PRO-COMPETITIVE TYING AGREEMENT OF GOOGLE

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ABSTRACT

Google Inc. distributes its proprietary applications to its own open-source Android mobile operating system free of charge; these applications are offered as a suite known as Google Mobile Services. Manufacturers of mobile devices and Google signs the Mobile Application Distribution Agreement in order to install the Google Mobile Services suite on their devices for free. In April 2015, the European Commission stated that Google's policy of offering Google Mobile Services suite affects competitors or creates a menace to the consumers. But under the economics and economic theories, Google's practice of distributing the Google Mobile Services suite benefits consumers, as well as manufacturers, mobile carriers, app developers, and advertisers by creating demand, by lessening the danger of fragmentation of the Android OS, and by forestalling Google's competitors from free riding. As an issue of antitrust law, Google does not constrain customers to pay for applications they do not need, and MADA improves competition generally, in accordance to the rule of reason analysis investigation for software tying integration given by the D.C. Circuit in the memorable Microsoft decision. The facts confirm that European competition law shifts in different contexts from American antitrust law; however the premise of economic analysis does not change by jurisdiction. Google's licensing practice has incited competition among Mobile Operating System market and cell phone market. Thus, Google's distribution of free mobile applications through the Google Mobile Services suite ought not to be considered anticompetitive. The Indian Competition regime is nascent in applying software tying under Section 3 read with Section 4 of the Competition Act, 2002, as shown in various cases by the Competition Commission of India.

Keywords: Competition Law, European Commission, Android Decision, Tying Arrangement, Mobile Application Distribution Agreement, Anti-fragmentation, Free-riding, Cherry-picking, Four-Element Test, Neo-Classical Economic Theory, Theory of single-monopoly-profit, Google Mobile Services.

I. Introduction

In April 2015, the European Commission (hereinafter 'The EC') opened the investigation on the Google Android Operating System which was considered to be anticompetitive in the European Economic Area (hereinafter 'EEA').[1] The Android OS became the major OS in the EEA, every Smart phone and tablet operated using Android OS, along with the combination of the other Google's Proprietary applications and Services. In order to obtain the right to install these applications in the smart phones or tablets, the Device manufacturers were made to sign an agreement with Google, namely the Mobile Application Distribution Agreement (hereinafter 'MADA').

This article provides the economic implications of MADA in the OS markets, also by showing that Google's MADA increases consumer welfare. Android's practice not only helps Google and its consumers but also other competitors in the mobile operating system market, including the manufactures and app developers. The MADA benefits consumers both directly and indirectly.

The article further explains the need for the MADA's to attain Google's business model, by analyzing the correlation between the Android OS, Google apps, and Google Mobile Services (hereinafter 'GMS'). It is agreed that these products are interrelated for the OS to run smoothly, but it is also be noted that Google does not force the manufacturer to preload GMS in order to use Android OS. The manufacturer can opt to sell their devices without any Google proprietary applications or services. In 2012, Amazon decided to sell smart phones and tablets with Android OS, and without GMS. The author has also made an assumption as to the interpretation of the Android Decision[2] in the Indian Competition Law regime and the outcome of the case; if it were have been held at Indian Courts.

II. Anticompetitive Tying

'Tie-in' or 'tying' means that the seller offers to sell a product (tying product) only if the buyer purchases another product (tied product) from the seller.[3] They are of three major types; (i) bundled tie (eg. Shoe with shoelaces), (ii) Contractual tie (eg. Insurance with Car), and (iii)

[1] Press Release. (2015, April 15). *Antitrust: Commission Opens Formal Investigation Against Google in Relation to Android Mobile Operating System*. European Commission. MEMO/15/4782. Retrieved from https://ec.europa.eu/commission/presscorner/detail/it/MEMO_15_4782.

[2] *Google Android*. AT. 40099 (2018).

[3] *N. Pac. Ry. Co. v. United States*. 356 U.S. 1, 5-6 (1958).

technological tie (eg. Application with Mobile/Computer OS). Though it is considered to be anti-competitive in nature, many economic theories state that they are pro-competitive and enhance consumer welfare. Tying invokes the economics of joint sales which thereby reduce costs, and so the consumer obtains those products at lower prices. Many economists have brought out many examples where they have emphasized that the tying practice was found to be pro-competitive in nature.[4]

Let's assume that the purchaser A values item X at €50 and item Y at €20, and purchaser B esteems item X at €20 and item Y at €50. On the off chance that the seller does not bundle the items, he will sell the two items at €50 each. The vendor will get €100, and the two purchasers will get just only a single item each. To offer the two items to both of the purchasers, the merchant would have to set the minimum cost of €20, which would yield income of just €80 by selling both the items to both the purchasers. Whereas, the seller can sell a pack containing the two merchandise at €70. All things considered, the merchant will get €140, and the two purchasers will acquire two items, whereby both the buyers and seller are satisfied. This model does not rely upon the seller having market control over either item X or item Y.

2.1. PRO-COMPETITIVE EFFECTS OF TYING AGREEMENTS

Einer Elhauge of Post-Chicago School of Antitrust Economics stated that the Theory of single-monopoly-profit has to meet following conditions: (1) Proportional consumption of the tying-product and tied-product; (2) Correlation of the demand of these two products; (3) Level of consumption of the tying-product; (4) The competitiveness the tying-product in the market; and, (5) The competitiveness the tied-product in the market.[5] Only when anyone of the condition is missed or relaxed by the competitor, the anti-competitive concerns arise in the market. Though this theory was opposed by many economists in the later decades, the final conclusion to be noted here is that, rule of *per se* cannot be applied in the case of tying agreements, they must be evaluated on a case-by-case basis. Massimo Motta, chief economist of the Directorate General for Competition of The EC, emphasised that a full-fledged

[4] Abbott, Alden F. & Wright, Joshua D. (2010). *Antitrust Analysis of Tying Arrangements and Exclusive Dealing*. Antitrust Law and Economics. (Hylton, Keith N. ed., Edward Elgar Publishing). Retrieved from https://ideas.repec.org/h/elg/eechap/13001_8.html.

