ANTITRUST CHALLENGES IN THE DIGITAL AGE: INVESTIGATING BIG TECH MONOPOLIES LIKE GOOGLE IN NATIONAL AND GLOBAL MARKETS

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ABSTRACT

This research paper is a critical investigation of Google's dominance in the digital economy within the framework of antitrust law, with respect to its exclusionary conduct, favouring treatment of its services, and mastery over data and market infrastructure. It explores the effects of approaches like bundling, algorithm manipulation, and exclusivity agreements on market competition and consumer choice. The research also delves into Google's role in new markets such as AI and digital payments, where oversight is still developing. Cross-country insights drawn from the EU, USA, and India give a worldwide perspective on enforcement. The paper highlights the shortcomings of ex post facto penalties and advocates for preventive, data-integrated antitrust policy. In so doing, it joins the wider conversation on how to ensure fair competition in increasingly digitized markets.

Chapter-1

Introduction: Understanding Digital Monopolies

I. **Introduction**

The rapid expansion of the digital economy has led to the rise of a handful of dominant technology firms, commonly referred to as Big Tech including Google, Amazon, Meta etc.[1] These corporations are exercising significant control over key digital markets, such as search engines, online advertising, cloud computing and e-commerce.

The concept of digital monopolies differs significantly from traditional monopolies due to their reliance on network effects, data-driven economies, and platform ecosystem that make competition increasingly difficult. The dominance of these companies is further reinforced by technological barriers to entry, user lock-in, and weak antitrust enforcement, making it imperative to critically assess the nature and implications of digital monopolies.

II. **The New Cornerstone of Market Power: Data**

McIntosh contends that main force behind digital monopolies is data, not intellectual property. His " data-opoly" theory discusses how the exclusive control and accumulation of data creates impenetrable obstacles for new competitors.[2] McIntosh has focused on how data has now become the main currency that drives domination rather than a byproduct of digital services.

McIntosh's framework helps in understanding how digital monopolies are maintained. His model, however, downplays the political and institutional factors that support data monopoly, such as lobbying and regulatory fatigue. There is a need for a holistic approach where future frameworks must integrate political reality with economic ideas.

III. **Factors Reinforcing Google's Dominance**

Among the dominant players, Google stands out as one of the most influential and controversial digital monopolies which thrive on network effects, data accumulation, and algorithmic advantages, allowing giant to consolidate their market power and eliminate competition. Companies like Google controls over 90% of the global search market, which helps in dominating online advertising and data collection.[3]

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[1] Vedant Mehra, *Big Tech Tightens Its Grip: How Companies like Apple and Google Dominate the Digital World*, The GeoStrata (Oct. 6, 2023)
[2] Daniel McIntosh, *We Need to Talk About Data: How Digital Monopolies Arise and Why They Have Power and Influence*, 23 J. Tech. L. & Pol'y 186 (2019)
[3] StatCounter, *Search Engine Market Share Worldwide*, StatCounter Global Stats,

Such control allows big companies self-preferencing i.e. prioritizing its own products in search results, exclusive contracts, and algorithmic influence to reinforce its market position.[4]

Additionally, Google's ecosystem relies heavily on user lock-in strategies, such as requiring Google accounts for multiple services (Gmail, YouTube, Drive), create high barriers to switching platforms.[5] Therefore, users suffer serious inconvenience and data loss if they try to switch to other platforms, further digging them into dependence on Google.

Google's massive scale, in addition to innovation, has emerged as a major barrier to enter in digital markets, as evidenced through Google's dominance through network effects and driven by artificial intelligence. While it may seem to be an organic growth, but it raises question about equity. Additionally, the close integration of Google services reduces genuine consumer choice. Although effective, these tactics, compromises market transparency and calls for necessary proactive regulatory monitoring that emphasises data access and interoperability.

Building on pattern of dominance, increasing monopolistic tendencies of big tech companies lead to suppression of competition and innovation as such companies have the tendency of acquiring potential threats or copying their features. For instance, Google has purchased over 200 companies including YouTube, Android and Double Click, to consolidate its dominance in multiple digital sectors. Dominant platforms also use their control to limit interoperability, for instance, Google's restrictions on third-party advertising platforms and preferential treatment of its own products limit competition in the digital ad space.[6] With vast amounts of consumer data at their disposal, digital monopolies pose serious privacy concerns. Scandals like Cambridge Analytica (Facebook) and Google's data collection practices highlight the risks associated with unchecked data monopolization. These companies also hold ability to manipulate narratives and pose a significant threat to democratic institutions.[7]

IV. **Challenges in Regulating Big Tech Through Conventional Laws: The Need for Antitrust Reform**

The intricacies of digital markets are difficult for traditional antitrust rules to handle because they were created for industrial monopolies. Regulators have mostly concentrated on pricing-based monopolistic tendencies, while Big Tech often provides free services by making money off of user data, making it challenging to demonstrate anti-competitive harm. Emerging regulatory frameworks like EU's Digital Market Act and India's proposed Digital Competition Bill to enable the Competition Commission of

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[4] Simmons & Simmons, *General Court Confirms Self-Preferencing Abuse of Google Shopping* (Nov. 13, 2021)
[5] Rajesh Pandey, *The Google Ecosystem Lock-in Is Only Getting Stronger*, Android Police (Jan. 28, 2024)
[6] Vanderbilt University School of Engineering, *Study of Google Data Collection Comes Amid Increased Scrutiny over Digital Privacy*
[7] Euan Moyle, *Overcoming Digital Threats to Democracy*, Lowy Institute (Oct. 27, 2021),

India (CCI) to selectively regulate large digital enterprises in an ex-ante manner, aim to strengthen oversight of dominant tech firms.[8]

A recent U.S antitrust ruling against Google found that company hold monopolistic power in two key markets- general search services and general search text advertising.[9] In addition, Google's control over text-based search advertisements allowed it to overcharge advertisers while keeping its pricing strategies opaque.[10]

After completing an extensive examination of user behaviour. Google's behavioural economics term confirmed that defaults have a major impact on search traffic and revenue. Google's dominance was further cemented when agreements with phone makers guaranteed that Google chrome, Google Search Widget, and the Play Store were preloaded.[11] The effectiveness of default positioning has been demonstrated by a 2020 internal Google study that found direct searched on Google.com were substantially fewer than search made via default placements.[12] It is clear that although Google's strategy made use of its superior product offerings, it created an unfair playing field by relying on default settings and delivering significant financial incentives to partners.

