

# WHAT REGULATORS NEED TO KNOW ABOUT THIRD-PARTY APP INSTALLERS

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# What regulators need to know about third-party app installers

The European Union's Digital Markets Act (DMA) went into effect in May 2023, and companies have until March 2024 to fully comply with the protocols in the Act. The goal of the DMA is to encourage competition and allow users to move between different competing services more readily. At the heart of this legislation is the promise of centering consumers and laying the groundwork for healthy competition. Right now, consumers have limited choices in the app stores they use. The app stores, where consumers install apps, are often determined by the firms that control the operating systems (OS) installed on consumers' devices, not by consumers' preferences.

Ipsos was commissioned by Meta to investigate how users in the E.U. (France and Germany), the U.K., and U.S. feel about their current app-installation experience and the extent to which they might consider using third-party app installers (3P installers). Ultimately, users value security, convenience, and speed when considering 3P installers. Though, regulators must balance concerns about security against overly complicating processes and confusing users. Given how 3P installers are new to the technology landscape, it is essential that regulators understand what consumers need to explore the possibility of 3P installer experience, so that the DMA can do the work of putting consumer needs and fair competition first.

## Fast Facts on the Study



### Purpose of the study:

Investigate how consumers in France, Germany, the United Kingdom, and the United States experience and imagine third party app installers (3P installers) and gather feedback on prototypes demonstrating third party app download experience.

For the purposes of this study, Amazon and Meta were chosen as the third party app installers. See methodology for more details.



### Mechanics of the study:

In each market, over 800 adults were surveyed in the fall of 2023 on their attitudes toward third party app installers and the app download experience.

Twelve additional qualitative interviews were conducted in each market in October 2023.

## The current user landscape: Low awareness of alternatives, but interest in options

Before charting a path forward, it's essential to understand where consumers are right now. While people are used to and largely satisfied with their app installer experience, they are also largely unaware of other possibilities. When prompted in qualitative interviews, most participants across all markets tested responded that they were interested in and open to more ways to download apps, and expect the convenience, security, and usability of apps to carry forward, regardless of how they download them.

**“I think I wish I had more [app store] options, but I don't know what they would be, because I'm so used to those two...”**

— Participant 3 (P3), Age 44, iOS, United States

This widespread lack of awareness and experience with alternative app installer possibilities suggests most consumers have a 'locked-in' mental model, meaning most have not considered the possibility of downloading apps from sources other than their default app installer.

## Most, regardless of region, are unaware of how to download an app without using the Google Play Store or Apple App Store

UNAWARE ● | ● AWARE



Source: Ipsos was commissioned by Meta for research. Fielded October 2023.  
Question wording: Apart from using Google/Apple App Store, are you aware of other ways to download an app on your phone?  
US N=831; UK N=878; EU N=921 (France), N=800 (Germany)  
US margin of error +/-3.4 percentage points; UK margin of error +/-3.4 percentage points; France margin of error +/-3.96 percentage points, Germany credibility interval +/-3.4 percentage points at the 95% confidence level

Specifically, three in four people in both the United Kingdom and United States were unaware of how to download an app aside from the Google Play Store or Apple App Store. Even more respondents in France and Germany do not know how to download an app outside of Google or Apple. When asked how they may download from another source outside of Google or Apple, some users couldn't even imagine what that could look like:

**“[How would downloading from Amazon or Facebook work?] Honestly, I don't know. Because the app for a smartphone... no. Sincerely, I have no idea.”**

— P6, age 62, iOS, France

For alternative app installers to fairly compete, there is an enormous awareness gap they must overcome.

# The necessary ingredients for enabling competitive third-party app installers: Security, convenience, and usability

Security, convenience, and usability are the most important values and experiences users look for in third-party app installers. Yet, because of a paucity of alternative experiences, users in the study struggled to imagine other app installer experiences outside of the ones they've had. Because of this, for a 3P installer experience to be competitive and deliver on the values consumers look for, not overburdening users in the 3P installer experience is important.

## Security is important to users, but shouldn't be too confusing or complicated

Security is an important consideration for users when assessing third-party app installers, and most users want to know 3P installers have vetted apps on their platform. There are many ways to inform users on security. This research found that a combination of security signals with minimal pop-ups that are not alarming, together with access to reviews and ratings, provided consumers with the security information they needed.

### *Safety and user-generated reviews*

When users receive demonstrations of how to use third-party app installers and then are asked their opinion, users largely feel the app installer test experience is as safe as downloading from their current app installer, with little to no difference between the current app installer experience, using Google and Apple, and testing alternative app installers, from providers like Amazon and Meta.

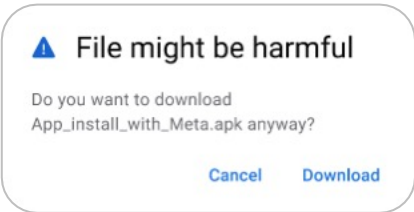
However, reputation matters when users decide whether they would use an app from a third party. Brand recognition plays a role in trust. Users are not concerned about downloading apps from new sources if they are well known providers, like Amazon or Meta. But safety concerns are more likely if the source is unknown or small.

