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Web3 and Business to Consumer Electronic Commerce: Indian Competition Law Paradigm

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Abstract— In a technologically competitive era, innovative businesses constitute the epitome of dynamic competition. Business to Consumer (B2C) online marketplaces are platform markets connecting sellers, buyers and advertisers through multi-sided environment utilizing user network effects. However, because of fourth industrial revolution, data driven businesses and COVID-19 pandemic, Web3 and the technological consequence, metaverse, has penetrated into regulating B2C electronic commerce as a techno-legal dynamism. From technological perspective, Web3 represents internet democratization through interoperability, encrypted communication and open protocols. Therefore, customers and sellers will not be dependent on centralized hierarchy based B2C platforms for visibility as criteria for successful transaction, also the objective of the recent Indian initiative, Open Network for Digital Commerce (ONDC). From a regulatory standpoint however, many questions arise. Big technology companies are invested in metaverse for instance, through Virtual Reality (VR). As per existing literature, they can engage in self-preferencing and exclusionary anti-competitive behavior, as customers can be compelled to purchase VR headsets of a particular company as indispensable way of accessing metaverse. Similarly, companies through predatory innovation can ensure incremental improvements in innovation and generate anti-competitive consequences. Further, horizontal anti-competitive agreements like cartels are plausible through the ONDC which is in infancy. Therefore, the researcher attempts to trace such practices by traversing through relevant case laws, legislative developments and scholarly work by firstly, delineating upon conceptual underpinnings of Web3 based B2C electronic commerce, secondly, by addressing the aforesaid research areas and lastly providing suitable suggestions with conclusion.

Index Terms—dynamic competition, internet democratization, platform markets, techno-legal dynamism

I. INTRODUCTION: BACKGROUND, MOTIVATION AND OBJECTIVES

Technological advancements have always created the innovation bedrock on which their modern day scientific applications stand. In today's age of the fourth industrial revolution and the augmentation of the digitization narrative, there is a paradigm shift in terms of movement from physical to the virtual world. With the advent of the entrepreneurial spirit and the evolution of data economies, enterprises noticed potential in their productivity in the virtual space and started devising strategies for engaging in commercial transactions. In the Indian context, the technological innovation landscape is undergoing a paradigm shift as industry 4.0 finds its application into Business to Consumer (hereinafter B2C) electronic commerce. If the evolutionary history of the internet is traced, many commentators have opined that Web 1.0 and Web 2.0 represent a transformation in internet based interaction from passive information sharing to active and meaningful interaction by all stakeholders. B2C electronic commerce in this regard, is akin to internet search engines which provide a vital platform for various groups to interact and create value [1]. In the context of this development, Web3 is the next generation of the World Wide Web hinging upon principles such as decentralization, interoperability, encryption and open protocols. At this juncture, it is imperative to understand the meaning and application of the aforesaid nomenclatures to Web3. Decentralization implies democratization of the internet in terms of equitable access by multiple stakeholders. Interoperability refers to the functional compatibility of two or more devices for an efficient outcome. Lastly, secure communication through encryption and access through an open protocol or open block chain ensures freedom of access without compromising privacy. The technical protocols and social visions of Web3 are (nominally) premised on expanding and elevating the role of data for users beyond the control of data for tracking and targeting by platforms [2]. The central premise is to ensure all participants across the digital spectrum have meaningful and value adding interactions rather than centralized hierarchy based platforms. For instance, presently, when a customer purchases a product from a seller on a B2C electronic commerce platform, the platform makes it imperative that both are visible to ensure the transaction goes through. The diffusion of Web3 into the aforesaid scenario ensures that buyers and sellers can transact regardless of their presence on the same platform. This ensures more choices for consumers and greater access to customers for sellers who were

otherwise unable to sell their products on the platform. It can be said that multiple users can expect the memorable experience of sharing economic value through open communication and transaction activities [3].

