

MERGER REVIEWS IN DIGITAL ECONOMIES: CONCERNS AND WAY FORWARD

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Abstract

In the era of digital economies where E-commerce is becoming the most important method of commercial activity, challenges for competition authorities are increasing. Many online markets are coming into existence which are multi-sided amplifying the buying and selling of goods or services online. Understanding dynamics of such platforms is must for applying competition tools to know whether there is a fair competition and whether proper tools are developed or used by authorities for competitive assessment of such platforms. The present research, *firstly*, aims to explore how merger reviews should be conducted and new factors, if any, should be considered in such reviews. *Secondly*, it discusses the issue of Big Data that eventually become a necessary strategic and economic asset. *Thirdly*, the concern about increased use of artificial intelligence and increase in takeovers of artificial intelligence start-ups leading to prospective consolidation in the market is covered by the research.

I Introduction

IN THE era of digital economies where e-commerce is becoming the most important method of commercial activity, challenges for competition authorities are increasing. Many online markets are coming into existence which are multi-sided amplifying the buying and selling of goods/services online.¹ Understanding dynamics of such platforms is must for applying competition tools to know whether there is fair competition or competition is being distorted. It is important for competitive assessment of such platforms that proper tools are developed and used by authorities. Such assessments involve assessment of anti-competitive practices adopted by players in E-commerce or abuse of dominant position by any dominant player or mergers of players causing or likely to cause appreciable adverse effect on competition.

It is interesting to note that in 2017 Indian e-commerce market has witnessed mergers and acquisitions (M and A) worth 2.1 billion dollars (USD).² In 2018, there have been six M and A worth 129.4 billion dollars including an important merger between Flipkart and Walmart.³ According to Morgan and Stanley's prediction, Indian e-commerce

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1 *Available at:* <https://www.expertguides.com/articles/e-commerce-and-competition-law-common-competition-issues-faced-by-e-commerce-businesses/ARUEWBDE>(last visited on May 10, 2023).

2 Indian e-commerce market sees M and A deals worth 2.1 billion dollars in 2017, *Economic Times*, May 6, 2018, *available at:* <https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/indian-e-commerce-market-sees-ma-deals-worth-2-1-bn-in-2017/articleshow/64053611.cms> (last visited on May10, 2023).

3 Swaraj Singh Dhanjal, Indian companies log record \$129 billion in M and A deals in 2018, *Live Mint*, Jan 9, 2019, *available at:* <https://www.livemint.com/Companies/VD0HHHQHCuwiCjsxeTGCLN/Indian-companies-log-record-129-bn-in-MA-deals-in-2018.html>(last visited on May10, 2023).

markets will grow to 200 billion dollars by 2026.⁴ In 2022, the M and A value has hit an all-time high of 130 billion USD and the total M and A deal value in the technology sector has hit a mark of 22.08 billion dollars until August.⁵

In this context, it is important to understand effects of such mergers in digital economies from a competition law perspective. Therefore, firstly, this research aims to further explore how merger reviews should be conducted and new factors, if any, should be considered in such reviews. This research would also indicate if there existed a need for developing special tools to be used by the Competition Commission of India (CCI) for undertaking such review.

Second area of concern for competition authorities is Big Data in a digital economy that eventually become a necessary strategic and economic asset.⁶ New technologies have given companies an edge for collection, synthesis, and analysis of data. This helps in culling out information for their decisions and strategies that shows the value in such data.⁷ Hence, it would not be incorrect to conclude that by the virtue of Big Data and AI, 'data is the new currency'.⁸ Such data sources are purchased by paying prices for them.⁹ Big data is required by different markets as different input because generic data is not useful for all markets. It is believed that entry barriers to big data markets apply to the entry or expansion of firms in each part of the data value chain. Many reports have discussed the relation and interaction between data and competition law.¹⁰ Competition authorities across the globe have acknowledged 'Data' being a

4 *Ibid.*

5 Verdict, 'Technology industry M&A deals total \$2.1bn in India in August 2022' October 21, 2022, *available at*: <https://www.verdict.co.uk/technology-industry-ma-deals-total-2-1bn-in-india-in-august-2022/#:~:text=India%20held%20a%209.60%25%20share,over%20the%2012%2Dmonth%20average> (last visited on May 10, 2023).

6 As quoted by Daniel L. Rubinfeld and Michael S. Gal in "Access Barriers to Big Data" 59:339 (2017) *Arizona Law Review*, referring to World Economic Forum, Big Data, Big Impact: New Possibilities for International Development (2012).

7 Daniel L. Rubinfeld and Michael S. Gal, *Access Barriers to Big Data* 4 (2017).

8 Organisation for Economic Co-operation and Development (OECD), *Big data: Bringing Competition Policy to the Digital Era* (DAF/COMP(2016)14) para. 56.

9 OECD, STI Policy Note on Data-driven Innovation for Growth and Well-being- What Implications for Governments and Businesses? *available at*: <http://www.oecd.org/sti/ieconomy/PolicyNote-DDI.pdf> (last visited on Apr. 23, 2023).

10 Competition and Markets Authority, "The Commercial Use of Consumer Data". Report on the CMA's call for information', June 2015 at 74-96, *available at*: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/435817/The_commercial_use_of_consumer_data.pdf; Competition Policy: The Challenge of Digital Markets, "Special Report No. 68 Special Report by the Monopolies Commission pursuant to s. 44(1)(4) of the Act Against Restraints on Competition" (2015), *available at*: http://www.monopolkommission.de/images/PDF/SG/s68_fulltext_eng.pdf (last visited on Apr. 23, 2023).

competitive advantage for businesses today. The competitive strength of online businesses is increasingly being determined by the amount and the quality of the data they hold.¹¹ It is believed that companies having access or ownership over big data tend to become monopolies or will gain an unfair advantage over competitors and will use their market power to harm consumers and competitors.¹² Therefore, the competition authorities should also use 'access to data' in their merger analysis for anticompetitive effects.

