THE NOTORIOUS CASE OF DIGITAL SUBSTANCE ABUSE

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ABSTRACT

Scientific developments have taken on purely economic theorems in an anabasis-like assault, firmly establishing their conditions of prelation. As business models and strategies of wealth creation are undergoing an acculturation of digital luxuries, multiple services are rendered to consumers from a single platform; each service acting as a separate node in the web. It is a common phenomenon of digital markets that the increasing popularity of one platform attracts other users to it. To establish dominance, a firm can lure customers through superior technological innovation. IPR has drastically altered market structure and functioning. There are notable deviations from traditional market structures in the knowledge-based economies. A change in market intensity, changes the identity of the winner. Exclusionary conduct aims directly at rivals in a bid to force them out by blocking their means to obtain essential facilities. The existence of cartels, bundling-up of services & competitors entering into mutual agreements to divide the market stirs up the indignation of public authorities. Static policies often prove to work against market benefit when the competition is intense and race to innovate is unceasing. It is true that the Internet Economy has raised new challenges for competition law. Yet, this does not mean that current competition law cannot solve them.

INTRODUCTION

All one needs is a computer, a network connection, and a bright spark of initiative and creativity to join the economy[2]*- Don Tapscott*

The inevitable evolution of forest-dwelling *Homo sapiens* into the modern working man necessitated the development of tools for increasing productivity. A nascent advancement in science and technology began with the use of levers, pulleys and a combination of other

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[2] DON TAPSCOTT & ANTHONY D. WILLIAMS, WIKINOMICS 6 (2d ed. 2008).

primitive tools to increase productive output. Subsequently, early entrepreneurial efforts led to the establishment of large-scale industries. After the Industrial Revolution had struck in the late-1700s, goods and services were being provided to the public on a scale greater than ever before. Innovation is responsible for most of the increase in material standards of living that has taken place since the industrial revolution.[3] By the 1950s, humankind had moved to an era of technological progression, a metaphorical silver lining to the ever expanding cloud of human needs.

New Economy is the result of the transition from a manufacturing-based economy to an information and communications technology-based economy.[4] Don Tapscott describes the *Age of Network Intelligence* as an all-encompassing and revolutionizing phenomenon fuelled by the convergence of advancements in human communication, computing (computers, software, services) and content (publishing, entertainment and information providers), to create the interactive multimedia and the information highways.[5] The digital economy is knowledge-driven, where information is digitised and goods & capital are increasingly becoming intangible. The internet is now a network for integration of humans and services. The evolution of Internet of Things (IoT) has connected physical objects to electronics and software. The potential for growth of IoT will remain unprecedented till Moore's law (the number of transistors per square inch on integrated circuits doubles every year since their invention) is in full effect.

Scientific developments have taken on purely economic theorems in an anabasis-like assault, firmly establishing their conditions of prelation. The premise of this paper is that since business models and strategies of wealth creation are undergoing an acculturation of digital luxuries, such

[3]OECD Policy Roundtables, *Competition, Patents & Innovation,* DAF/COMP (2007) 40, 7 (Oct. 12, 2017) https://www.oecd.org/daf/competition/39888509.pdf.
[4] Dr. Thibault Schrepel, *Predatory Innovation: A Response to Suzanne Van Arsdale& Cody Venzke*, 30 HARV. J. L. & TECH. (2017).
[5] DON TAPSCOTT, THE DIGITAL ECONOMY: PROMISE AND PERIL IN THE AGE OF NETWORKED INTELLIGENCE, (2d ed. 1996).

as, quick impacts of network effects, accumulation of big data and a potential to accumulate high profits in short spans of time; emerging competition policies should also follow suit and embrace new concepts. The effect of this paper is to acquaint its audience with the foundations of the new economy, its observable scope of violations and the necessity of building a concentrated policy.

Part I decodes the power of network effects and lock-in strategies as the fringes of content merge with those of service and users simultaneously become creators. Ideas expressed in this section are to be viewed in respect of three platform-based business models –subscription model, where the user pays to access content (Netflix); advertisement model, where users access free content and revenue is earned from paid advertisements (YouTube) and content development models, where users and creators simultaneously share digital space (AppStore). Part II delineates various contraventions indulged in by firms after having assumed dominant positions. A study of three classic arenas, i.e. IPR, Antitrust and Telecommunications, have been undertaken to emphasise the effect of innovation on traditional economics. Part III aims at introducing the various issues of competition policy that are in the spotlight, internationally and in India. Part IV provides a confessedly open-ended conclusion and the reasons for its being so.

BASICS

A. *THE DEFINITION SAGA*

Internet-based businesses in high-technology sectors, form part of the 'new economy', which is characterized by high rates of innovation, low marginal cost, increasing returns of scale and network effects. This leads to the creation of a *value web*, where, multiple services are rendered to the consumers from a single platform; each service acting as a separate node in the web. In such situations, defining markets is of utmost import to ascertain competition issues with respect to market power and regulatory measures. However, the complexities of a digital market act as predicaments in the application of traditional market definition tools. The European

Commission, on the definition of relevant markets, has noted that, "*The Commission does not follow a rigid hierarchy of different sources of information or types of evidence.*" [6] Regulators can avoid the basic difficulties of market definition in many cases by focusing first, and more directly, on the competitive effects of conduct and transact.[7]

Digital markets are dynamic in nature. Changing consumer preferences make it difficult to ascertain substitutes of the products and feasibility of supply substitution in relation to the technological advancements cannot be vouched for. Interchangeability is, therefore, the key feature. The authorities must not rely solely on technology provided by a firm as a relevant market; instead, actual substitution patterns must be considered. For this, the terms which constitute markets must be relaxed.

For instance, one prominent traditional approach is the Small but Significant Non-transitory Increase in Prices (SSNIP) or "hypothetical monopoly" test. The SSNIP test features prominently in the guidelines of various jurisdictions. Regulatory and competition authorities generally consider the conceptual framework provided by the SSNIP test *"as a way of approaching market definition, rather than a tool to definitively determine market boundaries."* Through a process of narrowing or widening the market, authorities then derive the relevant geographic and product market, which comprises all goods/services that are interchangeable and thereby place a competitive constraint on one another.[8]

The authorities should, however, exercise their discretion in employing these assessment tools to digital economies because circumstances in each market and submarket, here, are not exhaustive.