In this regard, it is important to enumerate upon the concept of digital platform markets. Whereas platform markets are part of conventional jurisprudence, digital platform markets has risen to prominence with internet penetration in India. Conventionally, one of the best examples of platform markets are newspapers. On the one hand, newspapers are source of information about world affairs, whereas, on the other hand, they as intermediaries, ensure readers and advertisers can engage in transactions through mutual accessibility. Similarly, B2C electronic commerce websites are designated as large online platforms that are necessary intermediaries between business users and their customers [4]. It is important to distinguish here between one-sided and two-sided platform markets. The former refers to a market which derives value from a single classification of users, for instance, users on instant messaging. The later, refers to a market comprising of two different categories of agents, both of whom are a necessity for the market to remain valuable. Because agents' decision to join a platform is affected by the presence of agents on the other side, their interactions create indirect network externalities and make platforms' strategies different from those of firms in one-sided markets [5]. The B2C electronic commerce markets are two-sided markets where sellers are also advertisers of their products to be purchased by consumers. In this regard, it is pertinent to mention that, such markets have been given recognition by the regulator, Competition Commission of India [6]. Further, the Parliamentary Standing Committee Report on 'Anti-Competitive Practices by Big Tech Companies' estimates that India's consumer digital economy is headed for a US$ 1 trillion market by 2030 attributed primarily to the growth of electronic commerce transactions [7].

II. METHODS

In the proposed research I seek to examine the impact of Web3 on the Business to Consumer (B2C) electronic commerce digital two-sided platform markets from a competition law perspective. Hence, the research methodology is primarily doctrinal in nature given the literature in the area which is available from juristic writings on the same issue. Hence, a research undertaking of this nature must inevitably entail a substantial doctrinal component. For my sources I depend mainly on secondary material, specifically scholarly literature, newspaper reports and industry research, along with primary material such as legislative developments and case laws. This is because debates and analyses are still evolving on the competition law implications of Web3. Secondary sources I intend to resort to include books, articles, journals, government websites, research think tanks and online newspapers.

The material thus collected I seek to examine descriptively only. Descriptively in the sense that I attempt to piece together a narrative of Web3 competition law implications on B2C electronic commerce, taking into account some of the most recent trends which have played a role in the manner of the development of the present discourse. A uniform system of referencing has been followed throughout.

III. RESULTS, DISCUSSION AND CONCLUSION

A. Indian Competition Law and Present Regulatory Philosophy

The underlying philosophy behind modern day Indian competition law enforcement comprises of attempts at enforcing dynamic competition to ensure market distortions and imbalances are taken care of under the Competition Act, 2002. This is a delicate balancing act as government intervention to correct market failures in having targeted industrial policies is also problematic [8]. The concept of dynamic competition traces its roots to international competition law jurisprudence, the development of which the author wishes to trace briefly.

International competition law or antitrust law jurisprudence broadly emphasizes upon two predominant schools of thought, namely the Harvard School and the Chicago School. The former is circumspect on dominant business practices and considers dominance per se as contrary to healthy market competition. Subsequently, enterprises criticized that such approach strangulates innovation and business synergies. Such an approach found relevance till the 1970s, when the Chicago School was born out of the aforesaid objections to the Harvard School. The premise of the Chicago School is that dominance per se does not violate competition laws as much as illegitimate business practices. The emphasis was upon novel business practices to distinguish between pro-competitive and anti-competitive practices. The emphasis is more on the business conduct as opposed to the business structure.

This school has since been the meaningful and evolving school of thought globally for international antitrust jurisprudence as innovative industries emerged globally. In this regard, dynamic competition and static competition become relevant. The former, introspects industries which are reflective of extensive research and development, heavy sunk costs and innovative business models and practices. Examples include, software, automobiles, pharmaceuticals, telecommunication, among others. The latter, analyses saturated industries where there is little room for innovation. The researcher is of the view that while B2C electronic

commerce has been in existence for long, the immersive experience guaranteed by Web3 is surely a development in line with the philosophy of dynamic competition. The below mentioned paragraphs explore India's competition law regime, the regulatory framework pertaining to B2C electronic commerce in India, and, the relevant case laws decided by the Competition Commission of India juxtaposed against the contentious potential anti-competitive practices on account of Web3 based decentralized B2C electronic commerce.