One group of thinkers believes that the competition policy should be intensified to control this effect.¹³ Another group believes that existing competition policy is sufficient to tackle the issue, and, in their opinion, data is used for research and development and results in instilling innovation in the market. The data helps companies to improve their products or services and give opportunity for exploitation of new opportunities.¹⁴ The group in favour of protecting competition from big data usage argues that it requires a unique approach to antitrust analysis. It cannot be processed using traditional database systems.¹⁵ The companies that can extract values from such data will have competitive advantages for better decision making in comparison to those which do not have such access. Internet platforms like Google, Facebook or Amazon are able to generate a lot of data which can be used for their competitive advantage. Other sectors like healthcare, insurance, automobile and telecom are engaged in data collection to improve their database and provide improvements.

Many merger cases have been filed in the United States and Europe where data collection and use were a large component of a firm's business model. For example, the merger of Facebook and WhatsApp.¹⁶ Indian jurisdiction is also dealing with effects of such a merger. Therefore, there is a need for assessing impact of such concerns in the merger review process. A necessary analysis is whether such mergers raise more harm due to the concentration of the market or provided benefits in the form of innovation?

11 Inge Graef, "Market Definition and Market Power in Data: The Case of Online Platforms", 38(4) *World Competition and Eco. Law Review* 473-505 (2015).

12 Joe Kennedy, The Myth of Data Monopoly: Why Antitrust Concerns about Data are Overblown, *Information Technology and Innovation Foundation* (Mar 2017); Maurice E. Stucke and Allen P. Grunes, *Big Data and Competition Policy* (New York: Oxford University Press (2016).

13 Maurice E. Stucke and Allen P. Grunes, *Big Data and Competition Policy* (New York: Oxford University Press, 2016).

14 Autorite de la Concurrence, Bundeskartellamt, "Competition Law and Data 2016", Big Data Papier.pdf, available at: https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.pdf?__blob=publi(last visited on Apr. 20, 2023).

15 *Supra* note 13 at 15–28.

16 Hanna Stakheyeva and Fevzi M. Toksoy, "Merger control in the big data world: to be or not to be revisited? 38(6) *European Competition Law Review*, 265-271(2017).

Third concern is regarding increased use of Artificial Intelligence (AI) as well increase in take overs of AI start-ups by technology giants leading to prospective consolidation in the market.¹⁷ There have been mergers which have created powerful corporations with bigger GDP than many national economies.¹⁸ Such acquisitions may have pro-competitive effects but may also result in dominance and conducts abusing such dominant position. It may be a serious concern if there is a systematic pattern of such acquisitions.¹⁹ AI gives the ability to design algorithms that can access and analyse vast amounts of information and is prone to assist in tacit collusion.²⁰

II Digital economy and its complexities

In the backdrop of the concerns discussed in the preceding section, the paper aims to discuss the following questions:

- i. What are the horizontal and vertical effects of mergers in a digital economy?
- ii. What factors should be considered in merger reviews especially in mergers between digital players and whether there is a need to develop special tools for undertaking merger review?
- iii. Are concerns about Big Data and its use important for competition analysis and how it can be dealt while assessing M and A deals in digital markets?
- iv. What is the effect of excessive use of AI as well as increase in takeovers of AI start-ups by technology giants, leading to a prospective consolidation in the market.

For answering the above, vertical, horizontal and conglomerate effects of the mergers will be identified. In addition, the factors which are relevant to merger analysis in the digital market shall be explored. The approach of antitrust authorities will also be considered, wherever necessary. Role of big data and AI in facilitating such mergers including the tools for analysis would also be analysed.

17 Vinod Iyenger, “Why AI consolidation will create the worst monopoly in US history”, *available at*: <https://techcrunch.com/2016/08/24/why-ai-consolidation-will-create-the-worst-monopoly-in-us-history/>

18 “Towards a monopolisation of research in AI”, *available at*: http://www.unesco.org/new/en/media-services/single-view/news/towards_a_monopolization_of_research_in_artificial_intelligence/ (last visited on May 10, 2023).

19 Jacques Crémer, Yves-Alexandre de Montjoye, Heike Schweitzer, “Competition Policy for the Digital Era”, EU Report (2019).

20 The enhanced ability of the computers to process huge amounts of data at real time speed could achieve a God-like or divine view of the market, Maurice E. Stucke, “Digital Competition as quoted in Virtual Competition: Challenges for Competition Policy in an Algorithm Driven Market”, *available at*: <http://competitionlawblog.kluwercompetitionlaw.com/2018/09/11/virtual-competition-challenges-competition-policy-algorithm-driven-market/>.

Mergers in digital economy: Effects and concerns for competition law enforcement

Mergers have been understood to instil competition in the market and make market function more efficiently. However, in the existing scenario, Merger regulation, especially in the digital economy has taken the centre stage globally highlighting the concerns it may create for fair competition. Horizontal (between enterprises operating in the same market) and vertical mergers (between enterprises operating in the different markets) and Conglomerate mergers have all come under the scrutiny of the enforcement authorities. The following section shall deliberate upon the existing issues in three types of digital M&As.