[5] Elhauge, Einer. (2009). *Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory.* Harvard Law Review.

investigation in an economical context must be held in order to weigh the potential pro-competitive and anti-competitive effects behind the tying practice.[6]

In the case of *Illinois Tool Works Inc. v. Independent Ink Inc.*[7], the Supreme Court of the United States, proposed the 'Four-Element Test'. The Four-Element Test states that a tying arrangement is considered to be unlawful only if these four elements are met: (1) There must be two different products or services; (2) The sale of the tying product is conditioned to have purchased the tied product; (3) The seller possesses market power in the tying product market; and (4) the tie-in forecloses a substantial amount of the commerce in the tied product market.[8]

2.2. TYING ARRANGEMENTS IN SOFTWARE SECTOR

The Commission claims that Google is concluding contracts with mobile phone manufacturers whereby the licensing of the app store Google Play is made conditional upon the pre-installation and setting as default of two other applications – Google Search and the mobile browser Chrome. Bundling of software is pretty basic in competitive business sectors. For instance, Microsoft Office regularly bundles the Spreadsheet (Excel) page with the text editor (Word) to empower the client to make the two diagrams and text archives. Software creators have a solid motivating force to bundle programming items to increase demand.[9] Bundling items may likewise diminish the expense of manufacturing items for a more extensive range of consumers. In the case of *United States v. Microsoft Corp. (Hereinafter 'Microsoft II')*[10], the Circuit Court of United States put forth the Rule of 'Separate Consumer Demand' to analyse technological tying. In which, Judge Williams stated that an *"integrated product"* is *"most reasonably understood as a product that combines functionalities, which may also be marketed separately and operated together, in a way that offers advantages unavailable if the functionalities are bought separately and combined by the purchaser. [.....] Analysis does not require a court to find that an integrated product is superior to its stand-alone rivals. [...] The question is not whether the integration is a net plus*

[6] Motta, Massimo. (2009). *Competition Policy: Theory and Practice*. Cambridge University Press.
[7] *Illinois Tool Works Inc. v. Independent Ink Inc.*, 547 U.S. 28, 35, 36 (2006).
[8] *Eastman Kodak Co. v. Image Technical Servs., Inc.,* 504 U.S. 451, 462 (1992).
[9] Sidak, Gregory J. (2001). *An Antitrust Rule for Software Integration*. Yale Journal on Regulation. Retrieved from https://digitalcommons.law.yale.edu/yjreg/vol18/iss1/2/.
[10] *United States v. Microsoft Corp.*, 147 F.3d 935 (D.C. Cir. 1998).

but merely whether there is a plausible claim that it brings some advantage."[11] The D.C. Circuit Court concluded that, the rule of reason analysis must be employed, and no the *per se* analysis, to determine the legality of tying arrangements of the software products.

2.3. MADA AND GOOGLE BUSINESS MODEL

GMS is a set of Google apps that one can preload onto a mobile device that runs on Android. GMS includes a variety of Google apps, such as Google Maps, YouTube, Gmail, Google Play, and Google Search. A manufacturer might decide to preload GMS onto a device so that those apps are available to the consumer immediately when he takes the device out of the box. Google does not charge manufacturers for the right to preload GMS. Google nonetheless requires the manufacturer to enter into a licensing agreement that specifies the conditions for the use of GMS. For example, Amazon tablets and the Amazon Fire smart phone run on the Android OS but do not use GMS.[12] Similarly, Nokia X phones operate on Android but are not preloaded with GMS. Nokia X phones instead come preloaded with other popular apps such as Facebook and Skype.[13]

Furthermore, hundreds of millions of Android phones manufactured by companies such as Baidu, Tencent, and Xiaomi are sold in China without GMS preloaded, where the Chinese manufacturers preload their own browsers, apps, and app stores.[14] A manufacturer that decides to use Android but not preload GMS may preload its own "core" apps or an app suite from another provider than Google. For example, Yandex, a Russian search and software company, unveiled its own mobile app suite in February 2014, which

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[11] *United States v. Microsoft Corp.*, (1998).

[12] Burrows, Peter. (2012, Jan. 24). *Amazon Fire Tablet Leaves Google Apps Behind*. Bloomberg. Retrieved from https://www.bloomberg.com/news/articles/2012-01-24/amazon-fire-takes-android-while-leaving-google-apps-behind-tech.; *Amazon Fire Tablets*. Amazon Appstore. Retrieved from https://developer.amazon.com/apps-and-games/fire-tablets.

[13] Smith, Chris. (2014, March 1). *Nokia X Android Phone Already Hacked to Run Google Apps, Now and Play Store*, Techradar. Retrieved from https://www.techradar.com/in/news/phone-and-communications/mobile-phones/nokia-x-android-phone-already-hacked-to-run-google-apps-now-and-play-store-1230002.

[14] Hong, Kaylene. (2013, 27 Nov., 02:08 PM). *Report: China Has 270m Android Users – That's Nearly 30% of Global Android Activations to Date*. The Next Web. Retrieved from https://thenextweb.com/news/report-china-has-270-million-android-users-nearly-30-of-global-android-activations-to-date.; Whitwam, Ryan. (2012, Dec. 18, 9:00 AM). *Android Is Failing by Succeeding in China*. Extreme Tech. Retrieved from https://www.extremetech.com/mobile/143585-android-is-failing-by-succeeding-in-china#:~:text=By%20all%20accounts%20Google%20is%20riding%20high%20on%20the%20success%20of%20Android.&text=Even%20though%20Android%20is%20big,giant's%20avoidance%20of%20mainland%20China.; 9To5 Staff. (2011, Sept. 5, 12:27 PM). *Baidu Launches Its own Android-Based Mobile OS in China, Leaves out Google Search and Services*, 9TO5 Google. Retrieved from https://9to5google.com/2011/09/05/baidu-launches-its-own-android-based-mobile-os-in-china-leaves-out-google-search-and-services/.

could supplant Google on some devices, including devices running on Android.[15] A manufacturer of devices operating on Android could decide to preload the Yandex mobile suite instead of GMS. Google thus needs to offer appealing apps to persuade manufacturers to preload GMS and not rely on the manufacturers' own apps or those developed by Google's competitors. To conclude, the use of GMS is voluntary. A manufacturer will generally decide to preload GMS only if it believes that the included apps appeal to consumers and will thus increase the value of its mobile device. To stimulate the preloading of GMS, Google hence must offer quality apps that are attractive to end-users.