B. Competition Act, 2002 and the electronic commerce laws

Consumer welfare, resource allocation and healthy competition make the Indian competition law in alignment with international antitrust jurisprudence. The Competition Act, 2002 is the principal legislation that regulates anti -competitive practices through horizontal agreements (agreements between two or more market players in same industry), or through vertical agreements (agreements between two or more market players in related but different industry), or through combinations such as mergers and acquisitions. The substantive provisions of the law define the aforesaid business practices and explain methodology for assessing them along with the procedural provisions relating to powers and functions of the Competition Commission of India (hereinafter CCI) which is the principal regulator and a quasi-judicial authority. With regards to the substantive provisions, the definition of 'enterprise' under Section 2 of the Act includes any person or undertaking engaged in anti-competitive behavior but exemption exists for certain sectors such as atomic energy, currency, defence and space.

The definition of relevant market has also been explicitly mentioned, which is crucial to determine abuse of dominance behavior. Section 3 defines horizontal agreements as delineated above. Other important provisions such as section 3(5) and section 4 elaborate upon interface between intellectual property provisions and competition law along with abuse of dominance respectively. Section 19(4) lists factors such as enterprise size and resources, size and resources of competitors, market share, entry barriers as critical factors in assessing dominance.

Section 18 of the Act discusses about anti-competitive practices, conferring exclusive powers to the Commission to enter into agreements with the competition regulators from other jurisdictions. The Commission can act either on its own motion, or through information received by consumer's association or an individual consumer, or a statutory authority reference. Further Section 26 elaborates upon procedure for inquiry and Section 19 explicitly mentions that if the Commission is of the opinion that a prima facie case exists then the Director General (DG) is to be directed for investigation.

Section 27 confers powers to CCI to impose penalties, order modification of agreements, cease and desist orders, or any other order as can be deemed fit. Section 28 of the Act gives regulatory authority to CCI to give orders under abuse of dominance. Common such instances include division of enterprise, transfer of rights, liabilities or obligations, surrender or cancellation of stocks or securities, winding up of an enterprise, among others. Section 32 empowers the Commission to initiate inquiries into acts taking place outside India but having impact within India under the effects doctrine whereas Section 33 empowers the CCI to issue interim orders provided that contravention of existing provisions are shown.

Section 36 of the Act provides that the CCI will be guided by natural justice regarding its procedure. Section 48 mentions that when a contravention is by a company, every such person in charge and the company shall be held in violation. Lastly, competition advocacy is an important responsibility of the CCI for spreading awareness about the enforcement of the legislation. A review of the aforesaid provisions is reflective of the public enforcement remedies by the regulators. With regards to private remedies, the Act itself has provisions wherein compensation can be claimed from from the National Company Law Appellate Tribunal (NCLAT) on grounds of harm suffered.

It is pertinent to mention that the aforementioned provisions of the Competition Act, 2002 are industry agnostic and therefore are applicable to all sectors of the Indian economy including the B2C electronic commerce industry. Hence, the subsequent paragraphs shall discuss briefly the overarching regulatory framework for electronic commerce in India. Simply put, the electronic commerce legal framework can be divided into two segments. Firstly, general laws such as the Indian Contract Act, 1872, Sale of Goods Act, 1930, the Information Technology Act, 2000, along with the Consumer Protection Act, 2019 and the Consumer Protection (E-Commerce) Rules, 2020. Each of these legislative mechanisms have their special significance. B2C electronic commerce is a contract concluded over a digital platform between buyers and sellers, and also comprises of contracts executed between sellers and the digital platforms. Such platforms are expected to comply with the Information Technology Act, 2000 as digital intermediaries. With regards to specific laws, Competition Act, 2002 and the Foreign Exchange Management (Non-Debt Instrument) Rules, 2019 under the Foreign Exchange Management Act, 1999 deserve special mention. This is because there can arise scenarios where a B2C electronic commerce digital platform receives Foreign Direct Investment (FDI), and with rising participation of buyers and sellers, exclusive agreements between sellers and digital platforms and discounting offered by such platforms, provisions on horizontal agreements and abuse of dominance, namely, sections 3 and 4 of the Competition Act, 2002 are frequently invoked.