[6] Dr. Maria Maher et al., *Resetting Competition Policy Frameworks for the Digital Ecosystems*, GSMA 12, 13 (2016).
[7] Howard A. Shelanski, *Information, Innovation and Competition Policy for the Internet,* 161 PENNSYLVANIA L.J. 673 (2013).
[8] *Ibid.*

Some competition authorities explicitly recognize this - the U.S. DoJ/FTC Guidelines state that *"relevant markets need not have precise metes and bounds"*. Different technologies may belong to the same market if customers see the final product as interchangeable.[9]

Some digital markets show characteristics of multi-sided markets. There are two types of two-sided markets; one, where users interact on different sides of the platform, resulting in a single price (e.g. on OLX, where sellers and buyers interact with each other directly via the platform); and another with indirect effects and no interaction, such as newspapers or TV outlets, where the users do not directly interact with each other and users on different sides of the platform may encounter different prices. This creates a problem for the implementation of traditional tools, by discarding indirect network externalities which affect the demand and price structure in these markets. The traditional competition analysis tools do not work, because, all these platforms face different profit maximization problems. Markets with indirect effects call for the identification of two interrelated markets and checking the profitability of price increase on each side.

A well-defined market may also have sub-markets constituting product markets. It was decided by the US Supreme Court in *Brown Show Co. Inc.* v. *US*[10] that the boundaries of a sub-market may be determined by examining such practical indicia as industry or public recognition of the sub-market as a separate economic entity, the product's peculiar characteristics and uses, unique production facilities, distinct customers, distinct prices, sensitivity to price changes, and specialized vendors. Though reaching out to identify sub-markets is not expressly provided under the Indian law, 'consumer preferences' can be used for this purpose.[11]

However, this is a vague provision and needs concrete references that have not yet been looked at. Digital markets as distinguished from traditional markets have their own discrepancies and

[9] *Supra* note 5, at 15.
[10] 370 U.S. 294 (1962).
[11] RAMAPPA, COMPETITION LAW IN INDIA 91 (3d ed. 2014).

complexities which make it difficult to assess dominance and its abuse. Different factors are to be considered comprehensively, rather than trying to find a straight- jacket formula.

A. *POWER PLAY: ESTABLISHING DOMINANCE*

After determining the relevant markets, market power needs to be determined. The authorities typically rely on quantitative measures to assess market power. The dominant position of a firm is often assessed by its market share. Yet, the challenge is not a dominant position in a given market but the abuse of that dominant position.

In an innovation driven market, market share cannot be regarded as the sole factor in determining market power. Due to strong *feedback effects* in the digital markets, other factors come into play where the assessment of contestability, availability of alternatives to the end-users and the creation of new markets by increased innovation are to be taken view of.

In highly dynamic markets, market share is not only about gaining a dominant position but retaining that high share. *Network effects* come into play when technological advancements end up eroding the market share of a dominant firm.

B. *ON BEING OUTGOING: NETWORK EFFECTS*

It is a common phenomenon of digital markets that the increasing popularity of one platform attracts other users to it. This is called a "network effect" and it may be direct or indirect.

Direct network effects arise where the value of a platform and user's benefit increases with the increase in the number of other users. For example, the benefit of being on a social network corresponds to the number of people (friends and acquaintances) who are using that network. Indirect network effects emerge where the high usage of a product increases its value for the other groups and in turn provides for indirect benefits to the original users.

In two-sided markets, network effects are of extreme import because of the positive effect on users on both sides of the network.

To establish dominance, a firm can lure customers through superior technological innovation and create a network effect. Once the users are attracted to a platform, its network effects will continue to lead it to an ever-increasing popularity.

With technological advancements, the costs of running these marketplaces have dropped down to zero-price levels. This results in the phenomenon of '*increasing returns to scale*'. These industries involve higher fixed costs and lower marginal costs. Therefore, as the production increases, the cost per unit falls, making it much easier for further growth of the business. Firms often use their financial capital to establish network effects by providing cash back offers and other schemes.

As an example, the global taxi company 'Uber' made worldwide losses in the first half of 2016 of US$ 1.27 billion (approximately Rs.86.5 billion) on account of low pricing. On a similar note, the Indian taxi company 'Ola' reported a net loss of Rs.7.96 billion in March, 2015.

The scale of these discounting practices, and the sustained periods for which they are continued, has created new barriers to competition. Capital has become a competitive weapon.[12] Recoupment of losses is the yardstick to measure network effects caused by the high investment of financial capital. This is measured at a point where prices can be increased. But, this in many cases may result in abuse of the economy.

Moreover, horizontal shareholdings where common investors acquire shares in competing firms may hamper market competitiveness. The profit of the investors lies with the expansion of both the businesses; therefore they influence the competition between them. One big example in the Indian scenario is investment of Tiger Global, an international funding organization for Flipkart and Shopclues, both competitors in the e-commerce sector. It also invested in taxi-aggregation

[12] Smriti Parsheera et al., *Competition Issues in India's Online Economy,* NIPFP 4 (2017).

companies like Ola and Uber. This was challenged by Meru Cabs by alleging an abuse of dominance & burning vast sums of investor funds to distort the market. Further, alleging a collective dominance through a unified monopoly when investments by SoftBank – already a major investor in Ola pouring some $10 billion into Uber along with other investors could strengthen its cause and also raise issues about potential conflict of interest.[13]

Continuous innovation and low entry and exit barriers in the internet economy owing to increasing returns and network effects leads to the situation of *winner-takes-all, or most*. Therefore, these network effects, once created, act as an entry barrier for new firms.

Companies in the digital markets have learned how to utilize a network effect. It has been a common practice to sell products by predatory pricing in order to create a strong consumer base. Such strategies can help a company in the digital economy obtain '*first mover advantage*'.

An early mover with a large consumer base may hamper competitiveness in various ways. One such measure is making its product incompatible with the other devices. For example, Google modified its AdWords software and imposed certain conditions on its users, making it difficult for them to operate simultaneously with other ad platforms. These exclusionary measures constituted an abuse of dominance on its part.

Network effects, therefore, are of utmost importance in determining market power. They can easily establish dominance in a sector once the consumer preferences have been locked.

C. *DOWN THE RABBIT HOLE: LOCKED-IN*

Network effects are pro-competitive in nature because they improve the quality of services for end-users, but, they can also have a hostile effect on competition by increasing their switching

[13] Aditya Kalra, *Meru Files New Complaints Against Uber*, LIVEMINT (Oct. 12, 2017), http://www.livemint.com/Companies/GDYpyUtCvAl1Mmntpj5eiP/Meru-files-new-complaints-against-Uber-Ola-with-CCI.html

costs. As a result the consumers get locked in a particular network and it causes a tipping effect in favour of the company, making its dominance inevitable.

In a normal equilibrium, the market is dominated by a few firms that are well-established owing to intensely strong network effects and the arrival of new entrants, even in absence of any barriers, is of no consequence to the already established dominance. When a company acquires a huge consumer base, the market is likely to tip in its favour at the *tipping point*. Tipping effect is usually constructive in a market with two firms competing on the basis of innovation, where the market will tip into favour of the one having an advanced technological base. However, the market may also tip in the favour of a firm not on the basis of innovation, but, owing to its high network effects.

