

BIG DATA ANALYTICS: A CAUSE OF CONCERN FOR COMPETITION?

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Abstract

The aim of this article is to analyze the implications that big data analytics can have on competition and to assess the suitability of the present anti-trust regime to deal with such consequences. This article assumes importance in the light of antitrust regulators all around the world, including the Competition Commission of India, recognizing consequences of a growing digital economy on competition. While digital markets have affected competition in many ways, this article focuses on the aspects of antitrust law in the background of data collection and analysis. It begins by elucidating on the concept of big data. It aims to firmly establish the utility and relevance of big data in today's times. Then, it goes on to throw some light on the present and potential anti-competitive conduct that data-driven businesses and data-centered markets may give rise to, such as abuse of dominance by refusal to deal, tying, etc., facilitation of concerted practices by price algorithm, new-age data-driven mergers and so on. The

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author also discusses the opinions that argue against the notion that data can lead to anti-competitive practices and attempts to disprove the same. The article then examines some elements of antitrust law such as defining relevant market, assessing dominance, etc. regarded as crucial in an anti-trust inquiry which may need some tweaks in light of anti-competitive practices associated with big data. It concludes by arguing that heavy reliance on traditional antitrust tools may make anti-trust regulators' job difficult when it comes to assessing whether certain data related conduct affects competition or not. The author also incorporates suggestions which the competition authorities may find useful while conducting inquiries into data related competitive abuses.

I. INTRODUCTION

Companies offering free services to consumers acquire valuable data in return which can be used for targeted advertising. Data can also be obtained by observing the consumer behavior in the online world. Further, businesses may obtain data from third-party data providers who sell it. Data, especially consumer data, has been regarded as the new raw material of business.¹Chairwoman of the Federal Trade

¹Kenneth Cukier, *Data, Data Everywhere*, THE ECONOMIST (Feb.25, 2010), <http://www.economist.com/node/15557443>.

Commission (“**FTC**”) even commented that data is today’s currency.² It is viewed as having such importance to businesses that it is said to be the new ‘oil’.³ Although the profits generated from collection of data largely depends on how it is put into use, it is clear that data has, off late, been considered as a significant intangible asset used for the purposes of value creation, so much so that it has been compared to other intellectual property such as copyrights.⁴

Big data refers to a collection of data sets so large and complex that traditional database systems cannot effectively manage or process the information.⁵ Some of the common aspects of big data are large amounts of different types of data, produced at high speed from multiple sources, whose handling and analysis require new algorithms, new and more powerful processors, storage and data transport technology. It is characterised by four factors: velocity, volume, variety and value.⁶ Velocity refers to the speeds at which new data is generated, can be generated, distributed and analyzed even without a need to store it in databases.⁷ One author notes that it

²Edward Wyatt, *Edith Ramirez is Raising the F.T.C.’s Voice*, N.Y. TIMES (Dec. 21, 2014), <https://www.nytimes.com/2014/12/22/business/federal-trade-commission-raises-its-voice-under-its-soft-spoken-chairwoman.html> (Feb. 10, 2019).

³*The World’s Most Valuable Resource Is No Longer Oil, but Data*, THE ECONOMIST (May 6, 2017), <https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data>.

⁴*Privacy and Competitiveness in the Age of Big Data: The Interplay between Data Protection, Competition Law and Consumer Protection in the Digital Economy: Preliminary Opinion of the European Data Protection Supervisor*, 9 (2014), https://edps.europa.eu/sites/edp/files/publication/14-03-26_competition_law_big_data_en.pdf [Hereinafter “*EDPS Preliminary Opinion*”].

⁵James Manyika et al., *Big Data: The Next Frontier for Innovation, Competition, And Productivity* 1 (McKinsey Global Inst., June 2011), http://www.mckinsey.com/insights/business_technology/big_data_the_next_frontier_for_innovation.

⁶Supporting Investment in Knowledge Capital, Growth and Innovation 12 (Org. For Econ. Co-Operation & Dev. (OECD), 2013), [Hereinafter “*OECD Report*”].

⁷Mira Burri, *Understanding the Implications of Big Data and Big Data Analytics for Competition Law: An Attempt for a Primer* in NEW DEVELOPMENTS IN COMPETITION

takes only milliseconds for a trading system to pick up social media signals that trigger decisions to buy or sell shares.⁸ Volume refers to the sheer amounts of data that is generated constantly through the Internet. Variety connotes the various kinds of data that are generated ranging from tweets to online purchasing behavior. Value refers to the extent to which the ubiquitous amounts of data can be used to generate profit. For example, analysis of behavior of consumers in online business platforms can help in marketing of other products. It has been observed that big data can be regarded as a game changer because it enables customisation in delivery of services thereby reducing risk and improving performance.⁹

It has increasingly been observed that big data will play a significant role in competition between companies.¹⁰ Organization for Economic Co-operation and Development (“OECD”) has observed that big data represents a core economic asset that can create significant competitive advantage for firms.¹¹ The Competition Commission of India (“CCI”) in *In Re: Matrimony.com Limited*, has made an observation recognising the value of data for businesses:

‘it would not be out of place to equate data in this century to what oil was to the last one. The Commission is not oblivious of the increasing value of data for firms which can be used to target advertising better.

BEHAVIORAL LAW AND ECONOMICS (Klaus Mathis and Avishalom Tor ed., forthcoming in 2018).

⁸Bernard Marr, *Why Only One of the 5 Vs of Big Data Really Matters*, IBM BIG DATA & ANALYTICS HUBS BLOG(Mar. 29, 2015),<http://www.ibmbigdatahub.com/blog/why-only-one-5-vs-bigdata-really-matters> (Jul.11, 2019).

⁹M.S Gal& D. L. Rubinfeld, *Access Barriers to Big Data*, 59ARIZ. L. REV. 339,381 (2017).