In the digital age, where market dominance can be achieved not just through superior products but also through strategic alliances and ecosystem management, this case highlights the difficulties regulators have in combating monopolistic practices. The decision marks a turning point in antitrust enforcement, indicating a move towards examining the covert tactics used by IT giants to preserve their dominance.

V. **The Expanding Reach of Digital Monopolies and Broader Harms of Dominance**

Digital monopolies have effects beyond mere market competition. In addition to dominating the online advertising space, such firms as Google also influence the way individuals gain access to and utilize information - a dynamics summarized by Harvard Professor Shoshana Zuboff's "surveillance capitalism," which captures how such companies monetize personal information to anticipate and shape behaviour, possibly undermining individual agency and democratic processes.[13] Dominant companies can more readily manipulate narratives, limit choices, and prioritize their interests over those of

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[8] PRS Legislative Research, *Digital Competition Law* (Mar. 12, 2024)

[9] The New York Times, David McCabe & Nico Grant, *U.S. Said to Consider a Breakup of Google to Address Search Monopoly* (Aug. 13, 2024)

[10] Nitish Pahwa, *Google Is Officially a Monopoly. Here's What That Really Means*, Slate (Aug. 6, 2024)

[11] Institute of Company Secretaries of India, *CCI Imposed Penalty on Google for Abusing Dominant Position* (Dec. 1, 2022),

[12] Francesco Decarolis, Muxin Li & Filippo Paternollo, *The Role of Default Settings in Online Searches*, VoxEU (Mar. 13, 2023),

[13] Shoshana Zuboff, *Harvard Professor Says Surveillance Capitalism Is Undermining Democracy*, Harvard Gazette (Mar. 4, 2019),

customers and smaller firms if they possess this type of unfettered power.

Big Tech can remain ahead of the curve as enforcement mechanisms are still reactive in nature instead of being preventive, although regulatory interventions are on the rise. Control over information flows and manipulation of user data indicate that traditional antitrust techniques need to adapt to be able to fight algorithmic supremacy and platform-based power structures. Upcoming regulatory structures need to strike a balance between preserving innovative incentives and not permitting monopolistic behaviour.

VI. **Rethinking Regulation for the Digital Age**

To respond to such challenges, policymakers and regulators need to be more proactive and responsive. The classical antitrust legislation, by its very nature meant for industrial monopolies, falls short in coping with the pace of development in digital economies. New initiatives like the EU's Digital Markets Act and India's proposed Digital Competition Bill are a step in that direction. But laws must do more than just punish monopolistic behaviour, they must actively encourage a competitive atmosphere in which new and smaller competitors can enter and flourish.

One of the most important areas that need pressing reform is the transparency of online advertising and algorithmic decision-making. Google's power to dominate search rankings and ad prices in the absence of adequate oversight translates into a vast competitive advantage for the company.[14] Mandating disclosure of how the search results rank, how users' data gets monetized, and how advertising gets priced could make the market more level playing.

Aside from regulation, raising consumer awareness and digital literacy is also critical. Individuals should be able to comprehend and manage how their information is manipulated. Beyond that, policies can make it easy for people to change between digital services without paying exorbitant fees or facing technical barriers. That kind of market where consumers have open choice among services rather than being stuck within a single ecosystem would incline towards competition and innovation.

VII. **A Global Challenge Demanding a Coordinated Response**

Though Google is the focus of this report, comparable trends of digital dominance are present in Amazon, Meta, and Apple, each of which leverages their enormous user bases, data ecosystems, and strategic acquisitions to solidify their market dominance. Addressing this challenge necessitates not only reactive sanctions but a proactive, globally aligned regulatory approach. I am convinced that a strong solution is a multi-faceted one: augmenting competition laws, tightening merger controls, and

[14] Dina Srinivasan, *Why Google Dominates Advertising Markets: Competition Policy Should Lean on the Principles of Financial Market Regulation*, 24 Stan. Tech. L. Rev. 55 (2020),

increasing antitrust authorities' capacity through cross-border collaboration. Additionally, technological innovation can be promoted through startup support and interoperability requirements to dismantle entry barriers. Above all, regulatory reform should be rooted in consumer interest, providing transparency, data portability, and choice freedom. It is only by tilting the balance from monopolistic consolidation towards equitable competition that we can construct a digital economy that is not only innovative but also just and inclusive.

Chapter-2

Google's Market Dominance and Business Practices

I. Introduction

Google's dominance in the digital economy in unparalleled, with a commanding position in online search, mobile operating systems, and digital advertising. With over 90% of the global search market, it has leveraged its market power to expand into other key sectors, such as app distribution and online advertising, making it an integral part of the global internet infrastructure. However, this dominance has raised significant antitrust concerns, as regulatory authorities have accused Google of engaging in anti-competitive business practices that suppress competition, stifle innovation, and limit consumer choice.[15] This chapter examines Google's market dominance by analysing its key business areas, including its search engine, mobile ecosystem, and advertising services. It further explores anti-competitive practices, such as exclusive contracts, bundling strategies, and anti-fragmentation policies, which have led to regulatory scrutiny and substantial penalties from competition authorities worldwide.

II. Dominance in Search Engine and Online Advertising

Google has become an undisputed leader in the search engine industry, such kind of dominance provides Google with an unmatched advantage in online advertising with the collection of vast amounts of user data. Regulators argue that Google tend to prioritize its own ads in search results over competitors, restricts access to user data eliminating development of any alternative ad-targeting technologies and impose restrictive contracts on third-party advertisers, limiting their ability to use competing services.[16]

There is an inherent conflict of interest because Google serves as both an ad platform and a gatekeeper of search exposure. Setting its own services as a top priority compromises the neutrality concept of information access.