In certain sectors, the switching costs (the costs incurred by the user on moving from one platform to the other) may be very high for the consumers. However, in digital markets switching costs depend upon the nature of the market. For example, in moving from one search engine to another or from one social network to another, the switching costs are relatively low as compared to some other markets such as online payments. Digital markets, therefore witness multi-homing, which means association with two or more platforms simultaneously. This largely reduces tipping effect in the digital ecosystem.

Greater deregulation of communications markets, coupled with the increased convergence in technologies, has led individual companies to provide greater number of services. Companies, therefore provide a 'bundle' of services to consumers from a single platform. Once these services have become an integral part of their daily lives, they are less willing to switch to other services. They are even less willing to switch when the experience of an individual service (e.g. using a search engine) depends on using other services (like email, geo location services, or social media services, for example switching between the clouds of Apple and Microsoft). The use of personal data profiles causes this effect. Any limits to transferring this data to a competitor impose

switching costs for consumers. In a way, consumers lock themselves in by providing their personal data.[14] Bundling can also be used by a dominant firm in one market to foreclose another under a range of conditions. Further, there can be conditions whereby bundling of large numbers of services (such as aggregation of internet content) can lead to exclusion of standalone suppliers. This results in a best response to a competitor bundling being retaliatory bundling.[15]

By combining user-data from multiple platforms, a multi service/platform operator can optimise the experience for, both, end-users and advertisers. As such, digital platform operators aim at making themselves indispensable place themselves in a *gatekeeper position.*

The methods enumerated above aid firms in establishing dominance and this may *not* be characteristically unlawful. However, an enviable stature in the digital market comes at the cost of working unceasingly to maintain rank. This pressure often forces businesses to adopt unsuitable means, as explored in the next section.

WHERE IT BEGINS: ABUSES

A. *SINISTER INTELLECT: ISSUES IN IPR*

Intellectual property rights (IPR) gained widespread recognition as an apparatus to secure investments yielded from new discoveries. Information dissemination through patents added to the knowledge pool of public domain which in turn motivated others in the field to innovate. On one hand, it became a means to prohibit unfair use of innovations to ensure that all remunerations were rightfully received by the inventor. On the other hand, IPR has drastically altered market structure and functioning. As theoretical concepts have been challenged, innovation has become more important than invention. Although '*innovation'* includes the act of invention, it is not so limited; rather, innovation encompasses the entire process of identifying a

[14] Nikolai Van Gorp & Dr. Olga Batura, *Challenges for Competition Policy in a Digitalised Economy*, EU Parliament Report, 33 (Sept. 15, 2017).
[15] Tim Burnett, *Impact of Service Bundling on Consumer Switching Behavior: Evidence from UK Communication Markets,* CMPO 3 (2014).

problem to be solved; conceiving a solution to the problem; identifying a market; building a prototype; testing the prototype; making a commercial product embodying the invention; marketing, selling, and distributing the product; and improving upon that product.[16]

The traditional market definition is not made to account for phenomena such as Silicon Valley businesses.[17] Firms in innovative industries are engaged in activities rich in technological opportunity. For that reason, they are expected to generate a sustained flow of new products and processes, some of which may represent major rather than incremental advances.[18] Securing IPRs often results in a stronghold over network effects and provides sustained profits, and main players of the digital economy remain willing to make the associated fixed-capital investments, conduct employee training and undergo organisational restructuring. As a result, the net worth of technological companies investing in this field is calculated by assessing the worth of their intangible assets.

A patent does not necessarily make the patentee a monopolist in an economic sense: there may be other products that compete with the subject-matter of the patent; however, the patent does afford a degree of immunity from the activities of rival firms.[19] This section is devoted to exploring different channels whereby competition policy in innovative industries is liable to affect welfare.[20]

1. COMPETITION *FOR* THE MARKET

A notable deviation from traditional market structures is that in the knowledge-based economies, the competition is *for* the market and not *in* the market. The race to innovate is perpetually endless. Contrary to the trends in traditional markets, even if an enterprise is able to establish

[16] Ted Sichelman, *Commercializing Patents*, 62 Stan. L. Rev. 341, 366 (2010).
[17] Prof Rupprecht Podszun, *The Digital Economy: Three Chances For Competition Law*, 23 MJ 5, 748 (2016).
[18] David Encaoua & Abraham Hollander, *Competition Policy And Innovation,* 18 OXF. REV. ECON. POLICY 63, 63 (2002).
[19] RICHARD WHISH & DAVID BAILEY, COMPETITION LAW, 769 (7th ed. 2011).
[20] *Supra* note 17, at 64.

monopoly in the digital economy, it can still be rapidly replaced by a new entrant that has more exciting technological offerings. Hence, incentive to innovate has a direct effect on market progress, since the opportunity for the winner to take all (or most) is continually present.

It is re-emphasised that persistently dominant incumbency does not mean that competition is absent. When the race is to produce new products, technology itself becomes an asset, which increases competition in the licencing market. Moreover, in product-market competition, innovation may not always be utilised for direct application by patent-holders. Many have resorted to building patent-portfolios solely to obtain an edge in bargaining during licencing negotiations.

It has been shown that in *Bertrand competition* low-cost firms innovate, while in *Cournot competition* high-cost firms can be the innovators.[21] Further, when intensity is low, a less efficient firm has more incentive to buy the innovation than a more efficient one. When it is high, a more efficient firm has the greater incentive to innovate.[22]

It is safe to conclude, then, that a change in market intensity, changes the identity of the winner.

Increased dominance can be seen as a sign of increased competitive pressure, where, the said firm is *leapfrogging* with constant innovations. But the relation between competition and innovation or productivity may not be unequivocally positive.[23] Negative effect of competition on growth is starkly visible when the pace of knowledge-diffusion among firms is slow. Laggard firms or new entrants, when faced with a wide gap in knowledge frontier, become discouraged from innovating. The probability of escape from such situations depends on the willingness of patent-holders to contractually transfer or licence their patents to others in the field.

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[21] John Beath, Yannis Katsoulacos and David Ulph, *Game Theoretic Approaches to the Modelling Change*, in HANDBOOK OF THE ECONOMICS OF INNOVATION AND TECHNOLOGICAL CHANGE, (Paul Stoneman ed., 1995).
[22] J. Boone, *Intensity of Competition and the Incentive to Innovate*, 19 Intl. Journal Organ., 705-26 (2001).
[23] Michael Polder & Erik Veldhuizen 2010, *Innovation and Competition in the Netherlands - Testing The Inverted U For Industries And Firms: Discussion Paper201021*, The Hague/Heerlen, Statistics Netherlands.

