



# Why Users Aren't Locked into Their Smartphone Brand

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## INTRODUCTION

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**The arrival of the first mass market smartphone in 2007 was one of the most important technological improvements of the past quarter-century.<sup>1</sup> By effectively building a high-powered computer, radio, and sensors such as cameras and gyroscopes into a compact form factor, smartphone manufacturers were able to connect individuals in a way that was not possible before.**

Following the introduction of the first iPhone in 2007 and the iPhone 3G in 2008, Samsung introduced several touchscreen-enabled phones in 2008 and its first Android-powered device in 2009 before releasing its first modern smartphone, the Samsung Galaxy S, in 2010.<sup>2,3,4</sup> In the decade since, smartphones have become ubiquitous, with smartphone ownership rising from 35 percent of U.S. adults in 2011 to 81 percent by 2019.<sup>5</sup> What is possible with a smartphone has evolved too, as more apps have become available and devices have been upgraded with better processors and graphics, larger memory capacity, longer battery lives, higher-powered cameras, and now have the ability to interact with remote objects. In addition to Apple and Samsung, smartphone brands today include Huawei, Xiaomi, Oppo, Motorola, Mobicel, Sony, Nokia, HTC, Vivo, and LG.

Today, the best-selling brand in the U.S. is Apple, with 61 percent of the market as of January 2021.<sup>6</sup> In Europe and globally, the best-selling brand is Samsung, with 33 percent and 29 percent of the market as of January 2021 respectively.<sup>7,8</sup> The average price of Apple

phones is \$873 in the United States, while other phones sell for much less.<sup>9</sup> For example, the Motorola G Power 32GB smartphone retails for \$200.<sup>10</sup>

An important economic question is why consumers do not switch ecosystems more often when cheaper substitutes are available. The simplest explanation is that consumers view the top-end phones as offering enough value to justify their price, including faster processors, better cameras, higher quality screens, more memory, or any one of a number of other characteristics.

The other possibility, offered up by some policymakers in the U.S. and Europe, is that consumers feel locked into their current models by a high “cost of switching.”

**“Switching costs include learning a new operating system, which can discourage users from leaving Google or Apple due to familiarity with their distinct operating systems, as well as the inability to easily port all of their data, such as messages, call history, and photos,”**

the House Judiciary antitrust sub-committee wrote in an October report on competition in digital markets.<sup>11</sup>

On the face of it, the switching cost explanation for smartphone prices looks less and less likely over time. For example, learning a new operating system is hardly a barrier to today's smartphone customers, who have been long inured to switching between multiple operating systems and devices at work, school, and at home.

The question, though, is whether there are any artificial structural barriers that make it more difficult than it needs to be to switch devices. In this paper, we explore the feasibility and cost of

switching between iPhone and Samsung devices and vice versa. We note that while we outline how users can switch between these specific brands, the methods can be used to switch from iPhone to brands other than Samsung and vice versa. We begin by comparing brand loyalty in the smartphone market with other industries. We then identify the overlap of the top 200 free apps available on both ecosystems in the U.S. and E.U. as of March 2021, apps that copy data from an old device and transfer it to a new device at no charge to the consumer, and how users can manually port their data using the same or similar apps available on both platforms. Finally, we estimate how much time and money it takes to switch between devices, including the opportunity cost of time spent changing, relative to certain annual consumer expenditures in the U.S. and E.U.

### COMPARING BRAND LOYALTY ACROSS MARKETS

Infrequent smartphone switching could indicate high switching costs rather than real brand loyalty, so we start by comparing smartphone switching behavior with cross-brand switching in other markets. It turns out that while consumers switch smartphone brands relatively infrequently, the same level of brand loyalty is found in other consumer markets with little to no switching costs. Consider first brand loyalty in the smartphone market. A 2019 survey by smartphone market SellCell of 2,066 consumers found 90.5 percent of iPhone users planned to buy another iPhone the next time they upgrade, while 86 percent of Samsung owners intended to buy another Samsung the next time they purchase a smartphone.<sup>12</sup> A 2019 analysis of smartphone trade-in data by BankMyCell found even less consumer loyalty among Apple and Samsung consumers.<sup>13</sup> While Apple had a trade-in brand loyalty of 74.6 percent, Samsung had

64 percent brand loyalty at trade-in. Interestingly, 13 percent of iPhone users moved to Samsung at trade-in, while 17 percent of Samsung consumers moved to Apple.

