ROLE OF STANDARD SETTING ORGANIZATIONS IN THE INDIAN ICT SECTOR: AN INTELLECTUAL PROPERTY LAW ANALYSIS

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ABSTRACT

Introduction: Standard-setting organizations (SSOs) are critical policy-making bodies that have a decisive bearing on technical sectors that are not just global, but also in Indian society. They form rules that become the reference point for stepping up the development and deployment of the tech. This study is designed to open the curtains and delve into SSOs’ standard-setting process in the Indian ICT sector and assess the challenges that emerge.

Objectives: The worldwide efficient methods employed by the global SSOs and contrast them with the Indian ones to spot correlations. Moreover, Indian SSOs’ IPRs hidden under Indian patent laws will be also looked at. In the end, apart from the recommendations for upgrading and aligning the policies regarding the standardization of ICT equipment in India, we will also provide some suggestions.

Theoretical Framework: The sequel of this process will be the exploration of IP laws such as patents in India focused solely on patent licensing - the standardization practice carried out by patentees.

Results and Discussion: Emphasize the standard-setting actions of Indian SSOs by highlighting the problems encountered. A comparative analysis of substantive cooperation between inter-planetary and Indian anti-space security organizations will be carried out. Lectures covering how Indian SSOs match the Indian Patent Act and Rules will accordingly be given. The implications of the high effect of ICT standardization in India will be suggested. Considerable facts will be culled from doctrinal law, and each of the methods used in the licensing of education institutions will be examined.

Research Implications: Improving standard-setting processes by key Indian SSOs such as BIS(Bureau of Indian Standards), ISRO (Indian Space Research Organisation) and ISIF (Indian Standards and Industrial Classification of All Economic Activities) Moreover, the Indian IP legal system and licensing structure will be proposed to ensure integration barriers are addressed and the standardization of the ICT is improved.

Keywords: Intellectual Property Laws, Standard Setting Organizations, Standards, Standardization, Indian Patents Act, 1970.

PAPEL DAS ORGANIZAÇÕES DE DEFINIÇÃO DE PADRÕES NO SETOR DE TIC INDIANO: UMA ANÁLISE DA LEI DE PROPRIEDADE INTELECTUAL

RESUMO

Introdução: As organizações de definição de padrões (SSOs) são órgãos críticos de formulação de políticas que têm uma influência decisiva em setores técnicos não apenas globais, mas também na sociedade indiana. Elas formam regras que se tornam o ponto de referência para acelerar o desenvolvimento e a implantação da tecnologia. Este estudo foi concebido para abrir as cortinas e se aprofundar no processo de definição de padrões das SSOs no setor de TIC da Índia e avaliar os desafios que surgem.

Objetivos: Os métodos eficientes em nível mundial empregados pelas SSOs globais e contrastá-los com os indianos para identificar correlações. Além disso, os DPIs das SSOs indianas ocultos sob as leis de patentes indianas também serão analisados. No final, além das recomendações para atualizar e alinhar as políticas relativas à padronização de equipamentos de TIC na Índia, também forneceremos algumas sugestões.

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Estrutura Teórica: A sequência desse processo será a exploração das leis de PI, como as patentes na Índia, com foco exclusivo no licenciamento de patentes - a prática de padronização realizada pelos titulares de patentes.

Resultados e Discussão: Enfatizar as ações de definição de padrões das SSOs indianas, destacando os problemas encontrados. Será realizada uma análise comparativa da cooperação substantiva entre organizações de segurança interplanetárias e antispaçiais indianas. Serão ministradas palestras sobre como as SSOs indianas se adequam à Lei e às Regras de Patentes da Índia. Serão sugeridas as implicações do alto efeito da padronização de ICT na Índia. Fatos consideráveis serão extraídos da lei doutrinária, e cada um dos métodos usados no licenciamento de instituições de ensino será examinado.

Implicações da Pesquisa: Melhorar os processos de definição de padrões pelas principais SSOs indianas, como o BIS (Bureau of Indian Standards), a ISRO (Indian Space Research Organisation) e a ISIF (Indian Standards and Industrial Classification of All Economic Activities). Além disso, o sistema jurídico de PI indiano e a estrutura de licenciamento serão propostos para garantir que as barreiras de integração sejam abordadas e que a padronização das TICs seja aprimorada.