Horizontal mergers in digital economy: The issues

The effects of Horizontal mergers are primarily crucial given that two enterprises earlier competing in the market decides to merge into a single entity. *Prima facie* it impacts competition by reducing the number of enterprises operating in the market. However, it may also lead to efficiency gains if the resulting entity undertakes innovative improvements in the goods/services being offered. Moreover, if such M and A leads to a monopolistic or oligopolistic market structure it may lead to competitive concerns in future. The enhanced market power can further increase and yield the overall welfare effects. However, it has been opined that this analysis can be done on case-to-case basis.

From the perspective of digital mergers, the concept of innovation and how M&A affect the rate of innovation appears as one of the fundamental enquiries. Instances have shown how new innovative players were subsequently subsumed by the Big Techs for instance, Google-Double click, Amazon-Whole Foods, Amazon-Quidsi, Facebook-WhatsApp, Facebook-Instagram, *etc.* It has been observed that disruptive innovations and new technological breakthroughs brought in by the new entrants has been the driving force behind intensified M&A activities in the digital economy.

When one tries to analyse such transactions, there have been instances of post-M&A termination of the pipeline products/services for instance, Amazon-Quidsi. It further deaccelerates the R&D activity being carried out by the resulting entity. It has been observed that the focus behind such M&A has been the elimination of a future competitor while protecting its own position in the market. Protecting its own position is further reinforced by creation of entry barriers, leading to market foreclosure.

As evident from the innate nature of horizontal mergers, it is highly likely that upon reduction in the number of competitors, the entity may impose higher prices on the consumers. The case of digital mergers may differ in nature but would ultimately result in negative welfare if not analysed carefully. Since, digital markets are distinct in a way that end-users can use the services free of costs, a horizontal merger may lead

the entity to impose higher charges on the other side of the market where the businesses offering their services operates including the advertisers. The increase on one side of production would reflect upon the opposite side as well as on the end-users.

Vertical mergers

A vertical merger would entail the merger of two entities operating in different markets (Upstream/Downstream). Vertical mergers are understood to infuse efficiency and create synergies by lowering the overall costs of operation and production creating opportunities to innovate.²¹

However, it must also be understood that an entity operating at a different level of the production chain is competing with several other entities in its own market. All the enterprises at that level are competing to gain an edge over its competitors. In such a case, when an entity operating in vertical chain merges with the firm, especially with a digital platform, such a merger may be detrimental in the longer run to the existing competition in the market.

A digital platform merging with entities operating in its downstream or upstream markets may distort the level playing field. If platform enjoys dominance in their respective market, such merger may lead to a preferential treatment to the other entity which would not only restricts the market access for other competitors in the upstream or downstream markets but may in some instances restrict the consumers' right to make a choice.

It must also be considered that it is not only the upstream/downstream entity that gains an edge through such a merger, but the digital platform too is able to have a competitive edge over its competitors by gaining access to the huge amount of data which would help it to align its strategies accordingly. It may also assist such platform to strategize its entry into such upstream or downstream market, further reducing the options for the consumers.

Strategies of self-preferencing, tying, bundling would ultimately yield negative welfare effects in such a closed system. Germany's Federal Cartel Office has shown that vertical mergers amplify foreclosure of the markets especially if the transaction enables the merged entity to restrict or deny companies on upstream or downstream markets access to the data.²²

Competition authorities have across jurisdictions raised concerns related to foreclosure of the market pursuant to M and A in the digital economy. It was highlighted how the

21 Parker, Geoffrey, Petropoulos, Georgios, Van Alstyne, Marshall "Platform Mergers and Antitrust" 30(5) *Industrial and Corporate Change* 1307–1336 (2021), available at :<https://academic.oup.com/icc/article/30/5/1307/6365871>(last visited on May, 20 2023).

22 Germany Federal Cartel Office – Google and Wettbewerbs.

deal would lead to leveraging the up-stream and downstream channels to collect data and further strengthen its position in the vertically connected market. A concern for instance could be regarding the distributors not having access to the products or vice versa wherein the manufacturers may not have access to the distributors in the market.²³

Conglomerate mergers

Conglomerate Mergers, in simpler terms, are mergers between entities that operate in different markets carrying out unrelated business activities. It instils efficiency by making it easier/less cumbersome for the users to search different products that were earlier operating separately as standalone product/services. Studies²⁴ have shown that consumers value the 'one-stop shopping' incentive due to the existing search frictions and the associated search costs. However, the concerns related to such mergers have also been well recognised by forums, citing depletion of competitive forces.

Such mergers can be classified into three broad types²⁵

- i) Intended to diversify product lines
- ii) Intended to create/extend geographically
- iii) Pure conglomerate mergers – Allowing entry into a new market

The theories of harm associated with 'Conglomerate mergers' suggest the following -
Firstly, Market foreclosure through mixed bundling of Products – A Conglomerate merger between

two entities operating in unrelated markets can pose threat to competition by closing the market for other efficient competitors. A big tech giant merging with an entity operating in a different market can lead to build strong entry barriers for others. The other entities may not be able to have access to the tech giant services. The merging entity may procure a huge advantage over its competitors further depleting the competition in its own market. In addition, when viewed from the perspective of consumers, there are less choices available and even though it is convenient to use one-shop system, it may not in all cases yield efficiency.

Secondly, Market foreclosure due to Accumulation of Data - Enterprises operating in the digital sector are data repositories and hence, serve huge purpose by providing the

23 Damien J. Neven, "The analysis of conglomerate effects in EU merger control" Graduate Institute of International Studies, Geneva and CEPR, Dec. 2005.

24 Andrew Rhodes and Jidong Zhou, "Consumer Search and Retail Market Structure," 67(2) *Management Science, INFORMS*, 2607-2623(2019).

