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HARMONIZATION OF THE ROLE OF STANDARD SETTING ORGANIZATIONS WITH THEIR COMPETITION VIGOUR IN INDIA: A COMPARATIVE STUDY

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ABSTRACT

In the age of information, communication and technology, entities compete for market, rather than in market. Here Standard Setting Organizations (hereinafter SSOs) vigilantly select certain technical specifications and declare them as industry 'standards'. It is a dynamic, fast paced and expansive practice in the intellectual property domain, cutting through multiple industries and guides entities towards common patents. Standardized technology is the essence for using multiple devices at the same time, is user friendly and fosters innovation thereby yielding precompetitive benefits.

This cutting edge technology may or may not be encumbered with patents. .Out of these, certain patents may be essential to develop standards, called as Standard Essential Patents (hereinafter SEPs). Accumulation of many such patents may create barriers like patent holdup and tying agreements which control resale prices and thereby distort competition. Indian jurisprudence on the issue is at a nascent stage and behove elucidation about what constitute fairness of terms in both its IP and competition policy. It needs elaboration on what constitutes Fair, Reasonable and Non Discriminatory (FRAND) for letting out patents.

Justice Richard Posner, a polymath on the intersection between antitrust and patent laws, stated that one must turn to antitrust authorities in order to solve the issues related to misuse. While the patent laws cannot adopt absolute positions, competition regulation also cannot be over used to dilute the incentive to innovate, as observed in the Ericsson dispute in India. It is a conundrum and not necessarily a conflict. This paper suggests certain changes in procedures of standard setting bodies to make patent licensing unproblematic from competition point of view as well.

KEYWORDS: Standards, Standard Essential Patents, patent ambush, injunctions, royalty stacking, competition law, FRAND, licensing, Standard Setting Organisations

INTRODUCTION

The Government of India recently announced its vision for the 5G technology (Press Information Bureau, Ministry of Communications, 2017) which aims to generate essential IPR backing it. A global 5G network will unify everything through the Internet of Things. To develop IP prowess and market vitality, Indian legal system requires a pro-active approach in handling IP stakeholders, in order to resolve disputes seamlessly.

Exercising patents which are essential to a technology may cause inefficiency in an entire industry due to a patent thicket problem when many firms independently try to collect royalty (Eisenberg and Heller,1998; Joshua and Tirole, 2004; Nagaoka, 2006). However, disputes involving standard-setting are arising with

increasing frequency in a web of patent claims over innovative technology. This can repress commerce and competition in an entire industry. (Lemley and McGowan,1998; Lemley,2007).

Competition Commission of India (CCI) is tackling such disputes with budding jurisprudence concerning FRAND licensing. However, the Competition Act, 2003 and policy does not have any clarification regarding its take on standards. With Chinese market giants like Huawei already ruling the roost in ownership of essential patents regarding advanced technology, indigenous companies are slowly warming up to the situation, and can reap benefits of the same by clear, consistent and crisp policy guidelines and procedures.

Competition law governs the activities of trade associations and their participants, including associations engaged in standard-setting (Allied Tube & Conduit Corp. v. Indian Head, Inc., 486 U.S. 492, 500, 1988). Some accommodation by both patent law and competition law to the unique circumstances of standard-setting will be required if consistent legal rules are to surface. It is worth exploring, therefore, the patent law and competition law principles, the modification of which would encourage pro- competitive standard-setting and/or discourage anticompetitive manipulation of the standard-setting process, with consistent decision rules to apply when manipulation occurs.

LITERATURE REVIEW

Link, (2004) describes that once a decision has been made to establish a standard, a group of experts will be brought together as a SSO. The process of creating standards by is governed by a set of rules specific to the standard/SSO. The information to be divulged regarding commercial disclosures is based upon negotiations as well as forms.

According to Rubin (2007), standards can have the effect of limiting supply which is not always harmful. Advantages of standard setting are visible in an interconnected domain like that of ICT, where there is technological inter dependence. This propagates networking effects, which leads to dissemination of innovative technology and competitive markets.

However, seldom standard setting becomes an exclusionary process, by restricting output and raising coordinated high prices which is a concern for competition regulators. The inability to meet standards can also lead to want of quality products reaching consumers. Moreover, the process of maintaining standard can lead to patent ambush and patent thicket, as dicussed by Lim (2011) in the paper on misconduct in standard setting.

Shapiro (2001) and Rubin in their respective works have holistically discussed how the process of standard setting may develop into patent thickets. It warns competition regulators to be wary of upscale price manipulations, creation of market entry barriers and the rigor of comformity assessment. They further discuss that competition authorities need to understand how standard setting organizations operate so as to choose the cost benefit analysis of a regulatory response. A standard can often presume international character, so the competition policy making should enmesh similar character.

While Shapiro (2002), Swanson and Baumol (2007) in their respective works have extensively discussed the issue of patent hold up and indiscriminate licensing. They have also discussed various approaches to calculate reasonable royalty. Lemley's work is an insight into categorization of SSOs, but does not elaborate exhaustively upon contingencies concerning IPR policies.

The researcher has utilized various laws, cases and policy statements from the U.S., EU and India to supplement the judicial trend on the issue of competition law and standard setting. Although in India, the judicial interpretation is at nascent stage, however, it has not exercised self- restraint in addressing the legal problem of FRAND assessment and grant of injunction. However there is paucity of clear and consistent policy statement from the Indian competition authorities and IP authorities to fill the regulatory gaps.

METHODS AND RESULTS

Aim and Objective:
The researcher aims to analyze the challenges presented by current IP system followed by the SSO members, which has been a subject matter of concern to the competition authorities. The researcher attempts to fill the regulatory gap between SSO disclosure norms and an effective competitive environment in a country.