1 INTRODUCTION

Standard-setting organizations (SSOs) play a crucial role in defining the landscape of Information and Communications Technology (ICT). The role of a standard-setting organization (SSOs) is to provide the status of a ‘standard’ by which a technology becomes widely acceptable for use in the industry. The majority of the standards in the past few decades have been developed by companies or firms who have worked in close collaboration with organizations known as Standard Setting Organizations. The standards are developed jointly in consensus with the organizations and hence are known as ‘consensus standards’ (Bharadwaj et al., 2018).

The importance of standard-setting organizations cannot be emphasized more in framing Intellectual Property Law policies concerning the governance of the standards set by these organizations. Patent owners who own these technologies approach these organizations for negotiations over the use of these technologies (Indian Patent Act 1970-Sections, 2003). Many times disputes arise over the use of these standardized technologies between the patent owners and the potential licensees(users) of these technologies. It is here that the role of SSOs becomes crucial in preventing such situations. They face situations about claims over proposed standards regarding their use to the implementers and the licensing terms under which such technologies are made available to them (Intellectual Property India, 2003).

There are many Standard Setting Organizations (SSOs) that are registered and facilitate the development as well as usage of standards across the globe such as the Institute of Electrical and Electronics Engineers Standards Association (IEEE-SA), and the International Telecommunications Union (ITU). There are some domestic SSOs in India also such as Telecommunications Standards Development Society of India (TSDSI), and the Global ICT Standardization Forum for India (GISFI) (Intellectual Property India, 2003).

There are two types of patents which are involved in the process of standardization. The first of it being a minor or non-essential patent pertaining to the use of technology as there is an alternative technology existing. Secondly, there exist essential patents where it is not possible to bypass through any other alternative technology as it requires the operation of an essential standard to function concerning the product. The SSOs make the essential standards available to the users/potential licensees based on what is known as ‘FRAND’ (Fair, Reasonable and Non-discriminatory) licensing (Dornis, 2020). Such criteria prevent the excess charging of royalties from the potential licensees (also known as patent hold-up) and also prevent potential licensees from willful infringement of the patents being offered on use by patent holders (also known as patent hold-out).
These are the criteria based on licensing is provided to the potential users of these standard essential patents by the patent owners which are regulated by the standard-setting organizations (SSOs). These criteria also provide the basis on which valuation of patented technologies should be made and how royalties should be charged from the potential licensees. It is important to understand here that the Intellectual Property Rights (IPR) policies of the SSOs are the tool to regulate the entire process of standardization including the licensing of standard essential patents to the potential licensees.

2 INTELLECTUAL PROPERTY LAW FRAMEWORK FOR REGULATION OF STANDARD SETTING PROCESS

2.1 INDIAN PATENTS ACT, 1970 AND INDIAN PATENT RULES, 2003

Indian Patents Act, 1970 contains several provisions that can prevent the twin issues of excess charging of royalties from the potential licensees (also known as patent hold-up) and willful infringement of the patents being offered on use by patent holders (also known as patent hold-out) (Intellectual Property India, 2024a).

The general principles applicable to all patented inventions are provided in Section 83 (f) and (g) respectively of the Indian Patents Act, 1970 which state that.

The patent rights should not be abused by the patentees and the patentees should not resort to practices which restraint trade and affect international transfer of technology. The Patent rights must be granted for the benefit of the patented invention to be available to the public at reasonably affordable prices.

The clauses are the most pertinent in safeguarding any kind of wrongful practice on the part of the patentee which includes coercing a potential user of the technological product in paying excessive royalties by threatening injunctions from the courts.

Alternatively, there are several provisions within the Indian Patents Act, of 1970 for regulating the practice of wilful infringement by potential licensees in case of licensing of standard essential patents (IEEE Standards Association, 2024).

