

▶▶ GAME GENRE REPORT

4X STRATEGY GAMES

by Howard Chen

This whitepaper offers mobile game developers KPI benchmarks and player behavior trends within specific genres to better understand opportunities to increase performance.



► Overview

This report is the first in a series of upcoming Google Play deep-dives on popular mobile game genres and sub-genres. Today we focus on the game genre of 4X strategy. Our goal is to support developers building products in these areas by providing KPI benchmarks to understand your game's relative performance. We also analyze trends in player behavior to understand player affinity across genres, and we offer contextual insights on genre expectations to help you prioritize your feature roadmaps.

We define 4X strategy as a game that combines real-time strategy, world-building, and RPG mechanics, where players ultimately engage in PVP-battles and build armies to attack and bases to defend. Note that individuals and businesses may differ in how specific game genres are defined, and other names for the genre include strategy MMO, multiplayer MMO, and SLG.

Unless otherwise indicated, data cited is from a fifteen-month period (the beginning of Q1 2019 through the end of Q1 2020). Developers in 4X strategy (and other genres) can use the Play Console to compare game performance against the weighted average performance of top titles in the 4X strategy genre.

▶ Genre overview: 4X Strategy

The defining objective of 4X strategy is to conquer digital real-estate on the server and, usually, to defend against others in Player vs Player (PvP) conflicts.

It borrows its '4X' name from the PC genre:



Exploring
territory



Expanding the
base of operations



Exploiting
resources



Exterminating
competition

▶ 4X Strategy Today

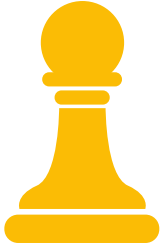
The genre grew in popularity during the early phases of free-to-play mobile games, and today it is **one of the most monetized game genres** in the industry. It also has one of the **highest churn rates** of any genre. Putting this duality in context offers 4X strategy developers a high opportunity for success.

Due to the fundamental competitive systems that drive zero-sum outcomes, these games tend to require a larger investment of time and resources compared to other genres. Combined with the risk of losing resources or progression after a play session, the genre can feel punitive to players unfamiliar with 4X expectations.

The learning curve for new users has historically been high, due to the assumed level of experience of 4X strategy genre players. That friction can cause a lower retention rate for 4X strategy when compared to other genres, which creates a false assumption that the 4X strategy genre is difficult for new developers to enter. Understanding the relationship between the higher monetization potential of 4X strategy players and the higher risk of early churn is fundamental to developer success in this space.

The evolution of the 4X strategy genre, which we provide some examples of in the 'insights and tips' section below, has resulted in notable KPI trends: retention, engagement, and monetization metrics (weighted averages) have all increased for top 4X strategy titles. Our hypothesis is that **developers who build features to support more player types see an increase in game performance in these areas.**

► Genre affinity: strategy player behavior

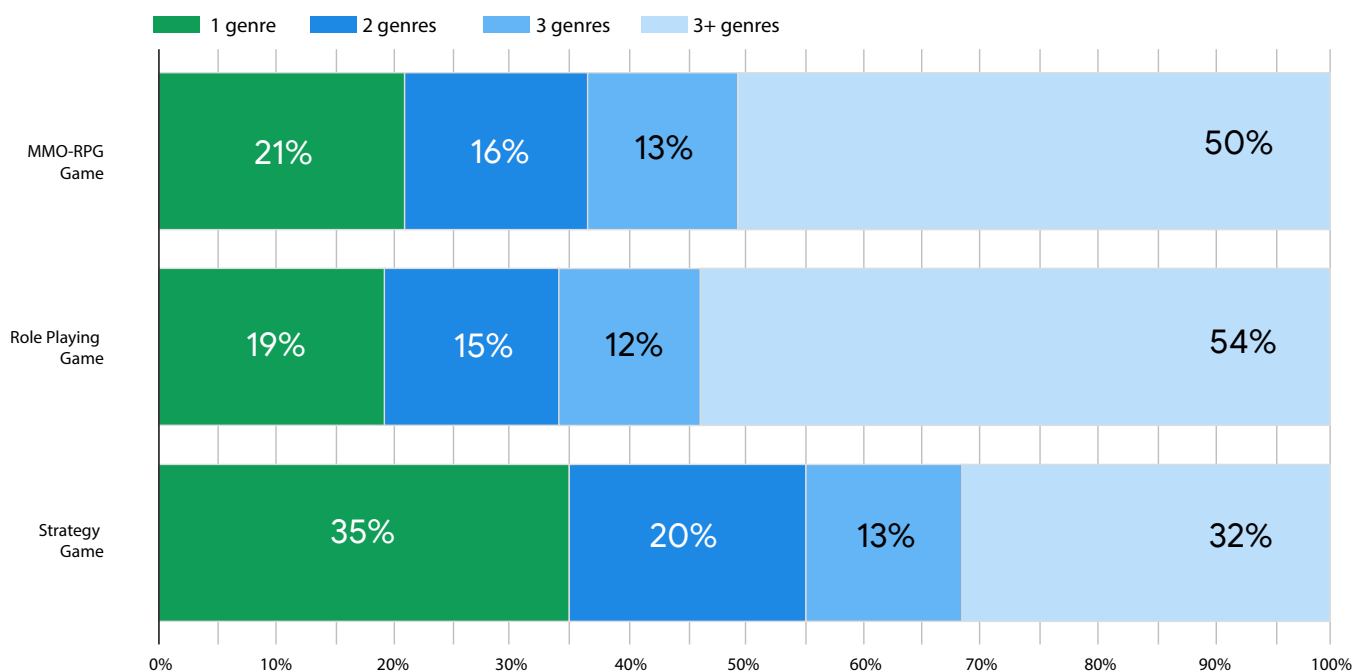


4X strategy players tend to be thought of as more selective or niche than players of other genres. To understand why, it's best to put player behavior in context by looking at genre differences at a higher level. Since 4X strategy is within the overall Strategy genre, let's start by comparing Strategy player behavior to **role-playing game (RPG)** and **massively multiplayer online role-playing game (MMO-RPG)** player behavior. Along with genre affinity, two metrics that offer insight are number of unique genres played and number of unique games played.