[15] Saloni Jagga, *Anti-Google Law: An Analysis*, 3 *Competition Commission of India Journal on Competition Law & Policy*97 (2022),
[16] Clifford Chance, *Google and Abuse of Dominance*,

III. Control Over the Smartphone landscape

Google's dominance extends beyond search into the mobile ecosystem, primarily through its Android operating system, which accounts for more than 95% of licensable smart mobile operating system worldwide (excluding China).[17]However, Google imposes several restrictions to maintain dominant control over the ecosystem. Google's monopoly in app distribution also gets reinforced through the Google Play Store as it holds over 90% of app downloads on Android devices.[18]

Such dominance allows Google to enforce stringent revenue-sharing policies, prioritise Google's own apps by making them default on most Android devices and restrict third-party app stores, limiting competition in app distribution. Because of the growing monopolistic activities of Google, it has even faced a record 4.34 billion euro fine from the European Commission for abusing its dominance in licensable smart mobile operating systems and app stores.[19]

IV. Bundling and Exclusive Contracts

One of the key anti- competitive tactics employed by Google is Bundling where Google tend to tie together essential services to force adoption. The European commission found that Google has bundled Google search with Google play store where the device manufacturer was required to pre-install Google Search as a default app in order to gain access to play store and Google also forced manufacturers to pre-install Chrome alongside search, limiting consumer choice.[20] Evidence showed that on Windows mobile devices, where Microsoft Bing was pre-installed, over 75% of search queries were conducted on Bing, whereas on Android devices, where Google Search was pre-installed, over 95% of searches were performed using Google. [21]

Exclusivity Agreements with the manufacturers is one of another tactic used by google to strengthen its monopoly where it grants financial incentives to device manufacturers and mobile network operators in exchange for pre-installing Google Search as the exclusive search engine on Android devices. Such agreements prevent rival search engines from gaining share in the market and reduce manufacturers incentives to install alternative search services thereby limiting competition.

V. Anti-Fragmentation Policies and Monopoly in Ad-Tech Infrastructure

To keep their control on the Android universe intact, Google enforced anti-fragmentation terms, which

[17] European Commission, *Antitrust: Commission Fines Google €4.34 Billion for Illegal Practices Regarding Android Mobile Devices to Strengthen Dominance of Google's Search Engine*, Press Release IP/18/4581 (July 18, 2018),
[18]ibid
[19] ibid
[20] Shoshana Zuboff, *The Coup We Are Not Talking About*, 36 *J. Info. Tech.* 1 (2019),
[21] Supra note 25

do not allow companies to create their own versions of Android and are compelled to install only Google-approved versions of Android if they wish to pre-load google apps. They also compel companies to refrain from selling devices running alternative operating systems, though they may be based on Android's open-source platform.[22] The European Commission discovered that these limitations prevented prospective competitors from creating alternative operating systems, lessening competition in the mobile software market.[23] Even though Google contends that such limitations are secure and consistent, their prime function is to maintain monopolistic power, hindering competition and potential technical improvement.

In internet advertising, Google's triple function of ad buyer, seller, and auctioneer grants it unprecedented command over the digital advertising marketplace. This vertical integration distorts competition, constrains transparency, and compels publishers and advertisers to Google's walled system, diminishing marketplace variety and revenue equity. Such activities represent not efficiency but deliberate manipulation of power, requiring firm regulatory action.

VI. Self-Preferencing in Search Results

Google has been accused of controlling the ad-tech sector and favouring its own services in search results. According to the European Commission's inquiry, Google manipulated search algorithms to give its listings precedence over rivals in order to unjustly promote its own comparison-shopping service i.e. Google Shopping.[24] Due to their decreased visibility in search results, rival price comparison sites suffered a great deal from this approach, which decreased user traffic and revenue.[25] Similar problems were brought to light by Google's handling of travel services as rival websites were frequently pushed down by Goggle Flights and Google hotels, which frequently ranked first in search results.[26]

By designing search results to prefer its vertical services, Google effectively excludes competitors, distorts consumer choice, and compromises market neutrality. This self-preferencing undermines the underlying assumption of platform impartiality and poses serious antitrust issues. Such behaviour, while algorithmically opaque, imposes structural disadvantages on competitors and requires strict regulatory scrutiny to ensure fair competition.

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[22] David Bassali et al., *Google's Anticompetitive Practices in Mobile: Creating Monopolies to Sustain a Monopoly*(Thurman Arnold Project, Yale Sch. of Mgmt., May 2020),
[23] European Commission, *Antitrust: Commission Fines Google €4.34 Billion for Illegal Practices Regarding Android Mobile Devices to Strengthen Dominance of Google's Search Engine*, Press Release IP/18/4581 (July 18, 2018),
[24] Stibbe, *Google Shopping: Self-Preferencing Can Be Abusive*,
[25] The End of the Google Shopping Saga, *Kluwer Competition L. Blog* (Oct. 28, 2024),
[26] Jeff Riddall, *The Google Travel Takeover and What It Means for SEO*, Search Engine J. (Oct. 16, 2024),

VII. Digital Payments Market in India

Google's dominance in digital payments in India has presented serious regulatory challenges. There have been claims of anti-competitive behaviour as a result of Google Pay's growth in the Indian market. Google Pay has an unfair advantage over domestic digital payment companies like Paytm and PhonePe because of its pre-installation on Android smartphones and smooth interaction with Google services.[27] An investigation into whether Google's preferential treatment of its payment app hindered fair competition was started by the Competition Commission of India (CCI).[28]

Google's dominance over app distribution, according to critics, enables it to prioritize its own financial services, making it challenging for third- party apps to increase their exposure and market share. Google's unfair advantage in marketing its financial services stems from its dominance in app distribution, which could distort the competitive environment in important economic areas.

VIII. Acquisitions and Innovation Stifling

Antitrust authorities are also concerned about Google's capacity to buy out and incorporate innovative firms. YouTube, Wiz, and Fitbit are just a few of the well-known acquisitions the corporation has made, strengthening its position in a variety of markets.[29] Google's acquisitions have come under closer scrutiny from the U.S. Federal Trade Commission (FTC) and European regulators, with some authorities advocating for more stringent merger approval procedures in order to stop further market power concentration. There is a need for preventive antitrust actions in this dynamic tech sector where post- acquisitions remedies are often insufficient to undo market distortion.

Google's trend of buying up promising rivals - YouTube, Waze, and Fitbit stimulates antitrust concerns because, by acquiring would-be competitors earlier, Google possibly forecloses future competition as well as smother innovation. Critics believe the acquisitions consolidate Google's leadership across markets, where regulators are crying out for tightened merger regulation because post-acquisition remedies hardly set markets back into balance in rapidly changing technology domains.

