This study evaluates the competitive implications of Google's acquisition of Fitbit on long-term market dynamics and consumer welfare in wearables and online advertising markets. This study aims to take an economic perspective on intra-industry impacts, such as market concentration, abuse of dominant position, and extra-industry impacts, including Google's advertising strength and software ecosystem, to assess whether the acquisition should take place, and if so, under what conditions.

The acquisition qualifies for European Commission (EC) oversight as combined turnover exceeds €5,000M, with Google's turnover at €144,580M (Alphabet, 2019) and Fitbit at €1,282M (EC, 2021), with EU-wide turnovers both exceeding €250M. The EC enact antitrust policy to favour consumers by encouraging companies to offer goods and services in the most favourable terms (EC, 2021). The Competition and Marketing Authority raised concerns that the deal would reduce competition and further consolidate Google's market dominance in online advertising, with better access to health data for ad personalisation (Balogun & Wadlow, 2020; BEUC, 2020).

The competition authority, the plaintiff, reminds the EC that Google has previously received anticompetitive fines over self-preferencing, and argues that the acquisition is anticompetitive due to vertical integration and economies of scale, market concentration, and the added potential for excessive pricing, economies of scale, and exclusionary agreements. Google, the defendant, argues that the acquisition will improve product offering, lower barriers to entry through WearOS, and help improve service experience for millions of users while ensuring consumer trust and data security. These arguments are considered in relation to their short- and long-term effects on the market.

1.0. Argument of the Plaintiff

Argument 1: *Fitbit independence is essential for maintaining competitive constraints on wearables.*

1.1. Market Concentration And Threat of Response

The wearables industry presents substantial entry barriers, as attracting users away from established platforms requires both robust developer support and a significant user base to overcome heuristic switching costs, meaning entrenched networking effects must be overcome to generate lasting sales. Of existing operating systems entrants could otherwise adopt, Google's WearOS offers great interoperability capabilities with Android (Srinivas, 2021; IDC, 2019), leading rivals and new entrants like Fossil, Mobvoi, and Misfit to adopt the software and encourage ecosystem development and wider audience reach (WearOS, 2020).

Fitbit overcame these barriers to entry as an industry pioneer with Fitbit OS, strategic acquisitions, and an aggressive product launch schedule (including smartwatches since 2017) (IDC, 2019), increasing their bargaining power over suppliers and strengthening brand recognition (BEA.gov, 2021). They have exhibited high dynamic-x by multisourcing 70% of parts (Delmas, 2018) and working with many separate manufacturing sites for assembly, supporting an agile supply chain, as per Porter's Five Forces (1980).

Google's acquisition of Fitbit would consolidate market power among resource-rich corporations, potentially stifling innovation as the market matures. The six-firm Herfindahl-Hirschman Index (HHI) would increase from 1,490.7 to 1,506.5, exceeding the Department of Justice's threshold for moderate market concentration (Appendix 1). This deterioration from a highly competitive environment to a moderately competitive one implies incumbents can better raise barriers to entry by bolstering their competitive advantage through networking effects, economies of scale, threat of incumbent response, and forms of tacit collusion. Further knock-on effects for market dynamism may manifest in price-fixing and predatory pricing (HBR, 2019; Dayen, 2020).

1.2. Self-preferencing

Google's vertical integration of Fitbit hardware and WearOS software creates strong economic incentives to restrict ecosystem access through exclusionary dealings, which they were found guilty of in France in 2019 (Reuters). Greater vertical integration means larger suppliers could face pressure to exclusively partner with major competitors like Google (Belleflamme & Peitz, 2022), preventing entrants from gaining a foothold in the market (McKinsey, 1993).

Improving interoperability between Android and Fitbit watches will increase demand for Fitbit's existing iPhone users to switch to Google's software ecosystem. Since 2010, EC investigations have fined Google €8.25 billion for violations including: improving the ranking of its subsidiaries in Search; adding restrictive clauses in contracts with third-party websites; and requiring smartphone makers to preinstall Google Search and Chrome in exchange for Play Store (EC, 2017; CNN, 2022).

Antitrust policies favour consumers by encouraging companies to offer goods and services in the most favourable terms (EC, 2021). Wearables producers should cater to diverse consumer preferences by offering as wide array of products as possible, and Google is maintaining variety when they could launch a competitor instead, potentially to combat low consumer trust problems (BIS, 2018). In concentrated markets, incumbents encounter fewer obstacles when seeking profit-maximisation, due to tacit collusion, misaligned focus from achieving dynamic-x through R&D investments, innovative product launches, and employee skill enhancement (Bates, 2019).