RESEARCH QUESTIONS:
1. What should be the nature of disclosure policy among SSO members to implement and enforce an efficient regime of competition and IP related issues?
2. What are the legal tests applied by Courts to consistently administer deception before a SSO constitutes monopoly conduct?
3. What is reasonable FRAND royalty, number or a range?

HYPOTHESIS: Since there can be no absolute formula for calculating fair and reasonable royalty, a reasonable amount of FRAND royalty can only be charged by the patentee on case to case basis.

METHODOLOGY: The researcher proposes to follow doctrinal, analytical and descriptive approach for the purpose of this research.

SCOPE: The researcher has confined the scope of research to the patent law regime in IP, specifically dealing with issues arising from SSO and competition law authorities in the U.S., India and EU.

Results:
Since there can be no absolute formula for calculating fair and reasonable royalty, a reasonable amount of FRAND royalty can only be charged by the patentee on case to case basis by prescribing a bracket and not a fixed number.

1. CONCEPTUALIZING THE STANDARD SETTING PROCESS

A standard is a common set of characteristics of a particular good or service. Generally, standards are set within standard setting organizations (hereinafter SSOs), which can be private or involving public oversight (Link, 2004).

Some SSOs require participants to first disclose any patents or pending patent applications relevant for the standards under

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discussion and second to commit that they will eventually license under fair, reasonable and non-discriminatory (FRAND) conditions should the adopted standard include their disclosed patents.

The development of a standard may facilitate market entry and market creation, it reduces transaction costs, by ensuring interoperability of complementary products. Firms have incentives to have their patents included in a standard, which fosters innovation. Also, they enable economies of scale and offer consumer benefits in the form of network effects (Kuhn and Merges, 2009).

On the other hand, standard setting may also entail disadvantages for consumers by being exclusionary by deliberately choosing criteria that will necessarily exclude competitors from being able to meet the standard. Such organisations can restrain output and coordinate higher prices. This can result in preventing quality products and services from reaching consumers about which regulators must be vigilant and proactive (Lemley, 2002).

It is to be noted that competition authorities do not condemn all exclusionary standards.

2. INTERPLAY OF STANDARD SETTING AND COMPETITION LAW

In the current scenario, application of competition policy in one jurisdiction can at times have extra-territorial implications as being witnessed in the technology industry (Huawei v. IDC, 2013). Hence, misuse should be understood juxtaposing both IP and competition regime to tackle international standards.

2.1 ROYALTY STACKING

Here, essential patents are spread across a large number of firms so that the royalties may stack on top of each other and make the standard very costly to implement, is significantly attenuated through cross-licensing (Geradin et. al., 2008). The focus of competition authorities should be to ensure that vertically-integrated firms do not restrict downstream competition like this (Golden, 2007).

2.2 PATENT AMBUSH

The company does not inform the SSO that it has patent applications which are relevant to the standard being developed and may adapt the claims in those applications to fit the upcoming standard (Rambus, Inc. v. FTC, 2008). Consecutively the SSO will promulgate a standard that is covered by the company‘s undisclosed pending patents, which the company will then push through the examination process until they are granted. When the ambusher is secure of the standard’s exorbitant switching cost, it will reveal its patents and threaten infringement lawsuits (Hansen, Ohana and Shah, 2003; Skitol, 2005; Updegrove, 2006).

2.3 PATENT HOLD-UP

Collaborative standard setting has given rise to the issue of hold up by the owner of patented technology after its technology has been chosen by the SSO as a standard and others have incurred sunk costs that effectively increase the relative cost of switching to an alternative standard, hence those developing and using the standard may be held up by the IP holders and face high royalties (Shapiro, 1999; Lemley and Shapiro, 2009).

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3. TRICKY IP TERMS IN SSO PROCEDURES

Most IPR policies have two core elements: rules for disclosure of patents that may have essential claims and rules for providing licensing commitments (or statements of non- commitment (Farrell et. al., 2007). Following terms need a vigilant negotiation in the process.

3.1 ACTUALLY ESSENTIAL, POTENTIAL ESSENTIAL, MAY BE ESSENTIAL

Most policies have obligation rules for patent claims that may potentially be essential. Using words such as 'potentially essential' and it is not clear yet whether a proposed technology is included or not) and the later phase (when the standard is finished and 'formal' disclosure takes place) (Bekkers and Updegrove, 2012).

3.2 TIMING OF PATENT DISCLOSURE

If the standard in development is still immature, it will be difficult for parties to determine whether certain patented technologies are essential to the standard or not. This can reduce disclosure quality to the degree of non-information (Bekkers, 2009).

3.3 UPDATES CONCERNING ESSENTIALITY

Patent claims or applications disclosed as essential at one time may not be essential at a later time due to rejection, abandonment, modification of issued patent and essentiality claim, patents with essential claims were successfully challenged in court, or rescinded on re- examination by the relevant patent authority.

3.4 GEOGRAPHIC SCOPE OF GENERAL COMMITMENT PROCEDURE AND LICENSING

While it might be logical to assume that any licensing commitment would be global in scope, and therefore apply equally to wherever compliant products or services are sold (or produced), not all policies are explicit in this respect (ETSI document, 2014).

3.5 OPT-OUT OPTION

SSOs discern that it might be unreasonable to force a patent holder into licensing under certain circumstances. This is relevant where the SSO is active in the technology area in which the crown jewel patents of members can be found giving them competitive edge. However, a member's competitors might conspire to deliberately draft a standard in such a way as to include the member's essential IPR after that member has become bound by a mandatory licensing obligation.