IX. Conclusion

Even with regulation and fines, Google keep on dominating several online markets, testing the limitations of existing enforcement policies. Though trials for structural remedies like unbundling have been made but they remain inadequate against continually changing technologies as well as against the

[27] Abuse of Dominance by Google in the Market for Online Based Payments App, *Manupatra* (Nov. 10, 2020),
[28] In re XYZ v. ABC, Case No. 07 of 2020 (Competition Comm'n of India June 14, 2022),
[29] Google Buys Cybersecurity Firm Wiz for $32 Billion: Here Are Other Big Acquisitions by Alphabet, *Econ. Times* (Mar. 18, 2025)

complexities in digital markets. This put more emphasis to encourage a more vision-oriented and adaptable regulatory setup. The answer is to create technology-specific antitrust instruments that take into consideration data dominance, network effects, and platform lock-ins. Conventional competition laws need to adapt to the realities of digital monopolies, this involves increasing algorithmic transparency, requiring interoperability, and integrating ex-ante requirements for gatekeeper platforms. Cross-jurisdictional coordination among regulators is also essential to avoid regulatory arbitrage. Ultimately, an active, dynamic regulatory environment built on the foundations of fairness, innovation, and consumer choice is needed to make certain that the digital economy is open and competitive.

Chapter 3

Regulatory Frameworks Dealing with Digital Monopolies

I. Introduction

The regulation of digital monopolies has become a critical challenge for competition authorities worldwide. The rapid expansion of Big Tech firms, particularly in search engines, e-commerce, and social media, has necessitated the adaptation of antitrust laws to address issues such as market concentration, data-driven monopolies, and platform gatekeeping.

This chapter explores the comparative antitrust laws of the European Union, and India, assessing their effectiveness in regulating digital monopolies. It also examines the challenges in enforcing competition laws in digital markets and the evolving role of regulatory bodies in curbing monopolistic practices.

II. Antitrust Regulation - European Union

The EU has most aggressive antitrust enforcement model which is governed under Articles 101 and 102 of the Treaty on the Functioning of the European Union, which prohibit anti-competitive agreement and abuse of dominance.[30] The Digital Markets Act impose obligations on gatekeeper platforms like Google, ensuring fair access for competitors.[31] EU has imposed multi-billion-euro fines on Google for search bias, advertising restrictions and Android dominance.[32] The EU has integrated competition law with data privacy (e.g. GDPR) recognizing that monopolies often leverage user data to strengthen their dominance.[33]Although the EU's preventive strategy is admirable, enforcement is frequently sluggish, thus fines are frequently imposed after significant market damage has already happened.

[30] Consolidated Version of the Treaty on the Functioning of the European Union art. 101, 2008 O.J. (C 115) 88,
[31] European Commission, *The Digital Markets Act: Ensuring Fair and Open Digital Markets* (Oct. 12, 2022),
[32] Foo Yun Chee, *Google, Apple Hit by EU Regulatory Crackdown*, Reuters (Mar. 19, 2025),
[33] Org. for Econ. Co-operation & Dev., *The Intersection Between Competition and Data Privacy* (DAF/COMP(2024)4, 2024),

III. Recent Charges Against Google in the EU

Recently Google has faced two allegations of violating historic EU regulations as google was accused of limiting app developers from freely directing consumers to alternative channels for more favourable deals beyond its app store Google Play and it was claimed that it tend to favour its associated search services as Google Flights in Google search, while Google pushed back saying that EU competition rules are hurting consumers and business.[34] The enforcement of the DMA signifies a proactive approach to regulating digital markets, ensuring that dominant players do not engage in anti-competitive practices that could harm consumers or stifle innovation. These examples demonstrate that although the DMA is a potent instrument, its final efficacy will be shaped by enforcement dynamics and resistance from IT firms.

IV. Evolution of Antitrust Frameworks in India

India introduced its first antitrust law-the Monopolies and Restrictive Trade Practice Commission, which was responsible for investigating and penalizing companies engaged in monopolistic or restrictive trade practices.[35]However, as India moved towards economic liberalization, globalization and privatization in the 1990s, the MRTP Act became outdated.[36]

Recognising the need for a modern competition law, then finance minister in his budget speech highlighted that the MRTP Act had become ineffective in many sectors and call for formation of committee to review the competition related issues and recommend a new legislative framework aligned with global best practices. As a result, the Competition Act,2002, was introduced to create a more dynamic and competitive market.[37] It was later amended in 2007 to include provisions for regulating mergers and acquisitions that could hinder fair competition. Further changes were made in 2009 like explicit prohibition of anti-competitive agreements and abuse of dominant market positions while also promoting competition advocacy.

The Competition Act in India in enforced by Competition Commission of India, a statutory body responsible for identifying and addressing anti-competitive practices to maintain a fair and open market environment. Although the competition law of India is modelled on global best practices, it remains rather preventive, particularly compared to the EU.

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[34] Google Hit with Two Charges Under Landmark EU Rules, Risks Fines, *ET Telecom* (Mar. 20, 2025),
[35] Siddharth Tyagi, *Development of Competition Law: An Introduction and the MRTP Act 1969*, 4(5) *Indian J. Integrated Res. L.* 874 (2024),
[36] Martin Stanley, *Evolution of Indian Competition Law*, Understanding Regulation (2024),
[37] Soumi Bandyopadhyay, *From MRTP to Competition Act: An Evolution of Competition Laws in India*, 2(3) *J. Legal Res. & Juridical Sci.* (2023)

India's competition law framework experienced other significant changes with the Competition Amendment Act, 2023. This legislation introduced various significant changes to strengthen market integrity and curb anti-competitive behaviour. Major amendments included a requirement for appellants to deposit 25% of any penalty before their appeal is considered and a revised definition of a relevant product.[38] Additionally, the Act introduced a new threshold for mergers and acquisitions—transactions valued at Rs. 2,000 crore or more, involving entities with substantial business operations in India, must now receive approval from the CCI.[39]

Such reforms marked a significant step in ensuring a competitive and transparent marketplace, allowing businesses to thrive while protecting consumer interests. These regular reforms and amendment taken by the government indicate India's seriousness about regulating monopolies but also tend to raise concerns about the enforcement capacity and resource allocation.

