessing the potential of intellectual property (IP). The key government initiatives in this domain are discussed below. The overall IP policy of GoI prominently stresses the need for the promotion of women inventors, researchers, and entrepreneurs. To achieve this, a multi-pronged approach has been adopted. A nation-wide launched programme called "She is an IP" was initiated with a deep focus on the promotion and outreach of women inventors, researchers, and entrepreneurs (Parnami Neeraj Parnami, 2008). The campaign is aimed at empowering women by creating awareness about their rights in ideas, inventions & innovation as well as at adding to the existing confidence of women entrepreneurs whilst encouraging young minds to come up with their own innovations.

The DIPP proposed an incentive scheme for the women startups under StartUp India programme, which aims to facilitate the intelligent propulsion and ubiquitously launch IP Strategy and Solutions in the nation to encourage young startups and women entrepreneurs to convert their inventive ideas into IP tools for raising businesses & wealth. A common approach is adopted to foster mechanisms & Capabilities of creating a whole new vertical of the GET fraternity, which would exclusively explore the untapped feminista potential of the IP ecosystem. The initiative aims to build capacity and creates parallel financial inclinations in this domain. The awareness sessions and workshops on Gender Sensitive IP approaches along with sensitization of IP being a tool for business for genius startups in the category will be implemented.

## 7. CHALLENGES IN BRIDGING GENDER AND ECONOMIC GAPS

As per the constitutional, legal, and policy commitments on gender, clearly articulated in the Gender Equality Roadmap, the gender equality targeted in the 2030 Agenda implicitly aims at bridging not only gender gaps but also economic ones, since economic equality is held to be the most empowering aspect of equality. Looking at the question "are we on track in bridging gender and economic gaps?" there is a need to see whether

such gender and economic gaps exist in India, and if so, whether gender inequality is widest in the economic sphere. Although much work is required at the grassroots level, as well as on more systemic powers that maintain the gender hierarchy, the answer to the first question, at least as per the formal indicators currently available, appears to be in the affirmative. On 'formal equality' in the economic sphere, India seems to be largely on track, with legislations on equal remuneration, discrimination in employment based on gender or sexual harassment at workplaces, and inheritance rights of most women, comprising almost 90% of populations, women's custody rights on children, maternity benefits in all establishments with more than ten working women, and a bill on paternity leave in the offing. Laws on property rights/entitlements, financial services, including concessionary loans and interest subvention, training/upskilling, marketing, etc., though very much part of the legal fabric, are clearly "non-existent" as most women, especially rural and economically backward ones, are unaware of their right on them. Additionally, data and evidence on these mechanisms/institutions that show the gaps between laws and reality is lacking.

### 7.1. CULTURAL BARRIERS

The cultural barriers that female innovators face are best captured through the experiences of specific individuals. Status with respect to an individual's group is likely to matter; for example, how she is placed vis-à-vis caste, class, wealth, reputation, and social networks is likely to shape her experiences of the patent system. However, with respect to a given group, some common themes emerge. The sort of disapproval and ridicule that individual female inventors experience from family, community, and acquaintances is consistent with social biases against and historic subordination of women within these domains. Standard gender roles prioritize domestic responsibilities and devalue hands-on knowledge and technical skills (L Burk, 2015). Additional discontent surfaces amongst some inventors who wish to challenge cultural norms constraining female mobility and voice. Patenting is therefore inextricably bound up with greater ambitions for social change. Practically speaking, female inventors need, but do

not have access to, the skilled and unskilled labor, technological support, and social networks to develop and commercialize an innovation.

Patents will therefore allow families to challenge and negotiate ties of control, resource allocation, responsibility, and legitimacy that shape gender ideologies and practices. The patent system is replete with opportunities for male family members to claim ownership or credit for an invention. However, there are also avenues for women who breach ex ante family quality and access conditions. Other conduits of agency through which female inventors navigate oppression within these liminalities and embrace opportunities to affect social change are also possible through the patent system. Barriers to product development and commercialization have gendered characteristics and are broadly conceptualized as lack of access to expertise, resources, networks, etc. Some barriers have a domestic or informal dimension and some have a formal or institutional dimension. Direct access to these resources is often subverted by a male intermediary acting on behalf of a woman inventor or beneficiary.