It is interesting to note that the Indian government released The National e-Commerce Policy, 2019, the objective of which is to promote a competitive landscape for all concerned stakeholders such as investors, manufacturers, Medium Small and Medium

Enterprises (MSMEs), traders, retailers, startups and consumers. While taking care of key issues such as consumer protection, data privacy, intellectual property and healthy competition, the policy aims at creating an inclusive electronic commerce ecosystem in line with the Make in India and Digital India initiatives. The policy strongly advocates for alignment with FDI policies, and for foreign platforms' ineligibility to become retailers. The underlying intention is to generate business opportunities for MSMEs and startups.

It is interesting to note that the policy emphasizes upon data being digital capital which is useful for the incumbent players in the market to sustain their business models, through which products can be tailored to suit the customer requirements, an advantage which the smaller players are unable to capitalize upon. Further, the policy is critical of the dominant market players who provide discounts to consumers, consequently leading to losses for MSMEs which are unable to do the same. As a result, the policy argues that on account of such discounts, indirect network effects are generated thereby distorting competition in favour of the dominant players. It has been documented that in the era of machine learning, artificial intelligence and internet of things, generating consumer specific data undoubtedly provides large firms an important source of competitive advantage [9].

C. Competition Issues and Techno-Legal Paradigm of Web3 based B2C electronic commerce

This part of the paper shall delineate upon the potential competition law issues arising out of Web3 based B2C electronic commerce. In competition law jurisprudence, anti-competitive conduct can broadly be classified into cartels and abuse of dominance which can be executed through either horizontal agreements, or vertical agreements, or a combination of both. An evolving techno-legal narrative as can be discerned from the below mentioned judicial precedents and scholarly literature is at the heart of the antitrust debate around Web3 based B2C electronic commerce. The researcher shall first discuss anti-competitive issues pertaining to cartels followed by similar methodology for abuse of dominance.

It is important to mention that on the internet, the intermediaries or 'service providers' or 'platforms' as they are commonly known play a crucial role as gatekeepers and facilitators of different services [10]. Digital platforms such as B2C electronic commerce websites deal with data pertaining to customers and sellers and therefore rely upon algorithms to make commercial sense of the data collected. This has two fold implications. Firstly, from a business perspective, the digital platforms utilize algorithms to customize product choices for consumers and offer discounted prices. However, secondly, from a regulatory viewpoint, the recent initiative of the Indian government, namely, the Open Network for Digital Commerce (ONDC), which aims to facilitate electronic commerce regardless of visibility on the same platform, could indirectly facilitate algorithmic collusion. For instance, very recently, the incumbent commerce minister advocated for removal of certain incumbent electronic commerce platforms from the ONDC as they have commenced building applications which can host sellers from the ONDC, however deprive consumers the choice to purchase from any seller, thereby deviating from the objective to democratize the B2C electronic commerce business and reinforce platform based model [11].

Given the lack of a regulatory framework for private participation in the aforesaid scenario, there remains no viable commercial incentive for such companies to innovate which would encourage them to join hands and reduce expenses through mutual collaboration. The companies do have the incentive to lower costs and innovate existing technologies to be more efficient [12]. This can lead to horizontal agreements to share resources, expenditure and technical expertise and remove competition from the market. From an antitrust view, this can come within the purview of cartelization and will be per se anti-competitive. Since the B2C electronic commerce companies utilize algorithms as part of their business operation, there is potential for cartelization through algorithmic collusion as information between competitors can be exchanged. There is literature to suggest how algorithms in disguise of maintaining competitive balance can destroy competition [13]. It is also important to acknowledge that there are pro-competitive efficiencies of usage of algorithms for businesses, such as product customization and innovation, ultimately helping in optimization of business processes.