Argument 2: *Google's acquisition exacerbates advertising ecosystem dominance, stifling innovation across markets.*

2.1. Strengthened Dominant Position

Google potentially utilises WearOS data, including GPS, sleep duration, and app usage, for targeted advertising and user analysis, creating rich profiles that enable personalised ads and enhance user engagement (Google, 2021). By acquiring direct competitors such as Doubleclick and AdMob, they have strengthened their advantage in search advertising CPM (Cost per Mille), resulting in 'bottleneck market power' for Google and supra-competitive prices (Dinielli, 2021; NYTimes, 2019). Advertising, primarily within services like Android, Chrome, hardware, Maps, Play, Search, and YouTube, accounts for 83.2% ($134.8bn) of Google's revenue (Alphabet, 2019).

Given Google can develop an Apple Watch alternative, its interest in Fitbit conceivably comes from access valuable databases containing unique health-related data points. Such data can be fed into behavioural detection models to improve engagement for YouTube or Google Assistant (Google, 2021), increasing competitive advantage due to economies of scale and networking effects, and raising barriers to entry. With low brand trust, Google's ownership may reduce consumer welfare and result in boycotting (Observer, 2019).

2.2. Long-Run Impacts of Digital Ecosystem

Currently, Google and Apple hold 99% global duopoly in the smartphone OS market (Taylor, 2020). Both parties have historically limited interoperability between their software, such as iMessage, FaceTime and the Google Play Store, which have erecting barriers for users to switch between platforms and for competition to enter the market (USHOR, 2020). Their shared duopolies extend to web browsers, cloud storage, and media streaming.

Long-term, Google's deep financial resources could be used to implement predatory pricing strategies, forcing exits of limit-resource competitors. The legal battle between Apple and Epic Games concerns "anticompetitive" app store commissions identical to Google Play's (Android, 2020), underscoring the potential for market failure (BBC, 2021).

Antitrust policymakers should be vigilant regarding the consequences of strong network effects; increased dominance by established platforms can lead to greater network value and cheaper prices short-term, but raise barriers to entry for innovative newcomers long-term, harming welfare.

To illustrate these network effects, consider a simple model comparing platform utilities. Let the benefits of using Google's platform be $UG = b + kxG$, where b represents the baseline platform benefit, k is the network effect coefficient, and xG is Google's user base. Similarly, for a new platform N, the utility is $UN = b + kxN$, where xN is the new platform's user base. The market share of the new platform can be expressed as $SN = 1/2 + k/2(xN - 1)$. Under strong network effects ($k >> 1/2$), Google's ability to attract users becomes increasingly self-reinforcing through greater connections and interactions, enhanced developer incentives, and reduced marginal costs, while even superior features or innovations from competitive platforms become less influential in user decision-making.

Entrenched loyalty and switching costs further create market failure by reducing ability to gain traction for entrants. Consequently, consumers may face reduced choice and default to dominant players, producing deadweight loss (HBS, 2019; Ofcom, 2020). Ultimately, market velocity creates long-term benefits that arguably supersede the value of reduced platform costs for consumers, and policymakers should protect competition with this ruling.

3.0. Argument of the Defendant

Argument 1: *Google's acquisition is highly beneficial to the Fitbit audience.*

Google's acquisition of Fitbit creates positive externalities that are three-fold: enhanced competition between wearables, lower barriers to entry through WearOS, and greater third-party benefits across Google services.

First, Google's entry would enhance consumer choice by bringing complementary expertise to the Fitbit product line, challenging Apple's artificial ecosystem barriers. Apple currently maintains market dominance through deliberate lock-in strategies that restrict consumer freedom – forcing synchronisation exclusively through their proprietary protocols, limiting interoperability with non-Apple devices, and bundling features to create artificial switching costs (Koetsier, 2021; EC, 2021). This walled garden approach effectively coerces consumers into choosing Apple Watch products despite potentially superior alternatives that better match their individual needs and preferences, as evidenced by Apple's premium pricing well above comparable products in the market (Mundy, 2022; IDC, 2019). By artificially restricting consumer choice through technical barriers rather than competing purely on product merit, Apple's practices exemplify how dominant market positions can be maintained through anti-competitive ecosystem control rather than superior value creation.

Google's mobile software control, artificial intelligence advantage over Apple, and data analysis capabilities will be used to heighten Fitbit product strength, with cellular-connectivity, clinical alerts, and competitive prices, benefiting consumer surplus (Forrester, 2019). With greater economies of scale due to Google's flagship smartphone Pixel 5, greater elimination of redundancies and costs for consumers becomes possible (Google, 2020b). As with Waze (Empson, 2013), Google can improve product performance and market variety, internalising dead weight loss and competing away monopoly profits.

In support of this, Google has consistently produced services more cost-efficiently than competitors like Apple (Bitton & Lewis, 2020; NYTimes, 2020), as evidenced by the lower price points of Android smartphones and the costless provision of many of its digital platforms (Wired, 2023). In contrast, Apple has utilised its market advantage to intentionally slow-down device performance (BBC, 2020), potentially seeking repeat purchases and profit maximisation.

Argument 2: *Google's acquisition is uniquely able to provide a robust alternative to Apple.*

Second, Google is uniquely positioned to provide a robust alternative to Apple while enhancing competition across markets and reducing barriers to entry. While Apple has designed its systems to be partially interoperable, Google makes no products wholly exclusive to Android (Android, 2020; IGN, 2022).