### 7.2. LACK OF AWARENESS AND EDUCATION

The relevance of traditional knowledge in development was officially recognized (Ragavan, 2001). However, despite attempts made by many countries to protect endangered flora and fauna and the knowledge thereof, patenting by multinational companies continues. The same multinational companies that cultivated the crops, gave them Latin names, and appropriated the knowledge of local practitioners also tend to deny the adequacy of the knowledge in the public realm as prior art. The argument stems from the notion that in the West, focused on capitalism, efficiency, and growth, knowledge is considered a commodity gift from a creator, while in the East, where societies view knowledge as a right, it is surrendered to society on creation. In a world that predicts genetics-based recipes through comprehensive databases analyzing the millions of sequences at the molecular level and seeks to patent plants with unknown utility, the knowledge of traditional communities is at great risk. A large section of society in developing countries has no titles or palatable rights over the land. This arcane knowledge is treated as prior art only when patenting becomes an arduous task. In

response, individuals across the globe have begun to question matters regarding ownership, rights, entitlement, and reward.

Studies on legislative responses to the loss of control over biodiversity and the knowledge of its use by locales began. The Convention on Biological Diversity attempted to confirm that biodiversity is a result of natural selection honed by the knowledge of communities; this knowledge is not prior art as understood by patent examiners. Such applications tend to hoard knowledge that the owners consider as expressing their very identity. Codexes listing the traditional medicinal plants, products, processes, and secrets were commissioned to create awareness within the local societies. This step reinforced the belief that knowledge gifted to societies ought to remain in the public domain. It was believed that knowledge flowering in society would therefore remain obscured from the eyes of the traitor capitalist.

The communities resisting this trademark had to transparently explain their knowledge. Efforts directed towards using intellectual property rights permitted the appropriation of agricultural biodiversity and the indigenous knowledge of their use by corporations. Concerns relating to justice pervaded. The World Trade Organization was recruited to engineer a new world order that recognized a clearer distinction between clients, beneficiaries, and providers. Educational measures seeking a fairer order and nipping the misappropriation of knowledge in the bud were advocated. New laws were formed and existing laws amended to protect such knowledge, largely based on the notion that as long as such knowledge was legally acquired, the legitimacy of this acquisition would need no other explanation.

## 8. STRATEGIES FOR ENHANCING WOMEN'S ACCESS TO INTELLECTUAL PROPERTY

There is considerable literature purporting to solve the complex social and economic problems faced by women in the developing world. A number of hurdles have to be traversed in order for women to attain a stable standard of living (J. Gervais, 2005). Some of these hurdles are internal cultural and conservative societal norms that restrict the ability of women to position themselves in decision making capacities and lead

organizations' operations; additionally, external constraints, such as expansive geographical dispersal or limited knowledge or access to legal frameworks on how to protect ideas in formal industries, hinder women's economic emancipation. These hurdles are not insurmountable and various organizations provide training and financing for developing and formalizing women's informal occupations or micro-enterprises. In the economic empowerment process, men often present the largest hurdle; however, there have been successful case studies showing how men can also be incorporated in co-lending structures for women's enterprises.

Various programs provide training on how to take ideas to firms or in-house training initiatives. Global Networking Women in IP (ip4b) assists women lawyers/managers in becoming attorneys, while others take a broad brush approach and fund the furthering of women's education and entrepreneurial endeavors. Nevertheless, some hurdles cannot be neatly overcome. Cultural conservatism and religious affiliations still play a major role in accessing formalized employment or developing a profession. Information on formal employment limits the interest of women to pursue education in advanced studies. Access to employment in many developing countries restricts women from becoming professionals. In conservative societies it is hard for women to access a networking circle. Inputs in the design of programs are only trusted where there are women with "authority," making many opportunities inaccessible. Most programs are founded on funding that places a priority on ever yielding new projects. As a result, processes are not always cognizant of the cultural fabric to create successful and enduring programs. As a result, programs often do not fix the underlying imbalance but position women distinctively.