However, regulation of cartels in light of emerging technological developments is a law enforcement quagmire for multiple reasons. Firstly, cartels by themselves are detectable only by virtue of circumstantial evidence and not direct evidence. Secondly, usage of algorithms by business entities in the digital space ensures that law enforcement challenges relate to procuring evidence along with regulatory maturity on the nuances of the technology. Therefore, concerns that novel forms of misconduct, such as algorithmic collusion, can be difficult to detect and in some cases harder to prosecute under current competition laws [14]. Existing scholarly literature reveals that computer algorithms can reduce or remove the degree of strategic uncertainty in the marketplace and promote a stable market environment in which they predict each other's reaction and dominant strategy [15]. This can lead to a situation of tacit price collusion, very different from explicit collusion covered under section 3 of the Competition Act, 2002. A perusal of some judicial precedents from India reveal the evolving regulatory adaptability to understanding the technological niceties and legal paradigms on algorithmic collusion. The CCI in Samir Agarwal v ANI Technologies Pvt. Ltd held that cab aggregators such as Ola and Uber are not responsible for encouraging cartels among drivers even if drivers had consented to use a common intermediary, which by itself cannot be considered satisfactory evidence of collusion [16]. In the matter of Alleged Cartelization in the Airlines Industry, the CCI did not find utilization of algorithms in

favour of price parallelism, or similar movement of prices on account of collusion. It was acknowledged that the role of the algorithms was limited to recommending prices to revenue management teams of airlines, however the final prices were determined by the respective personnel [17].

The questions raised in the previous paragraphs pertaining to identification of tacit collusion, evidence based benchmarks for algorithmic collusion can assume broader significance considering that ONDC has entered the online food delivery segment, and given that the ONDC's objective is to democratize B2C electronic commerce model, by entering this segment, the ONDC is attempting to remove the customer charges paid to the delivery partner every time the customer places a food delivery. Thus, for instance, presently, if a customer places a food delivery order through the mobile application, Zomato and Swiggy impose delivery charges, which increases the final price of the food delivered. However, ONDC entering this segment is presenting a robust challenge to the pricing models of Zomato and Swiggy, which are presently having a duopoly in online food delivery service in India [18]. The researcher strongly believes that if delivery partner costs are eliminated when customers order food through the ONDC network, the overall prices for identical quality and quantity of food will decline resulting in a consumer shift from the aforesaid duopoly. This can in turn result in the aforesaid companies colluding by utilizing algorithms and customer data to recoup lost prices.

Having discussed at length the regulatory friction between cartelization through algorithmic collusion and competition law, the researcher shall now focus on the potential situations where there is scope for abuse of dominance pertaining to Web3 based B2C electronic commerce. It is pertinent to mention that cartels are considered per se anti-competitive as mentioned in previous paragraphs, whereas a finding of abuse of dominance is preceded by a rule of reason analysis having its genesis in the antitrust law of the United States of America (US) wherein the pro-competitive efficiencies and the anti-competitive implications of the activities concerned are weighed to determine a finding of anti-competitive conduct. Further, unlike cartels, a conclusion on abuse of dominance goes through a three stage process: determination of the relevant market, finding of dominance in the market, and lastly, whether the activity concerned is abuse of dominance in the relevant market. Therefore it is imperative to understand the relevant market in the context of Web3 based B2C electronic commerce.

As discussed at the beginning of the paper, Web3 is the next generation of the World Wide Web whose foundational concepts are decentralization, interoperability, encryption and open protocols. With the advent of block chain technology, which runs on decentralization technology and peer-to-peer cooperation, Web3 has the characteristics of hyper-spatio temporality, which refers to a parallel virtual world that breaks the boundaries of space and time by offering free, open and immersive experience to the users [19]. The metaverse therefore is an industrial application of Web3 as it incorporates identical principles from there and provides a multi-user environment and provides an ecosystem which transcends the virtual and physical world in creating a virtual shared ecosystem where participants can interact and transact in a digital space for different purposes just like the natural physical world. Through an amalgamation of technologies such as Augmented Reality (AR), Virtual Reality (VR), Mixed Reality (MR), Artificial Intelligence (AI) and block chain, the metaverse acts as a platform for shared virtual spaces for commercial transactions and entertainment among others being enabled through principles of being immersive, synchronous, interoperable and amalgamating the digital and the physical [20]. Although not an explicit requirement, Metaverse often requires a combination of hardware and software to provide an immersive experience, which is where VR headsets become relevant. It has been widely documented that enhanced VR can help provide an immersive experience in B2C electronic commerce in terms of shopping and consumer behavior [21]. At the time of writing, companies like Meta, Google, Microsoft, among others are heavily invested in myriad ways such as development of VR headsets and related infrastructure and technologies, development of Augmented Reality infrastructure, so on and so forth.

