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Review of Regulatory Challenges in Digital Platforms: Cases from India

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Abstract

Information Communications Technology (ICT) networks and infrastructure are now critical resources for organizations to run their business, compete and contribute productively in the new age digital markets. ICT has supported novel commercial models (Internet firms), 'digital platforms', by redefining delivery of goods and services and has significantly enhanced consumer welfare. The presence of intrinsic network effects in case digital platforms combined with the limited interoperability makes the prevalent digital ecosystem to have monopolistic structure or at best an oligopolistic market structure. There are regular entry and exit in digital markets, firms exercise mergers and acquisitions as a business strategy to establish its market share or diversify into new business areas. The power of user information (through data) enables the firms to practice price discrimination, thereby appropriating consumer surplus. Thus, competition issues in the new age digital markets must to be tackled by the competition authority taking cognizance that the regulatory regime does not curb the motivation to innovate. The paper reviews the competition issues in digital ecosystem from the Indian perspective and reflects possible solutions to safeguard competition in the digital markets.

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JEL Classification: K21, K23, O38, L4, L5

I. Introduction

Over a quarter of a century ago, Joseph Schumpeter (1994 Chapters 5-8) described the idea of modern capitalism where monopolies are usual but often brushed by the "perennial gale of creative destruction" (p. 84). This '*gale*' is not induced by price competition, but by "competition from the new commodity, the new technology ... competition which strikes not at the margins of the profits of the existing firms but at their foundations and their very lives" (p. 84).

The disruptive Information Communications Technology (ICT) has supported the design of novel commerce models, 'digital platforms', which have had an overwhelming impact on consumer habits and business

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structures.[2] Digital platforms are online businesses that facilitate commercial interaction between two different groups with one typically a supplier and other consumer. Digital platforms have enhanced consumer welfare substantially by redefining the delivery of goods and services.[3] Platforms have enabled the delivery of varied goods and services such as commerce, entertainment, networking, education, healthcare and financial services, at a click of a button; and have progressively facilitated the delivery of goods and services in the underserved remote areas, which the former business models could not viably serve (Foster and Heeks, 2013; Srivastava and Shainesh, 2015; Leong, Pan, Sue, and Cui, 2016).

1.1 Uniqueness of Digital Platforms

Digital platform may be pigeon-holed as 'Schumpeterian' industry where in the entry and exit barriers are low, marginal costs of production least, product or service innovation disruptive, and firm's capabilities and strategies crucial for its competitive advantage. The deep-rooted network effects in the cybernetic economy, is itself one of the unique selling propositions for the digitally empowered business which exceptionally profits the digital platforms. The success of a digital platform is conditioned on the network effects the service or product of the platform generates. Network effects exit when the utility and benefits to the consumers from consuming a product or service rises with an increase in number of other users. Based on the above rationale, 'Metcalfe's Law' suggests that the communications network value is proportionate to the square of the number of users.

A digital platform benefits from direct network effects if it is more alluring for subscribers (consumers) when the overall number of subscribers grows- such as Facebook, Twitter and Instagram; while the indirect network effects exist when a platform is more appealing for service/content providers (consumers) if the number of other service/content providers on the digital platform grows, the growth in number of content providers promotes end user traction on these platforms such as Amazon and Netflix (Van Gorp and Honnefelder, 2015). Moreover, with increase in the subscriber base of digital platforms the cost of service provisioning reduces for the digital enterprise due to the economies of scale. Business characterised by network effects result in an arrangement of demand and supply dynamics wherein the rise in demand not only condenses the supplier's cost due to economies of scale but also renders the product to be more attractive to other potential users thus assisting the demand to advance even more (Shapiro and Varian, 1999).

To generate network effects, digital platforms must reach the critical mass in terms of the number of platform subscribers/users. To acquire the critical mass of subscribers, initially platforms often resort to a pricing

value by bringing two or more different types of economic agents together and facilitating interactions between them that make both agents better off". For instance: Internet search engines such as Google, Yahoo and Duckduckgo; e-commerce portals such as Amazon, Myntra and Flipkart; social networking portals such as Facebook, Instagram and Twitter; travel aggregators like Yatra and MakeMyTrip; dating services such as Tinder and Okcupid, to name only a few. The multi-sided feature of platform-based enterprises leads to quite distinct features from the traditional brick and mortar businesses.

[3] Select digital platforms such as Spotify, Netflix and YouTube have also facilitated in global dematerialization, scholarship has commenced discussing about technology as a tool which could aid in environmental conservation (McAfee, 2019)

strategy not adhering to the marginal pricing principle and often price the product or services below average variable cost, thereby incurring sizable losses. For digital platforms to continue operations the significant losses on a persistent basis are supported by equity capital infusions; so while a promising digital platform may have a bleeding profit and loss statement , the cash flow statement of these platforms are rich; this continues till the platform appropriates sufficient network effects and thereafter it may charge the users on either side of the platform.[4]

Conventionally, incurring losses to capture market share is regarded as predatory pricing strategy, but given the nature of technology, the capital spent on acquiring the customer base to generate network effects may need to be looked at differently. Capital spending by platforms to capture market share is a necessary input to build a profitable business. Often before a platform's profit and loss statement turns profitable it requires a gestation period involving heavy investment (incurring losses) to generate network effects, to build a lucrative business. Thus, in case of digital platforms, capital is a critical input and a competitive mace. Further, although initial short-term discounts are common in-case of digital platforms to capture the market share, but recuperating the cost of these discounts is inevitable. The market power built by appropriating the network effects may adversely affect consumer's welfare in future.