V. Difference between EU and Indian Approaches

As we already know, India's competition law is governed by the Competition Act,2002, enforced by the Competition Commission of India [and] while India's framework is largely influenced by EU principles, it also incorporates elements of U.S style litigation. The CCI tend to investigate monopolistic practices after they occur rather than imposing ex-ante regulations like the EU'S DMA.[40] The CCI has authority over mergers and acquisitions that may have "appreciable adverse effects on competition".[41] The approach followed in India is a mixed-model approach which offers flexibility but it at times delays timely intervention against digital monopolies.

V. Challenges in Regulating Digital Monopolies

Despite well-established competition laws, regulating digital monopolies remains a challenge across all jurisdictions. Unlike traditional industries where monopolies are measured by pricing power and market share, digital firms tend to provide "free" services while monetizing user data which makes it difficult to determine when a company holds monopoly power and whether free services harm consumers by restricting market choice and innovation.[42]Regulators constantly struggle to enforce data-sharing mandates without violating privacy law. EU antitrust enforcement policies while proactive is often slow meaning that penalties come after damage is done, for instance recent fines against Apple and Meta,

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[38] Competition Comm'n of India, *Competition (Amendment) Act, 2023: Salient Features*,
[39] Nishith Desai Assocs., *The Competition (Amendment) Act, 2023* (2023),
[40] Vikas Kathuria, *Assessing India's Ex-Ante Framework for Competition in Digital Markets*, ProMarket (May 29, 2024),
[41] Rudra Srivastava & Neha Meena, *Regulatory Landscape of Mergers and Acquisitions under Competition Law*, Lexology (Nov. 12, 2024),
[42] Int'l Ctr. for L. & Econ., *Digital Competition Regulations Around the World* (2024),

have been criticized as insufficient deterrents.[43]India's CCI lacks sufficient resources, leading to delayed investigations and weak enforcement for instance, The CCI's orders on WhatsApp's 2021 policy on privacy was delayed for nearly four years due to legal challenges. [44]Tech giants operate across multiple jurisdictions, making it difficult for any single regulator to impose effective restrictions, EU's DMA attempts to impose global standards but there is always uncertainty with respect to enforcement outside European union, similarly U.S. and India lack binding cooperation mechanisms to address global digital monopolies. These challenges show how difficult it is to control digital monopolies in a market that has gone worldwide. International cooperation, prompt enforcement, and frameworks that take into account the particularities of digital economy are all necessary for effective regulation.

VI. Conclusion

Digital monopolies continue to be a complicated and dynamic challenge in legal systems such as the EU and India. Although the EU's initiative through the Digital Markets Act and India's push towards more robust digital regulation are to be welcomed, these are not enough by themselves. I think what is needed most urgently is a worldwide, concerted effort that integrates real-time, technology-specific antitrust instruments with rapid, preventive enforcement measures. Regulation needs to stay ahead of the fast-paced cycles of innovation among Big Tech, and that demands legislative structures that are dynamic, interoperable, and adaptive to data-driven market influence. Additionally, creating cross-border regulatory cooperation, requiring increased platform transparency, and giving national regulators technical capacities are key actions toward evening out the playing field. Without such future-oriented and harmonized initiatives, the unbridled dominance of digital monopolies will continue to erode fair competition and user choice in the digital economy.

Chapter -4

Case Studies of Antitrust Actions Against Google

I. Introduction

Google, one of the largest technology firms has been centre of multiple antitrust investigations across jurisdictions. This chapters delves into the antitrust actions against Google in India and Europe, analysing the legal implications, regulatory responses, and potential consequence on the digital

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[43] Alexander Hurst, *The EU Fined Apple and Meta – but Failed to Really Hold Them to Account. Was That to Appease Trump?*, Guardian (Apr. 24, 2025),

[44] Kabir Singh, Khushbu Singh & Sarvika Singh, *Analysing CCI's Order on WhatsApp's 2021 Privacy Policy – A New Era for Data Protection and Competition Law Enforcement in India*, Kluwer Competition L. Blog (Jan. 6, 2025),

economy.[45]

Antitrust Actions Against Google in India

II. Exploitation of Market Power in Digital News Market

In 2018 Digital News Publishers Association filed case under Section 4 of the Competition Act,2002 regarding the abuse of dominance by Google against Google LLC, Google India Private Limited and Google Ireland Limited.[46] The plaintiff accused Google of capturing digital news market through its search algorithms as they determined the ranking and visibility of news websites. It was contended that due to increasing digital ad monopolisation by google the Indian newspaper industry losing out on their advertising revenue as Google allegedly used its dominant position to impose unfair advertising terms on digital news publishers.[47] With the covid -19 the dependency of published on Google even further increased with the rise of digital news consumption and new publishers had no real alternative to google making them vulnerable to its algorithmic and policy changes.[48] Google was suspected of violation of Section 4 of the competition act which deals with abuse of dominant position. CCI finally directed Google to modify its practices to ensure fair competition and transparency in its search ranking mechanisms.[49] The directive aimed to prevent abuse of dominant power and to promote a more equitable digital advertising ecosystem for new publishers.

The CCI's intervention in this case emphasizes how vulnerable conventional media are in the digital economy, where powerful tech platforms are increasingly mediating access to audiences. Although forcing Google to change its practices is appositive step, enforcing such orders need for ongoing attention to detail. Dominant players might carry on with little alteration in the absence of frequent audits or harsher sanctions for non- compliance, thereby only ostentatiously resolving competitive issues.