25 Markovits, R. S., 'Economics and The Interpretation and Application of U.S. And E.U. Antitrust Law', Springer-Verlag Berlin Heidelberg, 2014 And Garcia, C. P; Azevedo, P. F. "Should Competition Authorities Care About Conglomerate Mergers?" World Economics Association, 2017.

tech giant with the relevant data to build latter's services. As evident from Microsoft-LinkedIn, Facebook-WhatsApp, Facebook-Instagram, Amazon-Whole Foods, the primary advantaged gained through such merged was the access to huge amount of data and other analytical tools which have further reinforced and added to the dominance of the tech-giants in the market.

Thirdly, Hampering the rate of innovation –The intensification of mergers and acquisition in the digital economy has also shown such mergers and acquisition have been undertaken to kill the potential competition and, in few cases, have also led to discontinuation of the products/services of the merging entity pursuant to the transaction. Amazon-Quidsi gives an insight into how the M and A are being used to kill competitors thus affecting fair competition and consumer welfare negatively.

III Relevant factors under merger review in the digital economy

While there does exist certain pre-determined parameters to analyse the M and A, the following appears peculiar to assess any proposed M and A deal and its probable impact more closely on the digital market dynamics.

Integration and concentration of data

One of the most essential raw materials in digital economies today is 'Data'. Big data is referred to as "the information asset characterized by such a high Volume, Velocity and Variety to require specific technology and analytical methods for its transformation into value".²⁶ Analysis of data leads entities to understand the preferences and accordingly introduce new and innovative products and services.²⁷ Access to relevant datasets can yield unmatched commercial strength to enterprises. Data being the intangible asset, any M and A in the digital economy results in possible consolidation or concentration of data, with the merging entities pooling in their data resources into the resulting entity. Data, as recognised in the past, is non-rivalrous in nature. The datasets can be reused and processed multiple times to yield productive outputs. In addition, continuous accumulation and processing of datasets further refine the result, adding to the value of the product/service. Dealing in such intangible assets, sharing and processing of data have brought down the cost creating options in terms of efficiency and innovation.²⁸

The role of data remains significant in any proposed M and A deal in the digital sector. A merger between entities operating in the digital sector would inadvertently lead to

26 Andrea De Mauro, Marco Greco, Michele Grimaldi, "A formal definition of Big Data based on its essential features, March" 65(3) *Library Review* 122-135 (2016).

27 *Ibid.*

28 Andrew Giddings, Emran Islam, Kathleen Kao, Emanuel Kopp, "Toward A Global Approach to Data in the Digital Age", Oct. 6, 2021, available at: <https://www.elibrary.imf.org/view/journals/006/2021/005/article-A001-en.xml> (last visited on May 10, 2023).

the merging of huge volume of datasets. As recognised by studies, such datasets carry immense economic significance and are one of the primary sources of revenue generation as well. The FTC has, while dealing with mergers on a case-to-case basis ordered the divestiture of datasets and sharing of data with other parties citing anti-competitive concerns.²⁹ It did highlight the possible impediments to competition while later approving them. However, initially the FTC had taken a view that acquisition of datasets would enhance innovation and would promote competition.³⁰ M and A allows entities to combine their resources and efficiencies and further diversify them ultimately increasing the business's adaptability to any critical disruption in the market. It offers a mechanism bringing synergies between two businesses aimed at maximising the gains from the resulting business.

Since accumulation of data and its processing is commercially enriching, mergers can lead to plausible concentration of data in the hands of the resulting entities. There exists a huge possibility of the resulting entity restricting the entry of new players in the market by raising the barriers for the new players. This would lead to a negative effect by hampering the ability of new firms to compete effectively in the market with such big techs.

In addition, if such resulting entity is dominant and enjoys sufficient market power, it would further worsen the competitive intensity. Winner-takes-all is highly prevalent in the digital economy.³¹ Possessing of valuable data coupled with sufficient market power would only affect the market but the consumer's interest as well. One example for this could be the use of price discrimination strategies which is primarily a result of the insights company gets from analysis of collected data.³²

Another quite significant aspect is that the resulting entity is also at an advantage when one tends to analyse the role of data, the cost of processing it and application of algorithms. This is particularly essential as it directly establishes a nexus with the innovations being introduced in the market.

Few evidence led us to the exact strategy behind mergers and acquisition in the digital economy. Studies show that a very high number of acquisitions have been done of the firms operating in the areas of AI, data analytics, data science. This also show that the

29 *U.S. v. The Thomson Corp. and Reuters Group PLC*, C (2008) 654.

30 Microsoft and Yahoo Inc. (2010).

31 Akcigit, Ufuk, Wenjie Chen, Federico J. Diez, Romain Duval, Philipp Engler, Jiayue Fan, Chiara Maggi, Marina Mendes Tavares, Daniel Schwarz, Ippei Shibata, and Carolina Villegas-Sánchez, "Rising Corporate Market Power: Emerging Policy Issues." IMF Staff Discussion Note 21/01, International Monetary Fund, Washington, DC.