Since the 1990's technological progress has steadily moved at a unique frontier, where in the first-mover advantages to digital platforms (due to the network effects) have become exceedingly intense, making it highly probable for the competitive game to end in a winners-take-all outcome. The presence of intrinsic network effects coupled with the limited interoperability in digital platform ecosystem inevitably makes the prevalent digital platform ecosystem to have monopolistic structure or at best an oligopolistic market structure.[5]

Industries characterised by network effects contain a 'tipping point' – such that when a digital platform attains substantial number of subscribers or users it is usual for the market to tip in its favour. Tipping may have favourable consequences when a firm competes on the basis of the innovation. The network effects enable the better firm to emerge as the dominant player; this dominant position may be used to stifle future competition

[4] For instance, the global taxi company 'Uber' reported worldwide losses of US$ 5.2 billion (approximately INR 386.32 billion) in the quarter ending June 2019 which is the largest since the year 2017 when it started financial reporting publicly. Uber's used the same strategy in India also of using capital as a competitive edge (Conger, 2019). The Indian taxi company 'Ola' also adopted a similar strategy and reported a loss of about INR 49 billion for the financial year 2016-17 and a loss of INR 28.4 billion for the financial year 2018 (PTI, 2019). Similar behaviour is observed in other industries also. In case digital payments platforms, where regulations have blocked interoperability and therefore created the opportunity to kick off a network effect, the firm One97 Communications, which owns 'PayTM', reported a loss of INR 42.17 billion in financial year, 2019 (Dalal, 2020).

[5] For instance: The benefits of social networking sites such as Facebook, Instagram, Twitter and WhatsApp are conditioned on the number of friends and family on the particular platform. Consumers using ride hailing platforms such as Uber and Ola may prefer the platform with a large number of drivers on the network as this is likely to result in a lower waiting time for the commuters; further the drivers will prefer to be listed on the platform with higher number of subscribers as this condenses their service wait time. In case of payments wallets such as PayPal, PayTM, PhonePe and Airtel Money due the lack of interoperability, merchants and consumers prefer a wallet with most addressable subscribers. But in the case of email services such as Gmail, Yahoo mail and Hotmail, the benefits of email communication are not restricted to closed proprietary networks, due to the interoperability standards in email protocols.

(Rubinfeld, 1998). But, tipping effect may also lead to 'network failure', when the market tips in favour of the not so efficient firm - that does not have the most innovative product or service. Such a situation may occur when a sub-optimal product or service manages to achieve network effects, leading to sub-optimal consumers choices; example: the popularity of the QWERTY keyboard (Greenhalgh and Rogers, 2010). The market may even tip in favour of a firm that uses financial means to offer deep discounts, schemes and incentives to capture the market share, while the product or service offered by the specific firm may not necessarily be superior or efficient compared to the other firm with lesser financial strength. For instance; payment portal such as PayTM, Freecharge and Mobikwik offer cash-back discounts for several transactions carried out on their platform. The consumer switching costs for users of these platforms exits due to the lack of interoperability in the digital platforms. Users are usually inclined towards a payment platform which connects them to the maximum number of other users.

Further, in the contemporary digital age, people are increasingly becoming dependent on the conveniences offered by a handful of tech enterprises resulting in consent for data collection to be strong-armed, as the users recognise the absence of contesting alternatives. The operational processes in the novel industrial revolution have harmonised 'data' as the creator of wealth, the value of which grows exponentially. This sanctions the prevailing tech enterprises to become perpetually more dominant and adept of flattening competition in multitude ways- be it nipping an enterprise that emerges near to its underlying commercial model, or through organized intrusion on rival enterprises.

Consequently, the mounting technological advancement challenges the existing regulatory and policy framework, compelling the policy makers to reflect beyond the comforts of traditional brick and mortar businesses. As amenities are increasingly delivered through digital platforms, there exists a momentous threshold for regulators and policy makers to facilitate an even amalgamation of digital platforms into the economic systems, so that benefits of the fourth revolution are fairly appropriated by the masses and not concentrated to the novel 'skilful' capitalist class of 'techno-preneurs'.[6] This study aims to facilitate in having better informed discussions on regulating the new commercial enterprises braced by the fourth industrial revolution by identifying sources of the market power of the digital platforms, and elucidating how this power is being or could be abused, by surveying the select cases put before the Competition Commission of India (CCI).

II. Source of Market Power of the Digital Platforms and its Abuse

Conventionally, market power is understood as the firm's ability to effectively raise the price of a product or service over its marginal cost. But, in case of digital platform, which often provides various services either free or below average variable cost, the usual definition of market power may not prove useful. To understand the

[6] The historic review of technological advancement illustrates that technological progress has delivered economic progress for all, but with the lack of even-handed trickle-down effect and thus caused a perpetual increase in income inequalities. In the contemporary cybernetic society, concern for Sustainable Development Goals 10 (reducing inequality) are being pondered by academicians and policymakers. The current ICT revolution surely promises better amenities for all, but with the trade-off of accompanying welfare with ever more pronounced inequalities due to the intrinsic characteristic of digital platforms of having high network effects coupled with the lack of interoperability.

market power of the digital platforms, a review of their features may be better suited.