Non-willingness regarding the same can be expressed to prevent transfer of market control and is symptomatic of exclusionary conduct or demand of high fee in lieu of licences.

2. HOLDING UP ON STANDARDS

A '*standard*' is a document that sets out requirements for a specific item, material, component, system or service, or describes in detail a particular method or procedure. Broadly defined, standards are "any set of technical specifications that either provides or is intended to provide a common design for a product or process."[24] Standard setting involves protection of technology considered as essential for maintaining a standard in the market and is often done by obtaining *standard essential patents* (SEPs) monitored by Standard Setting Organisations (SSOs). The Bureau of Indian Standards is India's national SSO.

The effects of standardization are particularly important in network markets, in which the value of a product to a particular consumer is a function of how many other consumers use the same or a compatible network.[25] Developing standards has a myriad of pro-competitive benefits. Standards are set by firms with advanced technical expertise and contribute to an increase in quality of market products. Predictability tends to increase the demand for standardized products and encourages entry and competition, leading to more choice and lower prices for consumers.[26] Once standards have been agreed upon, new entrants and competitors are able to focus on developing technology which has potential to surpass the existing benchmarks and save resources which would have otherwise been wastefully invested.

But the interface of intellectual property (IP) law and antitrust law appears to be a messy place[27] especially in this area. Setting standards involves years of investment and research, at the end of which the market becomes *de-facto locked into the SEPs*. Once set, not only does it become very

[24] Mark A.Lemley, *Intellectual Property Rights and Standard-Setting Organisations,* 90CALIF.L.REV. 1889, 1896 (2002).
[25] *Ibid* at 1896.
[26] Ramirez, E. 2014,*Standard-Essential Patents and Licensing: An Antitrust Enforcement Perspective,* lecture notes, Georgetown University Law Center.
[27] Roger D. Blair, *Legal and Economic Issues at the Antitrust/IP Interface: Introduction*, 47 Antitrust Bull. 249, 249 (2002).

difficult to change the standard, but also to work around it because switching costs tend to be too expensive. SEPs are also used to prevent access to technology via patent injunctions. It is the fear of injunction which sets the stage for demanding unreasonable royalties or exorbitant licensing terms.

In order to prevent the abuse of controlling access to the standard once the standard has turned out to be a success, the owners of SEPs commit to licensing out on the basis of *Fair Reasonable and Non-Discriminatory (FRAND) terms*.[28] Thus, unconditional licensing on FRAND terms offers a single cure to this problem. In the Google/Motorola Mobility merger decision, and the "smartphone patent wars" fought in the Samsung and Motorola cases, the European Commission has held that excluding competitors by seeking SEP injunctions, even when the licensee is willing to obtain a license in conformance with FRAND terms, is clearly anti-competitive behaviour.

SSOs often have limited resources. They place reliance on the honesty of firms setting the standard and do not investigate into the details of every patent included in an *SEP bundle*. This policy of self-declaration is often misused, leading to over-declaration. What we see then are instances of patent holdups, i.e. instances where the owner of SEPs creates a gap between the actual and declared value of the technology. The risk of patent hold-up harms competition by discouraging investments to implement the standard, ultimately reducing competition in downstream markets for standard-compliant products.[29] The associated practice of '*royalty stacking*' (generation of a large number of SEPs in respect of a single product which becomes a ground for demand of multiple royalties simultaneously) can also be indicative of anticompetitive conduct.

[28] *Supra* note 13, at 27.
[29] *Supra* note 25.

3. MURKY WATERS, MUDDY POOLS

Technological innovation is rarely, if ever, created without utilizing prior innovation[30] and a patent is, at its heart, the right to exclude.

The progression of industrial science at an unrivalled pace leads to grant of overlapping patents to different firms who are then forced to navigate through patent thickets. *Patent thickets* are an overlapping set of patent rights requiring that those seeking to commercialise new technology obtain licenses from multiple patentees. '*Patent pools*' are private contractual agreements whereby rival patentees transfer their rights into a common holding company for the purpose of jointly licensing their patent portfolios.[31] For example, public key cryptography patents were pooled into Public Key Partners.

In contrast to patent pools, *cross-licensing arrangements* do not employ a central entity for holding the patents.[32] There is no direct economic harm when royalty-free cross-licenses are created. Patentees, however, may be reluctant to enter into royalty-free cross-licensing arrangements, as these would create open competition over what would otherwise be monopoly goods.[33] Procedural differences aside, they are equivalent to patent pools for anti-trust analysis.

A case may be that one firm has patented an essential technology and another firm is granted an 'improvement' patent, to push for competition. Here, the former becomes the dominant patent and latter, or subservient patent, cannot be utilised without infringing it. Similarly, the dominant patent cannot be improved without permission of subservient patentee. These patents are together termed as '*blocking patents*'. Alone, they remain at loggerheads; but, when combined in a patent pool and cross-licensed, they serve two-fold functions of jointly increasing market

[30] Kassandra Maldonado, *Breaching RAND and Reaching for Reasonable: Microsoft v. Motorola and Standard-Essential Patent Litigation*, 29 BERKELEY TECH.L.J. 419, 419 (2014).
[31] Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations,* 84 CAL. L. REV. 1293, 1355-58 (1996).
[32] Steven C. Carlson, *Patent Pools and the Antitrust Dilemma*, 16 YALE J. ON REG. 358, 369 (1999).
[33] George L. Priest, *Cartels and Patent License Arrangements,* 20 J.L. & ECON.309, 357 (1977).

standards and reducing quantum of infringement actions. Further, in the development of each innovation, the innovator is bound to suffer from some degree of spill-over effects, where, information is leaked to the benefit of competitors. This risk is also curtailed by pooling patents and cross-licensing. Smaller firms may also benefit from this arrangement in case they develop a standard-worthy subservient invention but lack the means to face legal actions or pay exorbitant royalties. Patent pools, as conglomerates of patents relating to a particular innovation, are created to mitigate transaction costs and remove the need to license from each SEP owner individually. In fact, calculations reveal that the transaction costs conserved by an average patent pool are substantial-on the order of hundreds of millions of dollars, conservatively.[34] Procompetitive benefits undoubtedly justify the formation of patent pools in certain contexts, but serious anticompetitive risks are also present, particularly in standard-dependent industries.[35] The collusion between horizontal competitors is itself an antitrust red flag, because, it gives potential for jointly restoring monopoly prices; heightening costs for and discouraging chances of litigation, on account of deteriorating long-term relations of the alleger with the pool since the infringement allegation has to be made against the 'pool' and not a single patent contained therein.