The universality of the technological gap, or the "knowledge divide," where the ability of knowledge generation, application and commercialization is highly disproportionate between sophisticated developing and developed economies, is recognized. States failing to make this transition confront diminished economic growth, zero development prospects and political instability. The necessity of technology transfer both internationally and internally by developing countries is correspondingly recognized. The

internal importing, ameliorating and development of science and knowledge bases is seen as increasingly essential for middle income developing countries as the knowledge gap widens (Ghafele & Gibert, 2012). Prospective rise from the resource curse is complex; however, investments in throughout societal education and STEM development has been fruitful in some nations. Rising resource rich nations, such as Brazil and India, have matured educationally and economically and market diversifications are underway.

### 8.1. EDUCATIONAL PROGRAMS

India ratified the Paris Convention as early as 1883 and has had legislation protecting patents, copyrights, and trademarks since 1911 and at least some form of protection on geographical indications since 1986. The Indian legislature enacted the Patents Act of 1970 to provide a more balanced framework for patent protection in line with the constitutional objective of ensuring that technological advancement is made to the fullest extent and is benefited by the wider public. This included pre-1970 era inventions not being patentable, restrictions on processes for production of drugs or medicines, a prohibition on term extensions to 20 years from grant, an obligation to keep the file of the patent open for public inspection, and an infinitely respectability requirement for working patents. In 2005, India, under the WTO TRIPS Agreement, was required to amend its patent laws to make process and product patents in pharmaceuticals as well as food and food ingredients.

There is a clear need for IP education awareness raising and technical training programs in (new) pharmaceuticals, start-ups, and e-business. Extensive proposals have been made on the types of programs, and students studying for an engineering or sciences degree can also be included. NGOs and other civil society organizations have begun to promote awareness of IP issues amongst the general public, e.g., in connection with the abuse of the entertainment industry's legal clout to stifle free dissemination of information or to language/ conformalize material. However, this is a very steep hill to climb. As a first step, cooperation should be sought with institutions like the National Entrepreneurship Network or the Indian School of Business, which in a short time have done much to bring together start-up entrepreneurs – many of whom are obviously young, energetic, and

facing uphill battles – to share their experiences in the spirit of "nation building" (Ghafele & Engel, 2011).

Attention should be focused on developing programs addressing micro economic issues, like patentability and enforcement, directed at small to medium-sized enterprises (SMEs) working in industrial sectors or indeed locally generated designs. Efforts also need to be made to tap into Columbia University's need gap in business plans or prototype designs. Finally, there is a need to direct technical assistance and request funding to set up a task force on IP issues within the Cabinet Secretariat's Communications Network and Information Systems, as India's position on IP should be made known both internationally and domestically. The objective would be for it to be staffed by people currently in power – say 8-10 for recent PhDs – primarily to continue the intelligence-gathering work already being done (individuals are finding they are hitting brick walls when trying to get this information) as well as undertaking the aforementioned analyses.

## 8.2. NETWORKING AND MENTORSHIP OPPORTUNITIES

By applying for IPs and pursuing their monetization, women entrepreneurs can access opportunities to network with industry leaders and relevant stakeholders. These networking opportunities are critical after an idea matures and when entrepreneurs seek to develop and grow their business to the next level. Stakeholders can be domain experts for assessing the commercial viability of the technology. They can also be possible clients, who can show interest in investing or buying the innovation. Entrepreneurs can also leverage IP as a collateral to raise funds (Parnami Neeraj Parnami, 2008). Thus, women entrepreneurs can evaluate their demand for monetization and then target appropriate stakeholders to share their ideas. This would ensure that women entrepreneurs engage at appropriate initially while being able to explore a range of opportunities in the longer run.

Currently, pitching and engaging with industry leaders for monetizing IP for women entrepreneurs is largely limited to forums organized by government entities. These

forums go a long way in ensuring visibility and addressing access barriers that women entrepreneurs face. However, sufficient time is given for the real-time pitches and queries of the innovators and things tend to get rushed for the IP seed fund. These forums are more aimed at addressing immediate needs of the innovators rather than developing an insightful roadmap. This renders them little value in terms of professional development and understanding the full scope of the idea monetization process.

