

# **PROPELLING KOREA'S GLOBAL SUCCESS: THROUGH INNOVATION AND CULTURAL EXPORTS**



**GOOGLE'S ROLE IN SUPPORTING KOREAN  
BUSINESSES AND CREATORS THRIVE GLOBALLY**

**AUGUST 2022**

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# BACKGROUND

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While the COVID-19 pandemic stirred supply chain disruptions and inflationary pressures that put global economies at risk, it also spurred a dramatic surge in digital content consumption by billions of users around the world. Given the remarkable global popularity of Korean cultural content (K-content) pre-pandemic, this change has lent significant momentum and growth for K-content exports.

Revenue from Korean content exports - which includes Korean music (K-pop), dramas (K-dramas), films, smartphone applications, gaming, and webtoons, amongst others - nearly doubled between 2016 and 2020, from KRW 6.9 trillion (USD 6.0 billion) to KRW 13.6 trillion (USD 11.9 billion). This is an especially remarkable increase when compared with the relatively flat 3.4 percent (compound annual growth rate of 0.85 percent) growth in Korea's total exports over the same period, reiterating the role of K-content exports as a key growth engine for the Korean economy.<sup>1</sup>

To shed further light on this trend, this report highlights the growing soft power of K-content exports and quantifies the various channels through which Google enables Korean businesses to thrive internationally through its platforms and initiatives.

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# 1. GOOGLE AS A PLATFORM FOR KOREAN BUSINESSES - AND ITS ECONOMIC CONTRIBUTION

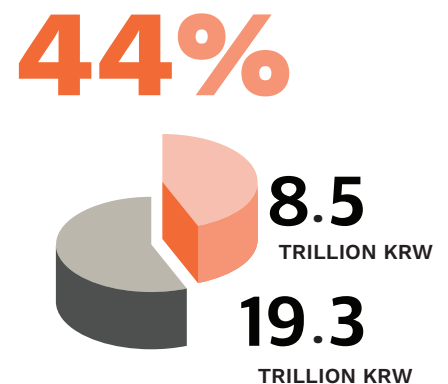


Much of K-content is promoted and shared with the world through digital mediums. To this effect, Google offers a range of “digital enablers” that facilitate and promote the export of Korean products, tools, services, and content. These include digital content distribution platforms such as Google Play and the Android Operating System (OS), and digital advertising tools such as Google Ads and AdSense. These Google products have benefited Korean businesses by accelerating outreach to global customers and facilitating market expansion.

## 1.1 GOOGLE’S ECONOMIC AND EXPORT BENEFITS

In 2021, Google’s products generated **KRW 19.3 trillion (USD 16.9 billion) worth of economic benefits for Korean businesses.**<sup>2</sup> To put this into perspective, these benefits are equivalent to almost 20 percent of the Gross Domestic Product (GDP) in Korea’s information and communication (ICT) sector. These economic benefits comprise the incremental revenue earned by businesses as they gain access to a larger audience base through Google’s products and services.<sup>3</sup> This study also finds that a large share of Google’s economic benefits for businesses is export-related, with an estimated **KRW 8.5 trillion (USD 7.4 billion) of 2021’s business benefits - 44 percent of the year’s total business benefits - generated from overseas markets.**<sup>4</sup>

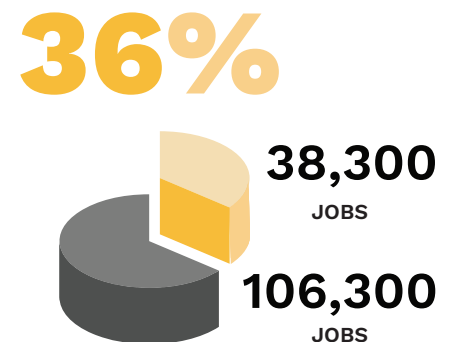
### EXPORT-RELATED BUSINESS BENEFITS



## 1.2 JOBS SUPPORTED BY GOOGLE IN KOREA

Google has stimulated and supported job creation in the digital economy through its products and operating system. Through Google Ads and AdSense, Google has supported the creation of **106,300 jobs** across the overall Korean economy, of which **38,300 jobs supported are export-related** (i.e., jobs that are supported by Korean businesses, to meet overseas demand).<sup>5</sup>

### OVERSEAS DEMAND JOBS SUPPORTED



## 2. GOOGLE FACILITATING THE GLOBAL REACH OF "K-CONTENT"

Korean businesses both large and small are utilizing Google's tools to promote their products and widen their audiences.<sup>6</sup> For instance, Google Search's **4.3 billion global users** present a sizable opportunity for Korean companies looking to reach audiences beyond their own shores.<sup>7</sup> **Google has helped over 973,000 Korean businesses expand their businesses globally in 2021, of which 97 percent (947,000) were small and medium-sized businesses, or SMBs.**<sup>8</sup> Through Google's ecosystem of tools and initiatives, **these companies successfully reached over 1.86 billion potential customers - measured in clicks - around the globe in 2021.**<sup>9</sup>

Besides technological support from Google's ecosystem of operating systems and devices such as Android and Google Play, Google provides a variety of solutions and tools that support businesses in penetrating and expanding into markets, including Google Merchant Center (GMC), Market Finder, Business Profile (formerly Google My Business), Google Ads, AdSense, AdMob, Google Workspace (formerly G Suite), and Google Cloud Platform (GCP). Businesses can use Google Merchant Center (GMC) to upload and maintain key product information such as pricing and pictures, so that they can be displayed in Google Shopping results. By leveraging such tools to grow their global digital presence, Korean businesses can strengthen and expand their overseas customer base.