III. Exclusivity

The second allegation of the Commission is that Google is forcing manufacturers and mobile network operators financial incentives on the condition that they pre-install Google Search on their devices. In other words, Google is buying the exclusivity of its search engine for mobile devices. Though the MADA is confidential and not known much of to the general market access, the Mobile Application Distribution Agreement (Android) Between Google Inc. and HTC Corporation[16] (hereinafter "Google-HTC MADA") and Mobile Application Distribution Agreement (Android) Between Google and Samsung[17] (hereinafter "Google-Samsung MADA") were provided to the court as evidence in the case of *Oracle v. Google,*[18] which helps us understand the basic nature of the MADA, which are as follows,

a. Google entered with HTC and Samsung specify that if the manufacturer chooses to preload GMS on a device, it shall preload the complete GMS suite (with the exception of certain optional apps) on to the device.[19]

b. The manufacturer has full discretion to install GMS on all, some, or none of its devices, leaving it free to decide the volume of devices that come with or without GMS.[20]

[15] Shankland, Stephen. (2014, Feb. 20). *Yandex Suite of Free Android ools Sidesteps Google.* CNet. Retrieved from https://www.cnet.com/news/yandex-suite-of-free-android-tools-sidesteps-google/.
[16] *Mobile Application Distribution Agreement (Android)*, Google-HTC Corporation (January 1, 2011), Retrieved from https://www.benedelman.org/docs/htc-mada.pdf.
[17] *Mobile Application Distribution Agreement (Android)*, Google-Samsung Electronics Co. Ltd. (January 1, 2011), Retrieved from https://www.benedelman.org/docs/samsung-mada.pdf.
[18] *Oracle Am., Inc. v. Google Inc.*, 872 F. Supp. 2d 974 (N.D. Cal. 2012).
[19] Google-HTC MADA s. 2.1; Google-Samsung MADA s. 2.1.
[20] Google-HTC MADA s. 2.4 & s. 2.6.

c. It specifies the location of GMS apps on the mobile device's screen. In particular, the MADAs with HTC and Samsung specify that Google Phone-top Search and the Android Market Client Icon shall be placed "at least on the panel immediately adjacent to the Default Home Screen"[21] All other Google apps of GMS shall appear no more than one level below the "Phone-top,"[22] In addition, the manufacturer shall set Google Phone-top Search as the default search provider for all web search points on the device.[23]

d. A manufacturer wanting to preinstall GMS on its devices shall make the devices "Android compatible," which requires that the "final software build on Devices must pass the Compatibility Test Suite" before the device is launched.[24] The main aim for this clause of MADA is to prevent platform fragmentation.

e. Both MADAs recognize that the "Telecom Operator customer"—the carrier, such as AT&T or Verizon Wireless—might impose on a manufacturer different requirements with respect to the location of Google apps on the phone's screen than the one specified in the MADA. Although the MADA acknowledges that such changes are possible, it specifies that they may be made only with Google's explicit written approval.[25]

3.1. BUSINESS JUSTIFICATIONS FOR THE MADA RESTRICTIONS

The three business justifications of Google for providing its free apps with MADA restrictions are, first, to encourage manufactures to avoid Android's fragmentation; secondly, to distinguish Android OS devices from other devices by providing the consumers the out-of-the-box Graphic User Interface (hereinafter "GUI"); and, finally, to thwart free-riding and cherry-picking,

3.1.1. Anti-fragmentation

Fragmentation occurs when individuals modify a platform's source code to produce multiple versions of the platform. As other individuals add compounded modifications to these already modified versions, the multiple versions of the platform become incompatible. Anyone may freely modify and customize the Android OS, but such modifications and customizations may

[21] Google-Samsung MADA s. 3.4.
[22] Google-HTC MADA s. 1.8; Google-Samsung MADA s. 1.7.
[23] Google-HTC MADA s. 3.4.
[24] Google-Samsung MADA s. 2.7.
[25] Google-HTC MADA s. 4.8; Google-Samsung MADA s. 4.8.

produce divergences between different versions of the OS that hinder cross-compatibility between Android-operated devices. Google's open-source model permits customization and product differentiation with respect to a device's look and feel, as reflected in the hundreds of different Android devices available today. The MADAs do not bar customization; rather, they seek to encourage compatibility. A closed OS does not face similar risks of fragmentation.

Fragmentation might cause the malfunctioning of mobile apps and thus degrade the quality of the consumer experience. Fragmentation would also harm the development of apps for Android-operated devices. As fragmentation worsens, the cost of developing and maintaining apps for divergent versions of Android rises.[26] Google encourages the continued compatibility of different releases of Android by offering GMS free of charge under the MADA, which in turn requires manufacturers to agree to take steps to reduce the risk of fragmentation.317 Each mobile device covered by the MADA shall pass a test for Android compatibility—the Compatibility Testing Suite (hereinafter "CTS").[27] The CTS ensures that a device meets basic specifications to ensure crosscompatibility across all Android devices. In addition, the MADA requires the manufacturer to avoid an action that might "cause or result in the fragmentation of Android."[28] If a manufacturer agrees to make its devices Android-compatible, Google will allow the manufacturer to preload GMS free of charge. In other words, the MADA provides an incentive for manufacturers to take steps that decrease the risk of Android's fragmentation.

Thus, the MADA's requirements help Google to avoid fragmentation and thereby maintain the appeal to end users of Android-operated devices that use GMS.

3.1.2. GUI Competition

The Windows Phone comes with Office and Bing apps preinstalled on the device at no additional charge.[29] Apple's iPhone and iPad come with free preloaded apps, such as Calendar, Maps, Video, iPhoto, and iTunes.[30] Where a device manufacturer chooses to preload GMS on its Android-operated device, the MADA's requirement that the manufacturer preload all apps

[26] Elmer-Dewitt, Philip. (2011, Apr. 5). *Android Is a Mess, Say Developers*. Fortune. Retrieved from https://fortune.com/2011/04/04/android-is-a-mess-say-developers/.
[27] Google-Samsung MADA s. 2.7.
[28] Google-Samsung MADA s. 2.7.
[29] *Windows Phone 8.1 End of Support: FAQ*. Windows. Retrieved from https://support.microsoft.com/en-us/windows/windows-phone-8-1-end-of-support-faq-7f1ef0aa-0aaf-0747-3724-5c44456778a3.
[30] AppleInsider Staff. (2010, Sep. 03). *Apple Makes iWork, iPhoto and iMovie Free with New iOS Devices*, Apple Insider. Retrieved from https://appleinsider.com/articles/13/09/10/apple-makes-iwork-iphoto-and-imovie-free-with-new-ios-devices.

in GMS is intended to meet the consumer's expectation that certain functions will be available "out of the box."[31] The MADA thus ensures that Android-operated devices including GMS will remain competitive and appealing to consumers.