Digital platforms serve and operate in diverse markets, and adopt different commercial models depending on the industry/sector being serviced. Following Peitz, Schweitzer and Valletti (2014) based on the platform's source of revenue, digital platforms may be grouped depending on the different commercial models - (i) '*subscription model*' where in the end-users pay for a service such as Netflix; (ii) '*advertisement model'* where in the digital platforms generate revenue by providing marketers access to large and targeted audience base such as Facebook, Google and YouTube; and (iii) '*access model'* where in the content or application developer pays to reach the end-user such as App store. A more nuanced inquiry of digital platform's market power could be undertaken from being platform specific. But notwithstanding the differences, the section below discusses the cases of select major digital platforms offering services in India to survey how these digital platforms derive their market power.

Power of gatekeeping

Irrespective of the industry/sector being served or the commercial model adopted by the digital platform, the success of these platforms is conditioned on the end-user traction. Since the enterprises in the online space compete for subscribers/audiences, price may not often appear lucidly in the marketing mix of digital platforms, as it is not always rewarding to levy a (direct) users/subscriber fee for the service (such as Facebook, Google, Instagram and Twitter). Technology has nuanced profit making for most of the dominant digital platforms from touting the audience access to the advertisers. The advertisement revenue spent on these platforms is inherently efficient with regard to price., Besides digital advertisements are far reaching and can be targeted to the desired audience, with the help of information (data) gathered about the subscribers on these platforms.

Additionally, the market power of the digital platforms augments when an enterprise has multiple digital platforms in diverse areas thereby creating synergies by linking platforms through user data. Coalescing user-data from different digital platforms, enables the platform enterprises to optimise the experience for both end-users and advertisers. The technological distinctions have made the prevalent digital platforms indispensable intermediaries for the advertisers to reach the large audience base which accords these digital platforms a gatekeeper position, for other business/ enterprises.[7] This gatekeeper power may be leveraged for superior terms from the user that depend on these digital platforms. In a recent case, *M/s Albion InfoTel Limited v. M/s Google Inc., M/s Google Ireland Limited and M/s Google India Private Limited,* Google was charged with abuse of dominant position based on its user safety and Adword policy which the advertisers are coerced to sign. The elusiveness in Google's policies assisted Google to individually dismiss the advertisement campaigns of the company from time to time and ultimately suspend its account without providing any legitimate reason. M/s

[7] Report by European Commission (2017) notes that most business users elude any disagreement with large digital platforms, fearing an undesirable impact on their business, since no feasible alternative for these major platforms exists due to their scale, geographic range and the number of (prospective) customers base to be accessed through their platform. Besides, alternative prospects are often not efficient for restoring any adverse impacts and creates added costs for the business users.

Albion InfoTel Limited, alleged that the entire bidding process of Google adword is obscure and lacks transparency in the mechanism of fixing the cost per click. M/s Albion InfoTel Limited reasoned that Google's decision to suspending the company's adword account is nothing but a mechanism adopted by Google in collusion with iyogi (the informant company's rival) to eliminate competition in the remote tech support market. The commission although recognised the elusiveness in Googles adword policy but did not find enough evidence to prove the antitrust concerns (CCI Case. No. 46 of 2014).

Power to Leverage

Due to the inherent network effects, lack of interoperability, integration across markets the size/scale, geographic range and the subscriber base of the prevailing digital platforms have become enormously dominant across the globe. Dominant digital platforms (Facebook, Instagram, Amazon, Netflix, Google) have become an underlining infrastructure resource for businesses to reach their potential customers. These platforms may leverage its principal position in subordinate markets, by creating a platform service in direct competition with the business using its services, thereby raising antitrust concerns. Select prevalent digital platforms (Amazon, Flipkart, Google and Netflix) have transcended the commercial lines such that they operate as a platform and are also able to market their own products. This type of assimilation leads to a core conflict of interest, incentivizing a platform enterprise to advantage its own goods and services over those offered by the third parties, there by impeding competition, and discouraging innovation. In the year 2012, M/s Consim Info Private Limited and Consumer Unity & Trust Society alleged against M/s Google Inc., USA and M/s Google India Private Limited (together Google) that Google was leveraging its dominant market position as a search engine to intensify its position in online syndicate search services by practicing search bias, search manipulation, denying access and establishing entry barriers for contending search engines. This was a case of core conflict of interest where Google as a digital platform advantaged its own commercial flight search service unit over the ones provided by the third party, thus deterring competition. Cases of search manipulations were also noted, to promote its own vertical services such as Google map, Google news and YouTube, Google blended different vertical results with the organic search results. Such search manipulation facilitated Google's vertical services to appear dominantly when the consumer searches regardless of being relevant or not. Recognising these allegations against Google for abusing its dominant market position, the CCI imposed a fine of over INR 135 million on Google in February 2018. (CCI Case Nos. 07 and 30 of 2012).