¹⁰Maniyikaet al, *supra* note 5 at 13 (2011).

¹¹OECD Report, *supra* note 6, at 319.

Moreover, the data can be turned into any number of revenue-generating artificial-intelligence (AI) based innovations."¹²

Data can have varied competitive significance depending on whether it is the product, or it is an input for some other product. Whether or not competition concerns may be raised will also largely depend on who is the controller of a particular set of data.¹³ The following section attempts to unravel the ways in which big data analytics may bring about the incidence of anti-competitive conduct.

II. DOES BIG DATA RAISE COMPETITION CONCERNS?

The technological changes of the digital economy have revolutionised the possibilities to collect, process and commercially use data in almost every business sector. Collection and analysis of big data has significant benefits to consumers, businesses, and government agencies. Data possess commercial value as a product. Online behavioral data is crucial for targeted advertising because of which businesses buy information about their customers' interests.¹⁴

Data as an input is significant from the purview of competition because software and online services increasingly rely on machine learning and artificial intelligence to leverage massive data sets.¹⁵ Companies have been able to offer entirely new products and services (e.g. real-time traffic information), enhance existing products and services (e.g. personalised music or video recommendations), and

¹²In re.Matrimony.com Ltd. v. Google LLC, CaseNo. 07 and 30 of 2012 (CCI) ¶86.

¹³G. Sivinski et al., *Is Big Data a Big Deal?* 13,EUROPEAN COMP J. 199, 206 (2017).

¹⁴U.S. Fed. Trade Comm'n, Data Brokers: A Call for Transparency and Accountability II (May 2014),<https://www.ftc.gov/system/files/documents/reports/data-brokers-call-transparency-accountability-reportfederal-trade-commission-may-2014/140527databrokerreport.pdf>.

¹⁵Sivinski et al., *supra* note 13, at 209.

better market their products by way of data analytics. Marketing, based on market research, comprises systematic data collection, processing and analysis of customers' interests so that improved products, personalised services, targeted marketing, etc. may be achieved.¹⁶ They can reduce their advertising costs by addressing only the target audience. Data used to develop products and render services in this way has competitive utility.

III. POTENTIAL ANTI-COMPETITIVE PRACTICES ASSOCIATED WITH BIG DATA

One major concern of competition authorities with regard to the anti-competitive concerns raised by big data is whether the present anti-trust law is a sufficient tool to regulate such practices. In this section, some traditional regulatory approaches have been looked at from this point of view:

A. *Data as an entry barrier*

Extracting value from big data has become a significant source of power for the biggest players in internet markets.¹⁷ The OECD has noted that the economics of big data favors market dominance.¹⁸ In some markets such as social media platform services and search engines, few entities enjoy significantly high market share and consequently has access to a large database of information of its

¹⁶D. S. Tucker & H. B. Wellford, *Big Mistakes Regarding Big Data*, THE ANTI-TRUST SOURCE (Dec. 2014), https://www.morganlewis.com/-/media/antitrustsource_bigmistakesregardingbigdata_december2014.ashx.

¹⁷EDPS Preliminary Opinion, *supra* note 4, at 9.

¹⁸Data-Driven Innovation for Growth and Well-Being: Interim Synthesis Report 7 (OECD, 2014), <http://www.oecd.org/sti/inno/data-driven-innovation-interim-synthesis.pdf>.

customers. It is not possible for a new entrant or a third party to have access to the same volume of data. In these cases, data can constitute a barrier if access to data is a pre-requisite to compete in that market.¹⁹

A counter-vailing opinion is that just because some entities have a large database by virtue of being in the market for a long period, new entrants are not precluded from offering services. For example, Tinder was not precluded from competing with other dating services by data barriers. However, this cannot hold true for all markets. In the search engine market, Google enjoys a clear dominant position because of how effectively it can utilise its technology to match the large volumes of personal data to the consumers' queries. This data is difficult to replicate. Additionally, in these markets, access to larger amount of data would result in better quality of services which in turn attracts more customers. Smaller entities attract fewer consumers and hence the gap between the market share further increases.²⁰

B. Refusal to deal/ to grant access and Exclusive dealings

When companies incur significant costs to acquire and analyze data, the tendency to limit competitors' access to that data is higher. They may devise anti-competitive strategies such as exclusivity provisions with third-party providers, foreclosing competitors from procuring similar data, etc.²¹Section 3(4) of the Competition Act, 2002 provides that agreements such as refusal to deal and exclusive supply agreements will be void if it causes or is likely to cause an adverse effect on competition in India.

¹⁹B. Lasserre& A. Mundt, *Competition Law and Big Data: The Enforcers View*, 1 ITAL. ANTITRUST REV. 90 no. 1(2017).

²⁰*Id.* at 91.

²¹A.P. Grunes& M.E. Stucke, *No Mistake about it: The Important Role of Antitrust in the Era of Big Data*, 3 (University of Tennessee Legal Studies Research Paper No. 269, 2015), <http://ssrn.com/abstract=2600051>.