The constant need for spotlight hampers long-term engagement on topic-specific issues that crowd the domain of IP monetization. Also, such forums are unable to connect entrepreneurs with relevant stakeholders consistently due to their large scale. As such possible investors, buyers or collaborators for the pitched ideas need to sift through a lot of ideas, of which many aren't relevant or mature enough for valuation yet. To foster meaningful relationships and effective collaborations, it is essential to create smaller, domain-specific forums to connect innovators with stakeholders. This would enable sharing of insights and engagement on the pitch which increased chances for partnerships. These forums can ensure that entrepreneurs are able to make the best of these events by gaining an industry overview and evaluation of their idea.

## 9. CASE STUDIES: SUCCESSFUL BRIDGING OF GAPS

Case 1: Kanpur Ink Factory, Kanpur

The entrepreneurship project in Kanpur involved the development of an ink-making factory. Initial stages included drying raw materials to cut moisture content. The first prototype of ink—black-writing ink—was made. Experimental batches were made, tested, and improved. In December 2014, 300 litres of ink were successfully produced, delivering them to three schools. Anand Engineering Works, the manufacturing cell, equipped with tailored engineering tools, was created. The manufacturing approach involved batch-type manufacturing with syrup boiling tanks, electric boil kettles, and raw material filters, using plastic barrels for bulk manufacturing (Shirish et al., 2020).

The ink factory evolved, with all production and bottling equipment digitized for Wi-Fi-enabled mobile apps for users to schedule orders. Quality control tests were implemented,

while software tracked production quantities (number of barrels) and sales. Barrels' added value was visibly distinguished, enhancing firm visibility. Currently, the project has two production and automation engineers and nine supporting staff for batch-wise manufacturing. Ink production price per barrel is now 18000 INR. Schools are charged approximately 20000 INR per barrel, yielding a profit margin between INR 4000-10000 per barrel. Aim is to expand to larger orders, making ink production viable and cheaper.

Long-term aims include producing different ink types (red, blue, green) and larger manufacturing units. Local ink-making groups may create new manufacturing machines according to ink types. Basic inks are further reprocessed to produce coloured inks through a 200-year-old traditional process owned by artisans. Presently, the project lacks money and access to coloured pigments.

Case 2: Bamboo Cracked Assets Lab

Bamboo is a sought-after resource in Mexico, leading to initiatives promoting bamboo processing projects. This project, however, adopts a different route, focusing not on transacting bamboo blindly but on increasing its value by breaking bamboo wholes to work on furnitures. This leverages design already in the market, increasing furniture value by 20% and sales within an equally competitive frame of reference. An experimental furniture line using bamboo is provided to receive feedback on acceptance and production processes. A full-scale model will be created once positive feedback is received.

### 9.1. INNOVATIVE WOMEN-LED STARTUPS

As a testimony to the strength of India's growing start-up culture, it is noteworthy that more than 1,200 Indian entrepreneurs won the opportunity to seek funding and resources with a potential cumulative investment or support worth USD 840 million. Of this group, around 60 were innovative women entrepreneurs from various parts of India backed by Invest India's Women Entrepreneurship Platform (WEP) and mentored by the Women's Business Accelerator. Women's start-ups reflect the culture of innovation and entrepreneurship in India and highlight the importance of increasing economic

participation of women. More than a decade of research has carried out in the area of women's employment, women's entrepreneurship, and their access to financial services to support women's and gender-smart investing. It is well established that there is a strong business case for investing in women as they have a high propensity to pay back loans, have diverse portfolio of initiatives, and as they grow economically, it benefits the entire eco-sphere (Tyagi et al., 2014). Yet, women's contribution to earnings and economic growth has remained limited.

By Spreading wings with Disha Balaram, founder of Ignis Careers. Ignis Careers runs a boutique recruitment agency that operates and caters to clients across verticals in technology, financial services, media, and more. After several years of having spent time in the Human Resources and Corporate Communications space for companies, she decided to spread her wings and wanted to build a name for herself in recruitment, an industry she had always mushroomed in (Ghani et al., 2014). Ignis is a recruitment agency that takes pride in its ability to build long-lasting relationships with clients, applicants, and firms. It acts as a catalyst to enable clients to grow and find reliable business partners to sustain growth. In turn, for agencies, it believes in building productive employee-client relationships and the potential that lies with candidates to push themselves beyond their boundaries. Ignis strives to keep its clients happy with the right hire, as the success of its clients is its success. Ignis Careers is on a mission to build an organization that is not merely profit-making but one that has a purpose.