*I*n another recent case, All India Online Vendors Association, a consortium of over 2000 venders (registered under the provisions of the Companies Act, 2013) selling different products through the e-commerce marketplaces such as Flipkart and Amazon; alleged against M/s Flipkart Internet Private Limited[8] for preferential treatment. The association alleged that M/s Flipkart India Private Limited, an enterprise undertaking wholesale trading/distribution of books, computers, mobiles, and related accessories; sells its product to WS Retail Services

[8] A company running an e-commerce marketplace website called Flipkart.com. The enterprise charges a fee to the registered vendors on its e-commerce marketplace.

Private Limited, an enterprise owned by founders of M/s Flipkart Internet Private Limited till the year 2012, at a reduced price and then subsequently these products are sold on the e-commerce marketplace, Flipkart.com owned by M/s Flipkart Internet Private Limit. The vendor association reasoned that such a business arrangement resulted in preferential treatment to the select sellers, which was comprehended as a discriminatory trade practice. Further the association asserted that Flipkart has a direct conflict of interest with other manufacturers selling their products on Flipkart's digital platform and Flipkart's own brands such as 'Smartbuy' and 'Billion' (CCI Case No. 20 of 2018). Even though there was much evidence against Flipkart anti-competitive practises, CCI noted that the marketplace based e-commerce model is at a relatively evolving stage in India and taking cognizance of the fact that the nature of this model is technology-driven, the commission avoided interference. Identifying the growth potential of e-commerce and consumer benefits such business offers, the commission believed that any intervention in such markets must be prudent else it may stifle innovation.

Power of Information and learning

Platforms supremacy is further armoured through the power of consumer information they have access to, this is due to the diverse data they accumulate when a subscriber/consumer browses the specific platform. Digital platforms collect significant volume of information, varying from the time spent by the subscribers on a web portal, the number of days a product rests in the consumer shopping cart, to the specific location one visits by GPS tracking through the user's mobile phone, and how one psychologically reacts to various posts and words. When a digital enterprise maintains multiple platforms, it enables the enterprise to link user data from different web-portables and further refine the consumer information. The data gathered about the consumers allows business to understand the subscriber/consumer behaviour and preferences better, this facilitates in optimising the experience for the end-users and thus providing best returns to advertisers, content creators and enterprises. The power of information embedded in data also allows the prevalent platforms enterprises to better apprehend the consumer behaviour, which consents improved market power to them, as they can competently determine what the consumers prefer or want thereby strengthening their business aspects further. Also, the user information harnessed through data can also be used to influence the consumer preference through appropriately nudging the users. The power of user information also facilitates the enterprises to practise perfect price discrimination, thereby appropriating maximum consumer surplus.

Furthermore, technological advancement with the rise in machine learning and artificial intelligence has made 'data' the critical input which makes several digital devices, services and platform more efficient. Turck (2016) terms this advantage of data as 'data network effects'. To make the services more relevant and efficient for the user's platforms such as Google's search engine, Facebook's news feed, Instagram's feed and Swiggy's restaurant recommendations the platform utilises user generated data for their algorithms. Better products and services in turn attract more users and this further augments the scale effects (Malik, 2015; Turck, 2016). The ubiquitous use of algorithms in digital platforms makes it possible for enterprises to achieve a tacit collusion and also raises antitrust concerns. With time the algorithms progressively become sophisticated due to their power to self-learn from other algorithms and data. The learning of the algorithm may facilitate collusion among the digital

platforms without human interface, as algorithmic function may learn that collusion is more beneficial rather than competition and hence digital platforms are likely to function as cartels. In another recent case major cab aggregators: ANI Technologies Pvt. Ltd. (Ola), and Uber India Systems Pvt. Ltd., Uber B.V. and Uber Technologies Inc. were alleged to be using the algorithms for fixing the prices for the rides on behalf of the drivers, booked through their respective digital platforms Ola and Uber. The pricing algorithm adopted by the ride hailing platforms calculates the fare based on the basic fee, ride distance, and time spent in transit, which is multiplied by a 'surge' factor during the periods of high demand. The cabs drivers using the Ola/Uber platform do not compete on price but take the taxi fare as given by the ride hailing pricing algorithm. Due to this power of information the cab aggregators are able to implement perfect price discrimination, whereby different riders may be charged differently on the basis of their willingness to pay. Since cab aggregators are not obliged to publicly disclose the calculation of prices, the personalised data of the riders may be misused to practise price discriminate (Case No. 37 of 2018). With regard to this case the commission admitted its limited experience in handling such case where industries are characterised by network effects and gather massive consumer information by the way of data. However, CCI noted that the pricing followed by the ride hailing companies do not appear to be similar to the 'hub and spoke' arrangement as understood in the traditional competition parlance.

Power of Capital

As explained in the first section, capital is a competitive mace for digital platforms to obtain the critical mass and generate positive network effects to build a sustainable business model. Capital facilitates digital platforms to gain market share by offering product and services at discount which is often below the average variable cost. Capital may assist market to tip in favour of the firm which may not necessarily provide a superior product or service. The network effects gained by the digital platforms create significant entry barriers for rival platforms. Attaining a critical mass of subscribers for a digital platform is the main challenge for new platforms companies. Since new platforms and competing firms have to rapidly scale up on multiple ends of the platforms to survive and succeed. This essential requires sizeable capital and deep pockets, which emerging start-ups may not have.