3.6 COVENANT NOT TO SUE OR NON-ASSERT PROVISION

Several IPR policies expressly provide an alternate to actual licensing, under which the owner of an essential claim commits not to enforce those claims.

3.7 RELEVANT PARTIES

Potential concerns could arise is some ambiguity about whether all parties that submitted a licensing declaration have this obligation, or only those that were actually participating in the drafting of the standard, when a new owner acquires a full portfolio of patents from a party that originally filed a blanket disclosure it can remain unclear which of these patents is encumbered by licensing obligations.

4. ASSESSING FRAND COMMITMENTS FOR PATENTS WITH ESSENTIAL TECHNOLOGY

There is no universally agreed upon operational definition of that commitment (Baumol et. al., 2005). However, following suggestive approaches may be adopted by the entitites.

4.1 GEORGIA-PACIFIC'S FIFTEEN FACTORS

Within the US, in a seminal case for establishing reasonable royalties for patent infringement, the Judge proposed fifteen factors that should be taken into consideration when calculating a reasonable royalty rate for the purposes of determining damages (Georgia Pacific v. United States Plywood). It lacked any exact formula for calculation.

4.2 NUMERIC PROPORTIONALITY

The royalties satisfying the FRAND promise are those that are proportional to the number of essential patents contributed to the standard (Ferrar, Padilla and Schmalensee, 2007).

4.3 MARKET EFFICIENCY BASED APPROACH

Swanson and Baumol developed the "efficient component pricing rule" to satisfy the non-discriminatory component of FRAND that is a competitively neutral license fee should compensate the IP owner both for the incremental costs of licensing IP and the opportunity cost of licensing the technology. With such a fee, the IP holder will be indifferent between licensing the technology to rivals and producing the product itself (Baumol et. al., 2005).

4.4 THE COOPERATIVE-GAME THEORY APPROACH

Shapley argued that any fair and reasonable method of dividing a standard's total value among the relevant patent holders should satisfy four basic conditions of efficiency (total value of the standard is distributed among all patents), anonymity (value received by any patent is independent of how it is numbered and of who owns it), dummy (a patent doesn't contribute anything to any possible standard hence of zero pay off) and additivity (supporting a second standard which is commercially unrelated) (Ferrar, Padilla and Schmalensee, 2007):

5. JUDICIAL TREND ON ANTI-COMPETITIVE EFFECTS OF STANDARDIZATION: THE POSITION OF US, EU AND INDIA

5.1 THE US POSITION

In December 2019,the Justice Department, the U.S. Patent and Trademark Office, and the National Institute of Standards and Technology rolled out a policy statement regarding SEP remedies. It states that injunctions should be available for SEPs on similar terms as patents and that antitrust laws are not generally applicable to FRAND disputes.

This is a pragmatic shift from their 2013 policy stance, which based grant of injunctions upon the equity maxim -one who seeks equity, must do equity. The shift is creating an influx of interesting interventions by the Antitrust Division of the Department of Justice which is cautioning against grant of overly broad remedy that might reduce competition and innovation in 5G technology markets, exceeding even equitable remedies (FTC v. Qualcomm Inc., 2019).

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U.S. court and agency decisions have long held that competition law may be applied to prevent harm to competition associated with standard setting. The Supreme Court has condemned efforts by firms to use SSO proceedings as a means of excluding products produced by rivals (Microsoft Corp. v. Motorola Inc., 2012). In the *Radiant Burners case*, the Supreme Court has held that an SSO itself may be liable for antitrust damages if its agents or employees collude with private parties to manipulate quality or safety standards to exclude a competitor (Radiant Burners Inc., v. Peoples Gas Light and Coke Co., 1961).

The *Allied Tube* case involved an SSO conspiracy to exclude a rival technology. Held Allied Tube and the others had "subverted" the NFPA consensus standard setting process and thereby illegally restrained trade in violation of Section 1 of the Sherman Antitrust Act (Allied Tube & Conduit Corp. v. Indian Head, Inc., 1988). The Agencies will apply the rule of reason when evaluating joint activities that mitigate hold up by allowing the "buyers" (members of the SSO who are potential licensees of the standard) to negotiate licensing terms with the "sellers" (the rival IP holders) before competition among the technologies ends and potentially confers market power (or additional market power) on the holder of the chosen technology (Masoudi and Gerald, 20082 a joint report in April 2007 entitled Antitrust Enforcement and IPRs: Promoting Innovation and Competition.).

5.2 THE EU POSITION

EC competition law is concerned with dominant firms charging monopoly prices even in the absence of exclusionary conduct (Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko, 398, 2004). However, as enforcer of the competition rules provided in the EC Treaty, the European Commission has stated on numerous occasions that it does not consider it to be its role to become a price-regulator (European Commission Annual Report on Competition Policy, 1997).

According to the legal test first set out by the ECJ in *United Brands*, a price will be deemed excessive (United Brands Company and United Brands Continental BV v. Commission, 1978).

As per the Commission's Discussion paper on the application of Article 82 of the Treaty of Lisbon, the innovator should normally be free to seek compensation for successful projects that is sufficient to maintain investment incentives, taking failed projects into account. Article 81 cannot be applied without considering such ex ante investments made by the parties and the risks relating thereto (Kroes, 2005).

5.3 THE INDIAN POSITION

In India, there are SDOs being set up to develop and progress the standard setting scenario.The Department of Telecommunications has set up TEC (Telecommunication Engineering Center), the Government of India has contributed to WTO Committee on Technical Barriers to Trade, supported bodies like DOSTI, LITD which are closely associated with other international SDOs like IEEE, IEC, ITU, ISO, W3C. The process of standard setting in India involves both voluntary and some mandatory procedures

Indian government had set-up the Bureau of Indian Standards (BIS), which is active in

preparation and implementation of standards, certification, organization and management of testing laboratories, creating consumer awareness, and creation of a co-operation with the other international Standards bodies. The government has since then given encouragement to the public-private partnership in the field of setting SDO in India like the adaptation of Open Standards for e-Governance, official approval and recognition of Global ICT Standardization Forum for India (GISFI) (Ramakrishna et. al., 2012).