### 9.2. IMPACTFUL NGOS AND THEIR INITIATIVES

Intellectual Property (IP) and traditional knowledge (TK) issues have gained increased attention from various stakeholders among developing countries, ranging from countries with an industrial base to others with rich TK resources. NGOs play a prominent part in the whole process of policy formulation in the area of IPR, especially the TRIPS Agreement and its implementation in the developing countries. 'Think tank' NGOs have contributed to the capacity-building efforts of developing countries. Focusing on the two aspects of the NGO initiative, the initial demarches by the NGOs and the developments

thereafter are revisited. Thereafter, the opinion on the impact and significance of the NGOs in the developing countries is put forward (Ghafele & Engel, 2011).

With growing concern over IP protection, the press is replete with accounts of possible restraints on trade and competition as a result of ever-increasing IP rights on products and processes emerging from biotechnological evolution. Economic and social progress would seem threatened as broad patenting of biologically active substances; their uses and crude raw materials used in large measure for the traditional preparation of medicines is envisioned. Proposals for curtailing patentability and providing pre-grant or post-grant opposition are floated to address the problem which is partly because large corporations in these countries have concentrated, unwisely, in the biotechnological and pharmaceutical fields, which have traditionally been treated with supplemented secrecy rather than IP protection till now.

A few apprehensive voices are raised regarding the possible negative impact which broader patentability could have on the access of developing countries to these discoveries and their uses for further research and pathological purposes. It is recognized, albeit belatedly, that developing countries ought to act on the recommendation by the Report of the Commission on Macroeconomics and Health (CMH) that a coherent social institutional architecture is needed to guide and measure R&D processes for health needs of the poor. IP protection in the form of patents, copyrights and trade secrets, which are vital to research and development of commercially exploitable new drugs, processes, methodologies, engines, machines, software, etc and their commercialization, are either absent or incomplete in these countries.

## 10. THE FUTURE OF INTELLECTUAL PROPERTY AND GENDER EQUITY IN INDIA

As intellectual property (IP) becomes an increasingly important driver of innovation and development, its gendered impacts merit attention. This section reviews existing studies investigating how IP affects women's economic participation, while also identifying important knowledge gaps. This section then discusses opportunities to apply a gender lens to new intersections that are becoming increasingly important in today's knowledge

economy, such as artificial intelligence and copyright reform. Gender equity is increasingly salient in global efforts to foster inclusive economic growth. Despite progress in bridging gender disparities, women in the Global South face significant barriers to full economic participation.

The advent of the knowledge economy has uncovered new pathways to prosperity, unlocking the potential of human creativity and ingenuity for development. IP is the main market-based driver of this paradigm shift. If harnessed effectively, it could be a powerful tool for women's empowerment and economic participation. The enforcement period has coincided with the rapid expansion of the Internet and mobile technologies, which have unlocked new pathways to creativity and innovation across vast segments of society. IP systems have made the infrastructures that support the new economy better regulated than ever, yet more exclusionary than most could have imagined. Access to knowledge is being commoditized like never before, and the spectrum of open use is narrowing rapidly.

In India's rapidly growing knowledge economy, the skills gap has become one of the most pressing developmental issues. A growing body of evidence demonstrates that women are less likely to be able to take advantage of digital learning opportunities than men, often across a wide digital divide. The majority of rural good creators are illiterate day laborers, but content creators at all socioeconomic levels are disproportionately educated, urban residents. The prevailing perception of social media has shifted from a promote misuse to potential concerns around fake news and intra-"community" enmity. Features like forward suspension and higher reporting priorities may mitigate the use of per-based content but video's resistance to censorship remains a major hurdle.