35% of core Strategy players play only Strategy games. This demonstrates that core **Strategy players are more likely to stay within their preferred genre** than core players of other genres (see chart to compare this with core RPG players, 19% of whom play *only* RPG games, and core MMO-RPG players, 21% of whom play *only* MMO-RPG games). The comparatively low number of core Strategy players who play more than three genres (32%) also indicates how selective the Strategy genre base base is.

% of core genre players who play other genres



Source: Google Play (June 2020)

▶ Loyal , core player base ◀

This means developers of Strategy games benefit from a **loyal, core player base**—one that is more likely to spend time and money within the Strategy genre.

However, when looking at the number of individual games played by core players, **80% of core Strategy players play only one Strategy game during a given month**. Therefore, the other consequence of this loyalty is that core Strategy players have a low probability of leaving their current preferred game to experiment with additional games.



Longer game sessions

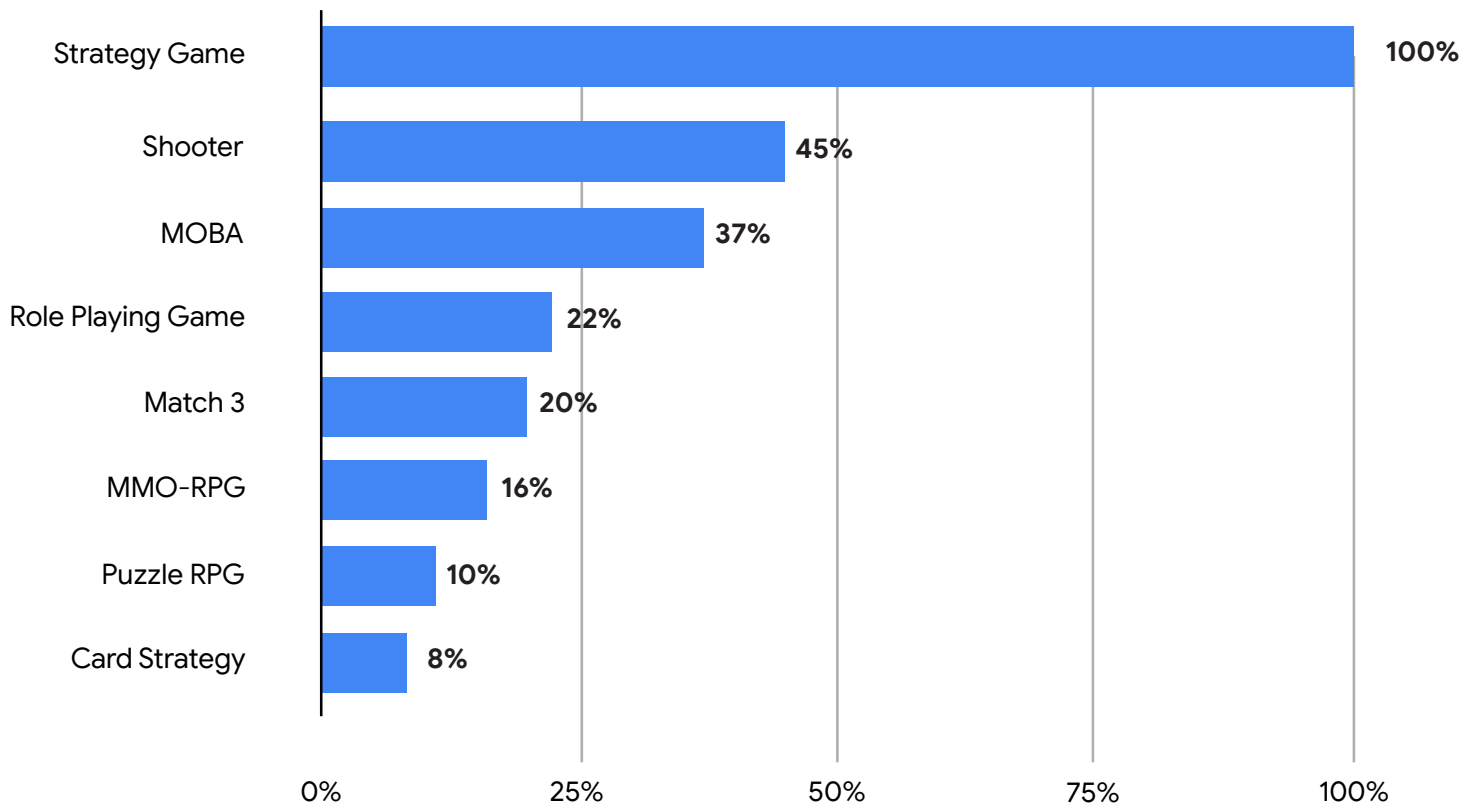


Heavy time and financial investment

All developers in all genres should strive to make their games engaging and sticky enough to increase retention of new players. However, given the behavior of core Strategy players and the overwhelming likelihood of those players preferring to remain in a single game, **it is even more critical for developers within the Strategy genre to build games that stand out and focus more on engagement and retention amongst their peers.**

Next, let's look at what core Strategy players who *do* play other genres tend to play. Looking at Google Play affinity research, we see that the two genres they are most likely to play are Shooter and MOBA games.

Genre affinity normalized to strategy games: 45% of strategy game players play shooters



Source: Google Play (June 2020)

These genres both offer something different than the Strategy genre does: standalone entertainment within a single session (or battle) and a sense of success within short-term victories rather than long-term time and resource investments. Our hypothesis is that core **Strategy players who play other genres seek out different but complementary types of experiences** in order to fulfill additional play-style preferences unmet by the Strategy genre.