When access is refused to data, such conduct can be regarded as anti-competitive only if the data is so unique that it is not possible for the requesting entity to obtain it otherwise. An entity with valuable data may refuse to grant access to the same to other competitors. Such refusal is anti-competitive if the data is an ‘essential input’ for the business of the requesting entity. The scope of this is very limited and there are certain conditions which have to be satisfied before such refusal can be termed anti-competitive. These are: (1) the facility requested for is an indispensable input for carrying on the business (2) the refusal prevents the emergence of a new product (3) there is no objective justification for the refusal (4) such refusal is likely to wipe out competition in the secondary market.²²

Refusal to deal may be anti-competitive if it is discriminatory. A French decision is illustrative of this point. Cegedim, a leading provider of medical information databases in France, refused to sell its main database (called OneKey) to customers using the software of Euris, a competitor of Cegedim on the adjacent market for customer relationship management (CRM) software in the health sector, but would sell it to other customers.²³ This conduct was held to be discriminatory. The French Competition Authority concluded that that OneKey was the leading dataset on the market for medical information databases and that Cegedim was a dominant player on the market for medical information databases, therefore such a discriminatory practice unduly restricted competition between Euris and Cegedim in the 2008-12 period.²⁴

Further, dominant entities having access to third-party data may enter into exclusive dealing agreements with third-party providers hence

²²C-418/01 *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co.* KG 2004 ECJ CELEX LEXIS 192 (Apr. 29, 2004), § 37; Case 7/97, *Oscar Bronner v. Mediaprint Zeitungs-und Zeitschriftenverlag GmbH Co.* KG 1998 ECR I-7791.

²³French Competition Authority, Decision No. 14-D-06, Jul.8, 2014 (Fr.).

²⁴COMPETITION LAW AND DATA 9 (Bundeskartellamt, May 10, 2016) [Hereinafter “*French Competition Authority Report*”].

making it difficult for competitors to access such data.²⁵ European Commission recently launched an anti-trust investigation against Google in which it has proposed to look into Google's exclusivity obligations on advertising partners that prevented them from placing competing ads in their websites.²⁶

C. Tie-in Arrangement

Tie-in arrangements are recognised as causing or likely to cause appreciable adverse effect on competition under Section 3(4) of the Competition Act. A company may tie access to its data with its data analytics services.²⁷ This has the potential to reduce competition in data analytics market. This is one way of using data acquired in one market for gaining market power in a secondary market. A long-time data collecting entity certainly has an upper hand when it ventures out to data analytics market, compared to its competitors. In a 2010 opinion, the French Competition Authority, observed that such cross-usage of data can have anti-competitive effects.²⁸ In this case, the Authority ordered GDF-Suez, a gas-supplier to provide access to some of its consumption data so that all suppliers can have the same relevant information required to make offers to consumers, in light of the fact that no other information related to households subscribing to gas services exist elsewhere.

²⁵A.P. Grunes & M.E. Stucke, *supra* note 21, at 3.

²⁶ Press Release, European Commission, Commission Probes Allegations of Antitrust Violations by Google (Oct. 30, 2010), http://europa.eu/rapid/press-release_IP-10-1624_en.htm?locale=en.

²⁷Commercial Use of Consumer data 90 (Competition and Markets Authority, 2015), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/435817/The_commercial_use_of_consumer_data.pdf.

²⁸French Competition Authority, Opinion No. 10-A-13 on the cross-usage of customer databases Jun. 14, 2010 (Fr.).

D. Price Discrimination

Data can facilitate price discrimination.²⁹ Companies can set different prices for different customers on the basis of data of their willingness to pay, purchasing habits etc. Discriminatory pricing has its pros and cons. It is viewed as an ‘unfair breach of consumer equality’.³⁰ However, some consumers do receive goods and services at affordable prices while some consumers may end up paying more than before. However, such conduct cannot be regarded as anti-competitive unless coupled with an abuse of dominant position or imposition of vertical restraint.³¹

Price discrimination can increase the information asymmetry between consumers and suppliers, resulting in higher search costs for consumers.³² It can lead to non-rational consumers paying higher prices while rational consumers are more or less not harmed by price discrimination.³³

E. Data driven Mergers and Acquisitions

The OECD has reported that the number of “big data related” mergers and acquisitions more than doubled between 2008 and 2012-15.³⁴ The European Commission has reviewed mergers between firms

²⁹N. Newman, *The Costs of Lost Privacy: Consumer Harm and Rising Economic Inequality in the Age of Google*, 40 WM. MITCHELL L. REV. 850,863 (2014), <http://open.wmitchell.edu/cgi/viewcontent.cgi?article=1568&context=wmlr>.

³⁰French Competition Authority Report, *supra* note 24, at 21.

³¹*Id* at 22.

³²Lasserre & Mundt, *supra* note 19, at 94.

³³P. Heidhus & B. Köszegi, *Using Information About Naivete To Price Discriminate*, 18(Working Paper, Mar. 27,2014), https://www.esmt.org/sites/default/files/digital-measures/price_discrimination-1.pdf (Jul. 15,2019).

³⁴ Report of Workshop on Privacy, Consumers, Competition and Big Data, 1 (Eur. Data Prot. Supervisor 2014), https://secure.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Big%20data/14-07-11_EDPS_Report_Workshop_Big_data_EN.pdf.

providing data or data-related services such as Thomson/Reuters,³⁵ Oracle/Sun,³⁶ etc.

a) Horizontal Mergers

Horizontal merger between two undertakings may lessen competition in a market where data is the input especially when the product market is concentrated and there are no effective substitutes for the data. For example, in data related markets, merger between an established entity and a newcomer may result in differentiated data access and increase in concentration of data if the latter has access to a large database collected in another market. This is one way in which undertakings can use data-based market power to attain a prominent position in adjacent markets.³⁷

The Department of Justice's ("DOJ") action against the merger of Bazaarvoice and Power-Reviews established that data can be an entry barrier in markets where the quality of services rendered is dependent on access to, volume and quality of data.³⁸ It was of the opinion that competition in 'rating and review platforms' would be greatly reduced and there was potential for creation of a monopoly by this merger.³⁹ In another case, the FTC alleged that the parties were the only significant U.S. suppliers of educational marketing data.⁴⁰ The

³⁵Case COMP/M.4726, Thomson Corp./Reuters Group, EU-LEX CELEX LEXIS 223 (Feb. 19, 2008) ¶¶117,179.