The court will grant or provide reliefs of injunction, damages or account of profits in the case of a suit for infringement by the patent holder. The court will also order for seizure, forfeiture or destruction of infringing goods which are infringing without the payment of adequate compensation.
These provisions allow the patent holder rights to seek relief for infringement which can occur when the potential licensee refuse to pay royalty or adequate royalty when using standardized technologies.

There are also adequate provisions in the Indian Patent Rules, 2003 which prevent the patent holder from seeking royalties over patents which are not-working commercially. This will prevent the situation of over-charging of royalties from the potential users/licensees of patents (IEEE, 2020).

Rule 131 of Indian Patent Rules, 2003 mandate a particular Form-27 to be filed pertaining to each of the patented invention within three months of the end of each year by the patentee or his authorized agent. The ICT and mobile industry which has thousands of patents in its products are prone to over-charging of royalties which is also known as ‘patent hold-up’. This can impede the process of standardization as charging excessive royalties act as an impediment to acceptance and wider usage of the technologies (Hantel, n.d.).

The present Form-27 is crucial for willing licensees to access patent working information in a time-bound manner and benefiting the public at large by providing them commercial usage of the patented invention and preventing excessive charging of royalties. The timely filing of the detailed Form-27 by the patentees will go a long way in preventing the situation of over-charging of royalties in Indian ICT Industry (IEEE Standards Association, 2021).

The following data table showcases the working of all patents by the Indian Patent Office in their Annual Report 2021-22.

**Figure 1**

*Working of Patents in India in the year 2021-22*

The above figure showcases that for all of the patents that have been granted by the Indian Patent Office including the patents granted in the Indian mobile industry (ICT industry), there is abysmal filing of Form-27 and an equally poor number of patents which are working as compared to the total number of patents. There are a large number of patents for which their working have not been verified by the Indian Patent Office. This shows that there is a possibility for over-charging of royalties from the side of patent holders as they are free to charge royalties irrespective of whether their patents are working or not.

3 IPR POLICIES OF GLOBALLY LEADING SSOS IN ICT SECTOR

3.1 IEEE-SA IPR POLICY (INSTITUTE OF ELECTRICAL AND ELECTRONICS STANDARDS ASSOCIATION)

The IEEE-SA is an SSO headquartered in New Jersey, United States. A large number of standards were developed in the field of the ICT sector under the supervision of IEEE-SA. The IEEE-SA has its bye-laws through which the process of standardization of technologies is regulated (Welcome to the World of Standards, 2022).

IEEE-SA’s patent policy informs that those individuals who are participating in the standard-setting process are responsible to do the following:

1. informing the IEEE with respect to the holder of any kind of potential essential patent claims of which they are aware;
2. notifying the IEEE that they are not under any guarantee provided under Letter of Assurance (LoA) to disclose the essential patents which they are owning;
3. all the licensing will be done as per reasonable rates which mean that adequate and appropriate compensation will be provided to the patent holder for the practising of the standard essential patent.
4. all the contents of the Letter of Assurance (LoA) will have to specify that arbitrary enforcement of all the essential patent claims will not be done and that the essential patent claims will be licensed only on reasonable and non-discriminatory terms.
5. the value of the patent shall be based upon the smallest saleable compliant implementation within the claim.
6. the Letter of Assurance (LoA) mandating the implementation of the standard to the licensees on fair and reasonable terms shall be binding upon all the parties and once it...
is received and accepted by the Standards body, it is irrevocable from the date of the
standards body giving it the approval;
7. additionally, all the parties to the LoA may also include arbitration as a mode of
settlement of their disputes pertaining to the licensing terms and conditions of the
Standard Essential Patents.
Thus, IEEE-SA bye-laws and its IPR policy make the following points extremely clear:
a) imposing a duty on the participants in the standard-setting process to disclose their IPRs;
b) prescribing a policy that makes the calculation of royalty rates on fair and reasonable
terms and based upon the smallest saleable unit;
c) making injunction as a right available to the licensors against the unwilling licensees
and also prescribing arbitration as a mode of dispute settlement between the licensors
and licensees on the valuation or implementation of the standard essential patent.