A setback is caused to innovation when substitute patents, that is, non-blocking patents covering alternative technologies that can be used in parallel; are pooled which stifles the scope for further innovation. An important factor is the licensing practice of the patent pool. Patent pools with liberal licensing policies are less problematic from a competition point of view. If, however, members of the patent pool are not allowed to license the patents covered by the pool independently, the pool may charge a price above the competitive rate.[36] One example of a

[34] Robert P. Merges & Michael Mattioli, *Measuring the Costs and Benefits of Patent Pools*, 78 OHIO ST. L.J. 281, 346 (2017).
[35] *Supra* note 31, at 358.
[36] WIPO, *The Changing Face of Innovation*, WORLD INTELLECTUAL PROPERTY REPORT 2011, (Sept. 23, 2017) www.wipo.int/econ_stat/en/economics/wipr/.

patent pool that incorporated an allegedly invalid patent and sheltered it from litigation is the Pillar Point Partners pool over laser eye surgery techniques.[37]

There are two main concerns in respect of consumers that arise from misuse of patent pools. First, if a patent pool incorporates patents covering substitutive technologies that should be in competition, consumers could be harmed; second, if a patent pool requires its members to license future patent rights to one another-i.e., a grant back – innovation might be suppressed under certain circumstances.[38]

To stymie anti-competitive concerns of patent abuse, new policies should amalgamate principles of IPR with antitrust and make certain that exclusive use rights do not border on exclusionary comportment. Many have deduced that IPR is antithetical to antitrust. Where the former specifically provides for establishing a time-based monopoly, it is the essence of the latter to maintain an environment of equal opportunities. However, a more sound perspective calls for the realisation that both areas of law have the same market benefits at heart. They both seek to improve product standards and ensure rightful remuneration is received by the innovators. Penalising the violation of one requires the tests of the other.

While transgressions of competition policy through IPR are intimate to antitrust laws, there are certain stand-alone infractions that merit attention. These are discussed in the next section.

B. *TO TRUST OR ANTITRUST*?

Aggressive, competitive conduct by a monopolist is highly beneficial to consumers. Courts should prize and encourage it under the antitrust laws. Aggressive, exclusionary conduct by a

[37] *Supra* note 31, at 380.
[38] *Supra* note 33 at 346.

monopolist is deleterious to consumers. Courts should condemn it under the antitrust laws. There is only one problem. Competitive and exclusionary conducts look alike.[39]

Competitive conduct tends to drive out rivals owing to their inability to keep up with dramatically upgrading technology; exclusionary conduct aims directly at rivals in a bid to force them out by blocking their means to obtain essential facilities. In effect, the latter translates to increased (or sustained) profits for the premier innovator.

After Kodak's Kodacolor II system became a success, rivals argued that dominant firms should disclose technical changes that could cause harm,[40] IBM was called out for rendering emulators' products incompatible,[41] technological tie-in of Internet Explorer became costly for Microsoft[42]and Google has been facing a myriad of lawsuits in jurisdictions across the world.

Challenged innovations can range from the completely uninventive to the tremendously creative, including everything in between as well as a class whose benefits are yet to be determined.[43] The questions of whether and when the law should condemn such instances of technological improvement are among the most divisive in the field of competition policy today.

A Type I error, or false positive, occurs in this context when a court mistakenly condemns as anticompetitive an invention that promotes long-run consumer welfare discounted to present value. A Type II error, or false negative, takes place when a court finds that an anticompetitive innovation does not violate the antitrust laws.[44]

1. RESPONSE TO PRICING PRACTICES

[39] Frank H. Easterbrook, *On Identifying Exclusionary Conduct*, 61 NOTRE DAME L. REV. 972, 972 (1986).
[40] Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 279 (2d Cir. 1979).
[41] Memorex Corp. v. IBM, 636 F.2d 1188 (9th Cir. 1980).
[42] United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001).
[43] Alan Devlin and Michael Jacobs, *Anticompetitive Innovation and the Quality of Invention*, 27 BERKELEY TECH. L.J. 1, 51 (2012).
[44] *Ibid* at 4.

On a cursory glance, the natural response seems to be an incoming of regulating machinery to curb the practices of the dominant firm. While the radical reduction in prices and/or demand of discriminately high prices by a dominant firm is strikingly noticeable as antitrust violations in traditional markets; in digital market frameworks, the concept of identification of infringements tends to be more complex because, here, cost and price cannot be the sole determining features.

Firstly, if a firm is successful in accumulation large profits, it acts as a motivating factor for others to venture into the market. For platforms moving dynamically in time-and-space dimensions, rash enforcement of antitrust laws to control the said firm's activities can hinder the overall competitive spirit.

Secondly, profit gains (however high) can be a signal of efficiency and appreciable quality of management. Since competition is for the market, firms are incentivised to attain a significant size and eventually sculpt market standards. Price battles in digital economies are fought in light of maintaining future returns and do not serve to be a proof of unlawful tactics like exploitative pricing.

Thirdly, an argument against price control is that a monopolist should be permitted to charge a monopoly price so that it will be able to earn sufficiently large profits to be able to carry out expensive and risky research and development

Fourthly, the legal test ascertaining whether the alleged acts of an incumbent truly constitute anti-competitive behaviour should be clear and absolute in its terms; which, if not impossible, is at least very difficult (since every economic test receives criticism as effervescent as its approval).

It is noteworthy to elaborate on the *profit-sacrifice test* wherein the first step is to determine whether there has been a predatory sacrifice of profit. The second step is to determine the motive for predation. This determination requires scrutiny of the level of profits with and

without the viability of the entrant and net of the post-entry R&D costs that are allocable to the innovation and were foreseeable at the time the investment was made.[45]

However, the test is not generally a reliable indicator of the impact of allegedly exclusionary conduct on consumer welfare-the primary focus of the antitrust laws.[46] The *consumer welfare effect test* has been claimed to be "a better standard to govern exclusionary conduct which is focused directly on the anticompetitive effect of exclusionary conduct on price and consumer welfare."[47]

A third, and most recent, test is based solely on the issue of exclusion. To put it simply, if new profits are expected along with continuing availability of rival products, then there was no predation. Exit-inducing actions are not predatory if they are part of legitimate competitive interactions.[48]

Lastly, the multiproduct nature of the firm does not alter the basic test for predatory sacrifice.[49] However, operations of multiple sides of the same market need to be given careful consideration. For instance, free newspaper service to consumers by one media house will not be predatory on services of other outlets if the former is earning revenue from advertisements contained therein, examples include *Israel Hayom* (Jerusalem), *Manly Daily* (Australia), *Birmingham Daily News* (England).

2. PREDATION: CUTTING AND INNOVATION

Pricing of goods as part of marketing strategies, by itself, does not do harm but becomes a worrying concern when the intention is to slow down rivals instead of speeding ahead of them.