Leveraging the Korean wave (Hallyu), Google has facilitated Korean exports across various segments. It has also helped stir interest in other Korean products and services. The following sections show how companies in Korea have benefited from Google's partnership, tools, and initiatives: games, cultural media (films, music, and webtoons), and other areas (e.g., consumer goods, beauty, and tourism).

### 2.1 GAMING

Among K-content exports, the gaming segment has been the most significant in terms of revenue, growing 23.1 percent between 2019 to 2020 and representing the largest share of exports.<sup>10</sup> In 2020, Korean-made mobile games comprised 68.8 percent - or KRW 9.4 trillion (USD 8.2 billion) - of the nation's total content exports of KRW 13.6 trillion (USD 11.9 billion). Google's extensive partnership and support bolsters Korean app publishers' efforts to break through the global market.

#### BOX 1. DEVSISTERS'S GLOBAL SUCCESS WITH LEADING TITLE, 'COOKIE RUN'<sup>11</sup>

*"We utilized Google Play's developer tools and they have contributed greatly to our success. Our game Cookie Run: Ovenbreak had ranked 1st in the Arcade Games category of Google Play, and Cookie Run: Kingdom won Google Play's Best Games of 2021."*<sup>12</sup> - Jihoon Lee, CEO

Devsisters has grown from a homegrown start-up to one of Korea's leading global mobile game publishers. Franchise games created under their main intellectual property, Cookie Run, have managed to garner over 150 million downloads globally since its inception. To establish a sustainable revenue strategy, Devsisters partnered with Google AdMob to test the impact of rewarded ads and placements.<sup>13</sup> Play Asset Delivery (PAD), a functionality unique to Google Play, also helped reduce annual operational costs and shortened loading times, which in turn improved user retention.<sup>14</sup>



## 2.2 CULTURAL MEDIA

The universal accessibility of K-content has propelled it to international recognition, with breakthroughs such as Bong Joon-ho's *Parasite*, the first non-English speaking film to win in the categories of 'Best Picture', 'Best Screenplay', 'Best Director', and 'Best International Feature Film' at the Academy Awards, and K-pop phenomenon, *BTS*, continually breaking Billboard and Guinness World Records and paving their way into the mainstream as one of the most successful global groups in music history.<sup>15</sup> On another front, Korean webtoons have also been gaining ground and building up their viewership internationally. The export of webtoons grew by more than 64 percent in 2020, surpassing KRW 1 trillion (USD 840 million) in revenues, according to the Korea Creative Content Agency (KOCCA), a governmental agency that oversees and coordinates the development of the Korean content industry.<sup>16</sup>

### BOX 2. NAVER WEBTOON AND KAKAOPAGE CAPTURING GLOBAL AUDIENCE WITH GOOGLE PLAY

Supported by Google Play through its platforms and initiatives, Korea lays claim to six of the world's top ten paid webtoon platforms, led by subsidiaries of key Korean giants Naver Corp and Kakao Corp.<sup>17</sup>

Launched in 2014, Naver Webtoon is available in ten languages across 100 countries. With over 180 million monthly active users (MAU) as of March 2022, it has been building a strong global presence including Europe.<sup>18</sup> Google Play partnered with Naver Webtoon, in conjunction with the Korea Creative Content Agency (KOCCA), to help small and medium-sized Korean game publishers leverage Naver Webtoon's own intellectual property (IP) to develop IP-based games for global markets, enabling more Korean firms to gain revenues in exporting webtoon content.<sup>19</sup>



Launched in 2013, KakaoPage is a major webtoon publisher, providing webtoon, web novel, film, and television series services on its two premium web literature platforms, KakaoPage and Daum Webtoon.<sup>20</sup> In 2021, Kakao Picomma, Kakao's Japanese subsidiary, was Japan's top grossing app by revenue for the second year running.<sup>21</sup> In 2021, KakaoPage was merged with Kakao M to form Kakao Entertainment, completing a global entertainment value chain that includes storyline IP, artist management, music, video content, production, and distribution platforms.<sup>22</sup> Kakao is placing a strong focus on global exports, including to Europe. With Android the preferred mobile operating systems among European users, Google Play is central to Kakao's expansion strategy.<sup>23</sup>



## 2.3 OTHER SEGMENTS

Demand for Korean consumer goods, cosmetics, local tourism, food, and even the Korean language have skyrocketed in recent years, fueled by the positive image of Korean culture portrayed in television shows, movies, and music. A 2021 study on the economic ripple effect of Hallyu estimated that Korean consumer good exports rose by USD 2,244 for every USD 100 of cultural content exported between 2001 and 2017, demonstrating the strong impact of Hallyu on a variety of Korean exports.<sup>24</sup> Much of this effect is mediated through enablers like Google, who support the development of deeper functionality of Korean products and services through its extensive ecosystems (such as Android and Wear OS) and empower Korean brands to gain traction abroad through market access tools.