³⁶Case COMP/M.5529, Oracle/Sun Microsystems, Eur-LEX CELEX LEXIS (Jan. 21, 2010).

³⁷Competition Policy: The Challenge of Digital Markets: Special Report No. 68 109, 478 (German Monopolies Commission, 2015), http://www.monopolkommission.de/images/PDF/SG/s68_fulltext_eng.pdf.

³⁸United States v. Bazaar voice, Inc, 2014 WL 203966 (N.D. Cal. Jan. 8, 2014) ¶50.

³⁹United States of America v. Baazar Voice Inc. (Cal. Dist. Ct., Competitive Impact Statement2014) ¶5, <http://www.justice.gov/atr/case-document/file/488826/download>.

⁴⁰Federal Trade Commission, In the Matter of The Dun & Bradstreet Corporation: Analysis of Agreement Containing Consent Order to Aid Public Comment, Dun & Bradstreet Corp., Dkt. No. 9342 (Sept. 10, 2010)

customers of the merging entities used the data which included demographic, contact and other details of school personnel to market their products and services. The FTC concluded that the customers did not regard other sources of marketing data as close substitutes.⁴¹

In case of the Thomson/Reuters merger, both the DOJ and the European Commission found that the combination raised competition concerns with respect to specific types of data of which they were the leading providers. For example, the DOJ alleged that new entrants will have to overcome significant barriers in the fundamentals data market. These include difficulties of arranging for collection of data on tens of thousands of companies on a global basis, constructing a reliable historical database, the need to develop local expertise in each country's accounting norms, and the ability to develop data normalisation and standardisation process.⁴² Raw materials required to create the databases were observed unavailable for any price.⁴³ In the end, the merger was cleared upon the condition that the merging entities have to disclose databases required to allow its purchasers to establish themselves as competitors in the market.⁴⁴

b) Vertical Mergers

Merger between two companies that hold strong positions in different markets can lead to foreclosure. The European Commission takes the

¶1, <https://www.ftc.gov/sites/default/files/documents/cases/2010/09/100910dunbradstreetanal.pdf>.

⁴¹Edith Ramirez, *Deconstructing the Antitrust Implications of Big Data*, in Keynote Remarks of FTC Chairwoman Ramirez 4 (Fordham Competition Law Institute, Sept. 22, 2016).

⁴²U.S. v. The Thomson Corp. and Reuters Group PLC, (Department of Justice-Antitrust Case Filings Feb. 19, 2008) <http://www.justice.gov/atr/cases/f230200/230281.htm>.¶37.

⁴³*Id* at ¶365.

⁴⁴Press Release, European Commission, Commission clears acquisition of Reuters Subject to Conditions (Feb. 19, 2008) http://europa.eu/rapid/press-release_IP-08-260_en.htm.

following approach while deciding if the merger would lead to foreclosure: [i] Would the merged firm have the ability to foreclose its actual or potential competitors/ [ii] would it have the economic incentive to do so? And [iii] would a foreclosure strategy have a significant detrimental effect on competition?⁴⁵

One example of a data-related vertical merger was the Facebook/WhatsApp Merger in which the European Commission conducted an inquiry into whether a merger between a social networking platform and consumer communication application may affect competition by virtue of Facebook having access to additional data. The Commission found that even if Facebook were to use the data from WhatsApp users for advertising, there still existed a large amount of data outside Facebook's control. Hence, substitutes were available.⁴⁶ Another illustrative case is Google/ITA in which Google proposed to acquire ITA, a supplier of airline schedule database to online travel intermediaries. The DOJ observed that the merger involved Google purchasing a significant input supplier and hence remedies were imposed to ensure the supply of inputs to Google's competitors.⁴⁷

c) Efficiency Defense

Efficiency defense has been used by the merging parties in data related mergers such as *Microsoft/Yahoo!*,⁴⁸ *United States v.*

⁴⁵Case Com./M.8124, Microsoft/LinkedIn [2016] 8404 OJ L 1, (Mar. 1, 1994) ¶186.

⁴⁶Case No COMP/M.7217 - Facebook/ WhatsApp 2014 EUR-Lex CELEX LEXIS 99 (Mar.10,2014) ¶99
http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf.

⁴⁷*U.S. v. Google Inc. and ITA Software, Inc.*, No. 1:11-cv-688 (D.D.C., Competitive Impact Statement Apr. 8,2011),<https://www.justice.gov/atr/case-document/file/497671/download>.

⁴⁸Case No COMP/M.5727 - MICROSOFT / YAHOO! SEARCH BUSINESS EU-Lex(Feb. 18,2010),
http://ec.europa.eu/competition/mergers/cases/decisions/M5727_20100218_20310_261202_EN.pdf, ¶184.

Bazaarvoice and *Tomtom/Tele Atlas*⁴⁹ to claim that better products can be produced with more data. In the Microsoft/Yahoo merger, the DOJ found that the merger would result in an efficient competitor to Google and that the merger would enable Microsoft to improve its search and search advertising.⁵⁰ In the *Bazaarvoice* merger, however, the efficiency defense was rejected citing lack of evidence that the merger, if completed, would result in improved product as a result of more data and lower prices.⁵¹ In the *Microsoft/LinkedIn* merger, the European Commission examined whether the merger would increase entry barriers to competitors that require data to compete in online advertising. One of the oppositions against the merger was the need for a level-playing field which required LinkedIn to share its data. The Commission concluded that the merger would result in increased efficiency by combining complementary data sets and hence would be pro-competitive.⁵²

F. Facilitation of Concerted Practices

Competition Laws generally frown upon cartels. Section 3(3) of the Competition Act presumes that cartel agreements cause an appreciable adverse effect on competition. One of the major hurdles faced by competition authorities is proving the existence of concerted practice or cartel agreement between the competitors. With the advent of data-based algorithms to fix prices and hence implement the cartel agreement, it has become increasingly difficult to establish the

⁴⁹Comp/M. 4854, *Tomtom/Teleatlas* EU Lex (May 14, 2008), http://ec.europa.eu/competition/mergers/cases/decisions/M5727_20100218_20310_261202_EN.pdf. ¶¶238-250.