[45] Janusz A. Ordover and Robert D. Willig, *An Economic Definition of Predation: Pricing and Product Innovation*, 91 YALE L.J. 8, 27 (1981).
[46] Steven C. Salop, *Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard,*73 ANTITRUST L.J. 311, 313 (2006).
[47] *Ibid* at 314.
[48] *Supra* note 44 at 13.
[49] *Ibid* at 20.

The idea of '*predatory price-cutting*' is simple enough: that a dominant firm deliberately reduces prices to a loss- making level when faced with competition from an existing competitor or a new entrant to the market; the existing competitor having been disciplined, or the new entrant having been foreclosed, the dominant firm then raises its prices again, thereby causing consumer harm.[50]

There are persuasive arguments against direct control of prices under competition law.[51] A dominant firm may profit from the introduction of a new product, whether or not it is socially beneficial.[52] A practice which is harmful to consumers can be abusive, notwithstanding that it is not harmful to the structure of competition on the relevant market.[53]Abuse cases are highly fact sensitive and dependent upon an evaluation of a wide range of factors.[54] Not only are potential rivals made to exit but the reputation of predation so-created functions as entry barriers for new entrants. Threats of predatory price-cutting are also issued to force unwanted mergers.

Another practice that has only recently gained sufficient attention is that of predatory product innovation. The qualitative effect on a rival of '*predatory product innovation'* is much the same as the qualitative effect of predatory price-cutting. However, where price-cutting reduces price below cost, predatory innovation may increase price above cost (due to inclusion of R&D expenditure).

Predatory innovation – which is defined as the alteration of one or more technical elements of a product to limit or eliminate competition – is arguably one of the most important subjects faced by antitrust law in the context of the New Economy.

It can be accomplished in two ways - first, by producing a new product that acts as a substitute and diverts rival firm's sales. Second, a form of '*systems rivalry*,' to introduce new systems of

[50]*Supra* note 18, at 739.
[51]*Ibid* at 718.
[52]*Supra* note 44, at 25.
[53]Continental Can v Commission, (1973) Eng. Rep. 215.
[54]National Grid plc v Gas and Electricity Markets Authority, (2010) EWCA Civ. 114.

components that are incompatible with components manufactured by rivals, and constrict the supply of components that are compatible with those made by rivals.[55]

A characteristic application of this ploy is witnessed in the computer software industry, where, it is easy to slip in a new code by simply issuing an update to the customers. These markets born out of codes are forever unwilling to cease transformation; so much so, that firms become ardent on expanding to unfamiliar territories.

Andrew Gorve's motto: *Only the paranoid survive, r*elates to defensive or *pre-emptive mergers* - complementary business models, seen as potentially threatening entrepreneurial efforts that could have become worthy competitors; are acquired while they are still small; for example, WhatsApp/Facebook merger. Mergers involving non-transaction markets with indirect network effects where actors typically follow a multi-platform strategy should be immensely scrutinised.

On the same note, entry into a different field of operation can stimulate unexplored innovation frontiers. *Defensive leveraging*, that is, creating information bottleneck to prevent others' entry; prevents such exploration. The US FTC has held in *United States* v. *Microsoft Corporation* (2001), that competing not on merits but leveraging market power to prevent software developers from gaining access to its operating system codes, was violation of antitrust law.

Access to information & pace of outreach to customers has increased manifold in the economy. Metcalfe's law states that the value of a telecommunications network is proportional to the square of number of connected users. Telecoms that have chosen to adapt with technology have gained significant profits in the last decade. The succeeding section analysis various concerns that have arisen along with it.

C. *CALLING FOR CARTELS*

[55] *Supra* note 44, at 7.

Telecommunication is characterized by a variety of features and technological changes affecting it. There has been an unprecedented growth in this sector, resulting in intense competition and pricing strategies.

Communication webs are characterized by network effects, where the value of a network increases with the increase in the number of uses. This is the gist of *Metcalfe's law*.

In India, the growth of the telecoms is accorded to liberalization of the economy. There has been a vigorous competition in cellular mobile services due to the high pace of growth in the sector.

The history of competition issues shows that the state operators, like BSNL/MTNL exempted from license fees, have always been in a dominant position over the private players and created problems with interconnections between operators.

With technological advancements and increasing growth, new competition concerns arose which included anti-competitive behaviour, abuse of dominance and forming of combinations.

The allocation of spectrum rights through auction is one such issue. Mobile operators bid against each other to obtain the best possible combination of spectrum rights. The prices eventually paid by the highly established operators often seem very high (several billions) and may raise concerns about auctions creating entry barriers.

This problem is often created because the design of auctions is so complex that bidders have difficulty in formulating a bidding strategy and this is where game theory experts are called in.

The creation of entry barriers can best be mitigated by introducing counter measures in the design of auctions. For example, particular *blocks* of radio spectrumcanbe reserved for entrants, or the total number of user rights that incumbents can obtaincan be capped. User rights can be subject to specific licensing terms that prevent anticompetitive behavior. For example, licensees

can be subjected to a roll-out requirement, meaning they have to install the network equipment and operate the network.[56]

The existence of cartels, bundling up of competitors entering into mutual agreements to divide the market stirs up the indignation of the public authorities. The issue of possible build of cartels is as detrimental as that of abuse of a dominant position in a relevant market. An essential issue here is of interconnection. Interconnection allows the customers of one service provider to communicate with the customers of another service provider.If there are multiple players in a market, they should provide enough interconnection to the others so that their calls could be carried.

A revolutionary event in the Indian telecom sector last year raised many questions.

A complaint, was filed by Reliance Infocomm with the Competition Commission of India (CCI) alleging that Bharti Airtel, Vodafone India and Idea Cellular have formed a cartel against it and are not providing adequate points of interconnect (PoIs) required for calls to go through.

The companies denied these allegations and stated the increased traffic on their networks caused by free calling services provided by Jio as the reason for their resistance. A counter-complaint was filed by Bharti Airtel against Jio for using predatory pricing and abuse of dominant position in contravention of section 3 and 4 of the Act, thus causing wide scale losses to the other players.