### BOX 3. SAMSUNG AND GOOGLE'S INNOVATIVE COLLABORATION

Samsung Electronics, a Korean conglomerate, is also the world's leading mobile phone manufacturer.<sup>25</sup> Samsung's collaboration with Google to adopt Wear OS for the Galaxy Watch 4 enabled Samsung to leverage Google's extensive third-party app support and help achieve global success, as demonstrated by sales growth beyond 200 percent in Q3 2021.<sup>26</sup> Google has also collaborated with Samsung extensively to promote its foldable smartphones (the Galaxy Fold line), such as running ads, creating optimized versions of its apps, and optimizing the Android operating system for Samsung's foldable phones.<sup>27</sup>

**SAMSUNG**

## 3. KOREAN APP PUBLISHERS

# BREAKING INTO GLOBAL MARKETS

### 3.1 SUPPORTING KOREAN APP PUBLISHERS IN GENERATING GLOBAL MOMENTUM

App and game publishers in Korea have been effectively leveraging Google Play to access overseas markets and scale the consumption of their content. In 2021, Korean apps and games generated an estimated 2.43 billion downloads from overseas users, illustrating the size of its market.<sup>28</sup> In addition, approximately 8,100 Korean app publishers, of which 75 percent were SMBs, had an overseas customer base on Google Play.<sup>29</sup> In all, Korean publishers with apps and games listed on Google Play were estimated to have earned over KRW 3.5 trillion (USD 3.1 billion) in revenue from customers outside Korea in 2021.<sup>30</sup>



Google's ChangGoo Program is a joint initiative between Google Play, the Ministry of SMEs and Startups, and the Korea Institute of Startup and Entrepreneurship Development (KISED). Established in 2019, the program supports domestic app and game publishers with financial support, technical advice on app improvement, and global marketing consultation and monetization advisory services when expanding into overseas markets.

#### BOX 4. GLOBAL EXPANSION OF DIVERSE KOREAN CULTURE AND CONTENT

Blip is a Korean mobile app that makes it easy for K-pop fans to follow their favorite idols and general buzz.<sup>31</sup> Blip uses deep learning to curate the most vital information for fans, analyzes the consumption patterns of K-pop fandoms, and aims to be a key accelerator of the K-content industry. Within two years of its launch, Blip has successfully achieved one million app downloads, with 60 percent of its users from overseas.



*"Blip was ranked first in the 2021 Google ChangGoo Program, Google Play's app and game start-up growth support program, and its recognition and reliability have increased further. The most noticeable change was that Blip's core fans grew a lot."*<sup>32</sup> - Kim Hong-ki, CEO

Zamface is a K-beauty mobile app that allows users to exchange makeup tips, access curated beauty videos, and receive suggestions on which video streamers to follow, via Zamface's face-matching function using artificial intelligence (AI) and facial recognition. Benefiting from working at the Google For Startups campus and undergoing various Google training programs such as Google For Startups Growth Academy at an early stage, Zamface was able to expand their apps into global markets like Vietnam.<sup>33</sup> Through such growth, Zamface has gained over 1.8 million cumulative subscribers since its launch in January 2019.<sup>34</sup>



*"I was involved in Google's Growth Academy. For different stages of the business including the establishment, the growth and the overseas expansion. Google's experts helped in the areas that I needed, especially via programs on the Objectives and Key Results (OKR), psychological coaching, and the sharing of best practices among the participating companies."* - Yoon Jung-ha, CEO

TEUIDA is a Korean language app that uses interactive first-person simulated conversations to help users learn everyday Korean expressions.<sup>35</sup> Through the ChangGoo Program, the Google Ads team in Korea helped TEUIDA review advertisement materials and progress in target markets, increasing advertising efficiency and helping reduce user acquisition cost by 47 percent. TEUIDA quickly won over overseas users since its July 2020 launch, with over 1.5 million learners on its app today and an aim to serve the world's top ten languages by 2025.<sup>36</sup>



*"Even after the ChangGoo program ended, we can conveniently contact the Google Ads team whenever we have any issues, and they continue to provide help and solutions for us to optimize our advertising."* - Ji Woong Jang, CEO

## 3.2 PERCEPTIONS OF GOOGLE PLAY

A survey was conducted with 401 Korean app publishers from April to May 2022 to better understand how Google's tools and platforms (Google Play and Android) have facilitated Korean app publishers' efforts to expand their customer reach beyond Korea.<sup>37</sup>

Based on the results from this survey, **app publishers expressed a strong desire to reach customers in overseas markets**, with 72 percent highlighting it as an important priority and **34 percent generating over half of their downloads and revenue from global markets**. **Korean app publishers also perceive Google Play to be the most effective and essential platform for successful overseas expansion**, with 86 percent citing its beneficial impact in this regard. Most crucially, Google Play was identified by 80 percent of those surveyed as the most essential platform to gain a global presence, compared to 18 percent for the next highest app distribution platform.