⁵⁰Press Release, U.S. Dep't of Justice, Statement of the Department of Justice Antitrust Division on its Decision to Close Its Investigation of the Internet Search and Paid Search Advertising Agreement Between Microsoft Corporation and Yahoo! Inc. (Feb. 18, 2010), <http://www.justice.gov/opa/pr/statement-department-justice-antitrust-division-its-decision-close-its-investigation-internet>.

⁵¹*United States v. Bazaarvoice Inc.*, (N.D. Cal. Jan. 8, 2014) ¶62–64.

⁵²*Microsoft/LinkedIn* (Case Com./M.8124 [2016] 8404 OJ L 1, 3.1.1994 ¶254.

existence of a cartel because parallel behavior is not prohibited under competition law. The Canadian Competition Bureau has recognised that that big data may facilitate innovative ways of implementing and verifying compliance with a cartel agreement.⁵³ The European Union Competition Commissioner has warned businesses on using pricing algorithms because it may facilitate tacit collusion.⁵⁴

In concentrated markets, data collection can lead to increased transparency which makes it easier to detect deviations from the agreement and hence can limit competition.⁵⁵

G. Leveraging of Dominance

Big data can facilitate leveraging of dominance in an online market to attain market power in an adjacent market. This was recognized by the CCI in the Matrimony.com decision. Google was found to have leveraged its dominance in the search and search advertising markets to enter into the market of online search intermediation services, amounting to violation of Sections 4(2)(a)(i) and 4(2)(e) of the Competition Act.⁵⁶ The CCI found that Google prevented its partners in negotiated search agreements from implementing search services on any other websites which are similar to that offered by Google and hence denied its competitors access to search business.⁵⁷ This can be replicated by other platforms that have access to large amounts of data. For example, a restaurant listing service, having access to the data on which types of food preferred by which sections of the

⁵³*Big Data and Innovation: Key Themes for Competition Policy in Canada*, CANADA COMPETITION BUREAU(2018), http://publications.gc.ca/collections/collection_2018/isde-ised/Iu54-66-2018-eng.pdf.

⁵⁴Nicholas Hirst, *Confronting the Future of AI: When Margrethe Vestager takes Anti-Trust Battle to Robots*, POLITICO (Feb.28, 2018, 12:00 PM CET), <https://www.politico.eu/article/trust-busting-in-the-age-of-ai/>.

⁵⁵Lasserre & Mundt, *supra* note 19, at 91.

⁵⁶Matrimony.com Case, ¶397.

⁵⁷*Id.* at ¶394.

society, the amount that each section is ready to pay, etc. can enter the restaurant business easily and deliver services which are ten times more efficient compared to existing competitors who do not have access to such critical data. The CCI will have to watch out for such violations carefully by examining whether the other market participants are unfairly disadvantaged by the new entrant's access to data.

IV. COUNTER-ARGUMENTS: BIG DATA POSES NO THREAT TO COMPETITION

A. Data is available everywhere and hence does not give rise to any competition concerns

Collection and use of big data have often been considered to be of relevance with regard to data protection enforcement. However, there is skepticism regarding the implications of big data, if any on competition. Many are of the opinion that the benefits that consumers can avail through optimised services trump the alleged anti-competitive effects. It has been argued that big data monetisation, must be regarded as an 'economically rational, profit-maximising behaviour that results in obvious consumer benefits'.⁵⁸ Consumers are more interested in getting personalised services from Google, YouTube, Amazon, etc. than being concerned about their privacy.⁵⁹ This is evidenced, for example, by the lack of any serious effect on Facebook's customer base even in the wake of the Cambridge Analytica scandal.⁶⁰ Corroborating this statement further is the fact

⁵⁸R. Camerford & D. Sokol, *Antitrust and Regulating Big Data*, 23 GEO. MASON L. REV. 1129, 1134 (2016).

⁵⁹EDPS Preliminary Opinion, *supra* note 12, at 11.

⁶⁰Urs Gasser, *Perspectives on the Future of Digital Privacy*, 135 ZEITSCHRIFT FÜR SCHWEIZERISCHES RECHT 335, 392 (2015).

that few companies have had competitive advantages by enhancing the privacy of consumers.⁶¹

Big data is viewed as an entry barrier because some data is difficult to collect, and difficult to replicate if it is unique.⁶² But some are of the opinion that data being an entry-barrier is simply a myth.⁶³ Data is ubiquitous, free and widely available and hence cannot raise competition concerns. Cost of collecting data is very low.⁶⁴ Collection costs of data generated as an exhaust product after the usual activities involving interaction with consumers is zero.⁶⁵ Further, data acquired by one entity continues to be available for others to purchase as long as they can access it.⁶⁶ In other words, it is non-rivalrous.

Arguments against data giving rise to anti-competitive effects may sound true on paper. However, competition authorities all over the world are steadily realising and evaluating the potential anti-competitive practices which can be facilitated by access to and ownership of big data.⁶⁷ Data being non-rivalrous in nature does not

⁶¹EDPS Preliminary Opinion, *supra* note 12, at 11.

⁶²R. Mahnke, *Big Data as a Barrier to Entry CPI*, ANTITRUST CHRONICLE (May 2015), <https://www.competitionpolicyinternational.com/assets/Uploads/Mahnke2May-152.pdf>.

⁶³G. Manne & B. Sperry, *Debunking the Myth of a Data Barrier to Entry for Online Services*, TRUTH ON THE MARKET (Mar., 2015), <http://truthonthemarket.com/2015/03/26/debunking-the-myth-of-a-databarrier-to-entry-for-online-services/>.