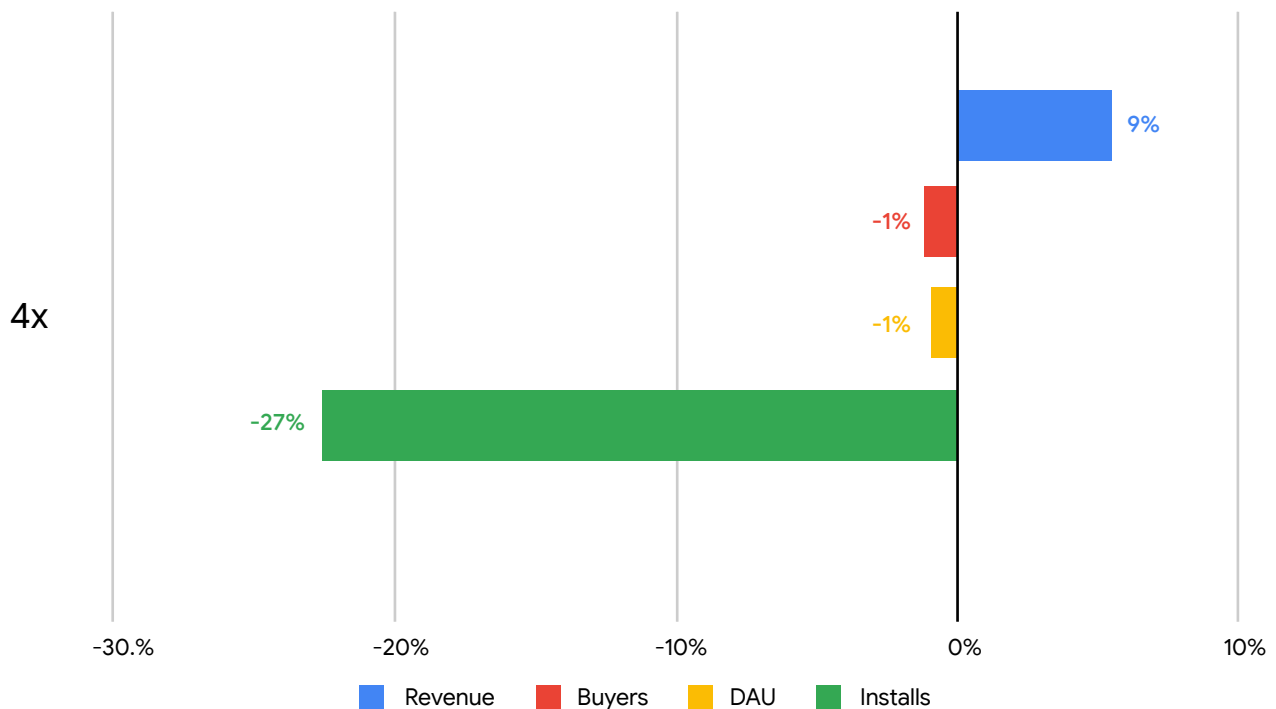


► KPI trends: 4x Strategy

We recommend all developers continuously track your game's performance metrics and use those KPI trends to prioritize new features and improvements in areas where your game is below its genre's benchmarks (refer to the series "[KPIs for Apps and Games](#)" for more details).

Let's look specifically at 4X strategy games. As of Q1 2020, **4X strategy revenue on Google Play is up 9% year over year**. This is significant because it was the only core KPI to improve; two remained flat (total buyers and DAU) and the other decreased nearly 27% (total installs).

**Global year-over-year growth for 4x KPIs:
revenue, # of Buyers, Total DAU, and Total Installs from Q1'19
to Q1'20 across genres**



Source: Google Play

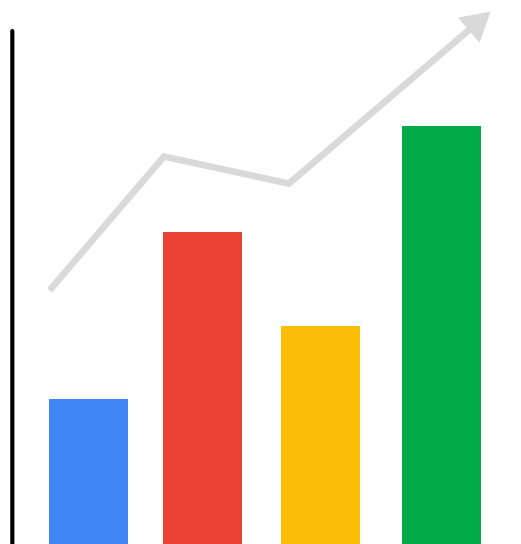
► 4x Strategy: increase in revenue ◀

Looking at these KPIs together reveals an important insight about the 4X strategy genre: an increase in revenue despite a flat player base indicates an improvement in 4X strategy games' underlying monetization metrics during this time. From this we can conclude that developers in this genre are better able **to improve the value of the experience** for their existing player base.

*Note that it is a best practice, when increasing revenue, to optimize game performance rather than rely on a continual stream of new players. This shows that 4X strategy developers are succeeding in **making monetization decisions geared toward long-term, sustainable success**, and in doing so they are also reducing their reliance on new installs to sustain performance.*



A thorough comparison includes looking at benchmarks of not just the genre, but also of the parent genre and even of other parent genres. Therefore, for the rest of the report KPIs 4X will be compared to the Strategy genre overall, as well as to RPG and MMO-RPG.