To establish a dominant position, it is necessary to first assess the market as a relevant market. In India, the position is not yet fixed. In response to the complaints filed, the Competition Commission of India observed that where big players are already operating in a competitive market, it would not be anticompetitive for an entrant to incentivize customers by giving attractive offers and schemes. On the question of relevant market, the Commission observed that there is no difference between the telecom services offered using 4G, 3G and 2G

[56] *Supra* note 13, at 38.

technologies. These services are offered in as a bundle of services and are interchangeable to a large extent. Moreover, the switching costs are not high for the consumers to adopt another network. It was further observed that the assessment of relevant markets depends on the facts and circumstances of each case.[57]

Patent pools in telecom are also emerging antitrust concerns. The 3G3P (3G Patent Platform Partnership) which existed between five 3G technologies, claimed that the notified agreements would have pro-competitive effect as it was based on open and voluntary membership, intended to facilitate market entry and access to 3G technology by preventing the blocking of essential patents. Given that there was deemed to be some potential or actual competition between the five 3G technologies within the IMT-2000 standard, the 3G3P in its original form appeared to amount to an agreement between potential or actual competitors that would pool together competing IPRs, agree on terms and conditions for licensing and royalty rates. This raised serious concerns regarding potential anti-competitive effects of the arrangements.[58] To avoid antitrust issues the authorities should to check whether the patent pools are for essential patents, that there is no anticompetitive tying of patents and it has no adverse effect on R&D in the sector.

The emerging telecom sector, therefore, is characterized by multiple factors which may raise various antitrust issues. The need for a sectoral regulation along with clear definition of markets is the prerequisite for regulating competitive conduct.

EMBRACING UNCERTAINITIES

A. *POLICY SUGGESTIONS FOR INDIA*

Competition Law Assessment of industries with reference to the new economy should be done considering the economic features of the market. In an internet based economy, the market is

[57]Reference Case No. 03 of 2017.
[58]Dessy Choumelova, *Competition Law Analysis of Patent Licensing Arrangements-The Particular Case of 3G3P,* COMPETITION POLICY NEWSLETTER 41, 42 (2003).

characterized by high network effects. Online businesses, therefore, resort to deep discounting practices in order to gain dominance in the market.

Given this fact, it would be counter-productive to not let the market forces follow their natural course. On the other hand, it is the duty of the competition authorities to check whether this dominance is established by play of market forces or due to any anti-competitive behavior.

While looking into dominance related issues, factors such as rapid technological changes, increasing returns, behavioral data and most importantly network effects must be taken into consideration.

High network effects tend to create a massive first-mover advantage building scale and expanding the business. Availability of capital further enlarges these factors.

The role of PE investors in determining the competitiveness of the companies in which they invest in is also to be looked upon. Moreover, the issue of relevant markets is also not in a well-settled position. To establish dominance, the question of relevant markets is of prime concern. In India, the position of relevant markets is still in question. Technology owing to digital economy is in nascent state and therefore, most of the important terms still need to be reconsidered.

Sub-sections (5) to (7) of section 19, Competition Act, 2002 state what factors are to be taken into consideration for the purpose of determining the 'relevant market' which will further be split into the 'relevant product market' and the 'relevant geographic market'.

The *relevant geographic market* under section 2(s), comprises the area in which the conditions of competition for supply of goods or provisions of services, or demand for goods or services are *distinctly homogenous* and can be distinguished from the conditions prevailing in neighboring areas.

The *relevant product market* under section 2(t), means a market comprising all those products or services that are considered by the consumer as interchangeable or substitutable.

The possibility of a well-established sub-market acting as an independent market has not yet looked at.

The use of 'predatory pricing' to create a consumer base often results in high recoupment prices which could exploit the economy once the monopoly has been established.

The authorities in these cases need to assess whether these recoupment policies will enhance consumer welfare or will harm them in the future, by charging monopoly prices.

The digital ecosystems are bringing together players operating under *ex ante* and *ex post* regulations. The advent of competition law along with sectoral regulations was with the purpose of dealing with problems that might arise from market power and market failure. Where a firm has existing market power, it would be more effective to check and regulate monopoly pricing by that firm. Price caps can be estimated using economic and technical expertise for balancing efficiency.

Ex post competition laws are better suited to dynamic markets where the changes cannot be predicted and regulatory measures run on a high risk of failures. Competition law allows the firms a sufficient autonomy to decide on their prices which can be important in digital markets, where markets may change rapidly and firms may introduce a range of differentiated offers with various price combinations, product features and quality of service.

In India, the competition agencies use *ex post* regulation with the exception of 'merger review' which is termed to be an ex ante regulation. However, in a technology and innovation driven market, an ex ante regulation can deter innovation and hamper the competitiveness.

Since, future changes cannot be predicted such regulations may also create an adverse effect on the competition.

On the other hand, if a well-established dominant firm exists in a market, reasonable price caps and other necessary regulations can prevent monopoly pricing and the entry barriers created through it.

In some sectors, it has been recognized that the regulations are hampering innovation. In the US and some European countries, incentives to improve quality have been provided to the regulated businesses. Such policies can also be adopted in national scenarios to promote growth while being able to monitor it.

Lastly, The Competition Act suggests that while considering such cases, the authorities must follow a process of determining relevant markets, assessing dominant position and its abuse before deciding a cause. The use of *exante* regulation on one hand, could allow the CCI to prevent the harm before it is done by ensuring the use of no abusive practices. On the other, it could deter new entrants in online businesses due to concerns raised on per-se acquisition of market power. It may however, cannot be decided at this point that which outweighs the other. It would depend upon the type of anticompetitive practices and how the competition authorities evolve in such process.

B. *THE GLOBAL APPROACH*

1. INTEGRATION OF THE PLAYING FIELDS

"In making this revision, we have shifted from a legalistic-based approach to an interpretation of the rules based on sound economic principles." – Mario Monti

The protection and promotion of economic competition leading to effective market performance is at its core, an economic goal. Attainment of market efficiency is the metaphorical attainment of salvation for a sound competition policy, not to protect competition for its own

sake but to create consumer-friendly environments of low costs, appreciable product diversity and robust innovations.

It is quite clear that there is a direct connection between the functioning of the market mechanism and the incentives the market players have to innovate.[59] Innovation has proven to be a catalyst in improving market standards which in turn contributes to increased economic growth. It is this very element, however, that makes the market dynamic.

Static policies often prove to work against market benefit when the competition is intense and race to innovate is unceasing. In such a scenario, economic theories can tell us that market structure has an influence on dynamic efficiency, and that has implications for the regulation of market conduct.[60] The analysis of competition issues invariably requires an assessment of market power, and such an assessment cannot be conducted without an understanding of the economic concepts involved.[61]

On the matter of what should constitute this new approach – "the 'more economic approach' meant an evidence-based look at the specific effects of a given behaviour under the circumstances in the relevant market."[62] Every digital giant owns the knowledge to decipher beforehand any changes that the market shall entail post-mergers or acquisitions. Empirical data, thus, has a prominent place in market tactics to the extent that availability of good data material can make or break the game.