Consequently, venture capitalist investments are a significant part of the digital platform ecosystem. Once digital platforms reach a stage of growth or are able to persuade the investors about its business idea, the enterprise is able to raise funds to scale up. It may be noted that it is actually a limited number of firms which have invested in the leading digital platforms in India and across the world in various sectors or relevant markets. For instance: The Japanese conglomerate SoftBank Group Corp, was an early investor in ANI Technologies, an Indian origin enterprise running the ride hailing platform Ola. Currently SoftBank stake in ANI Technologies is little less than 25 per cent. SoftBank is also one of the largest stakeholders (about 16 per cent) in the world's leading ride hailing company Uber Technologies Inc, which also offers services in India (Dalal and Bansal, 2019; Bloomberg, 2019). Another example is the case of the two US based investment firms, Tiger Global Management LLC and Nexus Venture Partners having stake in prominent competing e-commerce platforms in India- Flipkart, Snapdeal and Shopclue.

When a common set of investors hold a significant stake in competing firms in a concentrated market, the shareholders have an incentive to reduce competition among the rival firms (Elhauge, 2016). This may be because in such a situation investors may not benefit from one firm increasing its market share via price cuts as that may be at a cost of the competing firm's sales that is also owned by the same investors (Parsheera, Shah and Bose, 2017). Thus, there may be an incentive to keep the industry prices high rather than trying to compete to capture the market share of other firms, where the same shareholder has invested. The digital platform ecosystem witnessed frequent entry and exit of market players; companies exercise mergers and acquisitions as a strategy to strengthen its market share and stifle potential competition or diversify into new business areas. For instance: Flipkart, the e-commerce giant acquired the competing platform Myntra in May 2014 for US$300 million; the ride hailing platform Ola acquired the promising contender TaxiForSure for US$200 million in the year 2015 (Russell, 2016). It may be noted, the buyouts of smaller firms by larger competitors, operating in the same market, often take place when both the platforms are tied together by common investors. This was evident in the case of Flipkart's acquisition of Myntra, where the major investors, Accel India Venture Fund and Tiger Global together held over 50 per cent stake in Myntra and about 40 per cent stake in Flipkart at the time of the acquisition, as per reports the co-investors in Flipkart and Myntra may have propelled the acquisition. Recently five cases in the Indian jurisdiction against popular ride hailing platforms Ola and Uber, though dismissed by CCI, alleged predatory pricing by the taxi aggregators. M/s Fast Track Call Cab Private Limited a company engaged in the business of providing radio taxi services under the brand name Fast Track in southern India, filed the case against M/s ANI Technologies Pvt. Ltd. running the ride hailing platform Ola, claiming that Ola, backed by huge investments from various agencies, indulged in predatory pricing to establish monopoly and eradicate the efficient rival from the taxi business. Fast Track alleged that the Ola's cost for providing cab services was much above its revenue from customers. Fast Track also claimed that Ola created artificial entry barriers in taxi business by constraining its driver fleet operators from using any other rival platform for offering taxi services. Additionally, it was alleged against Ola that by offering general discounts and loyalty rebates to the customers through the wallet system, Ola was practising discriminatory pricing (Case No. 06 of 2015). The commission viewed that for both the radio taxi service companies' M/s Fast Track Call Cab Private Limited and M/s ANI Technologies Pvt. Ltd. the relevant market was taxi services. It was ordered that Ola may systematise its pricing system in the relevant market so that the incentives paid by to the cab drivers and other variable costs do not exceed the passenger revenue earned by Ola. However, the order, did not imply price fixing. Ola was asked to notify the CCI about the pricing schemes details for the taxi services in the city of Bengaluru.

In the Year 2017 M/s Meru Travel Solutions Pvt. Ltd. engaged in radio taxi services alleged against the ride hailing platforms companies' M/s ANI Technologies Pvt. Ltd. (Ola), M/s Uber India Systems Pvt. Ltd., Uber B.V. and Uber Technologies Inc (Uber) of crushing competition in the industry by artificially creating entry barriers with the use of capital. It was alleged that ride hailing platforms provide unrealistic monetary incentive to drivers and restrict the drivers from using alternative network. Additionally, the two companies also provided lucrative discounts to customers coupled with low fares with an aim to gaining a significant market share, which is a predatory market capturing tactic. The allegation was filled against the dominant ride-hailing platforms in the different regional markets of Hyderabad, Mumbai, Chennai and Kolkata. The commission noted that relevant

market may be recognised as market for radio taxi services in the respective geographies of Hyderabad, Mumbai, Chennai and Kolkata. However, based on the evidence of M/s Meru Travel Solutions Pvt. Ltd by the way of report by Tech Sci, the commission did not recognise that any ride hailing platforms were dominant in the relevant market across the four cities. Since dominant position is not established the abuse of dominant position cannot be established (Case No. 25, 26, 27 & 28 of 2017). The newer literature on platform competition has further muddied these waters, showing that there is no simple way to prove predatory pricing, much less to condemn it.

Approaches to Competition Enforcement in India

It is may be noted that the gap between regulations and the rate of innovation by firms in the digital economy has widened. The time taken for decision making by competition authorities and the expertise with authorities may not be adequate to assess the competition issues arising in the platform markets. The lag in the law times and time taken to decide about a case in the digital ecosystem may result in findings to become irrelevant, due to the pace of technological advancement. It may be noted that the CCI has been dealing with cases regarding the platform economy using the same approach as it would use in traditional brick and motor business. But with a survey of the various cases that have been put before the CCI, it is evident that the commission may have to consider applying competition laws to digital platforms and network industries discerningly.