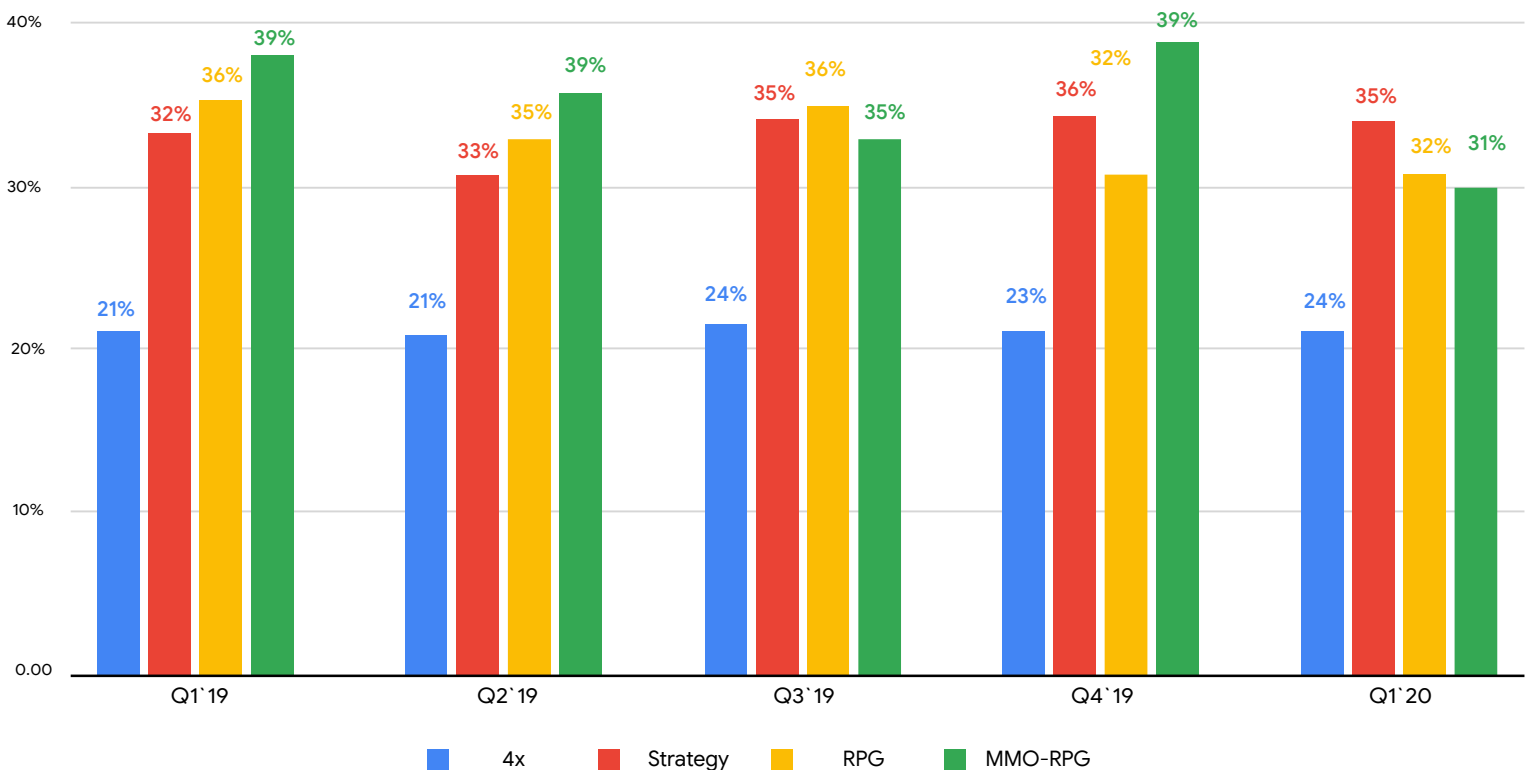


► Retention: 4X strategy

The average D2 retention for 4X strategy games is just below 23%. As mentioned, the higher investment required for players to succeed in 4X strategy games, as well as the higher risk of individual play sessions to feel punitive, means that **4X strategy games tend to churn players who are more casual**.

This is a crucial insight about the genre to keep in mind, especially when comparing retention metrics.

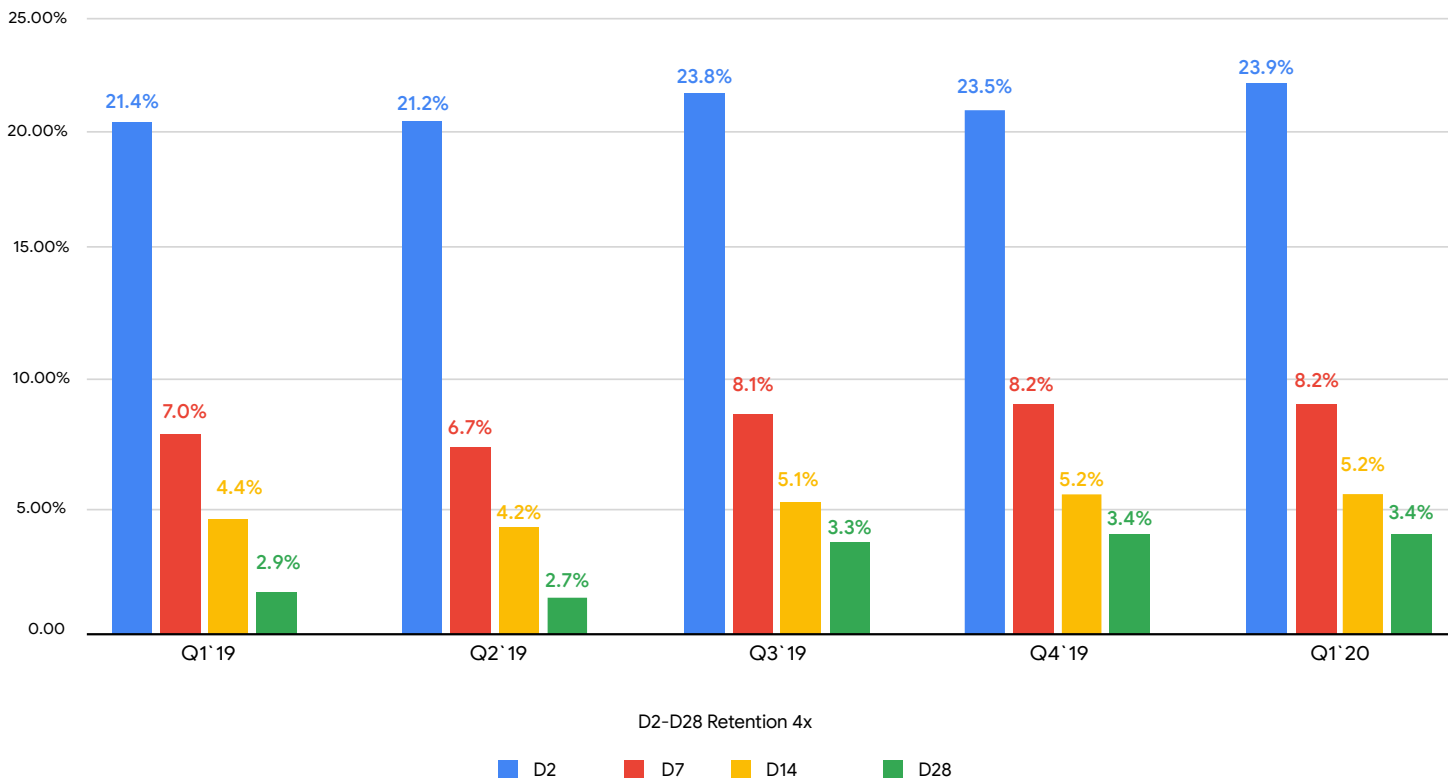
D2 retention trends from Q1'19 to Q1'20 across genres



Source: Google Play

This explains why D2 retention for 4X strategy is lower than that of its parent genre and other genres.