**“I could see myself downloading from those sources, they're publicly traded companies with a reputation on the line, they're not 'Joe's app store'. They didn't just pop up overnight.”**

*— P12, age 42, Android, United States*

That is to say that part of security is trust. Authentic user-generated ratings and reviews are critical for building user trust. In user experience research Ipsos conducted, in all markets, most people look for genuine reviews and ratings to ensure what they are downloading is safe. Reviews and ratings build off the mental framework with which users are already familiar, like user reviews on Amazon or comments on Facebook. Overall, the security signaling and social proofing that users are already accustomed to leaning on from these potential 3P installer providers offers users with the information they need to trust and engage with a third-party app installer.





### Security pop-ups

Security features require a balance to meet consumers where they are. Outside of user-generated reviews and ratings, Ipsos tested other safety measures, such as security pop-ups and messages to see what people needed to feel safe engaging with a 3P app installer.

Qualitative participants were shown a “high friction” 3P app download experience, and a “low friction” experience (order of showing was rotated for each participant). The high-friction experience included security pop-up screens and participants were required to download a separate app installer and change their phone settings. The low-friction app installer flow allowed users to review app information, then download and open the app in one step. After each demonstration, users were asked how secure they felt going forward in each instance.

<h3>High vs. Low Friction Demonstration</h3>	<h3>High Friction Prototype:</h3> <p>The high-friction experience included security pop-up screens and participants were required to download a separate app installer and change their phone settings.</p>	<h3>Low Friction Prototype:</h3> <p>The low-friction app installer flow allowed users to review app information, then download and open the app in one step.</p>
<p>Each qualitative participant told researchers their current app store behavior and attitudes toward 3P installers. Then, they were randomly shown one of two demonstrations. Either a:</p> <p>Then each participant was asked how secure they felt going forward in each instance.</p>		

For some users across markets, the security screens shown heightened perceived risk. These users reported that many security screens made them feel they were in trouble and that they interpreted the screens not as helpful pieces of information, but instead as warnings not to download the app. Less tech-savvy users are scared away or confused by the security warnings and would immediately abandon the download process. However, other research indicates that the tone and content of security screens matters. More alarming security screens, like the ones shown in this research, heightened perceived risk, while other research indicates that more factual security screens can be helpful.

**"I really am freaking out.... I'm thinking danger, two things have now told me that this app is not great to install...and even if I did want to install it, I'd have to go into settings so it's not a quick process, I'd have to go into settings so it's much more complicated."**

— P7, age 74, Android, United Kingdom

**"So, in real life, I would have left it alone and gone to the app store and got it [the app the participant was trying to download], because if there is a pop-up warning three times in succession, that is asking me am I sure to continue because it might not be safe, in that case I might have been convinced that it might not be safe."**

— P7, age 38, iOS, Germany



Some more tech-savvy users were undeterred by the pop-ups, seeing them as default or generic warning messages and trusting themselves to determine the safety of the download source. They didn't feel the warning provided useful safety information. A few tech-savvy participants in the EU appreciated security reminders from the phone's operating system in third-party app testing exercise since they want to be informed of all relevant security information when downloading. Still, even those tech savvy users find the high-friction flow too long, and would likely abandon download if the 3P installer is not essential to them.

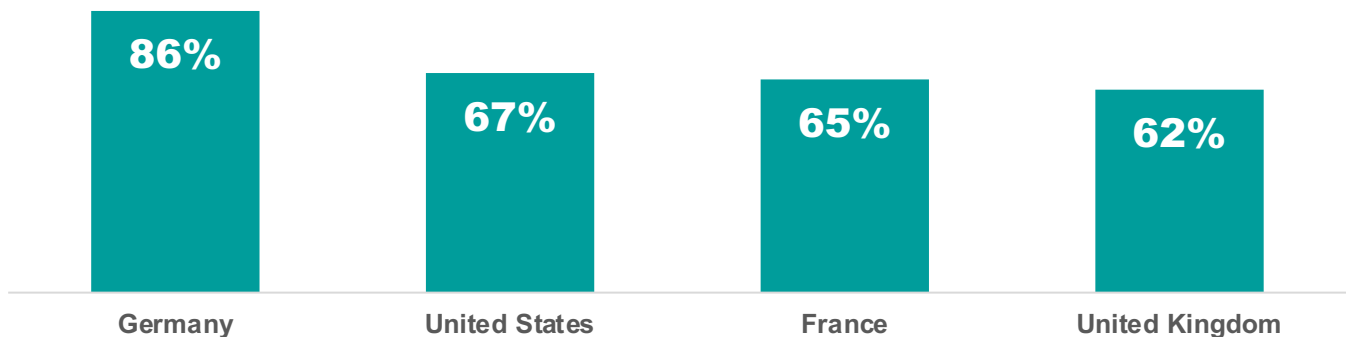
Ultimately, these increased security warnings may dissuade third-party use, not encourage competition. However, the nature of security warnings can matter; security screens that are more alarming can dissuade use, while ones that are more factual may inform users in ways that are helpful. Overall, most users feel the tested experience with the fewest security warnings—referred to as the low-friction experience in this research—provides them with the information they need to feel safe and confident downloading a 3P app.