TRIPS

The Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS") under Art.8(2) provides appropriate measures to curb the abuse of IPRs, unreasonable restraint of trade or adverse effect on the international transfer of technology by Member States. Article 40 of TRIPS further provides that certain licensing practices or conditions pertaining to intellectual property rights restraining competition may have adverse effects on trade. Member States can specify in their legislation, the restrictive trade practices such as grant-back conditions, preventing challenges to validity and coercive package licensing, etc. that may constitute the abuse of IPRs.

COMPETITION ACT, 2002

For the purpose of topic at hand, Section 3 and 4 of the Competition Act, 2002 are relevant. All horizontal agreements having an appreciable adverse effect on competition are per se considered anti-competitive in the Indian context, with a few exceptions (Bharadwaj et. al, 2013). The adverse effect on price, quantity, quality, market sharing and bid rigging is presumed to have an appreciable adverse effect on competition.The Act provides three exemptions under Section 3(5) relating to anti-competitive agreement with a non-obstante clause. The exemptions are joint ventures between competitors which increase efficiency, reasonable conditions to protect IPR and goods exclusively manufactured for export. With respect to IPRs exemptions, it provides an IP owner with the right to restrain infringement or impose any reasonable condition under intellectual property laws. Hence, an unreasonable utilisation of IPRs can be anti-competitive.

PATENT ACT, 1970

Section 47 of the Patent Act provides few exceptions to the exercise of patent rights. Patentee's rights under s.48 can be enforced at the instance of the patentee only and subject to other rights which permit challenging the validity of the patent as a defence to violation of patent rights (Bayer v. UOI, 2002). Any person having an interest in a patent, central government or on a counterclaim in an infringement proceeding on a patent before the High Court may apply for the revocation of the patent. In infringement proceedings, all grounds of revocation are available as a defence under s.107 of the Patent Act 1970. The surrender of patents which distorts competition in the market has the potential for anti-competitive activities. However, surrender is subject to approval by licensees whose names are entered in the Register of Patents.

Section 140 of the Patent Act 1970 restricts abusive practices by patents owners. It provides that in a contract for sale, lease or licence of a patented product or patented

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process, restriction to acquire a non-patented product or service, exclusive supply agreement, tie-up sales, prohibiting the use of non-patented products or processes, exclusive grant-back, prevention of challenging the validity of the patent and coercive package licensing are unlawful.

INTEX Technologies case

Ericsson, a member of SSO named ETSI and dutybound with FRAND policies, was the largest holder of Standard Essential Patents for mobile communication and its unrivalled patent portfolio covered 2G, 3G and 4G technologies, with more than 100 patent licensing agreements.

However, Ericsson refused to share the commercial terms and royalty payments on the grounds of Non-Disclosure Agreements "NDAs", strongly suggestive of the fact that different royalty rates/commercial terms were being offered to the potential licensees belonging to the same category. The royalty rates prescribed by Ericsson for Informant were excessive and discriminatory. Therefore, prospective patent hold-up and royalty stacking issues were brought to the notice of the Commission.

The Commission laid down that charging of two different license fees per unit phone for use of the same technology *prima facie* is discriminatory and also reflects excessive pricing vis-a-vis high cost phones. Transparency is hallmark of fairness. Both forcing a party to execute NDA and imposing excessive and unfair royalty rates *prima facie* was abuse of dominance and violation of section 4 of the Act. Imposing a jurisdiction clause debarring Informant from getting disputes adjudicated in the country where both parties were in business and vesting jurisdiction in a foreign land *prima facie* was also an abuse of dominance (CCI, Case No. 76/2013).

6. ENFORCEMENT PROCEDURES AND INJUCTIVE RELIEF

Some principles of patent law may have some applicability to the current controversy, including laches, equitable estoppel, implied licenses. Laches is a type of statute of limitations in patent law that prevents patent holders from profiting by their delay in bringing suit for infringement (Merges and Kuhn, 2009). When raising a defense of laches, the defendant must establish two things: 1) that there was an unreasonable delay before the patent owner asserted a claim, and 2) that the delay caused prejudice or injury to the defendant (A.C. Aukerman Company v. R.L. Chaides Construction Co., 1992).

6.1 TRIPS AGREEMENT

They include the right to seek and obtain an injunction, i.e. a court decision whereby a party is ordered to desist from an infringement of an IPR. These injunctions can be imposed by way of preliminary measure (interlocutory injunction) (Article 50(1)) or as a measure resulting from a decision on the merits of the case (permanent injunction) (Article 44(1)).

6.2 EUROPEAN UNION IP ENFORCEMENT DIRECTIVE

The IP Enforcement Directive also states that EU Member States must ensure that in cases where there is a finding of an infringement of an IPR (Article 11) courts can issue both an interlocutory injunction intended to prevent an imminent infringement or to enjoin the continuation of

the alleged infringements (Article 9), as well as a permanent injunction.

6.3 JUDICIAL INTERPRETATION ON FRAND ENCUMBERED PATENTS

The FTC has explained FRAND encumbered SEPs and injunctive relief against their licensing in the *Motorola* case (Motion Ltd. v. Motorola Inc., 2008). That the owners of essential patents gain market power. FRAND commitments are intended to prevent owners of essential patents from acquiring too much of the market power that would otherwise be inherent in owning an essential patent (Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 210 (3rd Cir. 2007)).