But consumers are equally reluctant to switch brands in other markets as well. A 2019 survey by ecommerce marketing platform Yotpo of over 2,000 U.S. consumers found nearly 90 percent were loyal to brands overall.<sup>14</sup> In the travel and hospitality industry, a 2019 survey by digital advertising firm Criteo of 4,000 U.S., U.K. and Asia-Pacific consumers found 79 percent of respondents mentioned loyalty programs as a main reason for choosing specific airlines or hotel brands.<sup>15</sup>

In 2017, the International Council of Shopping Centers found 82 percent of U.S. adults say they are product-brand loyal and 84 percent say they are loyal to certain retail companies.<sup>16</sup> A 2016 study of brand loyalty in the soda industry found Coke to retain 94 percent of consumers while 91 percent of consumers were loyal to Pepsi.<sup>17</sup> These brands, found right next to each other on the shelves in many supermarkets, do not require any massive effort to switch.

### APP AVAILABILITY AND REPURCHASING

A common claim is that switching between smartphones is infeasible or costs too much because users are unable to download the same or similar apps on a new device or access their in-app purchases without paying for them again. While Apple's ecosystem is closed in the sense that Apple-developed apps are available only on iOS devices, we note that, as of March 2021, 54 percent of apps appear on both the Apple and Google Play app stores' top 200 free apps lists in the U.S. according to App Annie.<sup>18,19</sup> It is important to point out that apps can also still be available on both platforms but not appear

in the top 200 lists. For example, Google Pay is the number six app on the Google Play list but is absent from the Apple App Store list, though it is available for download. Similarly, Gmail, Google Chrome, Google Drive, Google Duo, Google Maps, Google Search, Google Photos and YouTube appear on the Apple App Store list but do not appear on the Google Play list and either come pre-loaded or are available for download.<sup>20</sup> As a result, the overlap between the top 200 lists is significantly higher than the lists reveal.

The overlap among apps between smartphones holds true in E.U. countries as well. In Germany, 53 percent of apps appear on both free lists.<sup>21,22</sup> But just like in the U.S., the overlap is actually much higher in E.U. countries. For instance, Indeed Job Search and McDonalds appear on the Google Play list but not on the Apple App Store list despite being downloadable. Adidas, Dropbox Cloud Storage, Duolingo, Gmail, Google, Google Chrome, Google Drive, Google Earth, Google Maps, Google Photos, LinkedIn, Microsoft Word, Nike, Skype, and YouTube all appear on the Apple App Store top 200 list but are not on the Google Play list and come either preloaded or are available for download.

In France, 51 percent of apps appear on both free lists.<sup>23,24</sup> Firefox Browser and Yahoo Mail appear on the Google Play list but not on the Apple App Store list despite being downloadable. And Gmail, Google, Google Calendar, Google Chrome, Google Drive, Google Maps, Google Photos, LinkedIn, Microsoft Office, Nike, Skype, and YouTube all appear on the Apple App Store top 200 list but are not on the Google Play list and come either pre-loaded or are available for download.

While the above apps are free to download, access to many of them is not. For these apps, transferring a subscription or data from one platform to another is as simple as signing into the app on the new device. Furthermore, content purchased in-app is frequently available when switching from one device platform to another.<sup>25</sup> However, this availability is entirely up to the developer of the app, since the app stores allow for cross-platform access to purchases.<sup>26</sup>

### TRANSFERRING DATA ACROSS BRANDS

Next, we consider the difficulty or ease of transferring user data from one smartphone brand to another. The switching cost argument would posit that this data transfer is time consuming and potentially glitchy. We note there are several apps that will automatically copy and transfer users' data from Apple iPhones to Samsung phones and vice versa. Data that is transferred includes contacts, calendars, photos and videos, and music. Some examples of apps that can port user data to a new device include AT&T Mobile Transfer, Copy My Data, Simple Transfer - Photo+Video, Smart Transfer App, and Verizon Transfer.<sup>27, 28, 29, 30, 31</sup>

Certain features are core to the consumer experience on smartphones today. These include photos and videos, e-mail, calendar, contacts, video conferencing, and the ability to download apps. Below we outline how users can manually port their data from iPhone to Samsung and vice versa using the same or third-party services.