D2-D28 retention trends from Q1'19 to Q1'20 of top 4x games

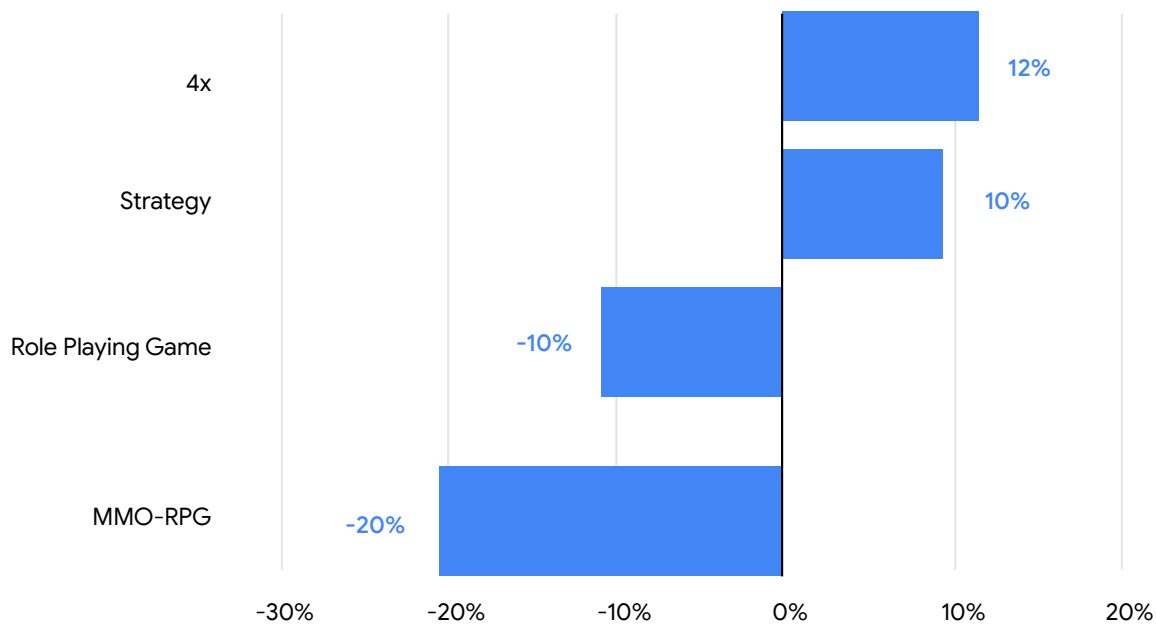


Source: Google Play

However, retention *growth* is up. Since Q3 2019, every retention metric for 4X games improved by at least 10%. Despite a low retention rate compared to other genres, 4X strategy retention growth is undeniably impressive.

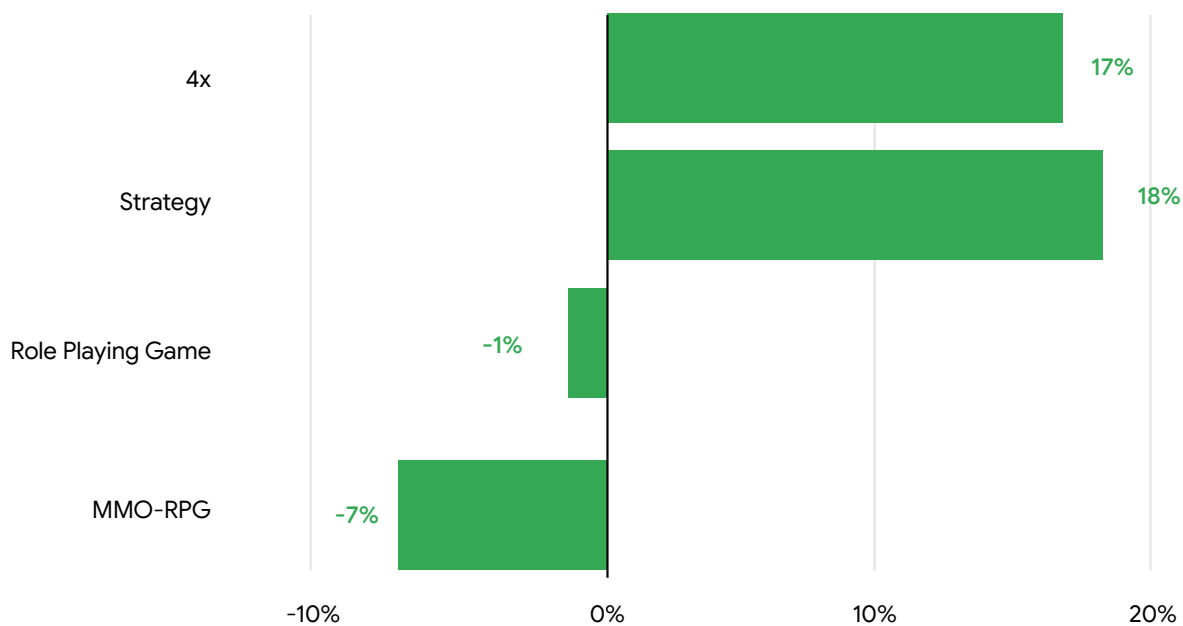
Let's look at a cross-genre comparison of both D2 and D28 retention growth.