⁶⁴EXEC. OFFICE OF THE PRESIDENT, BIG DATA: SEIZING OPPORTUNITIES, PRESERVING VALUES (2014), https://obamawhitehouse.archives.gov/sites/default/files/docs/big_data_privacy_report_may_1_2014.pdf.

⁶⁵MANYIKA, *supra* note 5, at 1.

⁶⁶Nils-Peter Schepp & A. Wambach, *On Big Data and its Relevance for Market Power Assessment*, 7 J. EUROPEAN COMP. L& PRACTICE 121 no.2(2016).

⁶⁷COMP/M. 4731, Google/ Doubleclick, EU-Lex (Mar. 11, 2008), www.ec.europa.eu/competition/mergers/cases/decisions/m4731_20080311_20682_de.pdf, §§ 359-366; European Commission, Facebook/WhatsApp COMP/M. 7217 (Oct. 3, 2014).

mean that everyone has equal access to it. As explained above, competitive advantage is often gained by the uniqueness of the data owned which is seldom easy to find elsewhere and which the owners have no incentive to share. Data-dependent businesses operate in two-sided markets or multi-sided markets.⁶⁸ For instance, Facebook, provides services of social media networking to one set of users while it sells the data collected therein to other businesses such as advertisers and other interested parties. By virtue of having a large number of consumers, it enjoys strong market power in the market of selling data to advertisers and other interested parties.⁶⁹ It is extremely difficult for a new entrant to gain similar market power even if it employs a better technology on its platform unless Facebook's consumers collectively coordinate a switch to its network, the likelihood of which is very less.⁷⁰ A new entrant will have to amass a substantial number of users both in the communication platform and in the data selling platform to become a significant competitor.

Further, data sold by a third-party may be of less value than the data generated by continued interaction with consumers and consequential inference.⁷¹ Data-driven mergers can bring efficiencies which cannot be substituted by third-party generated data.⁷² It has to be kept in mind that if data is something that is available everywhere for everyone, it is irrational for large businesses such as Facebook and

⁶⁸Jean-Charles Roche & J. Tirole, *Platform Competition in Two-Sided Markets*, 1 J.E.E.A.990, 1023 (2003).

⁶⁹NICHOLAS L. JOHNSON & ALEX MOAZED, *MODERN MONOPOLIES: WHAT IT TAKES TO DOMINATE THE 21ST CENTURY ECONOMY* 95 (New York: St. Martin's Press 2016).

⁷⁰K.A. Bamberger & O. Lobel, *Market Power*, 32 BERK. TECH. L. JOUR. 1052, 1068 (2018).

⁷¹Lasserre & Mundt, *supra* note 19, at 91.

⁷²Comp/M. 4854, Tomtom/ Teleatlas EU Lex (May 14, 2008), http://ec.europa.eu/competition/mergers/cases/decisions/M5727_20100218_20310_261202_EN.pdf. ¶179.

LinkedIn to offer their services for free in return for data from their consumers.

B. Advantages conferred by data are short-lived

Another view is that possession of data alone cannot confer competitive advantages and if at all, not for very long. The example of, Tinder, an online dating platform that successfully displaced older players that had access to data through non-data related innovation is often cited to argue that data has very little utility in terms of conferring competitive advantage.⁷³ Value of data is also viewed as short-lived.⁷⁴ There is a constant need for new and differentiated data, so even if a company holds a large volume of data, competitors can challenge its position by gathering more relevant data.⁷⁵ Along these lines, the European Commission in its Facebook/WhatsApp decision concluded that it is very easy for consumers to switch to other services in light of the dynamic nature of these markets.⁷⁶ The Commission found that in such a market ‘high market shares are not necessarily indicative of market power and, therefore, of lasting damage to competition’.⁷⁷ Post-merger, there will continue to be a sufficient number of other actual and potential competitors who are equally well placed as Facebook to offer targeted advertising.⁷⁸ This argument may hold true in markets where there is no dominance by any entity. However, in markets such as social-media networking

⁷³Tucker & Wellford, *supra* note 16 at 6-9.

⁷⁴Camerford & Sokol, *supra* note 56, at 1138.

⁷⁵*Id* at 1138.

⁷⁶European Commission Press Release, *Commission Approves Acquisition of WhatsApp by Facebook*(Oct. 3, 2014), https://ec.europa.eu/commission/presscorner/detail/en/IP_14_1088.

⁷⁷Case COMP/M.7217— *Facebook/WhatsApp*, COMMISSION DECISION (Mar.10,2014) http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf¶99.

⁷⁸*Id* at ¶179.

where one entity enjoys a clear dominance, has a very large number of consumers, and where competition is very less, it may not be true.

C. Competition authorities need not be concerned about privacy

Firstly, it is regarded that due to the anonymised nature of big data, there are no threats posed to consumers' privacy. However, with the advent of new technologies, it is indeed possible for re-identification of data, thus leading many technologists to opine that de-identification of data cannot be a means to ensure individual privacy.⁷⁹ Further, it has been remarked that big data is capable of challenging the very basic tenets of privacy laws. Rubinstein suggests that big data can make the concept of informed consent, futile in three ways: (i) Adequate notice by firms having the data is impossible as it cannot be predicted when a certain conclusion may be arrived at; (ii) Users cannot meaningfully consent to their data being used for big data analysis at every stage; and (iii) It is not clear whether the concepts of consent, portability, access, etc. apply to knowledge gained as a result of data analysis, particularly when it has been anonymised, as there is no violation of any individual obligation.⁸⁰

Competition law majorly focuses on competitive pricing for consumers in its regulation while other non-price factors such as data and privacy are only slowly gaining recognition. The CCI held in the case of *Vinod Kumar Gupta v. WhatsApp Inc.*⁸¹ that any privacy concern was outside of its purview and had to be dealt with exclusively under the Information Technology Act, 2000. This approach reflects a view of competition law which does not consider either data as an asset or privacy as a factor that can affect

⁷⁹EXEC. OFFICE OF THE PRESIDENT, BIG DATA: SEIZING OPPORTUNITIES, PRESERVING VALUES(2014); P. Ohm, *Broken Promises of Privacy: Responding to the Surprising Failure of Anonymization*, 57 UCLA L. REV. 1701, 1777 (2010).