As observed in case no. 20 of 2018 of CCI, a market place digital platform initially strategized other firm to become dependent on connecting to it and relying on it, and later used these dependences to hurt competitors. Although the commission did not intervene in this particular case, on grounds that it may stifle competition. This type of behaviour might be regarded as exploitation and thus considered abuse of dominance under the European Union law. It would violate US law only if, it enabled the platform to gain market power, else it would not have in either the digital platform market or the market in which the excluded firm did business (Chicago Booth, 2019). It may be noted that world over policy makers are grappling to revise competition laws to address the competition issues in the new-age markets, while ensuring that consumer welfare is not comprised by stifling innovation.

It may be noted that to establish abuse of dominant market position CCI first defines the relevant markets—both in terms of product and geographical market. Following this CCI establishes dominance of the specific enterprise, only once dominant position is established, the abuse of dominant position may be considered and appropriate measures taken. However, due to technological advancement, the network industries were the firms are backed with deep pockets the identification of the dominant position may need to be established differently. In the digital platform ecosystem, due to network effects, high switching costs and lack of interoperability the damage done to competition by a prevailing firm may not be undone ex-post facto, the regulatory strategies must be ex-ante measures. For India, there may be learnings from the US antitrust laws, where the Sherman Act enables the regulator to take action against anticompetitive market practises based on an attempt or a conspiracy to monopolise, and does not essentially require to prove the dominant position of the alleged firm (Chicago Booth, 2019).

Further India's competition law prohibits predatory pricing; the methodology used to detect the predatory

pricing is not adequate in networked markets. If a firm is selling its products at a price below the marginal cost of production, it is recognised predatory. But, since data on marginal cost is difficult to get, the commission uses average variable cost as a proxy for marginal cost pricing (Parsheera, et al, 2017). Creating a platform although requires substantial fixed cost but serving an additionally customer may not involve high variable cost. However, for platforms to get subscribers on their network there may be a substantial customer acquisition cost involved, it may be that CCI may want to consider these customer acquisition cost also as a part of variable cost do decide if predatory pricing is practised. For if the commission considers only the cost of establishment of the digital platform, and its customer service cost, it may allow digital platforms to engage in predatory pricing, without grabbing CCI's attention. Thus, it is vital that the commission considers the customer acquisition cost as a part of variable cost to decide if the digital platform firm is practicing predatory pricing.

Further, it may be noted that although the competition law in India does not allow rival firms to enter into agreements as it reduces competition. But the law does not target common ownership of rival firms by a specific investor. When a specific investor holds shares in competing companies in the same segment, it may lead to a reduced incentive to compete. Reduced competition may lead to higher industry product/service price and lower quality standards. Common investors of competing firms may facilitate collusion, mergers or acquisitions in the industry thereby reducing competition.

Possible regulatory solution

It may be noted that the traditional tools available with regulators are not adequate to detect uncompetitive practices in digital platform market models. The very nature of digital platform ecosystem leads to concentration of market power in the relevant markets and cause producer and consumer harm. The harm may be by the way of higher price, lack of quality services and reduced incentive to innovate. Based on the unique source of market power of digital platforms discussed in the previous, this section suggests select solutions which may possibly weaken the dominant position of prevalent digital platforms.

Breaking the dominant digital platforms

Since the power of network effects coupled with information (data) consents the prevailing digital platforms to monopolise their respective industries (for instance: Google in case of online search and Amazon in case of e-commerce), by throttling over the firms that depend on their digital platform to reach consumers (see CCI case no. 20 of 2018). Policy makers may consider breaking the digital platforms horizontally, that is dividing the platform firms into smaller but similar enterprise. For instance: a horizontal break may be breaking Instagram from Facebook. A break could also be of a vertical nature meaning that digital platform remains consistent but the firm has to let go any product or service business that uses the platform to reach its customers to avoid antitrust issues. For instance, under the case 20 of 2018, the market place platform (Flipkart) could effectively sell any product which other firms sell on its platform. Another example may be Google (case no 07 and 30 of 2012) the search engine, may not be allowed to provide flight search, map or other services. Looking through an optimistic lens a break up of digital platform firms may promote competition among the online firms there by promoting

innovation, lower price and better service quality. But there may be serious issues with a break of digital platform firms. A crucial concern will be with regard to the customer or subscriber data when a digital platform is broken, would it mean that all the firms get access to the customer data? Will the customer or subscriber be fine with the fact that now their data is with multiple firms rather than one? Sharing of the customer or subscriber data with many firms could make customer or subscriber more susceptible to identity theft or online fraud, thus a break up of dominant digital firms may lead to enhanced privacy regulation challenges. Furthermore, dividing the prevalent digital platforms may reduce the effect of economies of scale, that generates when a specific digital platform provides varying services. For instance, Google the search engine also providing google maps.

Limit Venture Capital Investment in competing platforms

To ensure that the digital platform competes and does not have any incentive to compete and keep the industry profits high, there must be stringent restrictions on the venture capital investment firms on investing in the same segment or the same relevant market. For if there is a common investor in the same market segment it may promote mergers and acquisitions (example: Flipkart acquisition of Myntra, reduces the incentive of the firms to compete on price and service quality and also reduces the incentive to innovate.)