■ **86%** believe Google Play and Android helps its company's app **reach global users**

■ **72%** believe it is as **important priority to gain global users outside of Korea**

■ **80%** select Google Play as the **most essential platform to gain global presence**

■ **34%** generated **more than half of its downloads and revenues from global markets**

APP PUBLISHER SURVEY RESULT

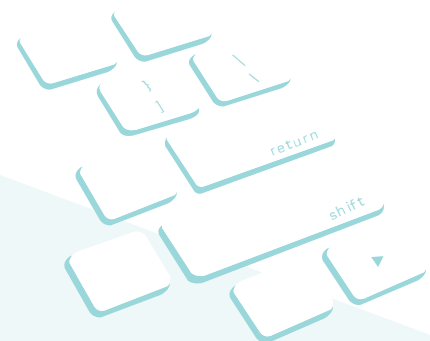
## 4. CONCLUSION

As a key policy priority for the Korean government, the K-content export opportunity will continue to be a force of influence in the coming years, benefiting Korean businesses of all sizes.

In Korea, various government ministries have been supporting local SMBs in marketing and exporting their products. An example is the "K-brand Hallyu Marketing Support Project" developed by the Ministry of Culture, Sports and Tourism, Ministry of Agriculture, Food and Rural Affairs, the Ministry of Oceans and Fisheries, and the Ministry of SMEs and Startups, which is an integrated programme helping SMBs collaborate with companies or agencies overseas.<sup>38</sup>

Google is committed to supporting local businesses and creators to thrive globally via its global ecosystem, platforms, training/skillings, initiatives, and investments.<sup>39</sup>

In view of Google's support, Korean businesses are well-placed to capitalize on this opportunity to leverage Google's globally established offerings and accelerate the expansion and reach of Korean innovation and content.





### A1. ESTIMATING GOOGLE'S TOTAL ECONOMIC BENEFITS FOR BUSINESSES IN 2021

To estimate the business benefits, the economic value generated by businesses that used Google's products was calculated, in the form of increased revenue (through increased customer outreach and access to new markets). The Google products included in this analysis of business benefits include Google Search & Ads, AdSense, Google Play, and Android. These estimates are not inclusive of YouTube's economic impact in Korea, and are hence a conservative estimate of Google's overall impact. These benefits do not include the flow-on economic effects generated, such as further purchases from their suppliers or the economic activity generated by the employees of these businesses who spend their wages in the broader economy. These benefits also do not account for activity that may have been displaced by Google, nor attempt to estimate the incremental impact of Google on the Korean economy beyond what would be the case if Google did not exist but other companies like it did. Business benefits from Google Ads and AdSense were calculated by multiplying estimated business expenditure on these tools by a profit multiplier.<sup>40</sup> We assume that businesses receive USD8 in profit through Google Search and Ads for every USD1 a business spends on Google Ads, and assume a separate multiplier for display advertising based on academic literature.<sup>41</sup> To estimate the revenue earned by app publishers in Korea through Google Play globally, we calculated the revenue from global consumer spending attributable to Korean app publishers (net of service fees paid to Google), scaling up to include advertising and other revenue sources.<sup>42</sup> The number of jobs supported by Google's advertising tools was based on the breakdown of business benefits by sector and the revenue per worker in each sector.<sup>43</sup> Jobs supported by the Android app economy is based on the methodology developed by Mandel (2012), which distinguishes between direct, indirect and spillover jobs within the app economy.<sup>44</sup> The number of jobs in Korea's app economy is estimated based on the country's app intensity multiplied by the total number of employed workers in the country.<sup>45</sup>

### A2. ESTIMATING GOOGLE'S EXPORT BENEFITS FOR BUSINESSES IN 2021

To estimate the export-related business benefits for Google Search & Ads, AdSense, Google Play and Android respectively, we calculated an "export ratio" for each of these tools and platforms and applied them to the business benefits gained by Korean businesses. These "export ratios" express the proportion of business benefits that can be attributed to demand from overseas users. These were derived from the app publisher survey, stratified sampling from the SEMRush database for advertising benefits, and "power-law" analysis for the export revenue for Korean publishers on Google Play.<sup>46</sup>

The number of companies experiencing export benefits from Google's advertising tools were determined by multiplying the estimated number of Korean companies using paid digital advertising by the share of overseas traffic, removing double-counting for companies using multiple Google platforms.<sup>47</sup> The number of app publishers experiencing export benefits from Google Play and Android was determined by multiplying the number of Korean app publishers by share of overseas app downloads, removing double-counting for companies deploying on multiple Android stores.

### A3. METHODOLOGICAL NOTE ON ALPHABETA'S SURVEY OF APP PUBLISHERS IN KOREA

AlphaBeta carried out a survey with 401 app and game publishers in Korea from April to May 2022 to better understand how Google's online advertising tools (Google Ads and AdSense) and content distribution platforms (Google Play and Android) have facilitated Korean app publishers' efforts to expand their customer outreach outside of Korea. The sample size of respondents is statistically significant based on the total number of app and game publishers in Korea, at a 90 percent confidence level. AlphaBeta worked with a professional survey administrator to ensure that there were no biases in the survey questions and the targeted respondent profile was captured, including obtaining a representative mix across business size and type of apps published.<sup>48</sup> Filter questions were used to ensure that respondents had a good understanding of their company's app publishing operations, and only unique publishers (no multiple responses from the same publisher) were accepted.