It is imperative to understand that digital platforms can reduce pro competitive effects owing to characteristics such as presence of strong economies of scale, network effects that make it easier for a platform with a large number of established users to attract more users and remarkable economies of scope due the role of data as a critical input and conglomerate effects. Few instances of the aforesaid are, when Google intermediates between incumbent and prospective advertisers and consumers using Google for their search results [22]. Similarly, through the Google Play Store application, developers get a chance to interact with consumers who can download such applications for usage on their mobile phones. Similarly, Amazon brings together sellers and customers on one platform for execution of electronic commerce transactions. Such markets tend to scale quickly on account of significant network effects, data as a source of market power and platform based dynamics which permit the platforms to wield power to impose conditions upon participants on either side of the platform.

For instance, when a prominent B2C electronic commerce platform in a metaverse developed by a big technology company mandates requirement of VR headsets for entering the virtual space, there remains every incentive for the company to foreclose competition by not permitting other VR developers to provide their services to the consumer for access to the metaverse. Hence, consumer will be deprived of choices and compelled to use a particular kind of VR headset, and competition in the VR headset market shall be impacted. Contemporary antitrust jurisprudence points to such conduct as 'predatory innovation' wherein the innovator is presented with a shower of opportunities to close down the market and drive out competitors [23]. This necessitates

a review of evolving jurisprudence around relevant markets, which is quintessential to a finding of abuse of dominance in accordance with modern antitrust law, including Indian laws. For instance, in the aforesaid illustration, the foreclosure of competition, if any, will be measured in a market where such an activity has taken place and not in vacuum.

Given the technological complexities involved in the digital markets, there have been judicial, legislative and scholarly deliberations on relevant market assessment methodologies to identify abuse of dominance through self preferencing and exclusionary behaviour. The subsequent paragraphs shall address the aforesaid deliberations and identify areas of introspection from a law enforcement perspective.

Presently, under the Competition Act, 2002, both relevant product market and relevant geographical market are critical to determine the relevant market, although it is not an absolute necessity to determine both and their application depends upon the facts and circumstances of the case. Conventional competition law prefers usage of tests such as the Small but Significant Non-transitory Increase in Price (hereinafter SSNIP) and the Herfindahl Hirschman Index (hereinafter HHI) to determine market concentration regarding a product, along with tests such as the Elzinga-Hogarty (hereinafter EH) test to determine the relevant geographic market. Briefly put, the SSNIP test adds products to a certain relevant market till the time the customer switches to a similar product in response to a five to ten per cent increase in price. The HHI test is useful where market concentration is to be determined as a summation of squared market shares held by the largest number of enterprises in the industry. Lastly, the EH test is useful to determine the relevant geographical market.

The fundamental presumption under the SSNIP test is that as long as the customer does not switch from one market to another in response to a five to ten per cent price increase by the seller, products must be added into the same market. However, in a scenario where the B2C platform in the metaverse itself influences the prices very similar to how platform-centric electronic commerce models prevail, it can trigger negative network effects leading to customers leaving the platform [24]. In such scenario, applying the SSNIP test can become flawed as the metaverse and the related industries are still at a nascent stage considering that like many innovations it is shrouded in mysticism and skepticism [25]. It is pertinent to mention that both price and non price factors influence the decision of the end consumer to remain associated with a product.