**“I liked it because it was very easy, and it was just like one button to install. I normally wouldn't expect to take longer to download an app.”**

*— P12, age 47, iOS, United Kingdom*

## Low friction security environment gives most people what they need to know to safely download apps

Percent who feel that in the **LOW FRICTION** environment they were presented with all the information they needed to make an informed decision about whether the app was safe to download



Across all regions, there were no statistically significant difference in how informative the **HIGH FRICTION** and **LOW FRICTION** environments were

Source: Ipsos was commissioned by Meta for research. Fielded October 2023.  
Question wording; Q5. Do you feel like you were presented with all the information you needed to make an informed decision about whether the app was safe to download?  
US N=283, margin of error +/-5.7 percentage points; UK N=330, margin of error +/-5.3 percentage points; France N=313, margin of error +/-5.4 percentage points, Germany N=274 credibility interval +/-5.8 percentage points  
Margin of error and credibility interval for all countries is at the 95% confidence level

With the high- and low-friction flows providing the same amount of information and security to users, what's the harm in adding more protections? The downside of the high-friction environment is the undue burden and increased likelihood for download abandonment. In fact, for most users in nearly every market, too many security steps caused increasing frustration, confusion, and heightened the likelihood that they would not continue downloading the app.



## ***In-app purchases***

Once users have downloaded a third-party app installer, what's next? For many, in-app purchases follow. In research Ipsos conducted around in-app purchases on third-party installers, users expect to be able to have multiple safe and secure third-party payment options. OS's allowing third-party payment options to provide discounts and display different prices for in-app purchases may be one way to foster fair competition in in-app purchasing. 3P installers should consider what constitutes a meaningful discount to be able to offer a compelling benefit.

Much like in the initial downloading phase, fewer intrusions into the app experience help users. Security screens for 3P payment options don't make sense to users. Confusing consumers would dissuade 3P installer use and might work against the goals of an open app market.

Still, safety is a chief concern among users. Among most users across all markets tested, there is a strong feeling that the install source should be most responsible for safety.



## **What regulators should know: Security concerns**

Users value security, yet many were confused and thrown off by the language and frequency of security pop-ups from the phone's operating system. Regulators must balance security concerns against confusing potential users of 3P app installers, opting to use security information to educate users clearly, succinctly, and sparingly about download sources.

Requiring more frequent security pop-ups in 3P app installer experiences doesn't help most consumers. In fact, it confuses most and increases the likelihood that they will abandon the download. Ultimately, this works against the goals of fair competition that regulators set out to encourage between companies. In place of frequent pop-ups, regulators should consider requiring the removal of pop-ups about a download source if they've met certain security requirements.

Users in this research demonstrate how important reviews and ratings are in introducing users to 3P app installers. Regulations can help ensure reviews and ratings are a transparent part of the 3P app experience, one where authentic reviews and ratings are highlighted and easily accessible for users. 3P app installers, such as Amazon and Meta, are sources that provide users the social proofing that they need, giving them important review and rating information when making an install decision.

## **What regulators should know: Security Concerns 3P Installers**

1 Requiring more frequent security pop-ups in 3P app installer experiences doesn't help most consumers. Regulators must balance security concerns against confusing potential 3P app installer users, opting to use security information to educate users clearly, factually and succinctly about download source. Regulators should consider requiring the removal of pop-ups about a download source if they've met certain security requirements.

2 Research demonstrates how important reviews and ratings are in introducing users to 3P app installers. Regulations can help ensure reviews and ratings are a transparent part of the 3P app experience. Also, OS's allowing third-party payment options to provide discounts and display different prices for in-app purchases may be one way to foster fair competition in in-app purchasing.

# People expect app downloads and app management to be convenient, easy to use, and similar to what they already know for 3P installers

Even as some security and safety precautions are important for users, making sure the 3P app installer experience is comparable to what people are used to is essential to consumers as well. Users expect convenience and usability. Burdening 3P installers with extra hoops to jump through or forcing them to operate outside of the norm will likely discourage use. This negatively works against the aim of regulations set up to encourage fair competition.

## *App installation expectations*

Most across all regions tested expect the convenience and usability of their current app installer experience to carry over into 3P installers too. For example, in this research most users expect apps downloaded from 3P sources to automatically appear on their home screen. Consumers also expect externally downloaded apps to notify them when they've already downloaded an app to prevent duplicates on their device.

**“It already exists there. (...) that would cause a conflict, and you should be able to see that the app is already downloaded... so there has to be some feedback between Meta/Amazon, and Apple.”**

*— P3, age 41, iOS, Germany*

These are basic, behind-the-scenes syncing, and update features baked into the current app experience most users expect. When testing scenarios with 3P app installers, users expect these features to carryover hassle-free and sync with their current operating system.





# What is the ideal user journey for a third-party app download?



**App discovery**  
ex. app ad



**Research**  
app



**Download**  
app



**Store/**  
**Manage App**



**In-app**  
**purchases**



**User**  
**needs**

Assurance that others had a positive experience with app, that it has been vetted for safety  
Detailed app info to make an informed choice

Quick and easy process that matches current download experience

Seamless experience, no complex steps to keep track of apps from multiple sources

Seamless experience, no complex steps to keep track of apps from multiple sources

Multiple familiar, secure payment options similar to those offered for most online purchases



**Potential**  
**pain points**

Reviews that seem inauthentic, or lack of/vague security information cause mistrust

Alarming security screens cause confusion or alarm, may cause abandonment  
Additional steps, changing settings, cause frustration

Having to enter different apps to access/manage downloads, having no option to update automatically  
create a subpar user experience

Having to enter different apps to access/manage downloads, having no option to update automatically  
create a subpar user experience

Security screens confuse some



**App**  
**Discovery**  
**Journey**

Info screen with ratings, reviews allows users to determine comfort downloading

Badge verifying app safety linked to details puts users at ease

Yes/no confirmation screen helps users double check they intended to click

Few-click download experience meets user expectations for speed

App icon appears on user home screen

Various app sources sync to prevent duplicate downloads

Third party installers able to auto-update apps

App icon appears on user home screen

Various app sources sync to prevent duplicate downloads

Third party installers able to auto-update apps

User provided with multiple secure, familiar payment options

3P payment options may offer a discount to encourage users to try



## ***Regional priorities for app installation***

While users expect their current update and download experience to appear in the 3P app installer environment, there are some regional differences on how to prioritize convenience and usability against transparency and security.