III. Abuse of Dominance in Android Ecosystem

In Umar Javeed, Sukarma Thapar, Aaqib Javeed vs. Google LLC and Ors case, Google and Google India Private Limited were accused of abuse of dominance in the Android operating system in

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[45] Alden Abbott, *A Critical Analysis of the Google Search Antitrust Decision*, Int'l Ctr. for L. & Econ. (Sept. 30, 2024),

[46] *In re Digital News Publishers Ass'n v. Google LLC & Ors.*, Case No. 41 of 2021, Competition Comm'n of India (Oct. 25, 2022),

[47] AZB & Partners, *CCI Directs Investigation Against Alphabet Inc., Google LLC and Google India Private Limited*, AZB & Partners (2022),

[48] ibid

[49] DNPA Team, *CCI Goes After Google Again for Allegedly Abusing Dominant Position*, Digital News Publishers Ass'n (Nov. 14, 2024),

India.[50]CCI launched investigation into Google's alleged abuse of dominance in the Indian mobile market specifically related to its Mobile Application Distribution Agreements and Anti-Fragmentation Agreement with Android Original Equipment Manufacturers (OEMs). Under these agreements OEMs were to pre-install Google Mobile Services, including Google Pay, Search, and YouTube, restricting OEMs from selectively choosing apps. The agreements prohibited OEMs from developing modified versions of Android, limiting competition. Google argued that these agreements were optional and did not restrict users from installing rival apps, emphasizing that AFAs ensured ecosystem stability. However, CCI found that Google's practices imposed unfair conditions on OEMs, leveraged its dominance in Play Store to protect Google Search, and denied market access to competing apps, violating Sections 4(2)(a)(i), 4(2)(e), and 4(2)(c) of the Competition Act, 2002.[51]With Android holding 80% of India's mobile OS market, CCI determined that Google's conduct could perpetuate its dominance, warranting a deeper investigation.

Google's status which relies on optional agreements, corresponds with a practice of hiding coercive aspects of contracts that are supposed to be voluntary. In reality, OEMs are under practical strain since they have a similar alternate ecosystem. Even while the CCI's findings recognize the multifaceted effects of Google's agreements, India's regulatory framework still, lacks the resources and swiftness needed to stop market abuses as quickly as they appear in the digital sector.

IV. Renewed Complaint by Digital News Publishers Association

The Digital News Publishers Association filed complaint against Google in 2023 regarding the growing Google's dominance in digital news aggregation. Competition Commission of India stated that when viewed within Google's vertically integrated ecosystem, the informant's allegations suggested that news publishers are left with no option but to comply with Google's imposed terms and conditions. The regulator noted that Google functions as a crucial intermediary between news publishers and readers.[52] CCI said that in a well-functioning democracy: 'the critical role played by news media cannot be undermined, and it needs to be ensured that digital gatekeeper firms do not abuse their dominant position to harm the competitive process of determining a fair distribution of revenue amongst all stakeholders.[53]

The CCI's explicit mention of democratic functioning points to a beneficial shift in antitrust concept, going beyond price-competition models to take the general welfare into account. However, rather than

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[50] *In re Umar Javeed, Sukarma Thapar & Aaqib Javeed v. Google LLC & Ors.*, Order No. 39 of 2018, Competition Comm'n of India (Oct. 20, 2022),

[51] ibid

[52] DNPA Team, *CCI Orders Probe Against Alphabet Inc. for Alleged Misuse of Dominant Position*, Digital News Publishers Ass'n

[53] DNPA Team, *CCI Probing Google's "Dominance" in News Aggregation Space*, Digital News Publishers Ass'n

relying just on post-facto legislation, addressing platform gatekeeping calls for structural measures like requiring revenue- sharing agreements or giving publishers more algorithmic transparency.

Antitrust Actions Against Google in Europe

V. AdSense for Search Case

In comparison, competition law has proven essential in Europe for regulating market dominance and preventing anti-competitive behaviour. To uphold fair competition, the European Commission aggressively pursues antitrust laws under Articles 101 and 102 of the Treaty on the Functioning of the European Union.[54]

In 2019, European Commission has fined Google 1.49 billion Euro for breaching EU antitrust rules. Google operated AdSense for Search which allows websites owners to display search- related ads on their sites. In this setup, Google acted as a middleman between advertisers and website owners who want to make money by showing ads next to their search results. During investigation, the European Commission found Google included rules in its contracts that stopped publishers from displaying search ads from competing companies and over time Google replaced these exclusivity rules with new conditions. New conditions required publishers to give the best and most visible spots on their search pages to Google's ads and publisher had to make sure a minimum number of Google ads appeared, making it harder for competitors to get noticed. Google also introduced a rule that publishers needed written approval before making any changes to how rival ads were shown. This allowed Google to influence how appealing and clickable those ads were. The European Commission found that Google had been dominant in the online search advertising intermediation market in the EEA since at least 2006. This conclusion was based on Google's extremely high market share, which stayed above 85% for most of the period. Entering this market is difficult due to high costs, as companies need to invest heavily in developing search technology, an ad platform, and a large network of advertisers and publishers.[55] As a result of these violations, the Commission fined Google €1.49 billion, which equals 1.29 % of its 2018 revenue.[56] This fine was calculated based on the seriousness and duration of the violations, following the Commission's 2006 guidelines on penalties.

The AdSense for Search case demonstrates how Google's modifications to contracts essentially restricted competitors' access to market even if they appeared to be giving up exclusivity. Google maintained its hegemony in the search advertising intermediation business by requiring premium

[54] European Commission, *Antitrust: Commission Fines Google €1.49 Billion for Abusive Practices in Online Advertising*, European Commission
[55] ibid
[56] ibid

placement for its ads and maintain control over rival ads displays. This illustrates how minor modifications to contract wording may still have a big anti-competitive impact.

VI. Android Antitrust Case

In the Android Antitrust Case, Google mandated that device manufacturers pre-install chrome and Google mandates that device manufacturers pre-install Chrome and Google Search. Along with forbidding manufacturers selling any devices running unapproved versions of Android, it also paid big manufacturers, and mobile network carries to pre-install Google Search exclusively.[57] According to the European Commission, price disparities, brand loyalty, and the difficulties of switching operating systems make Apple's competitors ineffective in limiting Google. Even on Apple device, Google Search was still the default, so moving had no effect on Google's hegemony. Given the extent and duration of Google's actions, the Commission penalised the company 4.34 billion in 2018. The sum was determined by looking at Google's search advertising revenue on Android smartphones in the European Economic Area. Google was given ninety days to stop its anti- competitive behaviour and refrain from using similar tactics in the future. Google could still put in place fair procedures to guarantee Android's correct operation, but it was unable to prevent manufacturers from developing their own Android variants. Furthermore, Google has to notify the Commission of its compliance efforts. If it failed to comply, it might be fined up to 5% of Alphabet's average daily worldwide revenue.[58]

The Android case provides a prime instance of how Google has meticulously used its commercial agreements and technical dominance to strengthen its ecosystem, particularly by necessitating the pre-installation of Google products like Chrome and Search in order to access the Play Store. A major and forward-thinking change in competition enforcement is reflected in the European Commission's strategy, that focuses not just on penalizing fines but also on correcting the underlying structural distortion in the market. But as competitors rightly point out, attaining actual compliance is an uphill battle. By using more complex and complex tactics, such as altering interfaces for users or contract structures to produce the same exclusionary results, major companies often manage to formally comply with regulatory decisions while preserving their competitive advantages. Therefore, in order to ensure that anti-competitive behaviours are actually eliminated rather than merely cosmetically changed, continuous regulatory oversight and strong systems for identifying "superficial compliance" are essential. The Android case serves as a reminder that structural remedies run the danger of gradually

[57] European Commission, *Antitrust: Commission Fines Google €4.34 Billion for Illegal Practices Regarding Android Mobile Devices to Strengthen Dominance of Google's Search Engine*, European Commission (July 18, 2018),
[58] ibid

being weakened in the absence of consistent and competent oversight from regulators.