In a June 22, 2012, ruling by federal judge Richard Posner that dismissed with prejudice a patent infringement lawsuit between Apple and Motorola, Judge Posner offered his guidance to courts on how to calculate an appropriate royalty for a FRAND-encumbered SEP that the proper method of computing a FRAND royalty starts with what the cost to the licensee would have been of obtaining, just before the patented invention was declared essential to compliance with the industry standard, a license for the function performed by the patent. That cost would be a measure of the value of the patent qua patent. The purpose of the FRAND requirements is to confine the patentee's royalty demand to the value conferred by the patent itself as distinct from the additional value—the hold-up value—conferred by the patent's being designated as standard-essential. It rejected Motorola's injunctive claim, since Apple has not refused to pay FRAND royalty, it is adequate compensation for a license to use that patent (Apple, Inc. v. Motorola, Inc., 2012).

The U.S. Supreme Court in its May 2006 opinion, *eBay v. Merc Exchange*, Justice Clarence Thomas explained that traditional principles of equity that govern issuance of injunctive relief apply with equal force to disputes arising under the Patent Act eBay, Inc. v. MercExchange, L.L.C., 547 U.S. 388 (2006).

6.4 PATENT ACT, 1970

According to the provisions of the Indian Patents Act 1970, what constitutes infringement is not defined in the act. Therefore, any violations of the rights conferred on the patentee under the Act may result in an infringement of patent under Section 101 of the Patent Act, 1970.

It is also to be noted that an assignee of a patent who has not registered the assignment under Section 63 of the Patent Act, 1970, is not a patentee within the meaning of the Act. Hence, he has no right to bring any suit for infringement of the patent (Re. Hiralal Banjara 1937).Section 34 of the Specific Relief Act, 1963 provides that it is the discretion of court as to declaration of status or right.

Under Section 105 of the Indian Patents Act, discretion has been provided to the courts to make declaration as to non infringement.

6.5 USE OF INTERNATIONAL STANDARDS

The World Trade Organisation (WTO) has a Technical Barriers to Trade (TBT) agreement that seeks, as an underlying principle, to avoid unnecessary obstacles to trade. The Agreement encourages Members to use existing international standards for their national regulations, or for parts of

them, unless their use would be ineffective or inappropriate to fulfil a given policy objective. Technical experts have worked towards the international harmonization of standards.

6.6 EX ANTE NEGOTIATIONS

If firms agree to create a high marginal cost for themselves through licensing, but will receive much of the higher cost back in IP payments, they may be able to achieve price impacts like those of a cartel. Competition authorities should take great care when encouraging pricing conversations among a group of competitors (Sidak, 2009). SSOs can use negotiations resulting in speedier standard setting process and a reduced likelihood that litigation will be necessary to resolve disputes about licensing fees and terms (Hayes et. al, 2007; Hansen et. al., 2003).

Group licensing such as cross-licensing or patent pool formation can reduce the incentive to charge high royalties for IP licensors. Lower prices for one component generative a positive external effect on the owner of the other component. These externalities are internalized through integration, leading to lower prices (Shapiro, 2000).

7. CONCLUSION

While this increase in awareness and commitment is resulting in improvements to many IPR policies, certain weaknesses are likely to remain unless external forces are brought to bear, due to the burdens of effecting some otherwise obvious improvements in process and the disproportionate representation of some types of stakeholders over others in IPR policy development.

It can be concluded that there is less cohesion and exchange in best practices across SSOs than might be optimal. An exchange of these best practices across other SSOs can have a positive impact on the harmonization of the standard setting process and its competitive vigour.

STATUTES AND TREATIES

1. *Competition Act, 2002*
2. *Treaty of Lisbon (The European Union Treaty)*
3. *Sherman Act, 1890*
4. *Patent Act, 1970*
5. *Trade Related Aspects of Intellectual Property Rights (TRIPS)*

CASES

1. A.C. Aukerman Company v. R.L. Chaides Construction Co., 960 F.3d 1020, 1032 (Fed. Cir. 1992).
2. Allied Tube & Conduit Corp. v. Indian Head, Inc., 486 U.S. 492, 500 (1988).
3. Am. Soc'y of Mech. Eng'rs v. Hydrolevel Corp., 456 U.S. 556 (1982).
4. Bauer & Cie v O'Donell 229 U.S. 1 (1913).
5. Broadcom Corp. v. Qualcomm, Inc., No. 05-3350 (D. N.J. Aug. 31, 2006).
6. Deepsouth Packing Co v Laitram Corp 406 U.S. 518 (1972).
7. Dowagiac Mfg. Co. v. Minn. Moline Plow Co., 235 U.S. 641 (1915).
8. eBay, Inc. v. MercExchange, L.L.C., 547 U.S. 388 (2006).

9. ECJ, 27/76 United Brands Company and United Brands Continental BV v Commission [1978] ECR 207.

10. Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116 (D.N.Y. 1970).

11. Huck Mfg Co v Textron Inc 187 U.S.P.Q. 388 (E.D. Mich. 1975).

12. Huawei v IDC China (2013) Yue Gao Fa Min San Zhong Zi No. 306.

13. *In re* Dell, 121 F.T.C. 616 (1998).

14. *In re* Negotiated Data Solutions, LLC, File No. 051-0094 (Sept. 23, 2008).

15. *In re* Union Oil Company of California, Dkt. No. 9305 and Chevron/Unocal.