For example, even within the E.U., many German users prioritize fast and easy downloads while more French users value transparency and security, even at the expense of some speed. More U.S. and U.K. users align more with Germans in their preference for fast and easy 3P app installer experience. Still, even with the slight difference among French users, most French users feel they receive enough information about security in the low-friction flow.

Regulators should consider the different priorities and needs of various markets, while understanding that over communicating about security runs the risk of app download abandonment, potentially impeding fair competition.

## ***Users value a friction-less experience for updates and downloads***

Still, regardless of these regional differences, users clearly want and expect that the current services provided through their app installer continue with third-party app installers. Users in the study are divided on where they think they would be able to check for an update on an app downloaded from a third-party.

However, convenience remains an expectation. Users want apps to update automatically or some other minimally intrusive and laborious update process.

Additionally, other friction-filled experiences bothered users. When asked to evaluate the high-friction install flow, the inconvenience bothered more users than assuaged them of their security concerns. Most users are frustrated at having to ‘download an app to download an app.’ Even in France, a country that on the whole valued transparency and security slightly over speed of download, users report annoyance with this system. Reacting to the high-friction flow, a female iPhone user in her 60s from France, says:

**“Instead of it taking me to the Apple store, it could automatically download the app onto my phone, and that would make it better... instead of having to go through two different things..”**

*— P11, age 27, iOS, United States*

In that same vein, needing to change phone settings to allow downloads frustrated users and raised safety questions for some. Regulations should enable a streamlined download process that doesn’t leave user settings open after the intended download.

In short, users expect the convenience and usability that they’ve become accustomed to in the current app installer environment to carry over into a third-party app experience. While security is important to users, requiring third-party app installers to add in overly complicated or cumbersome user experiences is not what consumers want and will ultimately dissuade users from giving third-party app installers a fair shot, holding the potential to weaken competition.



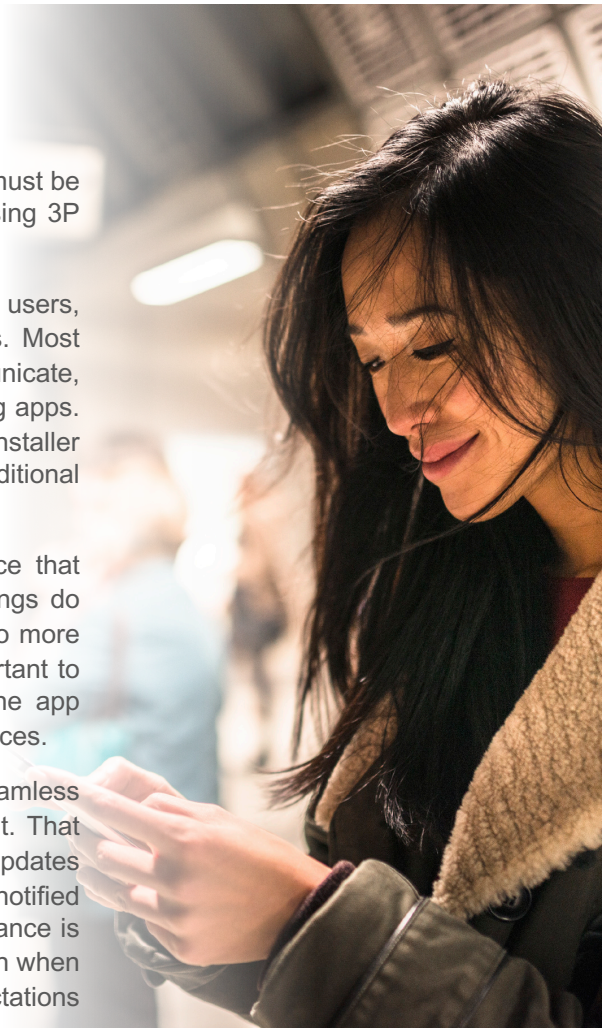
# What regulators should know: Convenience and usability

If regulators want to create a competitive app installer market, consumers must be able to have a fast, easy download experience, while still feeling safe using 3P app installers.

As regulators balance these important and sometimes competing needs of users, it is important to remember what users experience with these trade-offs. Most become frustrated and confused when security screenings over-communicate, impeding the speed and ease of use consumers expect when downloading apps. Download processes shouldn't be overly cumbersome. An open app installer market should allow download paths that don't require downloading additional apps.

"Downloading an app to download an app" to most users is a nuisance that doesn't enhance security. Overall, for most users, more security screenings do not translate to more safety. Often, more security screenings translate into more frustration at the expense of other user experiences that are just as important to them: convenience and usability. Regulators must keep in mind how the app security experience impacts the convenience and usability of these 3P sources.