3.2 ETSI IPR POLICY (EUROPEAN TELECOMMUNICATIONS STANDARDS
INSTITUTE)

The European Commission had given a proposal for setting up of a standards institute
for nurturing future network integrity and ETSI was set up in the year 1988 for improving the
process of standardization in Europe.

With the adoption of the IPR Policy of ETSI, it was the duty of ETSI to improve and
facilitate the standard-making process within the ETSI. In meeting the objectives of ETSI, its
IPR policy seeks in making a balance between the need for standardization pertaining to the
public use in ICT sector along with the rights of the owners of the IPRs.

The ETSI’s IPR policy seeks to achieve the following objectives:
a) Making a full disclosure of IPRs: The ETSI IPR policy necessitates for disclosure of all
the IPRs within which each member of the ETSI is under an obligation to intimate or
disclose to the organization during the development of the standard of the essential IPRs
in a time-bound manner;
b) making available licenses concerning essential IPRs: The IPR policy also stipulates that
all of the licenses provided to the potential users must be made available concerning all
of the essential IPRs which is brought to the attention of the ETSI;
c) in the case of non-availability of any technology of the standard, the Director General
of ETSI will ask the ETSI to reconsider the stand about the respective SEP;
3.3 ITU IPR POLICY (INTERNATIONAL TELECOMMUNICATIONS UNION)

The International Telecommunications Union was created to lead the process of standardization in the field of ICT sector.

The ITU has created a common patent policy based on which the entire process of standardization is regulated. The patents are sought to be made acceptable on fair and reasonable terms to the potential users/licensees. This has to be done based on a patent statement and licensing declaration form (Intellectual Property Rights, 2021).

The IPR policy of ITU mandates the patent holders to charge royalties from the potential implementers with the help of a ‘Patent statement and licensing declaration form’.

4 IPR POLICIES OF INDIAN SSOS IN ICT SECTOR

4.1 TELECOM STANDARDS DEVELOPMENT SOCIETY OF INDIA (TSDSI)

TSDSI is a private sector-based autonomous standards development organization whose role is the development of standards in the Indian ICT sector. It also works with other leading standard-setting organizations across the world to cater to India’s needs in International ICT standard settings. It also aspires to create Indian IPRs in the ICT sector and get it incorporated internationally as per global ICT standards (ITU Telecommunication Standardization Sector, 2022).

The IPR Policies of TSDSI mandates for the following things:

1. disclosure of IPRs: Each member of the TSDSI needs to inform the SSO whether the IPR they are submitting before it is an essential IPR or not. In case, a standard is being adopted it is the duty of the members to inform TSDSI in good faith that the member’s IPR will be essential in case that standard is adopted;

2. availability of licenses: The owner of essential IPR must be brought to the attention of the TSDSI. The license from owners of the essential IPRs must submit a written undertaking within three months to provide irrevocable licenses based on FRAND guidelines;

3. information with respect to guidelines pertaining to IPR: The respective owners of IPRs must bring to the notice of TSDSI in case they publish standard specifications with TSDSI which includes any essential IPRs which have gone into the making of standard;
4. non-availability of licenses: The IPR owners must notify the TSDSI where they had failed to license to potential licensees the IPRs based on FRAND criteria of payment of royalties.

4.2 GLOBAL ICT STANDARDIZATION FORUM FOR INDIA (GISFI):

GISFI was incorporated in 2008 in Kolkata, India as a private and autonomous standards body to create standards responsible for being deployed in the Indian ICT sector. It does so by incentivizing the owners of IPRs to participate in the standardization procedure it has developed in the ICT sector (India's Telecom SDO, 2024).

The IPR Policies of GISFI mandates for the following things:
1. disclosure of IPRs: Each member of the GISFI needs to inform the SSO whether the IPR they are submitting it is an essential IPR or not. In case, a standard is being adopted the members must inform GISFI in good faith that the member’s IPR will be essential in case that standard is adopted;
2. availability of licenses: The owner of essential IPRs must be brought to the attention of the TSDSI. The license from owners of the essential IPRs must submit a written undertaking within three months to provide irrevocable licenses based on FRAND guidelines;
3. information concerning guidelines pertaining to IPR: The respective owners of IPRs must bring to the notice of GISFI in case they publish standard specifications with TSDSI which includes any essential IPRs which have gone into the making of standard;
4. non-availability of licenses: The IPR owners must notify the GISFI where they had failed to license to potential licensees the IPRs based on FRAND criteria of payment of royalties.