32 Hannak, Aniko, Gary Soeller, David Lazer, Alan Mislove, and Christo Wilson "Measuring Price Discrimination and Steering on E-commerce Web Sites." Proceedings of the 14th ACM/USENIX Internet Measurement Conference, 2014ACM Digital Library.

big techs have created a close-knitted environment with the enterprises that can add to/refine their data analytics and processing activities.³³

Further, analysing the pattern of the segments in which most of the M and A have been executed also reveals several cues. It showed that for 2008-2018 decade, in almost all the cases of M and A, the companies have acquired data analytics firms/start-ups. While Google and Facebook have acquired firms operating in the advertising and consumer segments given the importance of traffic on their respective platforms, Apple mostly acquired data analytics companies. Additionally, it is relevant to note that the focus lies in the revenue generating segments.³⁴ It is evident that an intensified M and A activity in the data-driven digital economy over the last decade has led the market to become concentrated, power imbalances amongst the existing entities and information asymmetries. It has been observed by the UNCTAD that the big techs are more likely to make investments in data collection infrastructure, as well as in AI research and development thus, cementing their dominance.³⁵ This has eventually led the value captured from the collection and processing of datasets to remain in the hands of the big techs only to the exclusion of other competitors whether existing or potential.³⁶

The dominance is further reinforced through the concentration of datasets which has a two-sided effect. It not only cements the dominance, but it also restricts other firms from having access to the relevant data, making it difficult for the new entrants to operate.

To conclude that such concentration of data leads to reduction in competitive intensity, the authorities must resort to certain peculiar factors including but not limited to – volume and the quality of the data possessed by the acquired entity, assessing the accessibility to such data (analysis of how easy or complex is the process of accessing such data), the competitive advantage attached with such data within a given relevant market, *etc.*³⁷

33 Axel Gautier, 'Mergers in the Digital Economy', *Information Economics and Policy* (Sep. 2020) available at: https://courses.edx.org/assets/courseware/v1/e36195ad6061182739be6e729ce1ef8d/asset-v1:WBGx+DBLS01x+3T2021+type@asset+block/w5_a3.pdf (last visited on May 10, 2023).

34 Argentesi, E., P. Buccirossi, E. Calvano, T. Duso, A. Marrazzo and S. Nava (2019a). Ex post assessment of merger control decisions in digital markets, Report to the Competition Market Authority; The identified categories of acquisitions are- Communication apps and tools; Tools for developers; Physical goods and services; Digital content; Remote storage and file transfer; Advertising tools and platforms; AI, data science and analytics; Home, wellbeing and other personal needs and Others.

35 *Ibid.*

36 *Supra* note 19.

37 Falk Schoning, Christian Ritz, 'Mergers In the Digital Economy: A Practitioners' Outlook On Key Merger Control Aspects Of Big Data And Innovation In Digital Markets', available at :<https://www.competitionpolicyinternational.com/wp-content/uploads/2018/02/CPI-Sch%C3%B6ning-Ritz.pdf>(last visited on May 10, 2023).

Economies of scope

Economies of scope is one of the most fundamental aspects in any proposed M and A scheme which are said to be achieved when costs are significantly reduced by inducing product diversification.³⁸ The analysis of M and A deals involving the big techs shows how the focus has been on the mergers and acquisitions with firms operating in a different market than the acquirer. The analysis of any such M and A hence must also investigate the rationale of the proposed deal in place of overly emphasizing on parameters such as thresholds.

For a complete analysis in such M and A deals, in addition to the thresholds, practically it can be assessed along the parameters such as – expanding the core competence, improving capital, spreading the associated risks, reducing the existing or potential competition, restructuring the business³⁹. Research shows that Economies of scope succeed more often than the M and A activities undertaken only to increase the size or reducing the costs of the merging entities. Hence, economies of scope remain one of the most significant aspects when it comes to the analysis of mergers and acquisition. It reduces the incentive to specialise in the production of any good/service.

Lock-in effects and high switching cost

In the context of digital markets, a merger and acquisition (vertical/horizontal) carry the potential to raise barriers for new entrants but would also raise switching costs for the consumers. High Switching costs can be studied through the VEIF (the value, embeddedness, informal barriers and formal barriers to switching) Model which explains how switching costs can be altered with the use of data. It includes two parameters *i.e.*, i) valuable data embeddedness and ii) data switching barriers.⁴⁰ The model explains that a user's data which is deeply embedded into the digital product, or a platform can lead to higher switching costs for the consumers making it difficult for them to switch or consider using goods/services from other competitors operating in the market. This in turn accelerates the consolidation of a large user group which gets locked-in to using a single product or service in digital market. A merger and acquisition review must also consider the lock-in effect it may induce for the end-users. The analysis of the possible impact on the switching costs for the consumers in any M and A assessment

38 Cassiman, Colombo, Garrone and Veugelers, "The impact of M&A on the R&D process. An empirical analysis of the role of technological and market relatedness" *SSRN Electronic Journal* 34 (Jan. 2003)

39 Brouthers and Brouthers, 'Acquisition or greenfield start-up? Institutional, cultural and transaction cost influences' *Strategic Management Journal* 21(1) 89-97 (Jan. 2000).

40 Dan Prudhomme, 'How digital business can leverage the high costs for consumers to switch platforms' Sep. 24, 2019, *Available at*: <https://blogs.lse.ac.uk/businessreview/2019/09/24/how-digital-businesses-can-leverage-the-high-cost-for-consumers-to-switch-platforms/#:~:text=The%20Digital%20Lock%2Din%2FVEIF%20model%20outlines%20two%20main%20types,not%20securely%20lock%2Din%20customers> (last visited on May 10, 2023).

appears quintessential, given the possibility of less choices for the consumers and the raising of the entry barriers for other efficient competitors.