The former can include the aforesaid SSNIP test and the latter shall include subjective factors such as consumer convenience, quality of the product, among others. In digital markets, since companies compete on data, there is an inevitable difficulty to utilize the SSNIP test as price is not the determining factor, as opposed to the attention given by the consumer in the form of the data provided. In other words, consumer attention given effect through data exchange has become a valuable and tradable commodity [26]. Akin to the SSNIP test, the core premise of the Small but Substantial Non-Transitory Decrease in Quality (hereinafter SSNDQ) test is whether for a considerable decrease in quality by the service provider, the end consumer will shift from one product or service to the other and the relevant product market shall be confined till the products and services. In the context of Web3 based electronic commerce, such decrease in quality can be measured in terms of variable immersive experience, reduction in quality of user interface, lack of choices on products, pricing of products, among others. It must be noted that this is merely an illustrative list as arriving at a finding of reduction in quality is very subjective and therefore one of the most contentious issues in international antitrust jurisprudence. This debate amplifies further when cases such as Topps Europe Ltd v European Commission show that the European Commission (EC) has acknowledged that the SSNIP test cannot be used in all occasions to determine relevant market, however, a concrete model of applying the SSNDQ test largely remains elusive on account of subjectivity, although the Delhi High Court in Whatsapp LLC v Competition Commission of India & Another, has acknowledged that non-price factors such as quality, customer service and innovation are critical to determine anti-competitive conduct [27]. It has also been suggested that the Small but Substantial Increase in Costs (hereinafter SSNIC) test can also be applicable to determine relevant markets in the digital space [28]. It is significant to note however that both the EC and the CCI have acknowledged platform market dynamics depriving consumers of choice and undercutting competition to determine competition law violations, which signals the evolving global regulatory landscape around this issue.

For instance, the CCI in XYZ v Alphabet Inc., or, the Google Play Store case has acknowledged how Google utilized its Play Store to prevent applications listed on the Play Store from using external payment mechanisms, and compelled them to use Google's payment and billing services, ultimately reducing choices and undercutting competition in another market. The relevant market in the aforesaid case was the market for licensable Operating System (OS) for smart mobile devices in India and market for app store for Android smart mobile OS in India [29]. Similar precedent has also been set by the EC in the Apple - App Store Practices (music streaming) case [30].

It must be noted that the anti-competitive practices identified in the Google Play Store case are referred to as self-preferencing behaviour in competition law jurisprudence which has the potential to exhibit exclusionary abuse characteristics as market players are deprived of the opportunity to compete freely independent of market forces in the digital space. This happens because a big technology company such as Google bundled or tied an important service, namely the payment and billing services as a precondition to access the Play Store. Hence, self preferencing behaviour gives companies opportunity to advance other products or services thereby distorting competition and engaging in exclusionary

conduct [31]. At a time when companies such as Meta have introduced VR headsets like Oculus and Amazon is ready to explore electronic commerce in the metaverse through a new feature, 'Amazon View', instances such as those discussed aforesaid will result in inevitable questions for competition regulators. This is further reinforced through an interpretation of recent industry research from bodies such as National Association of Software and Service Companies (NASSCOM) showing that B2C startups in India occupy a significant space in the business model of India's Web3 startups [32]. Similarly, the global shipments of Meta's VR headset, Oculus rose to prominence in 2022, signalling Meta's strength in the VR segment [33].

Conclusion

It is trite law that competition law is industry agnostic and the ways through which competition law will mould itself around technological developments is a necessary ingredient of how the modern antitrust law engages in responsive regulation in the digital era. As discussed above, challenges pertaining to identification of relevant market for exclusionary behaviour and method of assessing algorithmic collusion are two primary competition law issues in Web3 based B2C electronic commerce. From this perspective, it is significant that the Indian regulator, CCI has been at the forefront of regulating competition in digital markets. The CCI has constituted the Committee for Digital Competition Law to create best practices for combating competition concerns in the digital space and draft a digital competition law. The proposed Digital India Act, 2023 released by the Ministry of Electronics and Information Technology, Government of India argues for competition in an open internet scenario and recommends alteration of the existing law. Most recently, the Competition (Amendment Act), 2023 has been notified in the Official Gazette, which is in favour of bringing in non-competitors into a cartel, pursuant to evidence of participation or intention to participate in the cartel.

This, the researcher believes can make participants liable when circumstances such as those in Samir Agarwal v ANI Technologies Pvt. Ltd will arise, thereby raising the standards of competition law enforcement. Keeping the aforesaid in mind, the researcher suggests adoption of ex-ante framework of competition law using tools such as computational antitrust, which utilize AI to determine anti-competitive conduct.

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