16. In the Matter of Rambus, Inc., FTC Docket No. 9302, Opinion of the Commission (August 2, 2006); Rambus Inc., 2007 WL 431524 (F.T.C. 2007);

17. Intex Technologies, Competition Commission of India, Case No. 76/2013.

18. MercExchange, L.L.C. v. eBay, Inc., 401 F.3d 1323, 1338 (Fed. Cir. 2005).

19. Motion Ltd. v. Motorola, Inc., 644 F. Supp. 2d 788, 790-91 (N.D. Tex. 2008).

20. Nokia Corp. v. Qualcomm, Inc., No. 06-509 (D. Del Aug. 16, 2006)

21. Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152 (6th Cir. 1978)

22. Radiant Burners, Inc. v. Peoples Gas Light & Coke Co., 364 U.S. 656 (1961).

23. Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission of the European Communities (C-241/91 P and C-242/91 P) [1995] E.C.R. I-743.

24. Rambus, Inc., 2007 WL 431523 (F.T.C. 2007); Rambus, Inc. v. FTC, 522 F.3d 456 (D.C. Cir. 2008).

25. Re. Hiralal Banjara A.I.R. 1937 Cal. 365.

26. Smith Int'l, Inc. v. Hughes Tool Co., 718 F.2d 1573, 1578 (Fed. Cir. 1983).

27. Smithkline Diagnostics Inc v Helena Laboratories Corp 859 F. 2d 878 (Fed. Cir. 1988).

28. State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1580 (Fed. Cir. 1989).

29. Temco Elec. Motor Co v Apco Mfg Co 275 U.S. 319, 328 (1928).

30. Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko, LLP 540 U.S. 398 (2004).

31. Wilk et al. v. American Medical Association (1987) Judgment (Northern District of Illinois,Eastern Division No. 76 C3777.

SECONDARY SOURCES

BOOKS

1. ABA Section of Antitrust Law (2004).

2. Leslie, Christopher, Herbert, H., Mark D., Janis, Lemley, M. (2010) *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property Law*, 2, Wolters Kluwer.

3. Leslie, C., (2011) *Antitrust Law and Intellectual Property Rights: Cases and Materials* ,Oxford University Press.

4. Bouchoux,D., *Intellectual Property: The Law of Trademarks, Copyrights, Patents, and Trade Secrets* ,West Legal Studies: Thomson Learning.

5. Breen, G., (2003) *et al*, *Intellectual Property Law* ,Cavendish Publishing Limited: Great Britain.

6. Ghidini, G.,(2006) *Intellectual Property and Competition Law: The Innovation Nexus* ,Edward Elgar Publishing Limited.

7. Groves, P., (1997) *Sourcebook on Intellectual Property Law* (Cavendish Publishing Limited.

8. Anderman, S., and Ezrachi, A., (ed.), *Intellectual Property and Competition Law* Oxford University Press.

9. Cook, T., (2010) *EU Intellectual Property Law* (Oxford University Press:2010).

ARTICLES

1. Bekkers, Bongard, R., & Nuvolari, A., (2011), *An Empirical Study on the Determinants of Essential Patents in Compatibility Standards* Research Policy, 40, 1001, 1015.

2. Bekkers, R., and Updegrove, A., (2012), *A study of IPR policies and Practices of a representative group of Standards Setting Organizations worldwide*, School of Innovation Sciences, Eindhoven University of Technology, Netherlands; Dialogic innovatie & interactie, Netherlands.

3. Benjamin, Lerner, J., and Tirole, J., (2005)*The Rules of Standard Setting Organizations: An Empirical Analysis*, Harvard NOM Research Paper No. 05-05 (2005).

4. Bharadwaj,R., Raju and Padmavati,(2013), *Determining unreasonable use of intellectual property rights in anti-competitive agreements in India* International Company and Commercial Law Review.

5. Blind, K., Bekkers, R., Dietrich, Y., Iversen, E., Köhler, F., Müller, B. et al. (2011), *Study on the Interplay between Standards and IPRs*, Final Report, Study commissioned by European Commission Tender No. ENTR/09/015 (OJEU S136 of 18/07/2009). Brussels: European Commission. *Retrievable at* http://ec.europa.eu/enterprise/policies/european-standards/standardisationpolicy/policy-activities/intellectual-roperty-rights/index_en.htm.

6. Colleen, Chien & Lemley, M., (2012) *Patent Holdup, the ITC and the Public Interest*, 98, Cornell Law Review 1, 39.

7. Curran, P., (2003), Comment, *Standard-Setting Organizations: Patents, Price Fixing, and Per Se Legality*, 70 U. Chicago Law Review 983.

8. Damien, G., (2006), *Standardization and Technological Innovation: Some Reflections on Ex-ante Licensing, FRAND, and the Proper Means to Reward Innovation*, IBC Intellectual Property and Competition Law, Brussels.

9. Epstein and Marcus, A., (2003), "Economic Analysis of the Reasonable Royalty: Simplification and Extension of the Georgia- Pacific Factors," 85 Journal of Patent and Trademark Office Society, 555.

10. Farrar, A., Padilla, A., and Schmalensee, R.,(2007) *Pricing Patents for Licensing in Standard Setting*

Organizations: Making Sense of FRAND Commitments, CMFI Working Paper No. 0702, Madrid *available at* www.researchgate.net/.../5009924.../d912f511299a4ea18c.pdf (2007).

11. Farrell and Saloner, (1986), *Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation* 76 American Economic Review 940, 955.

12. Farrell, J. and Klemperer, P., (2007) *Coordination and Lock-in: Competition with Switching Costs and Network Effects*, 3 HANDBOOK OF INDUS. ORG. § 3.1.

13. Farrell, J., et al.,(2007), *Standard Setting, Patents, and Hold-Up*, 74, Antitrust Law Journal 603.

14. Geradin, D. and Rato, M., (2007), *Can Standard-Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-up, Royalty-Stacking and the Meaning of FRAND* 3 European Competition Law Journal 101.