By acquiring Fitbit, Google can align compatibility between hardware and software for the WearOS system at large, addressing the negative perceptions that have been previously associated with the platform (Bohn, 2021). This acquisition may increase the value in investing in WearOS, subsequently boosting the platform's intrinsic value. A more powerful platform will better enable new market entrants to compete with established original equipment manufacturers, such as Apple's watchOS, Samsung's TizenOS, and Huawei's HarmonyOS.

Argument 3: *Google's acquisition is highly beneficial to the Google audience.*

Third, Google will be able to refine its offerings for millions of users globally by leveraging the wealth of data generated by wearables. By leveraging this data, Google algorithms can further be optimised for consumer satisfaction within Google Search, Maps, Android, Play, and YouTube, as well as associated APIs, which are used

by well over a billion people (Insider, 2015), and in-line with Fitbit's data-sharing for multi-homing via API (Fitbit, 2019; EC, 2021).

Fitbit's recent data scandals (Fowler, 2021) may have reduced consumer trust, and better protection is also offered by Google's sophisticated security infrastructure. Google can create secure silos (NYTimes, 2019b), where sensitive data like profile enrichment are not auctioned on AdWords, while staying protected, improving service quality for users.

Judgement

The market, not regulatory mandates, should primarily determine the outcome of this acquisition. However, given existing distortions from Apple's dominant position and previous regulatory interventions, limited conditions may help restore natural market dynamics. These conditions should focus on removing artificial barriers rather than imposing new restrictions.

First, Google should be required only to maintain highly open, documented APIs for WearOS and Fitbit devices. This minimal intervention preserves property rights while enabling market participants to naturally develop competing services and applications. Offering integration with Fitbit devices through consensual access to share data with applications can often increase diversity and competition, promoting product variety for consumers while rewarding hardware platforms.

Secondly, sustained interoperability and device compatibility remedies potential monopolistic behaviour, fostering competition and consumer welfare by mitigating against bundling. Google should maintain full cross-platform compatibility between Fitbit devices and all mobile ecosystems, ensuring that consumer choice is driven by product quality and innovation rather than ecosystem lock-in. This approach prevents the creation of artificial switching costs that distort market signals and consumer preferences and allows developers to innovate on the consumer offering.

Third, Google should be required to obtain explicit opt-in consent for any data sharing between Fitbit and its advertising services. This preserves consumer sovereignty and allows the market to price privacy preferences efficiently. If consumers value privacy, they will choose platforms that protect it; if they prefer enhanced services enabled by data sharing, they should be free to make that choice. This directly addresses concerns raised by the plaintiff.

The success of these conditions should be measured not through regulatory compliance metrics, but through market outcomes: increased consumer choice, new market entry, and price competition. By focusing on removing artificial barriers rather than creating new regulations, this approach allows market forces to discipline anticompetitive behaviour while preserving the efficiency gains from vertical integration.

Appendix

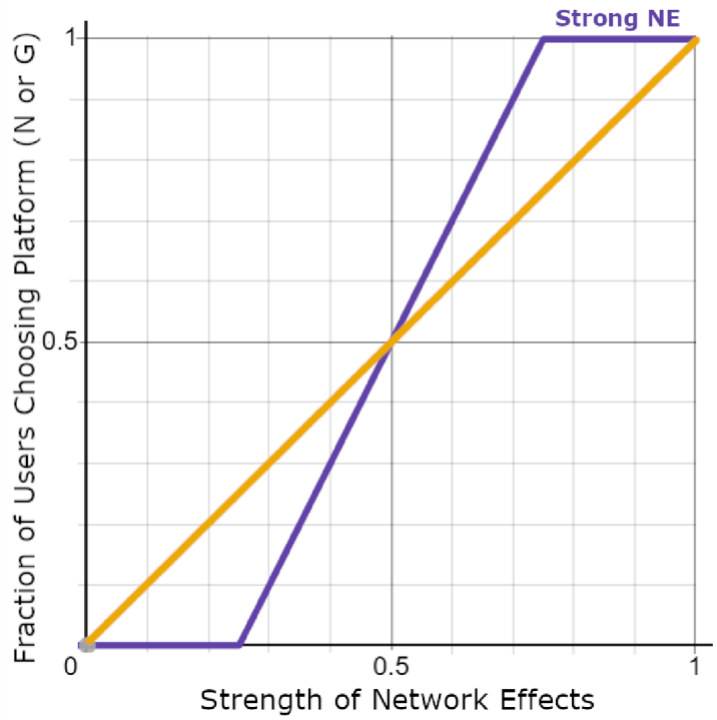

Figure 1. Strength of Network Effects against Fraction of Users Choosing Platform (N being new entrants, or G, being Google's ecosystem. Strong networking effects are illustrated with the purple curve.

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