Specialists have already argued that they can programme investigative tools that prove collusion or abuse by pure analysis of market data – without any whistle-blower or any piece of traditional evidence secured in a dawn raid.[63] Hence, it is vital for the legal machinery to familiarise itself

[59]Olav Kolstad, *Competition Law & IPR,* in RESEARCH HANDBOOK IN INTELLECTUAL PROPERTY & COMPETITION LAW 4, 3 (Joseph Drexl ed., 2008)
[60]*Ibid* at 5.
[61]*Supra* note 18, at 2.
[62] *Supra* note 16, at 749.
[63]K. von Blanckenburg and A. Geist, *Detecting Illegal Activities: The Case of Cartels*, 32 EUR. J. LAW ECON.15 (2011).

with new approaches of data analysis that are strongly grounded in theoretical economics to curb instances of market menace.

2. READY FOR A TECH-UPDATE

It is true that the Internet Economy has raised new challenges for competition law. Yet, this does not mean that current competition law cannot solve them.[64](cite 2016 max plank) Although, an economy dominated by new driving forces needs a competition law that is adapted to these new forces.[65]

Existence of the Gig economy (a labour market characterized by the prevalence of short-term contracts or freelance work) featuring disruptive innovation (entrepreneurial ideas that take the market with such unprecedented impact that they disrupt existing frameworks and establish a new brand) explains this point adequately. Traditional norms require assessments of market power, capital investment, stocks and shares, etc. to check for symptoms of dominance and operation of law against antitrust activities begins after-the-fact, that is, after damage has been caused. The digital economy requires a different approach precisely because it is a stage open to all actors who may not need to learn scripted dialogues! When a 20 years old Mark Zuckerberg started Facebook with his friends or 32 years old Travis Kalanick established Uber, they had very minimal resources at their disposal, and yet were successful in not only competing with existing services but setting their own unique business models. A key point to note here is that Uber became the largest start-up in history, and was introduced after Facebook, which means that even a seemingly short span of five years had somewhere changed market's scope.

The Gig Economy is taking over a major chunk of business space as humanity moves towards daily utilisation of the internet of things. The decisions of various courts will definitely have an

[64] Gintarė Surblytė, *Competition Law at the Crossroads in the Digital Economy,* 15 MAX PLANK I.C.R. 1, 9 (2016).
[65]PODSZUN, *The More Technological Approach: Competition Law in the Digital Economy,* in COMPETITION ON THE INTERNET 105 (G. Surblytė ed., 2015.)

impact on all other enterprises that are founded on similar business models. This could in fact be a revolution of a new kind that will affect every person earning a living through an app and perhaps, bear the news of a new movement in laws worldwide. To tackle recent infringements in the era of productive efficiency, competition policy could adopt some changes – once a clear distinction has been made between the functioning of brick-and-mortar stores from online businesses, the behaviour behind indulging in a new innovation needs to be understood (such as, in cases of predatory product innovation). Monopolies created via technical advancements may even be temporary; the market should be trusted to correct itself in its natural course and indiscriminate application of restrictive laws could actually decrease consumer choice. On the flip side, strong network effects can create even stronger lock-in effects and increase switching costs for customers.

The bottom line is that there are no hard boundaries delineating different platforms inside the digital economy. If companies like Microsoft and Nokia do not know what happens next – how should bureaucracies in Brussels or other places know?[66] But this does not mean that legal fraternities around the world should become mute spectators. Updated information about hi-tech inventions won't necessarily lead to stricter legal enforcements, but it can sure provide for better competition analysis.

3. CALL FOR GLOBAL COOPERATION

The global reach of competition laws is reflected in the creation of the International Competition Network, a virtual organisation which brings together more than 100 of the world's competition authorities. The United Nations Conference on Trade & Development (UNCTAD) has successfully made way for policy reforms in developing countries. The Organisation for Economic Cooperation & Development (OECD) is a very active body in this regard. However,

[66] *Ibid* at 108.

India is not a member of OECD, but is a member of its various committees. The World Trade Organisation (WTO) does not specifically deal with competition policy.

Markets are built on global licencing agreements, businesses have mastered global outreach and issues of violations are raised in different nations but competition commissions have remained geographically confined. Cases filed against Google in India, South Korea, EU, Russia, Taiwan, Canada and USA had many similar facts but received different treatment. Transnational mergers pose a particular problem where several competition authorities investigate the same transaction and have different perceptions of whether it should be permitted or not.[67]

International cooperation can avoid inconsistencies and duplication of effort among governments enforcing their competition laws, help multinational businesses comply cost effectively with the competition regimes of multiple jurisdictions, and improve the techniques and tools of competition authorities' co-operation.

Competition authorities from different countries/continents should coordinate and cooperate more when dealing with the digital economy in order to account for the globalisation of the relevant market.[68] We must all understand that domestic decisions today are likely to affect the choices that consumers worldwide will have tomorrow.[69]

CONCLUSION

In conclusion, platforms of the digital economy are driven by forces of networks and feedback effects, where the first mover has the maximum potential to exploit most. Contestability and dynamic nature have become its defining features. While consumers benefit immensely from the indefatigable efforts of innovators, the unceasing scope of innovation has itself become the motivation behind manifestation of unsettling and systematic abuses of dominant power.

[67] *Supra* note 18, at 506.
[68] *Supra* note 13, at 68.
[69] *Supra* note 25.

By bundling of services to the detriment of competitors, discouraging efforts for multi-homing and assuming gate-keeping positions on multiple ends of the market, dominant firms have forced customers to be locked-in to their networks. Conglomeration of patented technologies into pools through cross-licensing, and joint standard settings, are frequently resorted to for preserving market shares, even if it comes at the cost of the quality of market products. As a market built on code never desists from transformation, technological firms remain ambitious, with a hunger to expand their bounds of market power. Antitrust violations, specifically, exclusionary conducts serve this purpose adequately. Application of game theory to win spectrum auctions and subsequently establish telecommunication cartels hinders consumers' opportunities to interoperate within different networks.

Prominent players have notoriously interconnected new rules of innovation with existing economic theories to surpass traditional market bounds. Digitisation of information and capital has created a knowledge-based economy where success of business orientation is largely dependent on use/abuse of a new substance – technology.

India has a few primary concerns of its own. Authorities need to be aware of the intentions of private equity investors and take cues from established international definitions. Being a developing country, its exposure to the threats of digital economy has been limited but this shall not be the case for too long. CCI has the opportunity to make a policy, both, robust and lenient in the right measures.

In light of several recent ultra- expensive case laws, prominent thinkers have come to the consensus that to prevent future misbehaviors, competition policy should be more tightly integrated with economics, assimilate concepts of innovation and increase global cooperation.

However, no conclusion to this discussion can be concrete. It is extremely hard, even futile, to predict in advance which way the market will go, since the intentions and tendencies of players

are circumstantially determined. Being watchful of and understanding prevailing practices can aid authorities in being alert to potential abuses; for now, this is the best that can be done.