3.1.3. Free-riding and Cherry-picking

Free riding occurs when a firm takes advantage of a product or service produced by another firm without compensating the latter firm for the costs of providing the product or service. When a provider does not obtain adequate compensation for its product or service because of free riding, its incentive to provide that product or service decreases. To generate revenues, Google needs to attract consumers. Google is interested in having its apps preloaded on to mobile devices. If a manufacturer preloads Google's apps, Google apps are exposed to a larger number of users. If those apps are attractive, users are more likely to use them, instead of ignoring them, and Google consequently has the potential to earn higher revenues. However, manufacturers will decide to preload GMS only if it includes apps that appeal to consumers. For this reason, Google needs to invest in the development and maintenance of apps that will appeal to consumers.

The development of appealing apps might nonetheless be costly. One example is Google Play, which did not generate significant revenues in its first years. Google incurred the costs of developing and maintaining the store, but the store itself did not initially generate significant revenues for Google. In 2010, Google projected that the sales revenue generated through Google Play would be only $14.5 million in 2011, $35.9 million in 2012, and $64.8 million in 2013. This revenue was divided among different stakeholders, including app developers and carriers, and Google reportedly retains about 5 percent of the generated revenue. In comparison, Google's target revenues from the distribution of ads though Android were $492.8 million in 2011, $804.3 million in 2012, and $1.336 billion in 2013.[32] Nonetheless, Google's investments in Google Play made economic sense

Free riding on Google apps would undermine Google's ability to recoup its investments. Permitting mobile device manufacturers to cherry pick Google apps would enable the

[31] Shaughnessy, Haydn. (2013, Apr. 9). *Can These Competitors Break Apple and Google's Stranglehold on the Mobile OS?*. Forbes. Retrieved from https://www.forbes.com/sites/haydnshaughnessy/2013/04/09/ios-vs-android-can-competitors-break-apple-and-googles-stranglehold/?sh=1f2b821c362a.

[32] Brace, James A. (2012, Apr 25, 2:40pm). *Google's slides on Android quarterly report in the Oracle patent case*. The Verge. Retrieved from https://www.theverge.com/2012/4/25/2974772/googles-slides-on-android-quarterly-report-in-the-oracle-patent-case#0.

manufacturer to attract a larger user base by free riding on preloaded Google apps that the manufacturer obtained free of charge. A competitor that free rides on Google apps would undermine Google's ability to recoup its investments and would decrease Google's incentives to invest in developing and maintaining free apps. Consequently, Google might invest a suboptimal amount in new product development.[33]

Without the MADA's restrictions, competitors could free ride on the user base that Google had attracted by offering free apps. Handset manufacturers, for example, could preload only a select subset of non-monetized GMS apps, allowing Google's competitors to profit freely from Google's investment. The MADA's requirements aim to prevent competitors from free riding on Google's free distribution of its apps.

Google's achievement of these three goals promotes Android's competitiveness and the availability of an open mobile platform, which in a long-run provides unrestricted access to the mobile industry.

IV. Benefits to Consumers, OEM, & App Developers

The MADA's requirements do not benefit Google alone. They also create positive externalities for other stakeholders of the mobile device industry. The MADA's requirements benefit consumers both directly and indirectly by increasing the quality of the experience with Android-operated devices that use GMS and by increasing competition in the market for mobile devices. At the same time, by maintaining the competitiveness of Android-operated devices that use GMS, the MADA's requirements benefit manufacturers, app developers.[34]

4.1. Benefits to Consumers

The MADA provides indirect benefits to the end user. By maintaining Android's appeal, the MADA stimulates competition in the market for mobile operating systems and, consequently, in the market for mobile devices. In 1921, Frank Knight, University of Chicago price theorist, argued that producers are better able than consumers to anticipate future consumer preferences. He stated that, "The essence of organized economic activity is the production by certain persons of goods which will be used to satisfy the wants of other persons. The first question which

[33] Segal, Ilya R. & Whinston, Michael D. (Winter 2000). *Exclusive Contracts and Protection of Investments*. RAND Journal of Economics: Vol. 31, No. 4.; Marvel, Howard P.. (1982). *Exclusive Dealing*. Journal of Law and Economics: Vol. 25. Retrieved from https://chicagounbound.uchicago.edu/jle/vol25/iss1/2.

[34] Varian, Hal R. (2006). *The Economics of Internet Search*. Rivista di Politica Economica - Vol. 96, Issue 6.

arises then is, which of these groups in any particular case, producers or consumers, shall do the foreseeing as to the future wants to be satisfied." Knight did not believe that consumers specify their preferences clearly to producers. Rather, he reasoned: "At first sight it would appear that the consumer should be in a better position to anticipate his own wants than the producer to anticipate them for him, but we notice at once that this is not what takes place. The primary phase of economic organization is the production of goods for a general market, not upon direct order of the consumer."[35]

When one considers Knight's insight in the context of a tying rule for mobile apps, it becomes increasingly clear that it would harm consumer welfare for a court to mandate that Google may offer the free suite of GMS apps only if it allows other firms in the vertical chain of production to disaggregate the suite or select Google mobile apps on an à-la-carte basis. To require Google to do so would thwart its role as the party who facilitates the revelation of consumer preferences. It is reasonable to expect that the importance of this revelation of preferences increases with the extent of technological dynamism in a particular product market.

Competition in the market is a challenge to characterize altogether new demand curves or to push existing demand curves outward with immensely improved blends of cost and performance. Jefferson Parish's analysis of the "character of demand" is uninformative when consumers face products for which they have newfound and uncertain demand. The revelation of consumer preferences is a genuine innovation or discovery, one whose value courts and antitrust officials can belittle or ignore only at great peril to consumer welfare.

4.2. BENEFITS TO MANUFACTURERS OF MOBILE DEVICES

The MADA's requirements benefit manufacturers of mobile devices. Before Android's release, a mobile device manufacturer needed either to pay a license fee or to incur the cost of developing its own OS and a mobile suite of apps. Both options were relatively costly.[36] The MADA provided the manufacturer an alternative option: the ability to obtain both the OS and GMS free of charge in exchange for promoting Google's services. The MADA does not restrict a manufacturer's choice of OS or mobile apps. As explained, the manufacturer's use of Android is not conditional on its acceptance of the MADA's requirements. A manufacturer is free to

[35] Knight, Frank. (1921). *Risk, Uncertainty, and Profit.* (Houghton Mifflin Co.).