⁸⁰I. Rubinstein, *Big Data: The End of Privacy or a New Beginning?*, 3 INTL. DATA PRIVACY LAW 74, 78 (2013).

⁸¹*Vinod Kumar Gupta v. WhatsApp Inc.*, 2017 COMP L. R. 495 (CCI).

competition which is not a welcome approach in the digital economy. How consumers' privacy must be regarded by the competition authority as a factor affecting consumers' interests is dealt with in the forthcoming section.

V. IS THE PRESENT ANTI-TRUST REGIME WELL-EQUIPPED TO DEAL WITH BIG DATA RELATED COMPETITION CONCERNS?

From the above discussion, it is clear that there is disagreement among scholars as to whether big data is capable of detrimentally affecting competition. However, it has to be concluded that it does have potential to give rise to anti-competitive conduct, at least in certain concentrated markets at present.

There is indeed difficulty in proving foreclosure of competition/adverse effect on competition through ownership of data because of certain characteristics of digital markets specifically multi-sided nature of online markets, multi-homing and market dynamics. In this section, the author puts forth certain suggestions which may have to be incorporated by the CCI to be better equipped to deal with such anti-competitive practices.

A. Defining relevant market

Online markets are multi-sided, meaning that an undertaking caters to more than one group of customers, as explained earlier. Hence it can be difficult to define relevant market.

Anti-trust tools such as the Hypothetical Monopolist test may be rendered useless with the invasion of data. Hypothetical Monopolist Test or SSNIP test is a test used to define relevant market. According to this test, the question is if a producer were to introduce a small but

significant non-transitory increase in price in the range of 5%-10% would it be enough for the customers to switch their purchases to other products. If the answer is yes, it could be inferred that the market is wide enough to include such other products as well.⁸²As most of the services that obtain data are offered for free, it is futile to determine substitutability in terms of price in abuse of data-conferred dominant position. In such a scenario, other factors such as consumer preferences, end-use of goods and services, price etc. may be regarded by the CCI to determine the relevant product market.⁸³

B. Assessing dominance

Market dynamics are often cited as demystifying the anti-competitive concerns raised by data-created market power. It is this dynamic nature of market that is said to have facilitated the replacement of Yahoo by Google, MySpace by Facebook, etc. even though these new entrants did not have access to the databases initially.⁸⁴Temporary dominance is the prize for which firms in dynamic markets compete, so enforcement that limits the ability to achieve this dominance may be counter-productive and slow innovation to the detriment of economic growth and consumer welfare.⁸⁵Again, undue reliance should not be made on this and a case-by-case analysis is required to see whether there exists any data-related anti-competitive practice in the market at present. Competition authorities should carefully analyse where there is an abuse of dominance gained through data, in a way that survival of new entrants and other competitors is deterred because merely enjoying a dominant position is no violation. Enquiry

⁸²A. ROY & J. KUMAR, COMPETITION LAW IN INDIA 178 (2 ed. Eastern Law House 2014).

⁸³The Competition Act, 2002, Acts of Parliament, No. 12 of 2003, § 19(7).

⁸⁴French Competition Authority Report, *supra* note 24, at 29.

⁸⁵H.A. Shelanski, *Information, Innovation, and Competition Policy for the Internet*, 161 UPLA REV. 1663, 1670-71 (2013).

must also be made into the whether the data concerned is substitutable or not.

Another characteristic of online markets is that consumers tend to use several providers to get the same service i.e., multi-homing. This may lead to several service providers collecting similar data. It is seen as a factor likely to reduce market power.⁸⁶ Level of multi-homing is a crucial factor which has to be looked into while deciding whether data-driven strategies have resulted in anti-competitive effects.

Therefore, the inquiry as to whether there is an abuse of dominance must be threefold: [i] Whether the data held by the entity accused of abuse of dominance is substitutable? [ii] If no, whether it confers a dominant position to the entity i.e., the ability to operate independently of the competitive forces?⁸⁷ [iii] Whether the said dominant position has been abused with regard to the factors mentioned in Section 19(4) of the Competition Act such as entry barriers, dependence of consumers, size and resources of the enterprise, etc.?

The CCI had an opportunity to define the relevant market and assess dominance in the context of online platforms while inquiring into the alleged anti-competitive practices by Google in Matrimony.com case. The relevant market was defined to be: (1) the market for online web search services in India and (2) the market for online search advertising in India. A pro-active approach was taken by the CCI by dismissing Google's argument that its search services being provided for no consideration, did not come under the definition of service in the Competition Act. The CCI recognized the advantages conferred by data by opining that the data collected from the users on every search contributed to big data analysis which was instrumental in

⁸⁶D.S. Evans & R. Schmalensee, *The Industrial Organisation of Markets with Two-Sided Platforms*, 3 COMPETITION POLICY INTERNATIONAL 151, 169 no.1 (2007).

⁸⁷The Competition Act, 2002, Acts of Parliament, No. 12 of 2003, Explanation (a) to §4.

targeted advertising that generated a significant portion of revenue. Further, Google was found to be dominant in the relevant market after an analysis that consisted of factors under Section 19(4) such as volume of business, market share, revenue, high entry barriers in the form of unavailability of large-scale data and technological prowess that Google exclusively possessed, etc.