### IMPORTANT INFORMATION ON CONTENTS

This report has been prepared by AlphaBeta (part of Access Partnership) for Google. All information in this report is derived or estimated by AlphaBeta, using both non-Google proprietary and publicly available information. Google has not supplied any additional data for the report, nor does it endorse any estimates made in the report. These estimates are not inclusive of YouTube's economic impact in Korea, and are hence a conservative estimate of Google's overall impact. Where information has been obtained from third party sources, this is clearly referenced in the footnotes. The amounts in this report are estimated in both Korean won (KRW) and United States dollars (USD). The conversion is based on the average exchange rate in 2021 (1 January to 31 December), sourced from the International Monetary Fund (IMF) database of historical annual exchange rates, at 1 USD = 1,142.896 KRW.

1. According to the Framework Act on the Promotion of Cultural Industries, the K-content industry covers 11 sub-categories, which comprise publications, comics, music, game, movie, animation, broadcasting, advertising, character design, knowledge information and content solution. The timeframe of 2016-2020 was used for comparison, as total cultural content export revenue for 2021 was not available at time of writing. Sources include The Korea Herald (2022), "K-content industry sets another export record in 2020 at \$11.92 billion". Available at: [http://www.koreaherald.com/view.php?ud=20220124000809#:~:text=K%2Dcontent%20industry%20sets%20another%20export%20record%20in%202020%20at%20%2411.92%20billion&text=South%20Korean%20contents%20enjoyed%20robust,Tourism%20data%20showed%20on%20Monday;Korea%20Economic%20Daily%20\(2020\),%20%22Korean%20dramas%20push%20cultural%20content%20exports%20beyond%20\\$10%20billion.%22](http://www.koreaherald.com/view.php?ud=20220124000809#:~:text=K%2Dcontent%20industry%20sets%20another%20export%20record%20in%202020%20at%20%2411.92%20billion&text=South%20Korean%20contents%20enjoyed%20robust,Tourism%20data%20showed%20on%20Monday;Korea%20Economic%20Daily%20(2020),%20%22Korean%20dramas%20push%20cultural%20content%20exports%20beyond%20$10%20billion.%22); Statista (2022), "South Korea: export of goods from 2010 to 2020". Available at: <https://www.statista.com/statistics/263655/export-of-goods-from-south-korea/>; and The Korea Economic Daily (2021), "Korea's IP trade balance in the black for the first time". Available at: [https://www.kedglobal.com/monthly\\_trade\\_infographics/newsView/ked20211080010](https://www.kedglobal.com/monthly_trade_infographics/newsView/ked20211080010).
2. Google's products refer to Google Ads, AdSense, Google Play, and Android. For Google Ads, businesses can conduct highly targeted advertising on Google Ads and offer advertisements in search results through Google Search. For Google AdSense, businesses benefit from displaying advertisements on Google's network of publisher sites. For Google Play, app publishers benefit from the large global user base of Google Play, which has over 111.3 billion app downloads globally in 2021. For Android, app publishers can leverage on Android's source code during app development and incur lower development and maintenance costs by not having to port apps across multiple systems. These figures are updated estimates from an earlier 2021 report by AlphaBeta, as full-year data for 2021 was available at the time of the analysis for this report. See here for the earlier 2021 report: AlphaBeta (2021), Unlocking South Korea's Digital Potential: The Economic Opportunities of Digital Transformation and Google's Contribution. Available at: [https://alphabeta.com/wp-content/uploads/2021/08/unlocking-south-koreas-digital-potential\\_english.pdf](https://alphabeta.com/wp-content/uploads/2021/08/unlocking-south-koreas-digital-potential_english.pdf). GDP estimates are retrieved from World Bank data, available at: <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=KR>
3. These economic benefits comprise the incremental revenue earned by Korean businesses as a result of their spending on Google Ads, the revenue to content creators when they sell advertising space on their sites through AdSense, and the revenue earned by app and game publishers in Korea from paid downloads, in-app or in-game purchases, and mobile advertisements through Google Play (net of service fees).
4. These export benefits comprise the incremental revenue earned by Korean businesses on their products and services when they market to customers outside of Korea through Google Ads and AdSense, as well as the revenue earned by app and game publishers in Korea from markets outside of Korea, from paid downloads, in-app or in-game purchases, and mobile advertisements through Google Play (net of service fees).
5. Our estimate of 106,300 supported jobs account for jobs linked to Google tools that expand their customer outreach (Google Ads and AdSense), inclusive of both direct jobs created in the use and operation of these tools, as well as indirect jobs supported by increased demand for products and services enabled by these tools.
6. For this study, SMBs are defined according to the government definition for the ICT industry: KRW80 billion or less in annual sales. Available at: <https://www.law.go.kr/%EB%B2%95%EB%A0%B9/%EC%A4%91%EC%86%8C%EA%B8%B0%EC%97%85%EA%B8%B0%EB%B3%B8%EB%B2%95%EC%8B%9C%ED%96%89%EB%A0%B9>
7. SEMRush (2021), "50 Google Search Statistics & Facts". Available at: <https://www.semrush.com/blog/google-search-statistics/>