One of the most commonly used features on smartphones today is the camera and photo library. In a few seconds, users are able to take pictures, save them, and share them with others. Prior to the smartphone, this required a separate camera and for users to upload pictures to a

computer before sharing them via e-mail or to pay to have pictures developed before sharing copies with others.

iPhone users can manually move their photo library several ways. First, if the user stores their videos and photos locally on their device, they can simply download an alternative service that is available on both iPhone and Samsung devices such as Google Photos or Amazon Photos. Once downloaded, the user then follows the on-screen prompts in these apps to move their media to these cloud services. Then, on their new device, the user would just need to login to these apps to access the content. Table 1 provides the storage limits and monthly price for each of these services.

**TABLE 1: PRICE PER MONTH AND STORAGE BY SERVICE**

SERVICE	UNITED STATES	GERMANY	FRANCE
<b>iCloud*</b>	5GB: Free 50GB: \$0.99/month 200GB: \$2.99/month 2TB: \$9.99/month	5GB: Free 50GB: €0.99/month 200GB: €2.99/month 2TB: €9.99/month	5GB: Free 50GB: €0.99/month 200GB: €2.99/month 2TB: €9.99/month
<b>Google Photos**</b>	Unlimited free photo and video storage.	Unlimited free photo and video storage.	Unlimited free photo and video storage.
<b>Amazon Photos***</b>	Unlimited free photo storage and 5GB of video storage. 100GB video storage: \$1.99/month 1TB video storage: \$6.99/month 2TB video storage: \$11.99/month	Unlimited free photo storage and 5GB of video storage. Additional video storage available for purchase.	Unlimited free photo storage and 5GB of video storage. Additional video storage available for purchase.

\* iCloud storage can be used for more than just photos and videos. See <https://support.apple.com/en-gb/HT201238>

\*\* Free photo and video storage ending June 1, 2021. After that the first 15GB of storage with a Google account is free, 100GB is \$1.99/month, 200GB is \$2.99/month, and 2TB is \$9.99/month. Google storage can be used for more than just photos and videos. See <https://support.google.com/googlegone/answer/9080668?hl=en#zippy=%2Clist-of-countries-where-google-one-is-fully-supported>

\*\*\* Unlimited free photo storage and 5GB of video storage requires Amazon Prime subscription. Otherwise, Amazon customers get a free 5GB of storage. See <https://www.amazon.com/gp/help/customer/display.html?nodeId=G6PT8TMLM9NVZCSL>, <https://www.amazon.fr/b?node=12364772031>, and <https://www.amazon.de/gp/help/customer/display.html?nodeId=G6PT8TMLM9NVZCSL>

Similarly, if the user utilizes iCloud for photo storage, both Amazon Photos and Google Photos are capable of automatically transferring the content. Another way this can be done is by going to iCloud.com and downloading photos and videos en masse, then uploading them to Google Photos or Amazon Photos. Users could also backup their media to a computer if space is the primary motivation for leaving or moving a cloud service, as computers typically have larger storage available than smartphones.

Google Takeout provides a method for users wishing to switch from Google Photos on Samsung to iCloud on iPhone by allowing them to download their pictures in their entirety.<sup>32</sup> They would then upload them to iCloud.com, where they would be available once signed into iCloud and iCloud Photos has been enabled on the iPhone. Users would then need to save their videos to the iPhone from Google Photos with iCloud Photos enabled to port their videos from Google Photos to iCloud. If the photos and videos are stored locally on the Samsung device, users can move their photos and videos to the iPhone by first moving them to their computer, then to the iPhone.<sup>33</sup>

For e-mail, Gmail and Microsoft Outlook are popular alternatives to the iPhone-exclusive Mail app. Because e-mail is cloud-based, users just need to download the apps on the new device and sign-in. Each of these apps supports other e-mail accounts, including iCloud, Gmail, Outlook, and Yahoo. Google Calendar and Microsoft Outlook also provide substitutes on both iPhone and Samsung devices for Apple's exclusive Calendar app, including for those who use iCloud calendar.

iPhone users are able to quickly port their contacts to Google Contacts where they would be available on Samsung devices. To do this, users need to export their contacts' vCards from iCloud.com, import them at contacts.google.com, and sign into their Google account on the new device. The same can also be done for users moving to iPhone by exporting Google Contacts in vCard format, uploading them to iCloud.com, and signing into iCloud on their iPhone. Users can also use Microsoft Outlook if exporting from Google Contacts. We note that contacts take up a minimal amount of overall storage space.