D2 retention growth from Q1'19 to Q1'20 across genres



Source: Google Play

D28 retention growth from Q1'19 to Q1'20 across genres



Source: Google Play

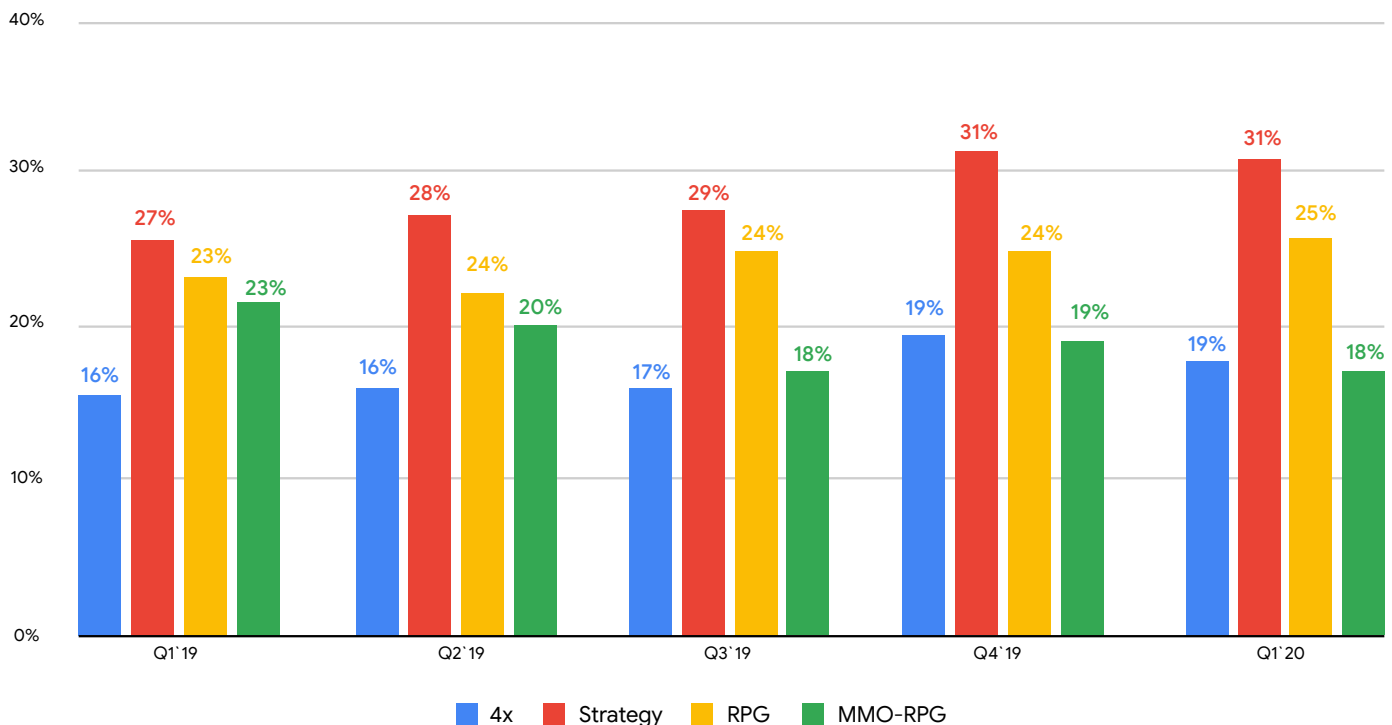
Retention: 4X strategy

4X strategy's retention growth far exceeds that of RPG and MMO-RPG (both are down). Put another way to illustrate this difference—for every 100 users, there are 17 more 4X strategy players playing by D28 after install while there were 7 fewer MMO-RPG players playing by D28.

So while short-term retention remains a challenge for 4X strategy games due to the nature of the genre, there is still **notable developer success in nurturing the players that do stick**.

Stickiness (calculated by dividing DAU by MAU) is up by a few percentage points, from under 16% in Q1 2019 to almost 19% in Q1 2020. **This growth is a positive sign for the 4X strategy genre** since its stickiness is lower than that of other genres for the same reasons that it has lower short-term retention. In other words, it is closing the stickiness gap (albeit slowly).