[36] Rosenberg, Dave. (2008, Sept. 30, 5:18 AM). *Windows Mobile Licensing Fees to Remain Intact.* CNET. Retrieved from https://www.cnet.com/news/windows-mobile-licensing-fees-to-remain-intact/.

use Android OS without GMS preloaded. Furthermore, even when a manufacturer decides to preload GMS, the MADA does not exclude the manufacturer from adopting other operating systems on its other devices. The MADA applies per device and not per platform or product model.[37]

Although the MADA imposes placement requirements on the distribution of GMS, the required configuration does not impair a manufacturer's ability to customize the device by preloading other apps.[38] A manufacturer remains free to preload its own apps and third-party apps and place them on the home screen, differentiating its devices from others available in the market.[39] For example, Samsung's out-of-the-box mobile devices come with Samsung's own apps on the default home screen, such as Samsung Apps— Samsung's proprietary mobile app store.[40] A manufacturer might also preload third-party apps. For example, HTC preloads its phones with the Dropbox app.[41] The MADA does not prevent the manufacturer from placing those apps in the uppermost location on the mobile device screen. Hence, manufacturers are free to preload non-Google apps on their devices and place those apps next to Google apps.

Thus, a manufacturer using Android is free to decide whether to preload GMS or not. Even when the manufacturer decides to preload GMS, the MADA does not limit the manufacturer's ability to preload its own apps or third-party apps on the mobile device and place those apps next to Google's apps. Both the manufacturer and the carrier have an important role in determining how mobile apps will ultimately appear on the device.

4.3. BENEFITS TO APP DEVELOPERS

The MADA benefits app developers. By promoting Android's competitiveness, the MADA fosters the viability of an open distribution platform that app developers and online service providers can use as an alternative to proprietary operating systems. Android's success stimulated competition among mobile platforms to attract app developers. The MADA's

[37] Google-Samsung MADA s. 2.1.

[38] Google-Samsung MADA s. 3.4.

[39] Gonsalves, Antone. (2013, Nov. 6,10:11 AM) *Android Smartphone Makers Are Throwing You Under the Bus.* Computer World. Retrieved from https://www.computerworld.com/article/2475389/android-smartphone-makers-are-throwing-you-under-the-bus.html.

[40] Litchfield, Steve. (2013, May 18) *Review: Samsung Galaxy S4.* Android Beat. Retrieved from https://www.androidbeat.com/2013/05/review-samsung-galaxy-s4/.

[41] Ludwig, Sean. (2011, September 22, 8:49 AM). *HTC and Dropbox to give new Android phones 5GB free cloud storage*. Venture Beat. Retrieved from https://venturebeat.com/2011/09/22/htc-dropbox-android-sense-5gb-free/.

requirements do not foreclose competing apps. Manufacturers and carriers are free to preload other apps on mobile devices. However, one might argue that preferential placement for Google apps and the bundling of apps within GMS limit the ability of competitors to challenge Google's apps. This argument is not persuasive for two reasons.

First, Google does not have an incentive to harm competition in the market for mobile apps. Google offers products to consumers at a price of zero because those consumers will generate revenue for Google through the use of these apps. Google consequently has no incentive to foreclose competitors from the app market. Second, even if one assumed, contrary to fact, that Google wanted to harm competition in the app market, the MADA's requirements would not enable Google to do so. The primary criticisms of Google's MADA with respect to the app market are, first, that it offers its apps combined in a suite, and, second, that it requires that certain apps be placed on or near the home screen. Neither practice harms competition

Thus, a manufacturer's decision to preload GMS does not plausibly harm app developers. Consumers can easily download third-party apps and manage their placement on the device's screen as they prefer. At the same time, if a third-party app developer believes that the placement of its app on the device's screen is essential to attracting the end user's attention, the app developer can negotiate with the manufacturer for premium placement of its apps on the device's screen.

V. Tie-In Agreements in Indian Competition Law

Prohibition of anti-Competitive Agreements has been provided under Section 3 Chapter II of the Competition Act, 2002 (hereinafter "The Act") which besides prohibition of certain agreements also deals with abuse of dominant position and regulation of combinations of the Act. The provisions of the Competition Act relating to anti-competitive agreements were notified on 20th May, 2009. When an understanding is resolved as causing or is probably going to cause an appreciable adverse effect on competition, such arrangement being void cannot be authorized by parties before the law. This will lead to serious troubles for a party in attempting to authorize any case under such arrangements before the law. Consequently the outcomes of an arrangement being held to be anti-competitive could be sweeping for the enterprises.

As defined in Explanation (a) to sub-section (4) of Section 3, tie-in arrangement includes any arrangement requiring a purchaser of goods, as a condition of such purchase, to purchase some other goods. The product or service that is needed by the purchaser is known as the tying

product or service and the product or service that is coerced on the purchaser is known as the tied product or service.

5.1. RULE OF REASON TEST

In case of tie-in arrangements, competition with regard to the tied product may be affected as the purchaser may be forced to purchase the tied product at prices other than those at which it is available in a competitive market or he may be forced to purchase a product which he does not require. In any case, on the off chance that the tied product is being sold at a lower cost or at a similar cost at which it is accessible on the market or assuming the tied product is needed by the buyer, such game plan cannot be supposed to be anti-competitive. It is consequently that tie-in arrangement cases are decided based on rule of reason in the wake of contemplating the advantages and impairments of the course of action available in the market. It is one more prerequisite that the merchant of the tied product has dominance over the market, so the offer of the tied product has appreciable adverse effect on the competition in the market.

The Rule of Reason exists together with a per se rule in two detects. Firstly, few courts have declined to discover two products integrated when the alleged arrangement appears to be sensible, either on the grounds that it served real capacities or in light of the fact that dangers to competition appeared to be whimsical. Most often, the courts have wound up ordering a practice as exclusive dealing instead of tying, with the outcome that it is made dependent upon the rule of reason. Secondly, the per se rule do not deplete the worries of antitrust law. A refusal to denounce a specific restriction per se does not really imply that antitrust law is not interested in that limit or affirmatively endorses it, the rule of reason stays relevant is such cases.

Vertical limitations are dependent upon the Rule of Reason test. In this way, the advantages and the damage must be weighted before a tying arrangement can be proclaimed anti-competitive or to have an appreciable adverse effect on competition. Under section 19(3) of the Act, six variables are given to thought of contest by the authority prior to arriving at any conclusions.

5.2. BASIC REQUIREMENTS

In order to show something to be a tie in arrangement it is imperative that the same is done after meeting a minimum threshold. The following are the conditions that must be in existence in order to prove that a tie-in arrangement exists, and that the same is anti-competitive.