In terms of video conferencing, while FaceTime is exclusive to the Apple ecosystem and thus Samsung users are unable to download the service, similar third-party apps are available on both ecosystems. As previously mentioned, Google Duo and Skype are two services with one-on-one or group video conferencing like FaceTime. Others include Google Meeting, Microsoft Teams and Zoom.

### **COST TO SWITCH SMARTPHONES**

Before we estimate the cost of manually switching smartphones we note that as we were setting up the Samsung and iPhone devices, we were given an option to copy apps and data

from an old Android or iPhone device, which would make the process faster and more user friendly. Users can migrate from iOS to Samsung devices by downloading Google Drive on an iPhone and signing in and backing up.<sup>34</sup> Content capable of being backed up includes contacts to Google Contacts, calendar events to Google Calendar, and photos and videos to Google Photos. The user would then just need to sign into their Google account to access their data on the Samsung device. Users can also port their data from a Samsung device to an iPhone using the Move to iOS app.<sup>35</sup> Data that is transferred includes contacts, messages, photos, videos, e-mail accounts and calendar.

How often consumers replace their smartphone is an important consideration in whether consumers are faced with infeasible or excessive switching costs. Data from Kantar Worldwide found the average lifecycle for a smartphone in U.S. to be 22 months as of December 2020, with iOS devices lasting 24 months and Android devices lasting 21 months.<sup>36</sup> In the EU5, the average lifecycle for a smartphone was 26 months, with iOS devices lasting 28 months and Android devices lasting 25 months.<sup>37</sup> These results reveal consumers replace their device and thus have the opportunity to switch smartphone brands relatively infrequently - approximately every two years. As noted earlier, consumers are also unlikely to continuously switch smartphone brands every time they get a new device.

Below we estimate the cost of manually switching from an iPhone SE 2020 to Samsung Galaxy A21 and vice versa, including the opportunity cost of time switching. To do this, we created a basket of 25 common apps consumers use for entertainment and to complete tasks. The apps range in industry, from

social media, sports, news, streaming services, music, and gaming to utilities, banking, weather, ecommerce, and ride-hailing and delivery services. We then timed how long it took to manually port photos, videos, and contacts from iCloud.com, Google Photos, or Google Contacts (where they would be housed on an iPhone or Samsung device) and download the 25 apps on the devices. We assumed a 3,000-picture library and 30 minutes of video.<sup>38</sup> Because both iCloud Photos and Google Photos do not upload duplicate photos and we didn't have 3,000 original photos, we adjusted the rate at which the services were able to upload 1,000 pictures for a 3,000 picture library. We then multiplied

the amount of total time it took to switch by the 2019 median hourly wage of \$19.14 in the U.S. and the 2019 average hourly wage of €20.80 in the E.U.<sup>39, 40</sup>

The result is a one-time cost of USD \$16 to switch from iPhone to Samsung (Table 2). Assuming like-kind European-brand apps where applicable, the total cost of switching from iPhone to Samsung in the E.U. is EUR €18. When switching from Samsung to iPhone, consumers can expect a one-time switching cost of USD \$40 and EUR €44, respectively (Table 3). The cost to switch from Samsung to iPhone was higher because the process of uploading photos and videos was slower.