DAU / MAU trends from Q1'19 to Q1'20 across genres



Source: Google Play

Retention: 4X strategy

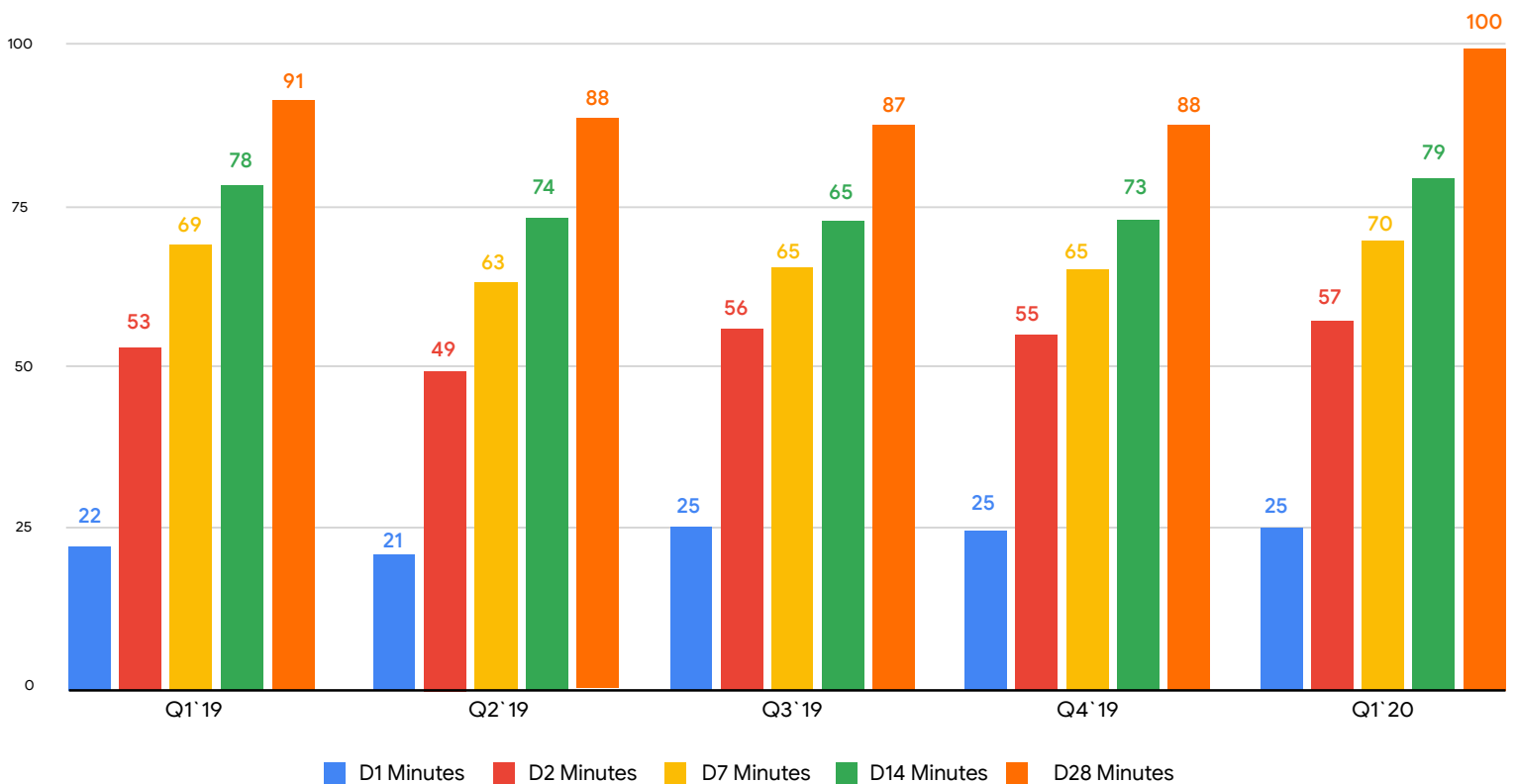


Let's compare this with the stickiness of the overall Strategy genre, which also improved (from under 27% to almost 31%) and with the stickiness of the RPG and MMO-RPG genres, which both declined (from 26% to 25%, and from 23% to 18%, respectively).

This shows that it's not only developers of 4X strategy games who are seeing more success, but developers in its entire parent Strategy genre.

4X strategy players are also playing **more session days** per month than before—and more minutes per session. Let's compare total minutes played by new users, from D1 to D28, throughout the year.

D(X) new user minutes trends from Q1'19 to Q1'20 of top 4X games



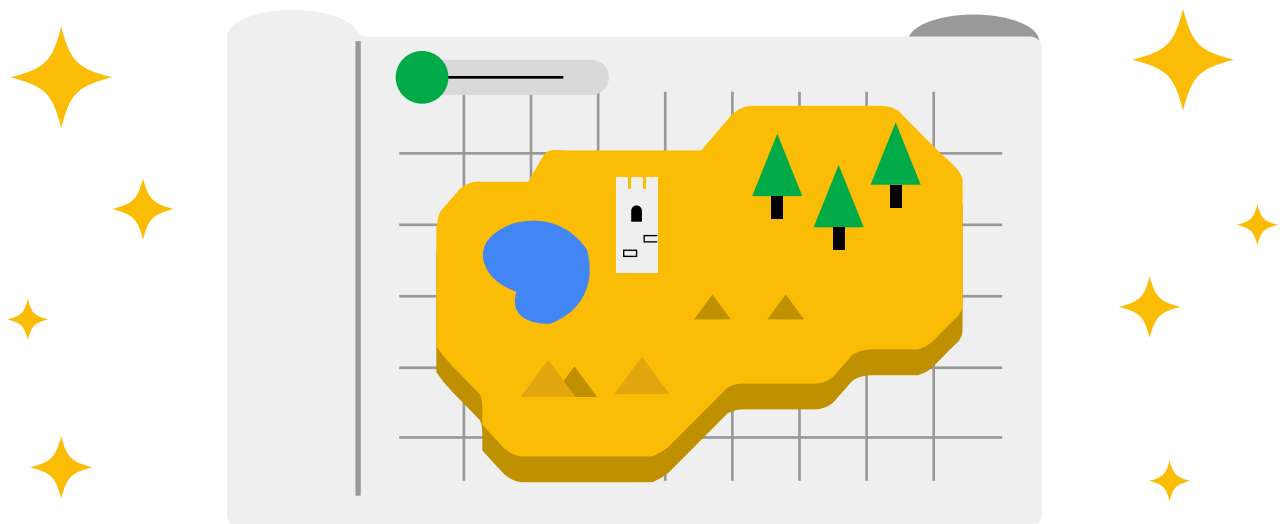
Source: Google Play

Retention: 4X strategy

During Q1 2020, new users spent an additional nine minutes playing per day on day 28 than they had on day 28 a year prior. Based on minutes played, that's almost a 10% increase in time; this is a significant improvement, and it is further proof that 4X strategy players who do stick around are highly engaged.

While some of this improvement may come from increased quality of users, due to things like better performance-marketing strategies, our hypothesis is also that **new features and updates to game systems contributed to the accessibility of the genre.**

In more traditional 4X strategy games, live-service events tend to be rinse-and-repeat quests (e.g. kill a creature, battle another player). In newer 4X strategy games, live-service events include this kind of progression in addition to events that allow players to progress in specialized goals (e.g. character-collection). This is one example of how having wider goals for players provides them with more reasons to engage and thus longer minutes played by those who stick around.