5.2.1. Two Separate Products

So as to have a tying game plan in any case, there must be two items that the vender can integrate. It would appear to be anything but difficult to decide if there are two unmistakable items equipped for being integrated; however the genuine examination of the two separate items (or administrations) issue has demonstrated considerably more intricate by and by. For example, a seller of socks sells a pair of socks together. The merchant could offer each sock freely and require the buyer of a left sock to purchase a correct sock with a particular ultimate objective to get the left sock. Do the left and right socks establish two specific, isolate products? Furthermore, subsequently do the activities of the vender who is selling two socks together sum to a tie-in arrangement? This is where the trouble emerges, in discovering the distinction in products itself, and the significance of having two separate particular products is clear. This is why, when goods are provided in large quantities, say a packet of 4 bars of soaps, the same cannot come under the ambit of a tie in arrangement.

5.2.3. Coercion or Conditioning

The second exceptionally vital component to proving that a tie-in arrangement exists is coercion. Until and except if an individual is constrained into purchasing product B, despite the fact that he just needed product A, a tie in arrangement cannot exist. Along these lines, a bike merchant offering a helmet lock or the gas pipeline service provider, offering to sell a gas stove cannot add up to tie-in arrangements. The situation of law on account of discounts offered is not fixed. On the off chances that say the gas pipeline service provider were to club the gas stove in the arrangement, and an aggregately lesser rate, that does not really make it unlawful, yet in a similar should be done through an subjective analysis and economical investigation.

5.2.4. Market Power

The market power if a seller is also very important in terms of determining whether what has taken place in terms of a deal being offered to the public being a tie-in arrangement. A very important aspect of competition law, something that sets the Competition Act, apart from the MRTP Act, is the way it treats anti-competitive practices. Unless and until there is a possibility of there being an appreciable adverse effect on the competition there is no real concern. In order for examining this there are several ways of figuring it out. The intricacies that have to be figured out, include the relevant product market, the relevant geographic market, market share of tying product, etc.

5.2.5. Economic Interest

This particular condition has not been accepted as essential in all jurisdictions, but it is of utmost importance to establish the same. When a company is tying two products together it is imperative that the economic interest of the company is at stake and the same is being promoted. For example, if the gas pipeline service is only being provided with the purchase of the gas stove, if perhaps the gas stove is a slow moving product and the pipeline is a fast moving one, this sort of tie in could boost the sale of the gas stoves, offered by that particular seller. This would be a tie in arrangement. But if we were to see the case of car and bike companies insisting on genuine spare parts that are manufactured by them to be used, the same has been held to be a protection of goodwill, and not a tie-in arrangement. The distinction in the two is that in the case of the gas stove/pipeline the reason the gas stove company is tying the gas stove is merely to boost sales of the gas stove, and only their direct economic interest is being affected. In the case of the bike or car manufacturer, the main reason for putting the genuine spare parts condition is that they wish to ensure the proper functioning of the car itself, and their own goodwill.

The fact that they do generate some income by sale of spare parts is not that relevant for this purpose that the greater economic interest is not to prevent competition in the spare parts market, but to in fact protect their own interest in terms of goodwill of the brand.

5.3. TODAY'S TREND OF TIE-IN AGREEMENTS IN INDIA

A tie in arrangement and its general meaning is understood at this point of time. It can be summarized as meaning a situation where one has to purchase an additional good or service in addition to the one we actually want to purchase. The purchase is a sort of compulsion. And in this aspect the law is very clear. But big corporation hire intelligent lawyers to find loopholes in the laws. What has become a visible trend is that a large number of sellers are offering free products along with one product.

Say for example Colgate provides a small tube of toothpaste free with some of its toothbrushes. This is a situation where even though I wanted to purchase only a toothbrush I got a toothpaste free. Since there was no additional cost for me(Prima Facie) I as a customer would normally just walk out feeling happy, with a good deal. The truth however is that the cost of the toothpaste is probably included in the package itself and it actually free.

Now the case of Colgate would not amount to any sort of violation and in their case, it is mostly a case of product promotion more than anything else. That being said several examples come to mind that are probably tie in arrangements, by their very nature, but they are disguised under the veil of a free product. For example free servicing of a car after purchase, free router and modem with purchase of internet services, free helmet and petrol locks with the purchase of a bike, and even a free gas stove with a gas connection.

The problem with calling them tie in arrangements is manifold. Firstly, in some cases it may truly just be a case of product promotion with no intention to disguise a tie in arrangement, as many companies do particularly when they launch a new product. Secondly, the compulsion is not that real. The coercive or compulsion element is nearly impossible in this case, as the company can always plead that the customers are not obliged to take the free gift. So even though the price remains the same, for a person rejecting a gas stove, and the one accepting it, the truth in such a case is probably that both have in fact paid for the price of "free" gas stove, even if one of the them actually rejected it.

VI. Android Decision in Indian Competition Regime

The Competition Commission of India has faced the allegations made against the Google and its services in various instances. The most important cases that are to be noted here are, (1) Matrimony.com Limited & Consumer Unity & Trust Society (CUTS) v. Google LLC[42], (2) Mr. Umar Javeed & Ors. v. Google LLC[43], and (3) XYZ v. Alphabet Inc.[44]

6.1. MATRIMONY.COM LIMITED & CUTS CASE (2012)

In the Case of Matrimony.com Limited & Consumer Unity & CUTS Case (2012), the informants alleged that Google runs its core business of search and advertising in a discriminatory manner, harming promoters, advertisers and adversely to the customers. It was stated by the informants that Google is carrying out unfair practise by preferring Google's own services and partners, by physically controlling its search results favouring its vertical partners. For example, when a person Google search the name of a song, he gets link connections to videos of that song from Google Video or YouTube, the two of which are properties of Google.

[42] Matrimony.com Limited & Consumer Unity & Trust Society (CUTS) v. Google LLC, Case No. 07 & 30 of 2012 (Competition Commission of India).
[43] Mr. Umar Javeed & Ors. v. Google LLC, Case No. 39 of 2018 (Competition Commission of India).
[44] XYZ v. Alphabet Inc., Case No. 07 of 2020 (Competition Commission of India).

It was further affirmed by the Informant that obtaining of different programming software by Google to finish its vertical integration further sustains its monopolistic position and propensity to eliminate competition. Google's predominance in algorithmic search market prompts its status as an unavoidable exchanging partner in search advertisement market.