Upon a critical reading of all the SSO IPR Policies of India as well as the IPR policies of leading SSOs across the world, certain critical points emerge in a comparison of the best practices offered by the global SSOs. The table of comparison has been highlighted below on the basis of which analysis and suggestions have been made for Indian SSOs.
Table 2

Comparison of Indian SSO IPR Policies with Global SSO IPR Policies

<table>
<thead>
<tr>
<th>Name of Concerned SSO</th>
<th>IPR Categories which are disclosed during standardization</th>
<th>IPR disclosure checked by respective SSO</th>
<th>Category of licensing terms required post-standardization</th>
<th>Availability of Letter of Assurance by IPR Owner to licensees</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSDDSI</td>
<td>Patent rights only</td>
<td>No duty to conduct search.</td>
<td>FRAND terms</td>
<td>Yes</td>
</tr>
<tr>
<td>GISFI</td>
<td>Only patent rights</td>
<td>No duty to conduct search.</td>
<td>FRAND terms</td>
<td>No requirement of LoA by IPR owners to potential licensees</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the SSO</th>
<th>The duty imposed on participants in process of standardization</th>
<th>Duty to adhere to principles of competition law in IPR policies</th>
<th>Methodology for calculation of royalties prescribed in IPR policies</th>
<th>Availability of injunction as a relief to the IPR owners and arbitration as a mode of settlement of disputes in IPR Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSDDSI</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No, No</td>
</tr>
<tr>
<td>GISFI</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No, No</td>
</tr>
</tbody>
</table>

Source: Anam Chakraborty, 2024

5 ANALYSIS OF INDIAN AND GLOBAL SSOS IN ICT SECTOR

The Letter of Assurance (LoA) which is a globally accepted practice across the SSOs in the ICT sector is not made compulsory to be provided by the patent owners to Indian SSOs. This would have been a way to curb excessive royalty payments being charged from the potential users (Telecommunications Standards Development Society, India - India's Telecom SDO, 2023).

1. the participants to the domestic SSOs in India are not under any duty to adhere to competition law principles;
2. domestic SSOs in India do not prescribe any methodology for calculation of royalty rates stipulated in their IPR policies. Global SSOs like IEEE-SA prescribe royalty rates which have to be calculated on the basis of the smallest saleable compliant technology (Global ICT Standardisation Forum, 2024);
3. injunctions as a relief to the IPR owners are available to the licensor or the IPR owner in most of the SSOs across the globe. Indian SSOs do not make such rights available to the IPR owners and they have to seek remedies under Sections 108 and 109 of the Indian Patents Act, 1970 (Official website of Intellectual Property India, 2024);
4. arbitration as mode of resolving of disputes relating to stakeholders in process of standardization is not provided to the IPR Policies of Indian SSOs such as TSDSI and GISFI. This will provide an effective mode of dispute resolution between the patent owners and licensees and prevent the situation of delay in payment of royalties to the patent owners.

6 CONCLUSION AND SUGGESTIONS

This research paper has analyzed and discussed the problems plaguing the Indian SSOs such as TSDSI and GISFI in their working and their IPR policies. The IPR Policies of India SSOs do not mandate the submission of a Letter of Assurance (LoA) which is required to be submitted usually to the SSOs globally by the patent owners. If such provisions are made compulsory in Indian SSOs then the problems of charging of excessive royalties from the patent users can be solved. The domestic SSOs in India do not prescribe any methodology for calculation of royalty rates stipulated in their IPR policies whereas global SSOs like IEEE-SA prescribe royalty rates which have to be calculated on the basis of the smallest saleable compliant technology. The IPR policies of domestic SSOs must incorporate such policies for the calculation of royalties. Other additional points which need to be incorporated in IPR policies need to have are measures to introduce arbitration to resolve disputes in a time-bound manner about the IPR owners and licensees.

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