**TABLE 2: PRICE AND TIME TO SWITCH FROM IPHONE TO SAMSUNG\***

APP/SERVICE	PRICE	TIME TO COMPLETE
<b>Photos and Videos</b>	<ul style="list-style-type: none"> <li>• Photos and videos are free if using Google Photos.</li> <li>• Photos are free using Amazon Photos if a Prime customer. If more than 5 GB of video, \$1.99-\$11.99 depending on needs.</li> <li>• Users could also back up media to a computer for free.</li> </ul>	<p>Google Photos preloaded. Depends on size/quantity of pictures and internet speed. We were able to download 3,000 pictures from iCloud in several downloads in 8 mins 15 secs and upload 1,000 photos to Google Photos in several uploads in 4 mins and 45 secs. Total time for photos 22 mins 30 secs.</p> <p>We were able to download 830-860 megabytes (30mins of video) from iCloud.com and upload it to Google Photos in 3 mins 30 secs. Total time for photos and videos 26 mins.</p>
<b>Contacts</b>	Free	We were able to download vCards from iCloud.com, upload to Google Contacts, download the Google Contacts app and sign in in 4 mins 30 secs total.
<b>Facebook</b>	Free	Preloaded
<b>Instagram</b>	Free	
<b>Twitter</b>	Free	



APP/SERVICE	PRICE	TIME TO COMPLETE
ESPN	Free	
AP News	Free	
Netflix	Free	
TV Streamer	Free	
Spotify	Free	
Gmail	Free	Preloaded
Chrome	Free	Preloaded
Google Maps	Free	Preloaded
Google Calendar	Free	
Google Hangouts	Free	
Chase	Free	
Vanguard	Free	
TD Ameritrade	Free	
The Weather Channel	Free	
DoorDash	Free	
Uber	Free	
Lyft	Free	
Amazon	Free	
Candy Crush	Free	
Google Duo	Free	Preloaded
Time to Download Apps		9 mins 30 secs
Time to Bootup New Device		10 mins 30 secs

APP/SERVICE	PRICE	TIME TO COMPLETE
<b>Subtotal Cost and Time</b>		50 mins 30 secs
<b>One-time Cost to Switch from iPhone to Samsung (USD)</b>		\$16.11
<b>One-time Cost to Switch from iPhone to Samsung (EUR)</b>		€17.51

\* All times approximate

**TABLE 3: PRICE AND TIME TO SWITCH FROM SAMSUNG TO IPHONE\***

APP/SERVICE	PRICE	TIME TO COMPLETE
<b>Photos and Videos</b>	<ul style="list-style-type: none"> <li>• Photos and videos are free if using Google Photos.</li> <li>• Photos are free using Amazon Photos if a Prime customer. If more than 5 GB of video, \$1.99-\$11.99 depending on needs.</li> <li>• Using iCloud, free-\$9.99/month depending on needs.</li> <li>• Users could also back up media to a computer for free.</li> </ul>	<p>Photos preloaded. Depends on size/quantity of pictures and internet speed. We were able to download over 5,000 pictures from Google Takeout in 16 min 15 secs and upload 1,000 photos to iCloud.com in 28 min. Total time for photos 1 hour 40 mins 15 secs.</p> <p>We were able to download 830-860 megabytes (30mins of video) from Google Photos and save it to an iPhone in 12 mins 30 secs. Total time for photos and videos 1 hour 52 mins 45 secs.</p>
<b>Contacts</b>	Free	Contacts preloaded. 1 min 45 secs to download contacts in vCard format from contacts.google.com and upload to iCloud.com.
<b>Facebook</b>	Free	
<b>Instagram</b>	Free	
<b>Twitter</b>	Free	
<b>ESPN</b>	Free	
<b>AP News</b>	Free	
<b>Netflix</b>	Free	

APP/SERVICE	PRICE	TIME TO COMPLETE
TV Streamer	Free	
Spotify	Free	
Gmail	Free	
Chrome	Free	
Google Maps	Free	
Google Calendar	Free	
Google Hangouts	Free	
Chase	Free	
Vanguard	Free	
TD Ameritrade	Free	
The Weather Channel	Free	
DoorDash	Free	
Uber	Free	
Lyft	Free	
Amazon	Free	
Candy Crush	Free	
Google Duo	Free	
Time to Download Apps		4 mins 30 secs
Time to Bootup New Device		7 mins
Subtotal Cost and Time		2 hrs 6 mins
One-time Cost to Switch from Samsung to iPhone (USD)		\$40.19
One-time Cost to Switch from Samsung to iPhone (EUR)		€43.68

\* All times approximate

Our estimates are conservative, as there are more consumer-friendly ways to port the data than the user doing it manually, such as utilizing an app that will copy and transfer the data across smartphones or automatically transferring their photos and videos to the cloud via Google Photos and then signing in on the new device. We note that time spent switching smartphones can vary depending on the device's processor, internet speed, and other factors. Our estimates utilized a wi-fi speed of 100/100 mbps. We acknowledge that this is a rough estimate of the price and time to switch platforms and recognize there are alternative ways to calculate the total cost.