The Commission order the Director General to investigate into the matter as provided under Section 26(1) of the Act. DG upon analysis of characteristics, intended use and price, it was found that there is no substitution between Online General Web Search Services and Specialised/ Vertical Search Services or Site-Specific Search Services, which was directly against the concept of Supply-Side-Substitutability. DG likewise verified that Google Search holds the significant share in the market of Online General Web Search Service in India and market of Online Search Advertising in India, withstanding the presence of different contenders like Yahoo!, Microsoft Bing and the new entrants of the market. The DG accordingly, presumed that Google enjoys a place of dominance in these business sectors which empowers it to work freely of competitive forces and to influence its competitors/ consumers just as the relevant markets in support of its.

From the report by DG, the Commission presumed that Google offers its own specific search highlights at conspicuous ranks or positions on the Search Engine Results Page (hereinafter 'SERP'), which devoid the fell will of the users to have additional choices. This shows that competition is hampered in the market by blocking development, and along these lines, affecting customers in a long run. Hence, Google's conduct was found to be anti-competitive under Section 4(2)(a)(i), Section 4(2)(b)(ii), Section 4(2)(c) and Section 4(2)(e) of the Act. The Commission, in the wake of considering the Google's submissions on the issue of turnover, the income created from its India activities in regard of services indicated in the CCI's order dated 20.12.2017, chose to impose a penalty at the pace of 5% of Google's average total revenue from its India operations from its distinctive business sections for the monetary years 2013, 2014 and 2015. The penalty added up to Rs. 135.86 Crores which was coordinated to be paid within 60 days from the date of receipt of order.

6.1.1. Analysis on the Dissent Note

Two Members of the Commission (Mr. Sudhir Mital and Justice G. P. Mittal), has a dissenting opinion and did not discover any evidence for abuse of dominant position by Google even in regard of the Commercial Flight Unit or negotiated search intermediation agreements or in the

Universal Results and subsequently discovered no negation of section 4 of the Act against Google.

As to arrangement of its own specialised search features at conspicuous positions at SERP, the dissent expressed that DG neglected to bring the idea of the two measurements that would empower a target appraisal of user click behaviour such as, (i) the user click–through rates (CTR), determined as clicks divided by impressions for clients in India, of various advertisement positions, of Commercial Units including the Flights Unit and of various conventional search results positions and (ii) the real traffic flow to Google Flights through the Flights Unit on Google SERP, i.e., the traffic flow to other travel verticals by means of Google in India. It was additionally noted from the evidence presented by Google that the organic clicks were more towards GoIbibo, MakeMyTrip and not towards Google Flights.

In this manner, it was presumed that, they couldn't discover any proof as to,

1) Imposition of unfair or biased condition in purchase or sale of goods or services,

2) Limitation of production of products or provision of services or market, technical or scientific development,

3) Indulgence in practice(s) which bring about denial of market access to some player(s) in the relevant market.

6.2. UMAR JAVEED CASE (2018)

In Umar Javeed Case (2018), the Informants had expressed that the customers of the Android smartphones, have recorded this case against Google LLC and its Indian auxiliary - Google India Private Limited. The informants affirmed that in order to acquire the right to install these applications and services on their Android gadgets, producers need to go into specific concurrences with Google. The Informants additionally affirmed that end-clients cannot obtain such services directly from Google.

The informants expressed that OEMs needed to go into Android License Agreement in the event that they do not need the GMS, which is known as the ‘Bare’ device, similarly the OEMs needed to go into two arrangements on the off chance that they need pre-installed GMS, in particular MADA and Anti-Fragmentation Agreement (hereinafter 'AFA'). The informants has additionally classified the interplay of four markets in the present case, such as the (1)

Licensable Smart Mobile OS, (2) App stores for the Android Mobile OS, (3) Online Video Hosting Platform (OVHP), and (4) Online General Web Search Service.

In light of these clarifications, the informants made the allegations;

(1) Google forces OEMs to exclusively pre-install Google's own applications or services to get any part of GMS in devices, thus thwarting the development and market access to opponents under Section 4 read with Section 32 of the Act.

(2) Google ties or packages certain Google applications and services (Such as Google Chrome, YouTube, Google Search and so on) conveyed on Android gadgets in India with other Google applications, services or application programming interfaces of Google, in this way forestalling the development and market access to opponents under Section 4 read with Section 32 of the Act.

(3) Google forestalls OEMs in India from creating and promoting modified and potentially competing versions of Android, called "Android forks", on different devices. Thus, confining access to innovative smart mobile devices based on alternative, potentially superior versions of the Android operating system under Section 4 read with Section 32 of the Act.

The Commission found that there exists a prima facie case, as the Android OS holds over 80% of the Indian Market ‘market for licensable smart mobile device operating systems in India’. The commission additionally expressed that for every application, for example, video hosting platform, browser, map, music and so on; there will be discrete relevant markets. The Commission opinioned that Google Play Store is a 'necessity' application and consumers anticipate that it should be preinstalled on their phones/tablets, attractiveness of Android devices may get confined if these arrangements are not signed, settling on these assumptions making these agreement *de facto* compulsory. Yet, Commission dismissed the supplication on Android Forks as it was against the fragmentation of open source codes.

The Competition Commission of India made a dependence on the Matrimony.Com Limited (2012), and the Director General to investigate into the matter as provided under Section 26(1) of the Act.

6.3. XYZ CASE (2020)

In the XYZ Case (2020), the informants expressed that notwithstanding the core products of Google, on 18.09.2017, Google dispatched a Unified Payment Interface (hereinafter 'UPI') based payment application called ‘Tez’ in India, which was rebranded as Google Pay, where UPI is a initiative of National Payments Corporation of India (NPCI) which takes into account of 'peer to peer' collect or pay requests that can be planned and paid according to necessity and comfort. The informant made a significant submission that market for applications working with payment through UPI is discrete from market for any remaining mode of advanced payment such as cards, wallets, web banking. The preliminary contrast is that, the UPI based advanced payment applications are secured, economical, more helpful, affordable, and so on over other digital payment methods.

The Informant has claimed that Google is mishandling its dominant position in the markets for licensable mobile OS and application stores for Android OS by:

(1) By placing the Google Pay in a prominent position on the Play Store, Android OS and Android based devices by manipulating the search results on the Play Store for Google Pay; by gear it highlights application records to include Google Pay for categories, for example, "Editors' Choice Apps", "Client Choice App of 2018" and "#Top Free app".