To that end, consumers must also be able to maintain the synced and seamless app management experience they are used to in the current environment. That means, users expect that app downloads appear on their home screen, updates happen seamlessly and in sync with their operating system, and they are notified if there are duplicate apps on their device. App management and maintenance is a task that consumers do not actively manage now and do not want to begin when using a 3P app installer. Regulators should understand consumer expectations here.



# What regulators should know: Convenience and usability on 3P Stores

If regulators want to create a competitive app store market, **consumers must be able to have a fast, easy download experience, while still being safe, in 3P stores.**

Consumers must also be able to **maintain the synced and seamless app management experience** they are used to in the current environment.

To that end, **download processes shouldn't be overly cumbersome.** An open app store market should allow download paths that don't require downloading additional apps.





# Conclusion:

As regulators in different countries consider how to encourage competition among technology companies and enable consumers to seamlessly go between different competing services, it is essential they understand how the public uses these technologies and the potential ways that regulation may hurt more than help the competition it is trying to encourage.

To understand the tradeoffs, needs, and current experiences of consumers in the app installation experience, Ipsos was commissioned by Meta to investigate how users in the E.U. (France and Germany), the U.K., and U.S. feel about their current app installation and how they might consider using 3P installers.

Right now, users across all markets have very low awareness of alternative ways of downloading apps and struggle to imagine other possibilities. Given how locked in this mental model is for users, ensuring a seamless user experience as consumers get introduced to 3P installers is essential in fostering fair competition between companies.

Users value security, convenience, and speed when considering third-party app installers. Sacrificing one at the expense of the other runs the risk of losing consumers along the way.

In particular, the higher security measures Ipsos tested confused and frustrated many users. Testing out an app installation flow with lower security intrusions informed consumers just as well as the high security information flow did, but without the added confusion and frustration for users.

Regulators must understand that these additional security warnings provide limited benefits at the expense of convenience and usability. If the app installation process is too difficult, many people will not download from third-party sources, likely hampering the fair competition these regulations hope to stimulate.

Likewise, users have come to expect seamless and synced app download, maintenance and notifications. In research Ipsos tested, consumers expect these features when using third-party sources as well.

Across all markets Ipsos tested, it is clear that consumers currently cannot imagine what alternative app installation experience will look like. Because of that, they expect many of the features embedded in their current app installation experience to remain. Legislators have an opportunity to encourage fair competition. The first step is to understand user sentiment and experience, so they can best support imagining what a freer app market can look like.



# Methodology

Ipsos was commissioned by Meta to conduct this research. The study employed a mixed methods design, including both a quantitative survey experiment, as well as qualitative in-depth semi-structured interviews in three markets: the U.K., the E.U. (France and Germany), and the U.S. The survey experiment examined attitudes and sentiments towards third-party app stores and the app download experience of the adult population in these markets. Qualitative interviews allowed for a deeper exploration of user perspectives and opinions.

## **Quantitative Methodology**

The survey experiment was conducted in the United States, United Kingdom, France, and Germany in October 2023 using both probability and nonprobability sampling. In the U.S. (n=811), UK (n=878), and France (n=921), surveys were completed online with respondents on the Ipsos KnowledgePanel - a probability based panel. The margin of sampling error for the KnowledgePanel surveys is plus or minus 3.4 percentage points at the 95% confidence level. The margin of sampling error is higher and varies for results based on sub-samples.

Significant resources and infrastructure are devoted to the KnowledgePanel recruitment process so that the resulting panel can properly represent the adult population. This representation is achieved not only with respect to a broad set of geodemographic distributions, but also for hard-to-reach adults. Consequently, the raw distribution of KnowledgePanel mirrors that of the adult population fairly closely, barring occasional disparities that may emerge for certain subgroups due to differential recruitment and attrition rates. Furthermore, the panel's probability-based foundation allows for the accurate computation of margins of sampling error, projections to the national population, and prevents responses from bots or click farms.

Sample selection for KnowledgePanel involves a probability-proportional-to-size (PPS) methodology. This application of the PPS methodology produces demographically balanced and representative samples at the national level. As the KnowledgePanel is a random probability panel, no quotas are employed. The target population was comprised of non-institutionalized adults aged 18 and older residing in these countries. Ipsos invited one adult from a representative sample of households to partake in this survey. Selected panel members received an email invitation to complete the survey and were asked to do so at their earliest convenience. Weighting for these surveys was applied to reflect the selection probabilities and to account for the geo-demographic characteristics. For geo-demographic targets, Ipsos used the latest census statistics for each country and used the following variables for weighting.

- United States: gender, age, education, income, region, metropolitan status, and race/ethnicity
- United Kingdom: gender age, education, region, race/ethnicity, index of multiple deprivation, and number of adults in household
- France: gender, age, education, and region

In Germany (n=800), surveys were conducted on the Ipsos iSay panel - a nonprobability based panel. The credibility interval for the Germany sample is plus or minus 3.96 percentage points. The credibility interval is higher and varies for results based on sub-samples.

Ipsos used its owned and managed iSay non-probability panel for the research in Germany. The panel composition involves recruitment checks involving a detailed registration form, device check and de-duplication, multi-factor authentication, and completion of a profile survey. These measures ensure that all iSay panelists are authentic individuals. The sample was selected to be representative of the German population at the national level but did not include quotas. Weighting was done at the end of data collection using 2022 Eurostat data for Germany by age, gender, education, and region.