To put these results in perspective, we compare them to select average expenditures of U.S. consumers and annual final consumption expenditure per capita in the E.U. (Table 4).<sup>41, 42</sup> We draw this comparison as an indicator of the value consumers put on certain items and thus are willing to pay for them.

Our results for the cost of switching smartphones are relatively inexpensive compared to consumer expenditures in the U.S. and E.U. in 2019. The cost of switching smartphones is less than the American or European consumer spent on alcoholic beverages, prescription drugs in the U.S., footwear, tobacco products, and toys and hobbies in 2019. Even after adding \$24 or €24 to our estimates to cover the cost of 100 GB of storage for the full year on Amazon Photos or Google Photos once the service moves to a paid subscription model, the cost of switching smartphones is still significantly less than American or European consumers spent on average on these items. It is worth noting the cost of healthcare and food as a share of consumers' budget has been on the rise in the U.S.<sup>43, 44</sup>

TABLE 4: COST OF SWITCHING SMARTPHONES COMPARED TO 2019 AVERAGE CONSUMER EXPENDITURES

CATEGORY	U.S./E.U.
Food at Home	\$4,643/€1,940*
Food Away from Home	\$3,526/€1,430**
Medical Services	\$984/€410***
Pets	\$681/€310
Alcoholic Beverages	\$579/€260
Prescription Drugs	\$486/NA
Footwear	\$419/€150
Tobacco Products	\$320/€300
Toys, Hobbies, and Playground Equipment	\$140/€310****
Cost of Switching from Samsung to iPhone	\$40/€44
Cost of Switching from iPhone to Samsung	\$16/€18

\* Food and non-alcoholic beverages generally purchased for consumption at home in the E.U. See <https://ec.europa.eu/eurostat/documents/3859598/5875361/KS-BF-03-003-EN.PDF/42a95cc0-cb48-48c7-8d3a-dfc5fa265eff>

\*\* Restaurants and hotels in the E.U.

\*\*\* Summation of out-patients services and hospital services in the E.U.

\*\*\*\* Includes gardens and pets in the E.U.

## CONCLUSION

As smartphones interact with more tasks and objects in our everyday lives, it is critical users be able to switch between ecosystems depending on their needs. Depending on the smartphone, consumers can spend over \$1,000 on a new device. U.S. and E.U. policymakers have recently voiced concern that monopoly power among smartphone brands, specifically the difficulty involved in switching across devices, may be keeping consumers “locked into” particular smartphone brands.

But as we have shown, consumers have a number of options to migrate between smartphones. They can use an app (built in for iPhone and Samsung devices) that will automatically copy their data and transfer it to a new device, or they can manually port their data using several methods. In terms of apps, there is a large amount of overlap in the U.S. and E.U. on Apple and Google Play Stores. In all, consumers can expect to spend less than an hour when manually porting their data from iPhone to a Samsung device. In the U.S.

and E.U., respectively, this amounts to a one-time switching cost of \$16 and €18, including the opportunity cost of time spent switching. When switching from Samsung to iPhone, users can expect to spend approximately two hours moving their data. In the U.S. and E.U., respectively, this amounts to a one-time cost of switching of \$40 and €44. This amount is relatively small considering U.S. and E.U. consumers spend more annually on discretionary items, food, and healthcare.

These results suggest consumers are not locked into high-priced smartphones when cheaper smartphones are available. The more likely explanation for why consumers infrequently switch devices is the better experience or features of that brand, whether quality, processors, cameras, screens, security or other characteristics.

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## ABOUT THE AUTHOR

Elliott Long is senior economic policy analyst at the Progressive Policy Institute. Elliott holds a BA in Political Science from Florida Gulf Coast University and MPA from George Washington University.

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