15. Geradin, D., & Rato, M., (2007), *Can Standard-Setting lead to Exploitative Abuse? A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of FRAND Retrievable at* www.ucl.ac.uk/laws/jevons/papers/...2007/jevons07_soames_01.pdf.

16. Geradin, D., (2005), Anne Layne-Farrar, and A. Jorge Padilla, *The Ex Ante Auction Model for the Control of Market Power in Standard Setting Organizations* (CEMFI Working Paper No. 0703, 2007), *available at* ftp://ftp.cemfi.es/wp/07/0703.pdf.

17. Geradin, D., (2005), *Limiting the Scope of Article 82 of the EC Treaty: What can the EU Learn from the US Supreme Court's Judgment in Trinko in the wake of Microsoft, IMS, and Deutsche Telekom* , Common Market Law Review 19, available at http://ssrn.com/abstract=617263 (2005).

18. Geradin, D., Farrar, A., and Padilla, A., (2007), *The Ex Ante Auction Model for the Control of Market Power in Standard Setting Organizations* (CEMFI Working Paper No. 0703, 2007), *Retrievable at* ftp://ftp.cemfi.es/wp/07/0703.pdf.

19. Geradin, D.,(2008), *What's wrong with royalties in high technology industries?*, (Paper prepared for George Mason University School of Law and Microsoft Corporation's second annual conference on The Law and Economics of Innovation "Patents and the Commercialization of Innovation").

20. Geradin, M., et al., (2008), *The Complements Problem within Standard Setting: Assessing the Evidence on Royalty Stacking* ,Boston University Journal of Science & Technology Law.

21. Gifford, D., (2002), *Standards and Intellectual Property: Licensing Terms: Some Comments* 1.

22. Golden, J., (2007),*"Patent Trolls" and Patent Remedies"* 85 Texas Law Review 2111.

23. Golden, J.,(2007), *Patent Trolls and Patent Remedies*, 85, Texas Law Review (2007).

24. Heller, M., and Eisenberg, R., (1998), *Can Patents Deter Innovation? The Anti-commons in Biomedical Research* 280 Science, 678-701.

25. Jakobsen, K., (2004), *Revisiting Standard Setting Organizations' Patent Policies* 3(1) Northwestern Journal of Technology and Intellectual Property.

26. Jelf, M., and Stevenson,M., (2008), *Nokia v IDC: An Essentially English Judgment*. 3 (7) Journal

of Intellectual Property Law & Practice 457, 460.

27. Joshua, L., and Tirole, J., (2004), *Efficient Patent Pools* American Economic Review 94(3), 691-711.

28. Kesan, J., and Hayes, C., Patent Transfers in the Information Age: FRAND Commitments and Transparency".

29. Kesan, J., (2006), *Pricing Patents for Licensing in Standard Setting Organizations: MAKING Sense of FRAND Commitments*, CEMFI Working Paper 0702 January 2007 Federal Trade Commission, In the Matter of Rambus, Inc., Docket No. 9302, Opinion of the Commission.

30. Klein, B., (1999), *Market Power in Franchise Cases in the Wake of* Kodak: *Applying Post Contract Hold-Up Analysis to Vertical Relationships*, 67 Antitrust Law Journal. 283.

31. Lang, J., (2006), *Abuse under Article 82 EC – Fundamental Issues and Standards Cases*, paper presented at the St Gallen conference.

32. Lanjouw, O. J., Pakes, A., and Putnam, J., (1998), *How To Count Patents And Intellectual Property: The Uses Of Patent Renewal And Application Data* Journal of Industrial Economics.

33. Lemley, M. & McGowan, D., (1998), *Could Java Change Everything? The Competitive Propriety of a Proprietary Standard*, 43 Antitrust Bulletin. 715.

34. Lemley, M., & Shapiro, C., (2007), *Patent Holdup and Royalty Stacking*, (2007) 85 Texas Law Review (1989).

35. Lemley, M., (2001), *Ten Things to Do About Patent Holdup of Standards (And One Not To)*, 48 B.C. Law review. 149 (2007).

36. Lemley,M., (2002), *Intellectual Property Rights and Standard-SettingOrganizations*, 90 California Law Review, 1889, 1892.

37. Lichtman, D., (2006), *Patent Holdouts and the Standard-Setting Process*, (University Chicago Law and Economics, Olin Working Paper No. *292*, May 2006) *available at* SSRN: http://ssrn.com/abstract=902646.

38. Link, A., (2004)*Market Structure and Voluntary Product Standards* 15(3) Journal of Applied Economics 393-401.

39. Masoudi, Gerald,(2008), *Efficiency in Analysis of Antitrust, Standard Setting, and Intellectual Property*, Deputy Assistant Attorney General, USDOJ, Speech at Tilburg University Workshop on Standardisation, IP Licensing, and Antitrust.

40. Merges, R., & Kuhn, J., (2009), *An Estoppel Doctrine for Patented Standards*, 97 California Law Review 1, 4.

41. Nagaoka,S., (2006), *The Structure and Evolution of Essential Patents for Standards: Lessons from three IT Standards*, Institute of Innovation Research, Hitotsubashi University, Tokyo, Japan.

42. Ohana, G., Hansen, M., & Shah, O., (2003), *Disclosure and Negotiation of Licensing Terms Prior to Adoption of Industry Standards: Preventing Another Patent Ambush* 24 European Competition Law Review, 644.

43. Ohana, Gil, Hansen, M., & Shah, O., (2003), *Disclosure and Negotiation of Licensing Terms Prior to Adoption of Industry Standards: Preventing*

Another Patent Ambush? European Competition Law Review.