## 10.1. EMERGING TRENDS IN IP

The emerging trends in IP in India can be interpreted in two parts: The contextual evolution of India's IP law governing regimes and the emerging graduate issues of law and challenges. The first part entails the pre and post-independence scenario including the impact of society, economy, regional or global political issues, and polity on the development of IP laws. The vast diversity of India in terms of geography, culture,

religion, people, economy, polity, society, and languages not only plays a vital role in the initiation of IP laws but also bears a significant impact on the evolution of IP laws in India (Hati, 2006). On account of various socio-economic issues, it took a long time for India to merge various IP laws into one. Also, being aware of the need of the country, the economic liberalization in early '90s turned as a great dynamo in speeding up the economic growth and prosperity which in turn again put enormous pressure on IP laws. As a result, a number of reforms have taken place into sculpting the newly global standard IP laws. The latter part intended to capture the issues prevailing now in the field of IP law in India. A great concern would have been there when the driving question is whether the law satisfies the need of the regime to further and prosper economically. The proliferation of creativity, innovations, and inventions in a knowledge-based society is dawned through powerful information technology and electronic means of disrupting the legacy view of IP that are sealed for selective access by explicitly delimiting the control of originators and becoming available to every person worldwide. The advent of an age of mass information, communication, and spreading competition puts IP laws outside of its apparent dynamics and subjects them to uncertainties and complexities never known before. Increasing information sharing and commoditization of knowledge in the competitive world are putting pressure on traditional notions of exclusivity on information convergence and use. The globalization of economy, in turn, dimensioning multi-national corporations, has at least necessitated the understanding of IP laws around the world at a requisite level as an economic good substantiating commercial concern.

## 10.2. POTENTIAL POLICY CHANGES

Intellectual property (IP) is commonly linked with the promotion of gender equity in various disciplines. In the context of empowerment within the global economy, other techniques may be more effective. IP is a tool supporting certain branches of globalization, but it is not globally patronized itself. Gender analysis can usefully focus on the broader institutional settings that regulate the flow of knowledge, investment and trade, and exert political pressure for legislative change. Above and beyond IP, such issues as free access to knowledge, combined north–south cooperation, reciprocity and

full participation in setting the rules are critical for women's empowerment and the development of countries.

With the objective of economically supporting marginalized women and gender minorities whose livelihoods are based on knowledge-intensive work, the Common Thread analytical framework builds on global justice. It highlights knowledge networks of various forms as a key mechanism for connecting actors to broker knowledge access effectively. Through establishing a responsive, multi-actor cluster in a multi-layered governance framework, higher local economic empowerment of informal workers can be achieved that better serves the normative goal.

Broadening the focus to knowledge networks, it is anticipated to increase the relevance of the research for community development. The Common Thread analytical framework suggests turning the insider-outside orientation of governance analysis inside out, focusing on knowledge policy networks rather than country or actor forms of networks. The additional emphasis on the larger political contexts in which geographical infrastructures are located increases the number of agents visualized with a role in construction and interaction. Along with beer brewing as a focus, the anticipated change may be effective in creating higher local knowledge capacity and improving the relevance of the knowledge access opportunity.

## 11. CONCLUSION

Intellectual property (IP), while often treated as a specialized area of law that needs to be handled mostly by lawyers, can be used as tools to advance the development of countries and societies. This paper presents how national and local governments and some civil society organizations have employed the tools of IP to bridge economic and gender gaps in India. Economic development or more equitably distributed economic development is essentially about empowering people by providing them with both protection and tools to better their lives within a specific development paradigm.

There are two elements to the IP systems that will be covered in this discussion: one focusing on their formal aspects, the protection provided to works or inventions, and one

on a more practical side, the proactive use of the information contained in the IP system. It needs to be pointed out in this context that developments with regard to IP often need to pass two hurdles in order to become relevant for a given community: they need to be articulated at the level of policy instruments a community can work with, and they need to be made sense of and appropriated at the level of day-to-day practices of people working with them. Both criteria were taken to be applicable to the IP tools discussed.

The paper points out that in the areas of government IP promotion schemes, trade-related aspects of IP, and patent information services for improvement of access to information on green technologies relating to traditional knowledge biodiversity, the threshold of the policy instrument had been crossed and appropriate tools were slowly being developed. It also pointed out, however, that this was only half the story and that it was in the communities that work with IP on a day-to-day basis where the real bottleneck towards development often lies. As a final remark, it is wished that this collection of struggles to make the system of patent information better remembered and usable may motivate more people to undertake this kind of struggle.

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