Impact on innovation

Within the context of digital economy, the most peculiar factor that emerges is the impact merger would have on innovation. It has been suggested that M and A may also lead to a subsequent reduction in R and D investments⁴¹ does not necessarily lead to a positive effect on innovation in the market. Further, it cannot be with certainty ruled that a merger would always lead to positive economies of scale or scope and result would differ in context of the market that is subject to an analysis. Another evidence suggests a critical relationship between M and A and innovation from the lens of alteration in the size of the enterprise pursuant to any M and A. Studies have shown smaller firms to be three to ten times more productive in development than the large firms.⁴²

The relationship between M and A and R and D intensity can help draw some inference. It has been suggested that that pursuant to an acquisition lead to companies being disinclined in engaging into innovation and ultimately becoming less risk-averse.⁴³ Moreover, it has also been argued that diversification and leverage resulting from any acquisition impacts R and D intensity negatively.⁴⁴

In the EU, consumer surplus criteria is applied wherein the efficiency assessment includes following three essentials:⁴⁵

- i) Benefit to consumers (reflective in prices/quality of the product)
- ii) Benefits that are Merge specificand;
- iii) Other verified and quantified efficiencies.

Researchers have argued that even when any M and A does not necessarily established detrimental effect on any competitor, it would certainly reflect negatively upon the consumers by reducing the competition and innovation.⁴⁶

41 Michael A. Hitt, Robert E. Hoskisson, R. Duane Ireland and Jeffrey S. Harrison 'Effects of Acquisitions on R and D Inputs and Outputs, 34(3) *The Academy of Management Journal* 693-706 (Sep. 1991).

42 Arnold Cooper, "R and D is more efficient in small companies" 42(3), *Harvard Business Review* 75-83 (1964).

43 Hitt and Colleagues, 'Mergers and acquisitions and managerial commitment to innovation in M-form firms' 11 *Strategic Management Journal* 29-47(1990) .

44 Baysinger, B., and Hoskisson, R. E., 'Diversification strategy and R and D intensity in multiproduct firms' 32(2) *Academy of Management Journal* 310-332 (1989).

45 Ilzkovitz, F., Meiklejohn, R. European Merger Control: Do We Need an Efficiency Defence? 3 *Journal of Industry, Competition and Trade* 57-85 (2003).

46 The Continuing Legal Education Seminar, The Florida Bar, Orlando, Florida, 'Innovation Markets in Merger Review Analysis: The FTC Perspective' February 23, 1996, available at: <https://www.ftc.gov/news-events/news/speeches/innovation-markets-merger-review-analysis-ftc-perspective> (last visited on May 20, 2023).

It has also been suggested that in a zero-pricing market, not every strategy of consumer base acquisition can be called as innovative disruption. Further, it is likely to put the business at a loss and ultimately affect the consumers' welfare negatively (in the form of poor/less choices and higher costs) in the long run.⁴⁷

For studying the role of innovation, it has been suggested that R and D intensity may not necessarily result into more goods and services. In contrast, it has been suggested that less number of competitors in a market can assist in further intensifying the introduction of new products and services by essentially cutting down on the unnecessary costs. However, in jurisdictions like the United States, for instance, the innovation markets perspective considers reduction in the resources devoted to R and D/research lines having an adverse effect on price/non-price competition.⁴⁸ This criterion may not capture the true picture of the impact on the market considering the empirical evidences.

IV The use of AI: Disruptions and impediments to competition

The UNCTAD Report observes that big technology companies have executed around 308 M and A deals of start-ups active in the AI segment especially worth 28.4 billion dollars.⁴⁹ The focus of such highly intensified M and A activity thus, is upon procuring access to huge volumes of relevant database. The digital economy primarily relies on the collection of data and its processing to yield the desired results for the consumers. AI tools are increasingly employed to the collection and processing of data.

AI related processing of data gives entities a deep into the consumption patterns and preferences of any individual. The processing of data helps the big techs build a closely integrated personalised system for any individual who interacts with its interface. The competitive advantages derived from use of AI can be primarily clubbed into three broad categories namely – Predictions, Efficiencies and Real Time Optimization. Such big data driven AI not only helps in creating more intelligent product/services but, in the present times, has also evolved as a system which is automated to build a response calibrated according to the changing consumer needs and preferences. However, it has also been opined that AI and machine led learning too have their own limitations and would not yield favourable results when there is too little data available or when there are constant changes to the data fed into the system.⁵⁰ This is evidence of a close-knit and affiliated relationship between the use of data and AI.

47 Subramanian, Srikanth, "Innovate Responsibly" *The Economic Times*, Dec. 22, 2022 at 10.

48 Thomas Dahdouh And James Montgoven, "The Shape of Things to Come: Innovation Market Analysis In Merger Cases", 64(2) *Antitrust Law Journal*, 405-411 (Winter 1996).

49 UNCTAD, "Cross-border data flows and development: For whom the data flow", Digital Economy Report 2021 at 29, available at: https://unctad.org/system/files/official-document/der2021_en.pdf(last visited on May 20, 2023).

50 Raisch, S., and Krakowski, S. 'AI and management: The automation-augmentation paradox' 46(1) *Academy of Management Review* 192–210 (2021).

Even though it helps build innovative products and services to the consumers, its features like zero-pricing strategy (consumers do not really have to pay to use the services), network effects and

feedback loops lead the market to tip in favour of big techs. Merger and Acquisitions in such tipped markets must be carefully studied as the deal would further reinforce the market position of the involved entities. Where on one hand it can be argued that it has brought immense ease for

consumers, it cannot be denied however that it has reduced the entry of new players in the market. Moreover, it has led to the acquisition of new/smaller players by the big market players.⁵¹

Each individuals' interactions with the interface serves the entities in collecting minutes information about the user. Such data could be volunteered/Observed/derived data which are then put to processing and yield personalised results peculiar to the individual users only. The resulting market power could be a result of the unique characteristics of the market. The operation of direct/indirect network effects may lead to online feedback loops reducing the chances of other market players have access to relevant datasets.