44. Patterson, M., (2002), *Inventions, Industry Standards, and Intellectual Property*, 17 Berkeley Tech Law Journal, 1043.

45. Patterson, M., (2003), *Antitrust and the Costs of Standard- Setting: A Commentary on Teece & Sherry*, 87 Minnesota Law Review 1995.

46. Pharrel, J., Hayes, J., Shapiro, C., and Sullivan, T., (2007), *Standard Setting, Patents and Hold-up* Antitrust Law Journal 74, 627.

47. Pradeep Mehta,(2006), *A Functional Competition Policy for India* Academic Foundation 48.

48. Ramakrishna, T., Murthy, S., Malhotra, S., (2012), *Intellectual Property and ICT Standards in India, Commissioned by the US National Academies of Science, Board of Science, Technology, and Economic Policy (STEP),* Project on Intellectual Property Management in standard setting processes.

49. Royall, M., Tessar, A. and Vincenzo, A., (2009) *Deterring "Patent Ambush" in Standard Setting: Lessons from* Rambus *and* Qualcomm, 23 (3), Antitrust 34.

50. Rubin, J., *Patents, Antitrust and Rivalry in Standard Setting* 38 Rutgers Law Journal.

51. Scherer, F., and Ross, D., (1990), *Industrial Market Structure and Economic Performance* 15.

52. Shapiro, C., & Varian, H., (1997) *The Art of Standards War*, California Management Review 8.

53. Shapiro, C., & Varian, H.,(1999) *Information Rules: A Strategic Guide To The Network Economy* 103-34.

54. Shapiro, C., (2001), *Navigating the Patent Thicket: Cross License, Patent Pools and Standard Setting,* 1 Innovation, Policy and The Economy.

55. Shapiro, C., (2002), *Standard Setting Organizations: Evaluating the Anticompetitive Risks of Negotiating Intellectual Property Licensing Terms and Conditions Before a Standard Is Set* 15, 16.

56. Sidak., G., (2008), *Holdup, Royalty Stacking, and the Presumption of Injunctive Relief for Patent Infringement: A Reply to Lemley and Shapiro* 92 Minnesota Law Review 713.

57. Skitol, R., (2005), *Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard-Setting* Antitrust Law Journal 727.

58. Swanson, D., & Baumol, W., *Reasonable and Non discriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 Antitrust Law.

59. Swanson, G. and Baumol, W., (2005), *Reasonable and Non-discriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*. 73 (1) Antitrust Law Journal.

60. Teece, D., & Sherry, E., (2003), *Standards Setting and Antitrust* 87 Minnesota Law Review.

61. Updegrove, A.(2006) *Ex Ante Disclosure: Risks, Rewards, Process and Alternatives* 3 Consortium Standards Bulletin.

62. Cotter, T., *Reflections on the Antitrust Modernisation Commission's Report and Recommendations Relating to the Antitrust/IP Interface* 53(2) Antitrust Bulletin 745, 762.

OTHER DOCUMENTS

1. Commissioner Neelie Kroes,(2005), *Preliminary Thoughts on Policy Review of Article 82*, (speech delivered before the Fordham Corporate Law Institute, New York, 23rd September 2005).

2. EC, Commission Confirms Sending a Statement of Objections to Rambus, Press Release (23 August 2007).

3. ETSI IPR Policy (version of 23 November 2005).

4. European Commission Communication from the Commission (2011/C 11/01) on Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the EU to Horizontal Co-operation Agreements. Available from http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:011:0001:0072:EN:PDF (2011).

5. European Commission, *XXIVth Annual Report on Competition Policy*, (1994) at §207.

6. European Commission, *XXVIIth Annual Report on Competition Policy* (1997) at §77.

7. FTC, The Evolving IP Marketplace: Aligning Patent Notice And Remedies With Competition. Federal Trade Commission. See pages 191-194 and 234-245, in particular (2011).

8. IEEE- SA Standards Board Byelaws.

9. Neelie Kroes, European Commissioner for Competition Policy, *Being Open about Standards*, Speech 08/317 before OpenForum Europe (2008).

10. *Oversight of the Impact on Competition of Exclusion Orders to Enforce Standard-Essential Patents: Hearing Before the Senate Judiciary Committee*, 112th Cong., 2d Sess., July 11, 2012 (statement of Joseph F. Wayland, Acting Assistant Attorney General, Antitrust Division, U.S. Department of Justice).

11. Parr and Smith, *IP Valuation, exploitation and finance, Retrievable at* http://www.wipo.int/edocs/mdocs/sme/en/wipo_smes_tlv_11/wipo_smes_tlv_11_ref_t15.pdf.

12. Report by the EAGCP , *An economic approach to Article 82*, July 2005, available at http://ec.europa.eu/comm/competition/publications/studies/eagcp_july_21_05.pdf (Last visited on May 19, 2014).

13. *Report on the Use of Voluntary Standards in Support of Regulation in the United States* (2009), *available at* http://ts.nist.gov/Standards/upload/Use-of-Voluntary-Standards-in-Support-of-USRegulation.pdf.

14. *Standard Setting*, OECD ROUNDTABLES (2010), *available at ttp://www.oecd.org/daf/competition/prosecutionandlawenforcement/47381304.pdf*.

15. *The ABC's of Standards Activities* (2009), *available at* http://ts.nist.gov/Standards/Information/upload/NISTIR-7614.pdf.

16. U.S. Dep't of Justice & Fed. Trade Comm'n, Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition (2007) *available at* http://www.justice.gov/atr/public/hearings/ip/222655.pdf.

17. U.S. Department of Justice, Antitrust Division and Federal Trade Commission Joint Policy Statement on Remedies for Standards Essential Patents Subject to Voluntary F/RAND Commitments (2019).

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