8. See Appendix A2 for methodology.
9. Due to the large margin of error and low degree of precision in academic literature pertaining to the ratio of clicks to unique users at a global level and on an annual basis, we define customers by the number of clicks (Google Search Ads and AdSense) in a year. For the avoidance of doubt, these potential customers do not represent unique individuals.
10. Overseas Economic Research Institute at The Export-Import Bank of Korea (2021), Analysis of the OTT Industry and Export of K-content. Cited in multiple sources, including: The Korea Herald (2022), "K-content industry sets another export record in 2020 at \$11.92 billion". Available at: [http://www.koreaherald.com/view.php?ud=20220124000809#:~:text=K%2Dcontent%20industry%20sets%20another%20export%20record%20in%202020%20at%20%2411.92%20billion&text=South%20Korean%20contents%20enjoyed%20robust,Tourism%20data%20showed%20on%20Monday;and%20The%20Korea%20Economic%20Daily%20\(2021\),%20%22Korea's%20IP%20trade%20balance%20in%20the%20black%20for%20the%20first%20time.%22](http://www.koreaherald.com/view.php?ud=20220124000809#:~:text=K%2Dcontent%20industry%20sets%20another%20export%20record%20in%202020%20at%20%2411.92%20billion&text=South%20Korean%20contents%20enjoyed%20robust,Tourism%20data%20showed%20on%20Monday;and%20The%20Korea%20Economic%20Daily%20(2021),%20%22Korea's%20IP%20trade%20balance%20in%20the%20black%20for%20the%20first%20time.%22); and The Korea Economic Daily (2021), "Korea's IP trade balance in the black for the first time". Available at: [https://www.kedglobal.com/monthly\\_trade\\_infographics/newsView/ked20211080010](https://www.kedglobal.com/monthly_trade_infographics/newsView/ked20211080010)
11. Devsisters (2022), "Home". Available at: <https://www.devsisters.com/en/>
12. Google Play (n.d.), "Google Play 이런 일을 합니다 ." Available at: [https://play.google.com/intl/ko\\_kr/about/howplayworks/](https://play.google.com/intl/ko_kr/about/howplayworks/)
13. AdMob is Google's advertising platform for app publishers to monetise their mobile applications, by earning revenue from advertisers through in-app advertising. Google AdMob (n.d.), "What is AdMob". Available at: <https://admob.google.com/home/resources/what-is-admob/>
14. Sources include Unity Documentation (2021), "Play Asset Delivery". Available at: <https://docs.unity3d.com/Manual/play-asset-delivery.html>; and Android Developers (n.d.), "Cookie Run: OvenBreak saves over \$200K CDN cost with Play Asset Delivery." Available at: <https://developer.android.com/stories/games/devsisters>
15. Sources include Academy of Motion Picture Arts and Sciences (2020), Available at: <https://www.oscars.org/oscars/ceremonies/2020>; Billboard (2021), "Every Time BTS Has Set a Guinness World Record". Available at: <https://www.billboard.com/music/pop/every-bts-guinness-world-record-1235010255/>; and Grammy (2022), "Smooth Like 'Butter': How BTS' GRAMMY-Nominated Mega Hit Came To Be". Available at: <https://www.grammy.com/news/behind-the-scenes-bts-butter-creation-rob-grimaldi-grammy-nominated-hit-song>
16. The Korea Times (2021), "Korean webtoon market jumps to top 1 trillion won in sales in 2020". Available at: [https://www.koreatimes.co.kr/www/art/2022/07/398\\_321104.html](https://www.koreatimes.co.kr/www/art/2022/07/398_321104.html)
17. The Korea Economic Daily (2022), "South Korean comics platforms dominate global top 10". Available at: <https://www.kedglobal.com/webtoons/newsView/ked202204120008>
18. Sources include The Korea Economic Daily (2022), "Naver Webtoon's global users quadruple in 5 years on localization". Available at: <https://www.kedglobal.com/webtoons/newsView/ked202205020011>; and The Korea Herald (2022), "Naver Webtoon to set up branch in France". Available at: <http://m.koreaherald.com/view.php?ud=20220321000600>
19. Korea JoongAng Daily (2022), "Naver Webtoon signs MOU with Google Play, Kocca to make games". Available at: <https://koreajoongangdaily.joins.com/2022/02/23/culture/gameswebtoons/naver-webtoon-webtoon-game/20220223155200433.html>
20. PRNewswire (2020), "KakaoPage announces at APOS 2020 that Korea's No. 1 story entertainment company intends to establish a global network across the U.S., China, and Southeast Asia by 2022". Available at: <https://www.prnewswire.com/news-releases/kakaopage-announces-at-a-pos-2020-that-koreas-no-1-story-entertainment-company-intends-to-establish-a-global-network-across-the-us-china-and-southeast-asia-by-2022-301123849.html>
21. Nikkei Asia (2022), "Kakao's Piccoma app goes viral in Japan with K-style webtoons". Available at: <https://asia.nikkei.com/Business/Media-Entertainment/Kakao-s-Piccoma-app-goes-viral-in-Japan-with-K-style-webtoons>
22. Korea JoongAng Daily (2021), "Kakao M and Kakao Page merged into Kakao Entertainment". Available at: <https://koreajoongangdaily.joins.com/2021/03/04/business/industry/kakao/20210304191100343.html>
23. Statista (2021), "Market share of leading mobile operating systems in Europe from 2010 to 2021". Available at: <https://www.statista.com/statistics/639928/market-share-mobile-operating-systems-eu/>
24. For this study, the authors had the following definitions: cultural content included film, broadcasting, music and publishing, whereas consumer goods included foodstuffs, cosmetics, clothing, IT products, automobiles. Kim et. al (2021), The Impact of Korean Wave on the Distribution of Consumer Goods Exports. Available at: <https://www.koreascience.or.kr/article/JAKO202110655042529.pdf>.