The CCI also noted that by virtue of access to large amounts of personal data, large online platforms may be in a position to deter new innovation or even restrain consumer welfare.⁸⁸

While this approach is indeed commendable, the decisional practice of CCI concerning digital markets has been inconsistent otherwise. The CCI has maintained the view that online and offline markets have to be defined as separate relevant markets,⁸⁹ which can no longer be entertained in view of the obvious advantages conferred by big data to online players, detrimentally affecting the offline players who might very well be driven out of the market due to factors other than but including big data as well. Thankfully, CCI has ordered a probe against the e-commerce giants which might hopefully examine the competitive advantages conferred by data.⁹⁰

C. Accrual of benefits to consumers

Further, Section 19(3) of the Competition Act lists accrual of benefits to consumers, among other factors as a factor that the CCI has to regard during its enquiry as to whether there is a violation of Section

⁸⁸Dissent Note, Matrimony Case, ¶33.

⁸⁹Ashish Ahuja v. Snapdeal.com, Case No. 17 of 2014:JusticketsPvt. Ltd. v. Big Tree Entertainment Ltd., Case No. 08 of 2016 (CCI).

⁹⁰*CCI orders probe against Amazon, Flipkart over discount practices*, THE ECONOMIC TIMES (Last visited on Jan. 14, 2020 07:57 AM IST) https://economictimes.indiatimes.com/industry/services/retail/cci-orders-antitrust-probe-against-amazon-flipkart/articleshow/73232447.cms?utm_source=contentofinterest&utm_medium=txt&utm_campaign=cppst (Jan. 19, 2020).

3. The efficiency defence may be used by data holding platforms to argue that more data will result in enhanced innovation and improved products to the benefit of customers etc. Though this may be true to some extent, it still has to be scrutinised carefully by the competition regulators. They should be in a position to understand whether the data involved is unique, whether there are reasonable substitutes available, etc. Unduly focusing on benefits to consumers may result in forgiving practices which are harmful to competition in the market.

D. Privacy as a non-price competition factor

While enquiring into whether there is anti-competitive conduct fueled by possession of data [Violations of Section 3(4)], privacy, as a non-price factor assumes importance. Competition authorities must give regard to whether or not there is breach of consumers' privacy by enterprises even if it results in delivery of personalised services so that an otherwise anti-competitive practice is not condoned in light of Section 19(3). The CCI in the Matrimony.com order noted that an antitrust intervention can no longer be restricted to analysis of market power but also should focus on the implications on consumers. This might be a signal that in the future, the CCI will not hesitate to look into privacy -breaching actions as detrimental to consumer welfare.

E. Evaluating the need for sharing data to facilitate competition

As discussed in the earlier section, companies like Facebook holding large amounts of data may make competition difficult in certain markets. As was decided in the cases concerning abuse of dominance by such platforms being required to share data, otherwise called data openness may have to be resorted to enable the entry of new players in the market. Although a highly interventionist remedy that involves a company to disclose legitimately acquired data, it may be a necessary tool requiring careful assessment on the part of antitrust

regulators to determine which datasets of which platforms in which markets have to be disclosed.⁹¹ A balanced approach to this would be sharing data on FRAND (fair, reasonable, non-discriminatory) terms. The concept, though popular in the context of Standard Essential Patents, can be put to good use to achieve the balance between promoting competition and intruding into databases of tech giants.

F. Merger control thresholds

Lastly, efforts must be made by the regulatory authority to assess the value of data during competition inquiries. In India, a combination which meets certain asset and turnover based thresholds are required to be notified to the CCI before it can take effect. However, such ‘purely turnover-based jurisdictional threshold’ may not capture all transactions which can potentially have an impact in the market such as data driven mergers. This may cause certain combinations to escape the scrutiny of the CCI because the assets and turnover of the acquirer and the target enterprise may be less than the prescribed threshold. Some competition authorities such as Germany and Austria have taken cognizance of this lacuna and have introduced an additional ‘value of transaction’ threshold. An acquisition of value exceeding a prescribed limit can be reviewed even if the assets and turnover thresholds are not met. Such a threshold already exists under the Hart-Scott Radino Act of the United States. While the Competition Act has no such thresholds presently, the CCI also does not have any sort of residuary powers to otherwise enquire into combinations which might threaten competition. The Chinese Competition Authority has such powers to inquire into mergers not covered under the thresholds, yet have, in its opinion, the potential to threaten competition upon taking effect. It is recommended to bestow

⁹¹H.M. TREASURY, UNLOCKING DIGITAL COMPETITION: REPORT OF THE DIGITAL COMPETITION EXPERT PANEL(Mar. 2019), <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel> (Jul.11,2019).

the CCI with such powers or introduce new threshold and amend the Competition Act accordingly.

VI. CONCLUSION

Big data is neither inherently good nor is it evil, nor neutral. Its advent and takeover can no longer be ignored. Foundations of competition law and policy based competitive pricing for consumers rather than a broad and diverse set of social and economic issues are being shaken by the advent of big data. The potentially harmful implications on competition are too significant to be downplayed. Competition authorities need to tweak their strategies and methods to remain effective regulators. Otherwise, they stand the risk of falling prey to the ignorance of market realities and obsolete methods of enquiry.

Therefore, it is necessary for the antitrust agencies to understand the developments in the big data era, although a complete overhaul of the anti-trust regime for enquiries involving data may not be necessary. Assumptions based on the supposed ubiquity of data should not be a barrier to comprehensive enquiry. Phenomena such as multi-homing should not prevent competition regulators from individually assessing every market situation on a case-by-case basis. The CCI should be prepared to respond to these new developments efficiently when the situation arises keeping in mind all the new challenges posed by data.