VII. Conclusion

The antitrust case against Google in Europe and India highlights the dire need for stricter laws to preserve an open and competitive online market. Though innovation and intentional expansion of the market have played an important part in Google's success, the company's dominance of the market has raised serious questions about fair competition, transparency, and customer autonomy. The European Commission's and India's Competition Commission's decisions underscore the requirement for regulatory action to stop online businesses from abusing their power to stifle competition. In the years to come, regulators will need to strike a balance between encouraging technical development and avoiding monopolistic practices. Key elements in this approach include ensuring stronger regulatory enforcement, increasing transparency in search ranking and digital advertising, and creating equitable revenue sharing arrangements for content publishers and advertisers. In addition, promoting open-source platforms and aiding in the growth of alternative digital ecosystems might lessen an excessive reliance on large companies. Long- term, maintaining competitive marketplaces in the digital economy is crucial for fostering innovation, defending consumer rights, and guaranteeing fair competition for all companies.

Chapter- 5

Policy Recommendations for Ensuring Fair Competition and Future Research Direction

I. Introduction

To promote competition on a level playing field in digital markets, assist consumer well-being, and drive innovation, strong policy measures need to be put in place. With evolving markets, the current laws and regulations must be updated on an ongoing basis. Following proposals for future research paths in digital competition law, this chapter offers policy ideas to fortify competition rules and the EU.

II. Challenges in Enforcement by the Competition Commission of India (CCI)

The implementation of Competition Act,2002 is overseen by the CCI, a statutory body tasked with tackling the issues which cause adverse effects on competition in the Indian marketplace. But unfortunately, CCI performance has significantly deviated, instead of serving as a powerful authority to regulate market conduct, it has often been dismissed as a "paper tiger" due to its lack of enforcement raising doubts about the strength of India's antitrust framework.[59] Even the sincerest regulatory agencies

[59] Arjun Singh Tamang, *CCI's Competition Law Challenges in Enforcement*, Metalegal Advocates (Oct. 16,

are eventually powerless to combat anti-competitive activities when they are granted powers without adequate enforcement tools or political will, as the CCI's poor record highlights.[60] The Competition (Amendment) Act, 2023, enhanced the regulatory framework through important reforms such as deal value thresholds and settlement procedures.[61]

The challenges faced in enforcing the CCI emphasize the necessity of institutional improvement. Integrating experts like data scientists and digital market analysts can improve the Commission's ability to evaluate intricate algorithmic procedures. By putting in place real-time monitoring systems, proactive interventions could be made, replacing reactive, complaint-based methods. Additional modifications might be necessary, in order to handle new issues including platform domination, data-driven monopolization, and preferential treatment in search results. Installing a real-time monitoring system would enable proactive intervention as opposed to depending only on ex-post investigations and complaints.

III. Intersection of GDPR and Competition Law

The EU's 2022 Digital Markets Act (DMA) takes a forward-thinking stance by requiring digital gatekeepers to stop anti-competitive behaviour. Major digital platforms that provide particular digital services, such search engines marketplaces, and messaging platforms, are referred to as gatekeepers.

The General Data Protection Regulations further complements competition law by addressing data privacy concerns, GDPR imposes obligations onto organizations anywhere as long as they are collecting data related to people in the EU .[62]With the introduction of GDPR, Europe has signalled its firm stance on data privacy and security, article 25 of the regulation emphasises that everything one do in their organisation must" by design and by default" consider data protection.[63] The regulations launched new rules about what constitutes consent from a data subject to process their information and recognizes the petition of new privacy rights for data subjects which aim to give individuals more control over the data they loan to an organisation.[64]

Though GDPR has effectively addresses the data concerns yet better alignment between data protection regulations and competition law is needed which can prevent dominant firms from leveraging vast amounts of user data to reinforce their market control. The European commission should also consider real-time digital oversight mechanisms that can track market behaviours dynamically rather than relying

2024),
[60] Varun Singh, *Competition in Peril? Challenges Faced by the CCI*, Bar & Bench (Sept. 7, 2024),
[61] The Competition (Amendment) Act, No. 9 of 2023, Acts of Parliament, 2023,
[62] *What Is GDPR?*, GDPR.eu
[63] ibid
[64] ibid

on periodic reviews.

IV. Enhancing Transparency and Data Portability

One of the main issues in digital marketplaces is the lack of openness surrounding search engines, ad placement, and content rating. For instance, Google's Ad Rank system determines ad placements based on factors like ad quality, expected impact etc. However, there is no full disclosure of exact workings of this system, leading to concerns about transparency and fairness in ad placements. Steps taken by European Union under Digital Markets Act, where gate keeper platforms like Google are required to share ranking, query, view data etc with third -party online search engines helps in ensuring anonymization of personal data[65]. Users at times face challenges while switching to alternative platforms due to factors like data incompatibility and loss of personalised services. These cost at times deter users from exploring other options which further reinforces Google's market dominance.[66]

While acts like DMA seek to improve competition and transparency, implementing such policies into practice can be difficult. Implementing data sharing must strike a balance between the requirement for competition, user privacy, and proprietary information protection. In addition, platforms must work closely together to guarantee data compatibility and interoperability in order to lower switching costs. These actions could unintentionally hinder innovation or jeopardise user experience if they are not implemented carefully. Therefore, while reducing switching costs and increasing transparency are admirable objectives, they must be pursued with a nuanced strategy that takes into account the intricate dynamics of the digital ecosystem.