25. SamMobile (2022), "Samsung tops its highest global smartphone market share in 5 years". Available at: <https://www.sammobile.com/news/samsung-tops-highest-global-smartphone-market-share-in-5-years/>
26. Counterpoint Research (2022), "Smartwatch Market Grows 24% YoY in 2021, Records Highest Ever Quarterly Shipments in Q4". Available at: <https://www.counterpointresearch.com/global-smartwatch-market-2021/>
27. SamMobile (2021), "Google launches dedicated website for Samsung's new foldable phones". Available at: <https://www.sammobile.com/news/google-dedicated-website-samsung-new-foldable-phones/>
28. AlphaBeta analysis was conducted using proprietary data from the data.ai database (<https://www.data.ai/en/>). See Appendix A1 for the "power-law" method used for Google Play downloads and revenue for Korean app publishers.
29. The following definition for business size for app and game publishers was used: "Indie" for publishers with 30 or less employees, "Small and medium" for publishers with 30 to 100 employees, and "Large" for publishers with over 100 employees. SMBs are all app and game publishers not considered "Large", i.e, 100 or below employees.
30. AlphaBeta analysis was conducted using proprietary data from the data.ai database (<https://www.data.ai/en/>). See Appendix A1 for the "power-law" method used for Google Play downloads and revenue for Korean app publishers.
31. Korea JoongAng Daily (2019), "Understanding a new generation of K-pop fans: As acts become accessible, the industry is listening to fans now more than ever". Available at: <https://koreajoongangdaily.joins.com/2019/09/25/features/Understanding-a-new-generation-of-Kpop-fans-As-acts-become-accessible-the-industry-is-listening-to-fans-now-more-than-ever/3068349.html>
32. Richhippos (2021), "K-pop fandom app 'Blip', Google's 2021 window program 3rd #1 pick". Available at: <https://richhippos.com/k-pop/k-pop-fandom-app-blip-googles-2021-window-program-3rd-1-pick/>
33. Google for Startups Campus (n.d.), "Growth Academy". Available at: <https://www.campus.co/seoul/growth-academy/>
34. The Korea Herald (2022), "Beauty video platform Zamface raises W4.5b". Available at: <http://m.koreaherald.com/view.php?ud=20220218000517>
35. KoreaTechDesk (2022), "'Teuida' redefines the paradigm of language learning with its interactive first-person simulated conversations". Available: <https://www.koreatechdesk.com/teuida-can-make-you-talk-in-korean-easily-through-its-first-person-virtual-conversations/>
36. Sources include CB Insights (2021), "TEUIDA". Available at: <https://www.cbinsights.com/company/teuida/>; and TEUIDA (n.d.), "Home". Available at: <https://www.teuida.net/>
37. See Appendix A3 for details.
38. The KoreaTimes (2022), "Government to help market small firms through hallyu". Available at: [https://www.koreatimes.co.kr/www/art/2022/07/398\\_333473.html](https://www.koreatimes.co.kr/www/art/2022/07/398_333473.html)
39. Google (2022), "구글 스타트업 캠퍼스가 2년 만에 '캠퍼스 리이그나이트(Campus Reignite)' 행사와 함께 재개관했습니다!". Available at: <https://korea.googleblog.com/2022/06/google-startup-campus-reignite.html>
40. Sources include Shaw, K (2022), "Cheil Worldwide releases annual ad spend and forecast report revealing South Korea's advertising market saw 20.4% growth in 2021". Campaign Brief Asia. Available at: <https://campaignbriefasia.com/2022/02/11/cheil-worldwide-releases-annual-ad-spend-and-forecast-report-revealing-south-koreas-advertising-market-saw-20-4-growth-in-2021/>; Statista (2021), "Search Advertising – South Korea." Available at: <https://www.statista.com/outlook/dmo/digital-advertising/search-advertising/south-korea>; Alphabet (2022), Form 10-K. Available at: [https://abc.xyz/investor/static/pdf/20220202\\_alphabet\\_10K.pdf?cache=fc81690](https://abc.xyz/investor/static/pdf/20220202_alphabet_10K.pdf?cache=fc81690); Alphabet (2019), Form 10-K for fiscal year ended December 31, 2019 - Submission to US SEC. Available at: <https://www.sec.gov/Archives/edgar/data/1652044/000165204420000008/goog10-k2019.htm>; Alphabet (2021), Form 10-K for fiscal year ended December 31, 2021 - Submission to US SEC. Available at: <https://www.annreports.com/alphabet/alphabet-ar-2021.pdf>; and DoubleClick (2012), What's trending in display for publishers?. Available at: <https://www.slideshare.net/RFONNIER/display-business-trends-publisher-edition-google-2012>
41. Sources include Google (n.d.), "Google Economic Impact: Methodology". Available at: [https://economicimpact.google.com/methodology/#:~:text=The%20economic%20impact%20of%20Google%20Network%20Properties%2C%20YouTube%2C%20and%20Google,content%20and%20from%20app%20monetization](https://economicimpact.google.com/methodology/#:~:text=The%20economic%20impact%20of%20Google%20Network%20Properties%2C%20YouTube%2C%20and%20Google,content%20and%20from%20app%20monetization;); and Gupta, S., Pauwels, K., & Kireyev, P. (2015), Do display ads influence search? Attribution and dynamics in online advertising. International Journal of Research in Marketing. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0167811615001159#:~:text=The%20model%20suggests%20that%20both,thereby%20increasing%20search%20advertising%20costs>.