The analysis must acknowledge that simply possessing a dataset may not necessarily yield any entity with the required market power. It is also relevant to note that possession of data is essential for such entities to function efficiently which would further enhance welfare and competition.

Keeping this into consideration the analysis would then shift to how data is used and assists in maintaining and securing the dominant position in the market. It may lead to the following scenarios:

- i) Preventing competitors from accessing and using data through exclusive dealing/licensing, resorting to exclusionary conduct
- ii) High entry barriers and huge costs for the new entrants due to lack of access to the data
- iii) strong linkage between multiple sides of the markets, eventually leading to high entry barriers and competitive concerns specially wherein consumers are single homing.⁵²

One of the most significant aspects to consider here is that the consumers and the authorities have remained unaware of how the data are being used, transferred, or

51 Shuya Hayashi, Kunlin Wu and BenjawanTangsatapornpan, "Competition policy, big data and AI" *Elgar Online* 162–177 (2018).

52 Competition and Markets Authority, "The Commercial Use of Consumer Data – Report on the CMA's Call for Information" (CMA38, 2015) at para. 3.73

processed by the entities. The involvement of machine-led learning tools and algorithms have made the entire regulatory process more complex. One of the dilemmas that emerges is that data provides the companies with the requisite information to function and build product, however, the same data and its related processing is expected to hamper competition and innovation if not regulated. The negative impact is mostly evident in terms of the barriers to entry, minimum access to relevant datasets to any new entrants, and increased intensity of M&A deals with new entrants specially of firms which specialise in data-related aspects and consumers being put to continuous surveillance and targeted advertisements.

The concerns related to data accumulation, its processing and its role as an essential input has been considered in many cases. M and A executed between two entities operating in the digital economy (same level or at different level of production chain) provides the entities to leverage their positions in the respective market and to also create a strong presence in other markets as well. Ultimately contributing to the overall market power. Although acknowledged in many M and A cases, however, the deals have always been approved by the authorities citing that the data is easily replicable.⁵³

It has been observed that such a merger that reduces the pressure on the firm to constantly compete may also lead to a reduction in innovation and limit the positive potential of AI.⁵⁴ Moreover, such a merger adds to the market power of a firm leading to market position which is hard to contest for other market participants given the amplification of economies of scale and scope.⁵⁵ The concerns are equally true for vertical and conglomerate mergers wherein one or both the firms procure an advantage from each other's position in their own respective market thus, reducing the competitive intensity. However, such an analysis which primarily relies on how data serves as an advantage and how the same would be used, further adds to the complexity for authorities. A merger may be used to enter another market with an overlapping user base. It may then leverage its market power in the original market to foreclose competition in the new market.⁵⁶

The advantage procured from accumulation of data would require the authorities to consider the impact of the power that may emerge from the access to huge volume of

53 CMS, *available at*: <https://cms.law/en/gbr/publication/artificial-intelligence-data-as-the-new-measure-of-competition>(last visited on May 10, 2023).

54 OECD (2018), *Considering non-price effects in merger control: Background note by the Secretariat*, *available at*: [https://one.oecd.org/document/DAF/COMP\(2018\)2/en/pdf](https://one.oecd.org/document/DAF/COMP(2018)2/en/pdf)(last visited on May 10, 2023).

55 OECD (2016), 'Big Data: Bringing Competition Policy to the digital era: Background Paper by the Secretariat', *available at*: [https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf) (last visited on May 10, 2023).

56 OECD (2020), 'Roundtable on Conglomerate Effects of Mergers', *available at*: [https://one.oecd.org/document/DAF/COMP\(2020\)2/en/pdf](https://one.oecd.org/document/DAF/COMP(2020)2/en/pdf). last visited on May 10, 2023).

datasets. Such a merger may facilitate algorithmic collusion and foreclose the market for other entrants. It may also yield immense value to a dominant entity creating concerns over its possible abuse. The collusiveness would affect competition in multiple markets specially in cases of vertical and conglomerate mergers. While parties may gain more market power, it would reduce the overall competitive intensity.

It has also been argued that rather than studying data asset itself, it is necessary to understand the agents/stakeholders active in the digital economy, their behaviour and what impact it creates. Hence, it requires focusing on the peculiar characteristics of the distinctive market, economic activity, and innovation that offers clarity regarding micro-mechanisms value creation and value capture in digital industries.⁵⁷

V The approach thus far

In Microsoft/LinkedIn merger, it was opined that such a merger could lead to negative effects on the Professional Services Networks and the market could be foreclosed for the competing service providers that offer enhanced services to the consumers. It has also been opined that data and privacy must be central to mergers in the big tech markets. It can lead to concerns with respect to foreclosure of market. On similar lines, while approving Google-Double Click merger initially in 2007, concerns were raised with respect to the use of Deep Information gathered by Double-Click by Google specially to trace consumers' preferences more closely. However, it did receive unconditional approval of the FTC citing no harm to the competition. In European Union too, the concerns recognised were identified as related to privacy issues and not per se anti-competitive conduct.

Facebook-WhatsApp and Facebook-Instagram mergers also raised similar concerns although were subsequently allowed. The major concern pertained to the role of data in the deal. It was highlighted that the deal would have offered social networking giant, the access to users' data from WhatsApp. On the question of whether the different datasets could be combined, Facebook suggested the technical impossibility of combining the datasets of Facebook and WhatsApp given the diverse technical architecture of the two businesses (Facebook tied to its users' Facebook id, and WhatsApp, tied to its users' mobile phone number). The merger was also unconditionally cleared stating that privacy related concerns can be subsequently dealt under the European Union GDPR. However, subsequently, the EC did find the possibility of a common basis between the two entities to combine the datasets through Phone ID matching.