Encouraging data portability and interoperability among digital platforms

Since data is a competitive mace in the digital ecosystem, the policy makers may contemplate the idea of binding data portability (akin to mobile number portability), allowing customers of one digital firm to port their entire data to another firm, without leaving previous firm with any data access. This may facilitate in reducing the consumer switching cost and facilitate the consumer to leave one firm for another for better service quality and price, thus promoting competition. However, implementation of data portability may be a very challenging task, which may require excessive coordination between the incumbent, the new firm and the consumer. Additionally, there is no evidence to suggest that data portability may encourage competition and allow new firms to enter the specific industry. It may be noted that the lack of interoperability in case of digital platforms (example: the payment wallets – PayTM, PhonePe, PayPal and Airtel Money) enhances the market power in the network industries. If in such online market segment interoperability standards are mandated it would not only encourage competition, promote entry but also improve the uptake of such digital services.

Algorithm Audits

Technological advancement allows the digital platforms to collect massive information/data which allows such firms to practise price discrimination and influence consumer behaviour using sophisticated algorithms. Regulatory authorities may make it mandatory for the digital platforms to undergo algorithm audits. It may be noted that to conduct algorithm audits the regulatory authorities would need a team of diverse competent technical personnel comprising of legal experts, engineers, phycologists and economists.

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III. Levying appropriate taxes

The 2018 Noble prize winner Paul Romer, opined that it may be extremely difficult to effectively regulate the dominant digital platforms. Thus he suggested to substantially tax the advertising sales on the digital platforms to demotivate the prevalent digital platforms to collect the data. He suggests taxing revenue from sales of targeted digital advertisement, which are the heart of the operation of prevalent digital platforms such as Facebook and Google. Taxing the advertisement revenue of the social media or digital platforms would make it difficult for these firms to profit from the advertisement revenue and incentivise them to follow alternate business models such as subscription model for the product where price may appear more lucidly in the product mix. Romer (2019) suggests that tax may be progressive, with lower tax (on a per add basis) for smaller firms and high tax for larger firms. This would make acquisitions and mergers less attractive and therefore would promote competition. Further, mergers and acquisitions of firms characterised by network effects (and lack of interoperability) must involve high progressive taxation which discourages the coming together of the two firms.

In conclusion, the economics of digital platforms discussed above is fairly complicated and should be conducted case by case, taking into account both positive and negative effects which may differ from industry to industry. This requires what is called the 'rule of reason' in antitrust jurisprudence. Such an approach requires careful fact-finding and analysis. The competition watchdog in the country is faced with a dual dilemma, on the one hand, early intervention by them could harm or kill a promising new technology, while on the other hand, damage may already have been done in case of delay.

References

1. Bharadwaj et al. (eds.), Multi-dimensional Approaches Towards New Technology, https://doi.org/10.1007/978-981-13-1232-8_11
2. Bloomberg (2019). Why Bhavish Aggarwal turned down a $1.1 billion SoftBank deal. The Economic Times. Retrieved from //economictimes.indiatimes.com/articleshow/68788526.cms?from=mdr&utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst on October 12, 2019.
3. *CCI (2012). Case Nos. 07 and 30 of 2012. Retrieved from* https://www.cci.gov.in/sites/default/files/07%20&%20%2030%20of%202012.pdf on November 12, 2019.
4. *CCI (2014). Case. No. 46 of 2014. Retrieved from* https://www.cci.gov.in/sites/default/files/462014_0.pdf on November 18, 2019.
5. *CCI (2015). Case No. 06 of 2015. Retrieved from* https://www.cci.gov.in/sites/default/files/062015_0.pdf on November 18, 20
6. *CCI (2017). Case No. 25 of 2017 Retrieved from* https://www.cci.gov.in/sites/default/files/25%20-%2028%20of%202017.pdf on November 18, 2019.