42. Sources include Sensor Tower (2021), "Global Consumer Spending in Mobile Apps Reached \$133 Billion in 2021, Up Nearly 20% from 2020". Available at: <https://sensortower.com/blog/app-revenue-and-downloads-2021/>; Caribou Digital (2016), Winners and Losers in the Global App Economy. Available at: <https://www.cariboudigital.net/wp-content/uploads/2016/02/Caribou-Digital-Winners-and-Losers-in-the-Global-App-Economy-2016.pdf>; Google (2022). Available at: <https://support.google.com/googleplay/android-developer/answer/112622?hl=en>; and AdSota (2017), Vietnam Mobile App Advertising and Monetization Report (Q2-2017). Available at: [https://www.slideshare.net/AdsotaAds/vietnam-mobile-app-advertising-monetization-report?qid=3ab1c21-44c9-4fbb-9cb4-41b57d471f3c&v=&b=&from\\_search=7](https://www.slideshare.net/AdsotaAds/vietnam-mobile-app-advertising-monetization-report?qid=3ab1c21-44c9-4fbb-9cb4-41b57d471f3c&v=&b=&from_search=7)
43. Korean Statistical Information Service (2019), "시도·산업별 사업체수, 종사자수 및 매출액". Available at: [https://kosis.kr/statHtml/statHtml.do?orgId=101&tblId=DT\\_1K52C08&conn\\_path=12](https://kosis.kr/statHtml/statHtml.do?orgId=101&tblId=DT_1K52C08&conn_path=12)
44. Mandel (2012), Where the Jobs Are: The App Economy. Available at: <https://southmountaineconomics.files.wordpress.com/2012/09/technet-app-economy-study.pdf>
45. Sources include Mandel (2018), Korea's App Economy. Available at: [https://www.progressivepolicy.org/wp-content/uploads/2018/05/PPI\\_KoreanAppEconomy\\_2018.pdf](https://www.progressivepolicy.org/wp-content/uploads/2018/05/PPI_KoreanAppEconomy_2018.pdf); and Statistics Korea (2022), "Economically Active Population Survey in December 2021". Available at: <https://kostat.go.kr/portal/eng/pressReleases/5/1/index.board?bmode=read&bSeq=&aSeq=416351&pageNo=1&rowNum=10&navCount=10&currPg=&searchInfo=&sTarget=title&sTxt=>
46. Refer to Appendix A3 for more details on the survey. Stratified sampling was conducted on Korean websites in the SEMRush database, across retail, media, manufacturing, and other segments to estimate the share of Google search clicks and display clicks that come from overseas users. See power law approach in Caribou Digital's analysis of the global app economy. Sources include SEMRush (n.d.), "Home". Available at: <https://www.semrush.com/>; and Caribou Digital (2016), Winners & Losers in the Global App Economy. Available at: <https://www.cariboudigital.net/wp-content/uploads/2016/02/Caribou-Digital-Winners-and-Losers-in-the-Global-App-Economy-2016.pdf>
47. The percentage of Korean companies using paid digital advertising was proxied by comparing the normalized scores for Korea and the UK in the two metrics in the 2018 International Digital Economy and Society Index (I-DESI) which were most relevant for digital advertising: Availability of latest technologies, and SMEs selling online. According to IAB UK, 60 percent of SMEs across the UK are currently using paid digital advertising. Sources include Statistics Korea (2021), "870,000 small business owners quit amid pandemic". The Korea Herald. Available at: <http://www.koreaherald.com/view.php?ud=20211228000657>; 42matters (2022), "South Korea App Market Statistics in 2021 for Android". Available at: <https://42matters.com/south-korea-app-market-statistics>; IAB.UK (2020), "Digital advertising crucial to SMEs' recovery". Available at: <https://www.iabuk.com/news-article/digital-advertising-crucial-smes-recovery>; Shaw, K (2022), "Cheil Worldwide releases annual ad spend and forecast report revealing South Korea's advertising market saw 20.4% growth in 2021". Campaign Brief Asia. Available at: <https://campaignbriefasia.com/2022/02/11/cheil-worldwide-releases-annual-ad-spend-and-forecast-report-revealing-south-koreas-advertising-market-saw-20-4-growth-in-2021/>; Inquix (2021), "Korea's Top Two paid Search Giants: Google and Naver". Available at: <https://inquix.com/digital-marketing-in-south-korea/koreas-top-two-paid-search-giants-google-naver/>; and ResearchAd (2021), 2020년 인터넷 광고 결산 보고. Available at: <http://koda.or.kr/17/?q=YToxOntzOjEwOjEwJmZlcnVudDp9&bmode=view&idx=5835273&t=board>
48. The following definition for business size for app and game publishers was used: "Indie" for publishers with 30 or less employees, "Small and medium" for publishers with 30 to 100 employees, and "Large" for publishers with over 100 employees. SMBs are all app and game publishers not considered "Large", i.e, 100 or below employees. Types of apps were self-identified into two categories: gaming apps and non-gaming apps.



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