⁵⁷ OECD, Big Data: Bringing Competition Policy to the Digital Era, 29-30 Nov. 2016, *available at*: [https://one.oecd.org/document/DAF/COMP/WD\(2016\)74/en/pdf](https://one.oecd.org/document/DAF/COMP/WD(2016)74/en/pdf) (last visited on May 10, 2023).

It is evident that the concerns have been identified by the authorities, however, the M and A deals have been approved unconditionally. It is essential and hence must be ascertained that whether a post-merger enforcement, for instance, imposing fines on the big tech, is serving the purpose of protecting the existing and future competition in the market. It must also be carefully analysed how aspects such as privacy can be incorporated within the enforcement actions, since it also affects the consumer's welfare, and it is their data that yields advantage to the Big Techs.

The progress made so far includes acknowledging that dominant companies must be placed under certain special obligation given their nature of the markets and their respective positions.⁵⁸ User data is an essential input and hence, data and its impact on the market post-M and A must be included within any assessment strategies adopted by the competition authorities. It has also been observed that non-price parameters have gained prominence when it comes to digital economy and thus, consumer harm emanating from the use of data is crucial for the authorities to confirm to the ultimate consumer welfare standard.

In India too, in an amendment to the Competition Act, 2002, certain changes have been proposed pertaining to the review of M and A s. The Competition (Amendment) Bill, 2022 (expected to be passed in the budget session of parliament) proposes to incorporate Deal Value Threshold (DVT) which if passed would enable the Commission to review transactions having valuation of more than Rs. 2000 crore and where either of the parties involved in the transaction has Substantial Business Operations in India (SBIO). One of the most crucial aspects is the parameters that would determine an enterprise's substantial business operations in India that include – critical level of consumer base, the no. of contracts/signed deals and aggregate number of payments received, a critical level of users' data, among others. Such parameters have been incorporated specifically to counter the regulatory challenges existing in the new age markets.

The Joint Parliamentary Committee, in its report presented on December 13, 2022, has recommended that the computation of DVT must be laid down in details under the regulations. It also proposed that the amendment must provide explicitly that the term 'enterprise' includes the acquired entity as well and this would assist in eliminating any ambiguity.

VI Conclusion and suggestions

Big Technology Mergers, the issues and the challenges have prompted amendments in the competition laws throughout the globe. The distinct nature of the market requires suitable enforcement measures to be adopted to counter the anti-competitive effects arising out of such arrangements, if any.

58 Stucke, Maurice; Grunes, Allen *Big Data and Competition Policy*, Oxford University Press (2016).

Additionally, as elaborately discussed, the role of data is crucial for assessment of any M and A in the digital markets. Going forward, the value of data, how the collection and accumulation of a volume of data through AI means can pose challenges to the competitive intensity, the intersection of data protection and competition and role of innovation, must be explored by the respective regulators given both the consumers and enterprises are equally averse to the threats related to data protection and security. Thus, it is essential to ensure that a robust regulatory mechanism is in place.

The analysis of the existing concerns under each kind of mergers reveals –

- i) In Horizontal Mergers, the most crucial parameter appears to be of ‘Innovation’ and ‘R&D intensity’. With reduction in the intensity of existing competition in the market, the incentive attached with introduction of innovative products/services also decreases. As a result, it is likely to lead to stagnation of innovation ultimately negatively affecting consumers’ welfare. Hence, it is paramount for the authorities to consider analysing the impact of any M&A on the lines of existing innovation/R&D intensity.
- ii) In Vertical Mergers, the accumulation and processing of the datasets provide the entities the leverage over other competitors. It is hence crucial to analyse the advantage gained through access to such commercial data. Such mergers are expected to create effects in the related upstream/downstream markets, this is imperative to study how data can create impediments for other competitors.
- iii) In Conglomerate Mergers, the analysis must deal with the economies of scope attached to any transaction. Since, the merger is between entities operating in different product markets, the diversification of products/services, bundling and tying of services must be assessed intensively to ascertain the probable foreclosure of markets, if any.

In the backdrop of the parameters, following considerations also appear relevant:

- i) While assessing digital mergers it has been observed that the requirement of thresholds may not in all the cases reveal the true nature of the proposed deal. It is, hence, important to consider whether the existing thresholds must be used as the preliminary step of any merger review. Based on the analysis and emergence of new data-related factors, it can be concluded that the ambit of enforcement must be widened to include into the analysis factors other than the thresholds.
- ii) It has also been discussed that even though aware of the importance of analysing the role that data plays, the big tech mergers have been largely allowed (conditionally/unconditionally). The concerns of data concentration, foreclosure of the market, high barriers to entry, acquisition of existing/future competitors have become common. The remedies like Inter-operability and Data portability have been suggested as possible remedies. These could help initially however, given the growing concentration and foreclosure, such remedy will not seem to function well in the long run if mergers involving structural changes are allowed giving way to foreclosure concerns.

iii) The divestiture of business is also one of the remedies which can be particularly resorted to in cases of horizontal mergers. It has been suggested previously that vertical and conglomerate mergers can be better dealt through other non-divestiture remedies. However, when data is involved, the complexity of successfully divesting the business increases several folds. In addition to the practical complexity, it may or may not be always efficient for the market and the consumers.

iv) *Lastly*, in context of digital mergers, strengthening the post-merger assessments appears to be paramount in the backdrop of the issues discussed. Given the precedents and existing concerns, it is certain that robust monitoring mechanism is required to be adopted to ascertain if any already approved merger is likely to yield anti-competitive effects. Hence, drawing an effect-based analysis while studying the impact of the merger on the overall competitive intensity of the market could be a way forward.