To qualify for the survey experiment, respondents had to be adults and had to have used the Facebook app at least once in the last month. The experiment and questionnaire were designed to simulate alternative app install processes. At the start of the experiment, a subset of participants was randomly assigned to one of the app install processes - Apple App Store, Google Play Store, Facebook app installer, or Amazon app installer.

For this study, Amazon and Meta were chosen as the third party app installers. Respondents were more likely to be familiar with these companies versus a new competitor. These companies are also likely to have an established level of trust among consumers and a perceived level of safety, which was tested in the experiment.

Each respondent was then asked the same set of questions about their experience with the app install journey and expected behavior. These were conducted in the survey as monadic exercises. The first of the 2 exercises involved showing the app download experience for both the default app stores (Apple App Store and Google Play Store) as well as the third-party app installers. For this exercise, the third-party app installers were shown both iOS and Android versions of the Facebook and Amazon app installer. These experiences were split by a high friction experience, that included warning pop-up messages or required phone setting changes, and a low friction experience, that did not include them. The second monadic exercise involved showing the in-app purchasing experience for the same app stores and installers. A total of 10 treatments were shown to respondents in a monadic fashion to allow independent evaluation of each:

# Methodology (continued)

- Android respondents:
  - Google Play Store
  - Facebook installer low friction
  - Facebook installer high friction
  - Amazon installer low friction
  - Amazon installer high friction
- iPhone respondents:
  - Apple App Store
  - Facebook installer low friction
  - Facebook installer high friction
  - Amazon installer low friction
  - Amazon installer high friction

## Qualitative Methodology

Qualitative data were collected through in-depth, semi-structured interviews conducted in the United States, United Kingdom, France, and Germany in October 2023. A total of 48 interviews were completed, including 12 each in the U.S. and UK, and 24 in the EU (12 in France and 12 in Germany).

External professional recruiting firms were hired in each market to recruit participants using a screener developed and approved by Ipsos and Meta. Screener questions were written to ensure we spoke with individuals from relevant user groups and had a representative mix on selected demographics. Eligibility was determined based on the following screener criteria:

- Amazon/Facebook users
- Have downloaded a smartphone app in the past 3 months
- Have downloaded an app from an ad before
- Representative mix of **age** (18+) and **gender**

The external recruiting firms contacted eligible individuals from their participant databases to identify prospective test participants. Recruiters contacted prospective participants directly, and once it was confirmed they met the approved screener criteria, they were scheduled for interviews.

## Scope of the Research

The study instruments - survey questionnaire and interview guide - were designed to explore perceptions around third-party app downloads and gather feedback on prototypes demonstrating third-party app download experiences including:

- **“High-friction” and “low-friction” app download experiences**  
The high friction version demonstrated an app download experience with an app store download, security warning pop-up messages, and required phone setting changes. The low-friction version showed a download experience involving downloading an app directly from an ad in an app feed, being shown an information screen, then completing the download in one click.
- **App management options**  
Prototypes demonstrated options for how users might manage and update apps they download from Facebook, including options within the Facebook app, as well as an option for managing the app from the smartphone home screen.
- **In-app purchase checkout options**  
Users interacted with a prototype showing a security warning screen for selecting a 3rd party payment option.

Prototypes used Amazon and Facebook as the example third-party app installers, with each participant exploring one Amazon experience and one Facebook experience. The experiences were counterbalanced so half of participants experienced Facebook as the “high-friction” version and the other half experienced Facebook as the “low-friction” version. In the survey, respondents only viewed one of these experiences - the default app store (either Google Play or Apple App Store), Facebook, or Amazon. Respondents who viewed the third-party app installer experience had ..had viewed either a low-friction or a high-friction version.

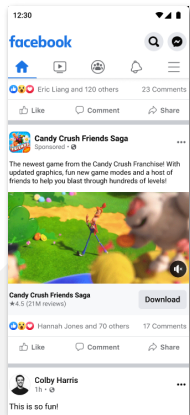
Study materials were translated (where applicable) and localized for each market. Pilot interviews were also conducted in each market to confirm suitability and comprehensibility of the guide. Interview data were analyzed using thematic analysis. Interview transcripts were coded by topics related to research objectives, then themes and patterns were identified through comparison and analysis of coded data.

For more information on the user flows tested in the qualitative research, please see below.