Received: 27 Mar 2020 | Revised: 20 Apr 2020 | Accepted: 05 May 2020

7. *CCI (2017). Case No. 26-28 of 2017 Retrieved from* https://www.cci.gov.in/sites/default/files/25%20-%2028%20of%202017.pdf on November 18, 2019.
8. *CCI (2018). Case No. 20 of 2018 Retrieved from* https://www.cci.gov.in/sites/default/files/20-of-2018.pdf on November 18, 2019.
9. *CCI (2018). Case No. 37 of 2018. Retrieved from* https://www.cci.gov.in/sites/default/files/37of2018.pdf on November 12, 2019.
10. Chicago Booth (2019). Study of Digital Platforms Market Structure and Antitrust Subcommittee Report. Accessed from https://research.chicagobooth.edu/-/media/research/stigler/pdfs/market-structure-report.pdf?la=en&hash=E08C7C9AA7367F2D612DE24F814074BA43CAED8C
11. on November 20, 2019.
12. Conger, Kate (2019). Uber Posts $5.2 billion loss and slowest ever growth rate. The New York Times. Retrieved from https://www.nytimes.com/2019/08/08/technology/uber-earnings.html on November 12, 2019.
13. Dalal, M and Bansal, V (2019). How Ola got SoftBank and Tiger to invest in Ola Electric on its own terms. Retrieved from https://www.livemint.com/companies/start-ups/how-ola-swung-a-funding-flip-1565195590035.html on December 20, 2019.
14. Dalal, M (2020). And now, Paytm faces its moment of truth. Livemint. Retrieved from
15. https://www.livemint.com/companies/start-ups/and-now-paytm-faces-its-moment-of-truth-11578503275841.html on January 11, 2020.
16. Elhauge E (2016). Horizontal Shareholding. Harvard Public Policy Law Working Paper No.16-17. Retrieved from L http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2632024 on November 12, 2019.
17. European Commission (2017). Business to Business relations in the online platform
18. Environment. FWC ENTR/300/PP/2013/FC-WIFO. Retrieved from https://op.europa.eu/en/publication-detail/-/publication/04c75b09-4b2b-11e7-aea8-01aa75ed71a1 on October 20, 2019.
19. Evans DS, Schmalensee R (2002). Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries. In JL Adam B Jaffe, S Stern (eds.). NBER Book Series Innovation Policy and the Economy (Volume 2), chapter 1, p. 1 to 50. MIT Press. Retrieved from http://www.nber.org/papers/w8268.pdf. on November 12, 2019.
20. Evans, DS and Schmalensee (2012). The Antitrust analysis of multi-sided platform business. NBER Working Paper No. 18783. Retrieved from http://www.nber.org/papers/w18783 on November 12, 2019.
21. Foster, C., & Heeks, R. (2013). Innovation and scaling of ICT for the bottom-of-the-pyramid *Journal of Information Technology, 28(4),* 296-315.
22. Graham C (2004). Introduction. In C Graham, F Smith (eds.). Competition, Regulation and the New Economy. p. 1 to 12. Hart Publishing.
23. Greenhalgh C, Rogers M (2010). Innovation, Intellectual Property and Economic Growth. Princeton

University Press.

24. Khan M., Lina (2019). The Separation of Platform and Commerce. *Columbia Law Review*, 119 (4) 119, 973-1098. Retrieved from: https://www.jstor.org/stable/10.2307/26632275 on November 1, 2019.
25. Leong L.M.C, Pan L.S., Sue N., & Cui L. (2016). The Emergence of Self-Organizing E- Commerce Ecosystems in Remote Villages of China: A tale of Digital Empowerment for Rural Development. *MIS Quarterly,40(2),* 475-484.
26. Andrew, McAfee (2019). More From Less: The surprising story of how we learned to prosper using fewer resources - and what happens next. Publisher: Simon & Schuster UK, ISBN13: 9781471180330
27. Parsheera, S., Shah, A., & Bose, A. (2017). Competition Issues in India's Online Economy. NIPFP Working paper No. 194. Retrieved from https://www.nipfp.org.in/media/medialibrary/2017/04/WP_2017_194.pdf on October 23, 2019.
28. Peitz, M., Schweitzer, H., and Valletti, T. (2014). Market Definition, Market Power and Regulatory Interaction in Electronic Communications Market. CERRE study, Centre on Regulation in Europe. Retrieved from https://cerre.be/sites/cerre/files/141029_CERRE_MktDefMktPwrRegInt_ECMs_Final.pdf on October 20, 2019.
29. Rubinfeld DL (1998). Antitrust Enforcement in Dynamic Network Industries. The Antitrust Bulletin, Fall-Winter, 859 to 882. Retrieved from https://www.law. berkeley.edu/files/dlr_enforcement.pdf. on October 20, 2019.
30. Shapiro C, Varian HR (1999). Information Rules: A Strategic Guide to the Network Economy. Harvard Business School Press.
31. Schumpeter, Joseph (1994). Capitalism, Socialism and Democracy. Chapter 5-8. Retrieved from https://eet.pixel-online.org/files/etranslation/original/Schumpeter,%20Capitalism,%20Socialism%20and%20Democracy.pdf on October 23, 2019.
32. Srivastava, S. C., & Shainesh, G. (2015). Bridging the Service Divide Through Digitally Enabled Service Innovations: Evidence from Indian Healthcare Service Providers. *MIS Quarterly, 39(1),* 245-267.
33. Turck M (2016). The Power of Data Network Effects. Retrieved from http://mattturck. com/2016/01/04/the-power-of-data-network-effects/ on October 23, 2019.
34. Van Gorp & Honnefelder (2015) Regulation and Competition: Challenges for Competition Policy in the Digitalised Economy. *Communication Strategies,* 99(3), 149-192.
35. Malik O (2015). In Silicon Valley Now, It's Almost Always Winner Takes All. Retrieved from https://www.newyorker.com/tech/annals-of-technology/in-silicon-valley-now-its-almost-always-winner-takes-all on October 23, 2019.

36. PTI (2019). Ola halves losses revenue up 61%. Retrieved from https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/ola-halves-losses-revenue-up-61/articleshow/67783173.cms?from=mdr on November 12, 2019.
37. Romer, Paul (2019). A tax that could fix big tech. The New York Times. Retrieved from https://www.nytimes.com/2019/05/06/opinion/tax-facebook-google.html on November 24, 2019.
38. Russell, Jon (2016). Ola confirms it has shut down TaxiForSure, the rival it acquired for $200M. TechCrunch. Retrieved from https://techcrunch.com/2016/08/17/ola-confirms-it-has-shut-down-taxiforsure-the-rival-it-acquired-for-200m/ on November 12, 2019.