Guidelines for data sharing should also be updated to ensure that companies have fair access to consumer data while respecting privacy regulations. Enhancing platform compatibility, reducing switching costs, and granting customers greater freedom to move between providers would all promote competition.

V. Addressing Data Monopolisation

One of the significant issues in digital market is the accumulation and control of vast amounts of user data by a few dominant firms. For instance, Google's dominance in the digital advertising system bolstered by its huge accumulation of data. The Australian Competition and Consumer Commission highlighted regarding the Google's dominance in ad tech is a result of its access to vast amount of data

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[65] Mikołaj Barczentewicz, *Google Previews the Coming Tussle Between GDPR and DMA Article 6(11)*, Truth on the Market (May 7, 2024),

[66] European Commission, *Antitrust: Commission Fines Google €4.34 Billion for Illegal Practices Regarding Android Mobile Devices to Strengthen Dominance of Google's Search Engine*, European Commission (July 18, 2018),

and variety of first data collected- through its customer- facing services, including YouTube, Maps and Search.[67] This extensive collection of data enables Google to deliver targeted advertising, making it challenging for smaller competitors to compete effectively.[68]

There are significant concerns regarding market fairness and competition whenever major digital platforms like Google monopolise user data. Data- sharing regulations present issues with user privacy and data security even while they have the potential to democratise access to vital information. Strong legal frameworks would be necessary to implement such mechanisms in order to guarantee that user permission is respected and that shared data is sufficiently anonymised. Any legislative changes must therefore strike a balance between the importance of competition, user privacy protection, and innovation incentive. Policymakers need to explore data-sharing obligations, where dominant firms are required to provide anonymized and aggregated data so to allow its access to smaller competitors which helps in ensuring a level playing field. This could promote innovation by allowing new entrants to develop competing services without being disadvantaged by a lack of data availability. To make sure a level playing field, policymakers need to look into data-sharing agreements, that obligate largest companies to provide smaller competition access to anonymised and aggregated data. By enabling fresh rivals to create rival services without being hampered by a shortage of data resources, this could encourage innovation.

VI. Strengthening Enforcement and International Cooperation

Resilient enforcement measures are necessary to discourage anti-competitive conduct. Proactive compliance audits and a graduated penalty system that increases in severity and frequency of violations should be implemented by regulatory bodies. Strengthening international regulatory cooperation is also essential, given the global nature of digital platforms. By facilitating cross-border enforcement efforts, bilateral agreements between the European Commission and the CCI can guarantee that multinational corporations, ensuring the accountability of multinational corporations.[69]

In October 2002, CCI imposed heavy penalty and 1,337.76 crore on Google for abusing its dominant position in the Android mobile device ecosystem.[70] Similarly, the European Commission fined Google of 4.34 billion euro for levying illegal restrictions on Android device manufactures and mobile network operators.[71] Such cases highlight the importance of robust enforcement mechanisms in curbing anti-

[67] Australian Competition & Consumer Commission, *Google's Dominance in Ad Tech Supply Chain Harms Businesses and Consumers*, Austl. Competition & Consumer Comm'n (Sept. 28, 2021),
[68] Bertin Martens, *European Commission Antitrust Case Targets Google's Dominance of Online Ad-Space Buying*, Bruegel (Jan. 23, 2023),
[69] S.S. Rana & Co., *CCI Fines Google for Abuse of Dominant Position* (2022),
[70] Press Info. Bureau, *CCI Imposes a Monetary Penalty of Rs. 1337.76 Crore on Google for Anti-Competitive Practices in Relation to Android Mobile Devices* (Oct. 20, 2022),
[71] Ashley Gold, *Google Loses EU Appeal and Is Fined a Record $4 Billion*, Axios (Sept. 14, 2022),

competitive practices by digital platforms. Though significant penalty has been levied, the effectiveness of such penalties still remains a subject of debate.[72]

Coordinated laws and regulation are also necessary due to the worldwide operations of digital giants like Google. The efficacy of antitrust actions may be comprised by regulatory arbitrage brought on by variation in enforcement between jurisdictions. Therefore, in order to effectively address the issues provided by the digital economy, international collaboration, information exchange and harmonisation of competition rules are essential.

VII. Exploring Alternative Digital Infrastructures

Traditional centralised platforms often rule the changing digital landscape, raising worries about monopolistic behaviour and a lack options for consumers. Potential substitutes for these centralised systems are emerging technologies such as WEB3, blockchain, and decentralised finance (DeFi). These technologies seek to improve transparency and user autonomy by redistributing control from a small number of powerful entities to a large user base through the use of decentralised networks.

Blockchain- based platforms, for example, can enable peer-to-peer transactions without the need for middlemen, which lowers the possibility of anti- competitive behaviour.[73] Decentralised apps (dApps) and smart contracts are two features of Web 3 technologies that provide users more control over their data and online interactions.[74] Decentralisation of this kind can promote a more competitive atmosphere and lessen the dangers of data monopolies.[75]

But there are hurdles to overcome before these technologies can be fully integrated into the digital economy. It is required to solve issues including user acceptance, regulatory compliance, and scalability. To develop frameworks that encourage innovation while guaranteeing fair competition and consumer protection, policymakers and stakeholders must work together.

VIII. Conclusion

Finally, the uncontrolled ascent of digital gatekeepers such as Google underscores the imperative for adaptive, pro-active regulatory models that protect competition while promoting innovation and consumer well-being. This involves requiring data-sharing frameworks, examination of AI-driven market imbalances, and enhancing cross-border collaboration to address the naturally global nature of digital markets. A forward-looking competition regime should also promote the development of

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[72] Yun Chee Foo, *Google Loses Fight Against $2.7 Billion EU Antitrust Fine*, Reuters (Sept. 10, 2024),
[73] *Blockchain Strategy*, European Commission,
[74] *Can Web3 Bring Back Competition to Digital Platforms?*, Harv. Bus. Sch. (2022),
[75] McKinsey & Co., *What Is Web3 Technology (and Why Is It Important)?*, McKinsey & Co. (Oct. 10, 2023),

interoperable and standalone platforms to minimize overreliance on market leaders. By infusing transparency, technological sophistication, and equity into regulatory design, we can set a course toward an open digital economy that is truly open - one in which innovation flourishes, markets are competitive, and consumer interests are put first.