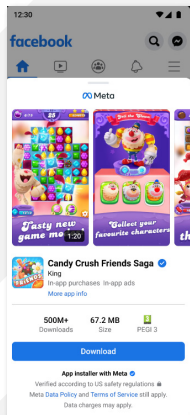


# User flows tested

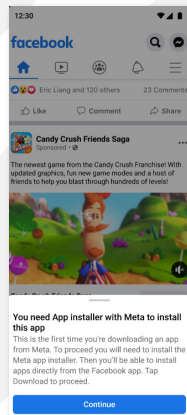
## Facebook high friction



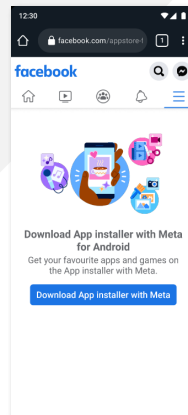
App ad appears in Facebook feed



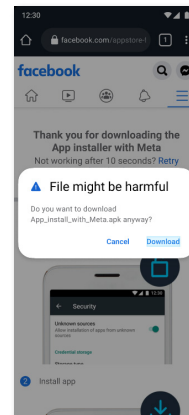
App info pop-up with verification badge



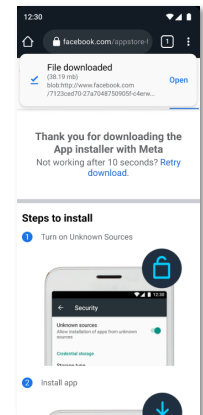
Pop-up for Meta's App installer



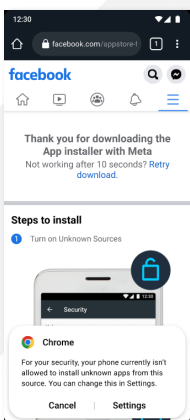
Download screen for App installer



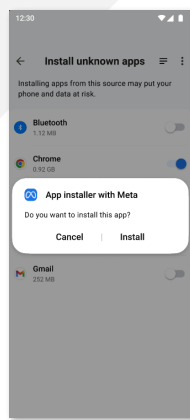
Security screen to download from Meta store



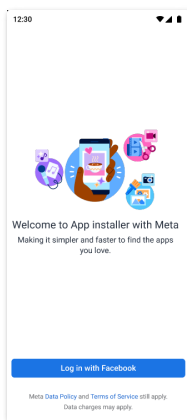
Confirmation of download



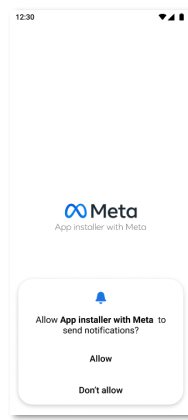
Prompt to change setting to allow Chrome to download



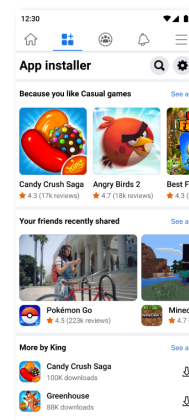
Allow Chrome to download from unknown source



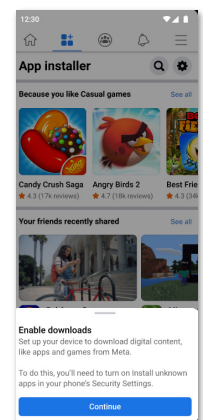
Welcome page for App installer with Meta



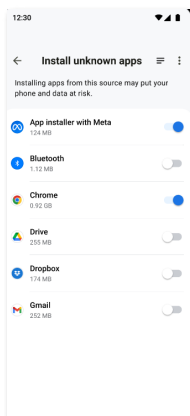
Pop-up to allow notifications



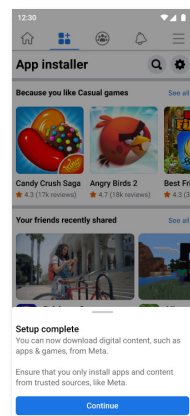
App installer with Meta home page



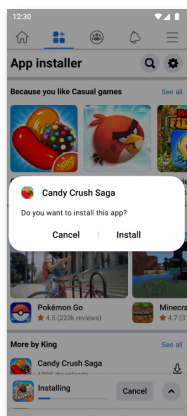
Prompt to allow App installer with Meta to download apps



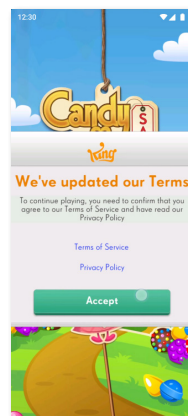
Allow App installer with Meta to download from unknown source



Setup complete pop-up



App install confirmation



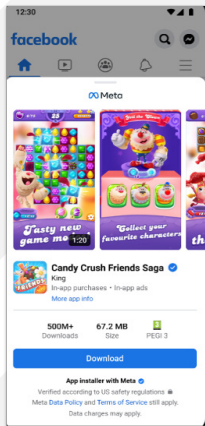
App opens

# User flows tested

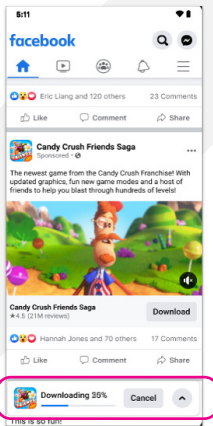
## Facebook low friction



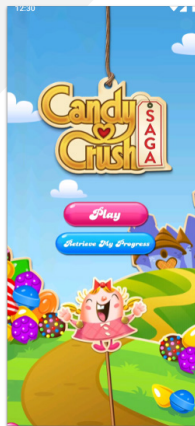
App ad appears in Facebook feed



App info pop-up with verification badge

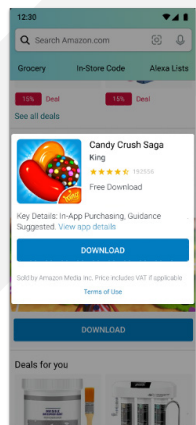


Download begins

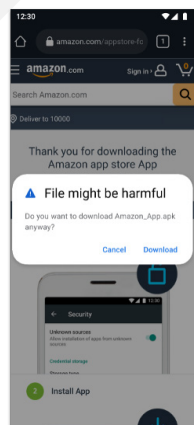


App opens

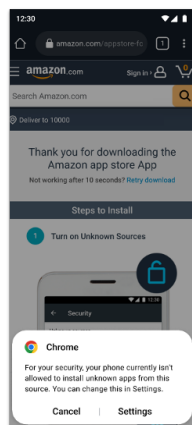
## Amazon High friction



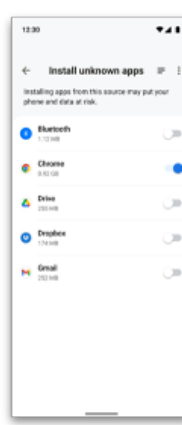
App info pop-up upon clicking ad



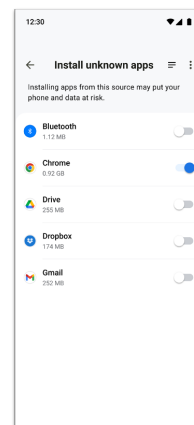
Security screen to download Amazon App store