(2) Mandating applications to utilize Play Store's payment and Google Play In-App Billing for charging their clients for acquisition of applications on Play Store and In-app bills.

The Commission held that 'market for UPI enabled Digital Payments Apps in India' is a different relevant market in the case of Re: Harshita Chawla and WhatsApp Inc. & Ors.[45] The Commission saw that query output screen captures of the Informant and the Opposite Parties show various outcomes proposing that the pursuit positioning on Play Store might be dynamic in nature. The Commission is of the view that an end on special placement by Google, cannot lay on just one/two screen captures. The Informant has not provided some other data on record, supporting the allegation, to substantiate search manipulation by Google for Google Pay.

[45] *Re: Harshita Chawla and WhatsApp Inc. & Ors.,* Case No. 15 of 2020 (Competition Commission of India).

The Competition Commission of India made a reliance on the case of Matrimony.Com Limited (2012), Umar Javeed Case (2018) and the Director General to investigate into the matter as provided under Section 26(1) of the Act.

6.4. ANALYSIS AS TO THE UMAR JAVEED CASE (2018) AND XYZ CASE (2020)

It is explicit that MADA is an agreement as defined under Section 2(b) of the Act. To determine if the agreement is in violation of The Act, Section 3(2) provides that the key determinant of anti-competitive agreement is their Appreciable Adverse Effect on Competition (hereinafter "AAEC") within India. Here, it is vital to take note of that Section 32 of the Act gives that regardless of whether an agreement has been entered outside India, the CCI would have jurisdiction to enquire into such an arrangement if it has an AAEC in India. The Tying arrangement is a vertical agreement, and to decide if any arrangement is in contravention of section 3(4) read with section 3(1) of the Act, the accompanying five fundamental elements of section 3(4) must be fulfilled:

(a) There should be an agreement among enterprises or persons;

(b) The parties to such arrangement should be at various stages or levels of production chain.

(c) The agreeing parties should be in various different markets;

(d) The agreement should cause or ought to probably cause AAEC in India;

(e) The agreement ought to be of one of the nature as delineated in section 3(4) of the Act, for example, Tie-in arrangement, Exclusive supply agreement, Exclusive distribution agreement, Refusal to deal and Resale price maintenance.

In the present scenario, the MADA is Tie-in arrangement illustrated under Section 3(4) of the Act, which is being entered between the two enterprises of two levels of production, i.e. OEM and Supplier, who are players of their own market, which is different from each other. The predominant thing to be accessed is the AAEC.

While deciding if an understanding has an AAEC under section 3, the CCI additionally gives due respect to all or any of the components specified under section 19(3) of the Act –

a. Creation of barriers to new entrants in the market – There is no barrier created to any of the new entrants to OS market; there are various OS that are entering the market on yearly basis. The new entrants such as WebOS (Palm OS) in 2009, BADA OS (Samsung Electronics) in 2010, MeeGo OS (Nokia and Intel Joint Open Source) in 2010, Unbunto Touch in 2018, LiteOS (Huawei) in 2018, especially iOS in 2010 and so on were still able to enter the market without any barrier by the Android OS, which was launched on 23 September, 2008.

b. Driving existing competitors out of the market – The existing competitors such as, Windows Mobile OS, Maemo OS, Motorola OS, and Blackberry OS is still sustaining in the market from early 2000s. Thus, Android OS did not drive away any of the competitors, in fact it has created a great competition by making all the other OS creators to provide with up-to-date and easy GUI to the consumer.

c. Foreclosure of competition by hindering entry into the market – Android OS has not foreclosed the competition by hindering entry into the OS market in way, which is more evident with the growth and market power of MIUI, iOS, Windows Mobile OS, and BADA OS, etc.

d. Accrual of benefits to consumers – Only after the arrival of Android OS, the OS market insisted the other competitors to provide the consumers with cheap and easy accessible OS. The Android OS too aims only towards to the mutual benefits of the OEM, Consumers and Google, as a whole as explained previously in Chapter-V.

e. Improvements in production or distribution of goods or provision of services – The MADA is the biggest platform that not only makes income to Google, but also makes App developers to provide with eminent and useful apps to the consumers. The distribution strategy followed by Android OS through the MADA is the mostly concentrating the benefit of the end-consumer, in a long run, which is the ultimate concept of the Neo-Classical Economic Theory.

f. Promotion of technical, scientific and economic development by means of production or distribution of goods or provision of services – Making App development with Open Source, Making the OS updated from time-to-time, and there by generating income for itself, and helping the OEMs and other OSs to incentivise themselves.

It is now, without any question, concluded that Android OS and MADA does not have any Appreciable Adverse Effect on Competition in India, and thus MADA is not a Anti-competitive Agreement/Arrangement under Section 3 of the Competition Act, 2002.

VII. Conclusion

Google's strategy has been to offer its mobile OS and mobile apps free of charge so as to attract a large user base. Economic analysis of Google's business model and the characteristics of the mobile device industry confirm that Google has valid business justifications for offering GMS under the conditions specified in the MADA. Until the launch of Android, carriers and platform owners controlled access to the mobile device business. With Android, Google provided an alternative mobile distribution platform, which enabled app developers and online service providers (including Google) to distribute their apps and services outside the walled gardens of proprietary operating systems.

The Supreme Court recognizes that tying arrangements often promote competition and benefit consumers. Under the Court's four-part test, Google's combined offering of the apps in GMS is clearly lawful. Google lacks market power in the functions provided by GMS. Because the apps are provided free of charge, one cannot meaningfully argue that offering Google apps as part of the GMS suite forces consumers to pay for services they do not want. Google's free suite of apps benefits both competition and consumers. The D.C. Circuit's rule-of-reason analysis of software integration specifically recognizes that antitrust law should not discourage innovations, including the integration of multiple functionalities into one product.

Although Indian competition rules differ from those applied in the EU and United States, the MADA's welfare-increasing effects on consumers are the same all around the world. The MADA's requirements help Google to promote Android's competitiveness. They improve the consumer experience by reducing the risk of fragmentation of the Android OS. The MADA's requirements enable Android-operated devices that include GMS to meet consumer expectations, by offering an out-of-the-box experience comparable to that offered by devices that rely on closed or proprietary operating systems. And the MADA's requirements enable Google to avoid free riding and cherry picking, preventing third parties from appropriating the economic value of the users that Google attracts by distributing free services. The MADA thus ensures that Google maintains sufficient incentives to invest in innovation and provide its services free of charge.

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