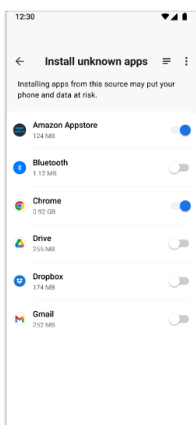
Prompt to change setting to allow Chrome to download



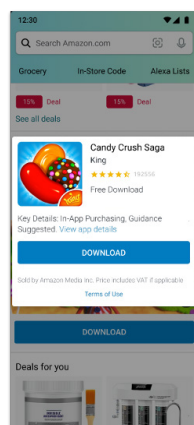
Allow Chrome to download from unknown source



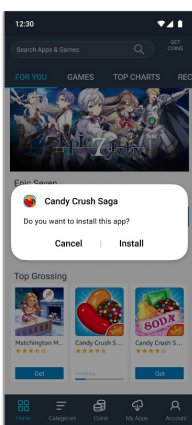
Prompt to allow Amazon App store to download apps



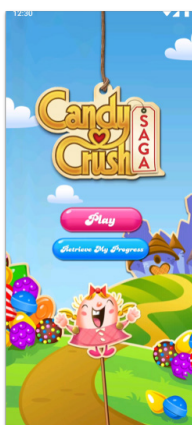
Allow Amazon App store to download from unknown source



App info/download page



App install confirmation

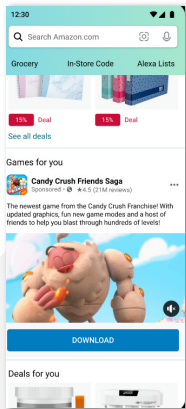


App opens

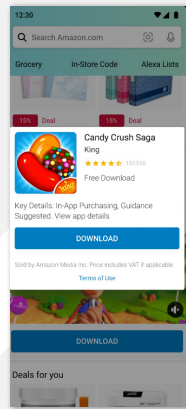


# User flows tested

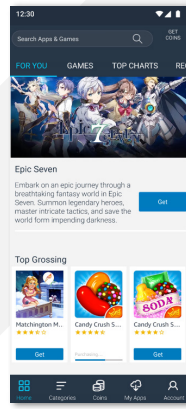
## Amazon Low Friction



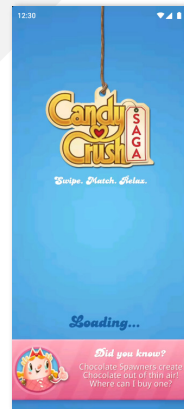
App ad appears on home screen



App info pop-up with Download button

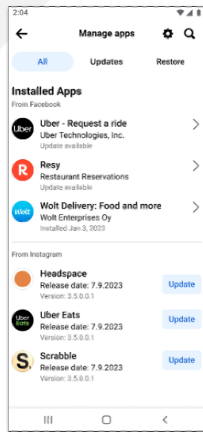


Download begins

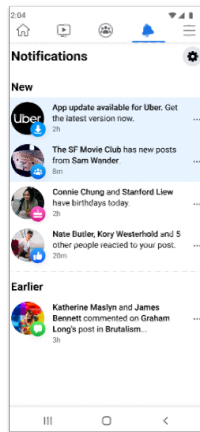


App opens

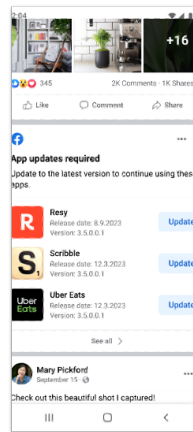
## App management



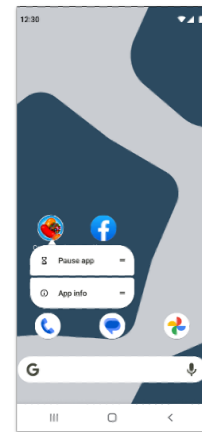
Option 1: App updates appear in Facebook 3-bar menu



Option 2: Updates appear in notifications

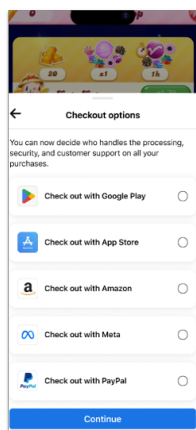


Option 3: Updates appear in Facebook feed post

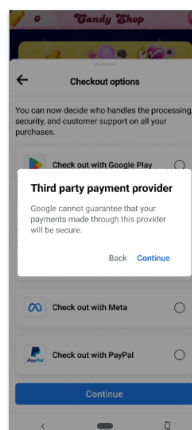


Option 4: Updates appear tapping on app icon

## Checkout



In-app purchase checkout options



3P payment security screen