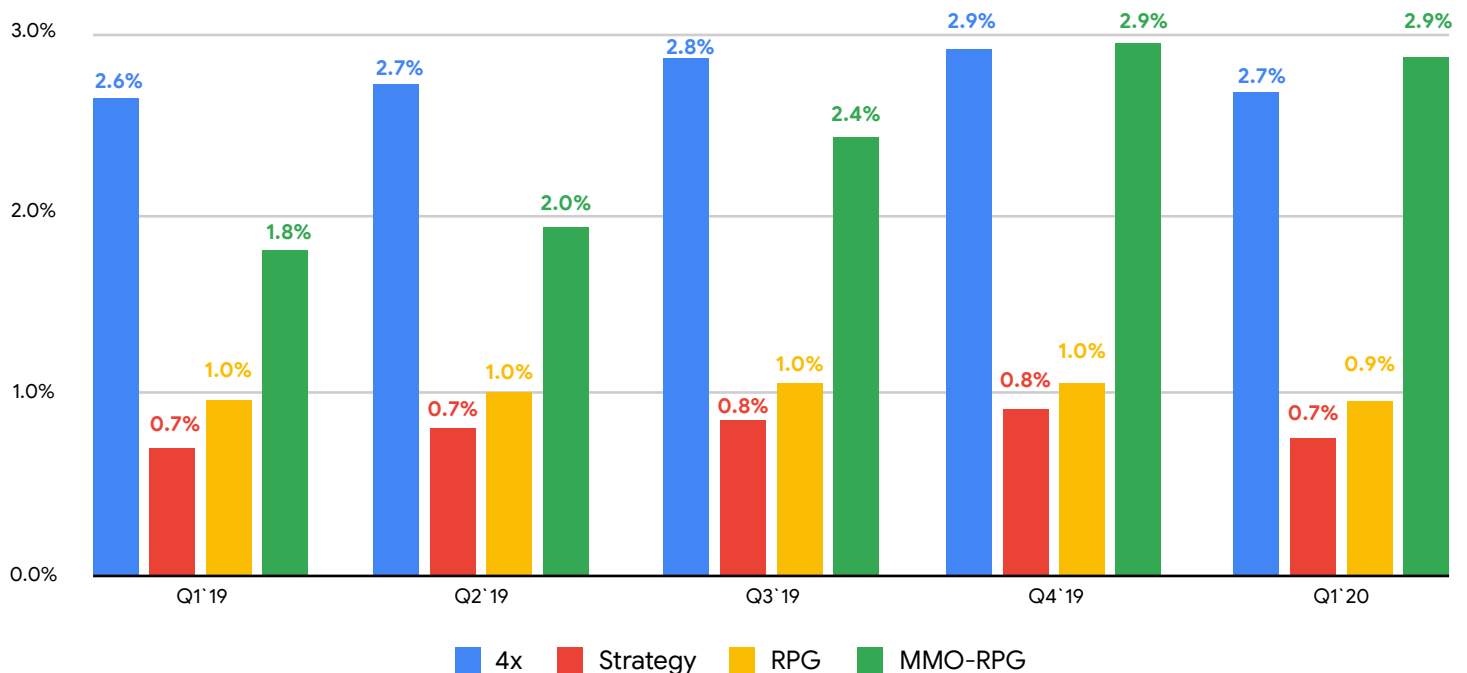
► Monetization: 4x strategy

As mentioned at the top of the KPI trends section, 4X strategy genre revenue increasing by 9% year over year despite a flat player base indicates an improvement in underlying monetization metrics. Let's return to this now and take a closer look at why, using other genres' baselines for comparison.

Average buyer conversion for 4X strategy remains relatively flat, but this is one of the few metrics discussed so far in which 4X strategy performs better than its parent genre, Strategy.



Average buyer conversion trends from Q1'19 to Q1'20 across genres



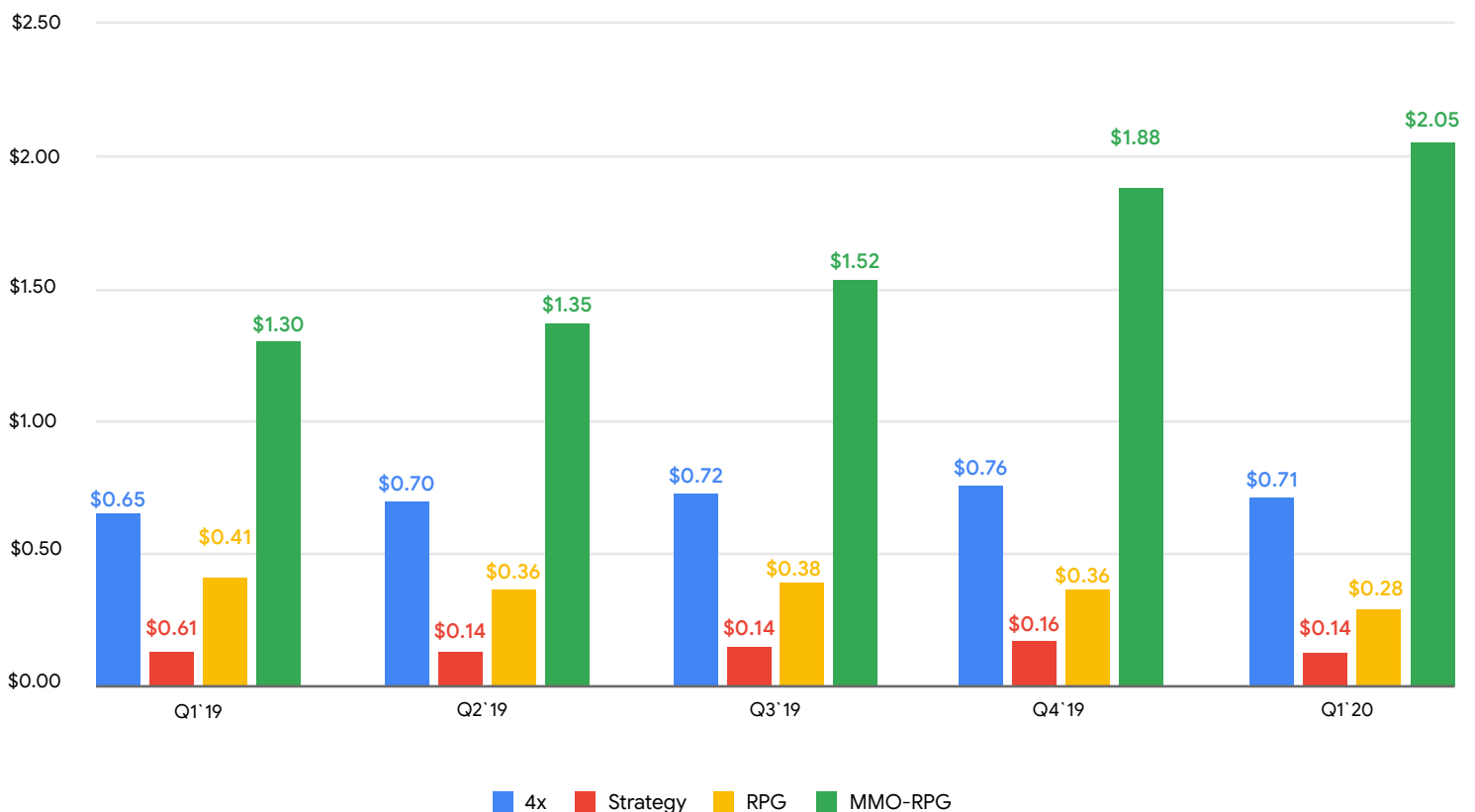
Source: Google Play

Monetization: 4X strategy

This, again, reinforces that although 4X strategy games have initial retention challenges, they are better able to monetize their comparatively loyal player base. One note on MMO-RPGs is that they saw large buyer conversion growth.

A game can increase its revenue by increasing the number of buyers or increasing the amount of spend from existing buyers (or a combination of both). In this case, we will look at both Average Revenue per Daily Active User (ARPDau) and Average Revenue per Paying User (ARPPU) to understand 4X strategy revenue growth. Let's look at both of these metrics by genre.

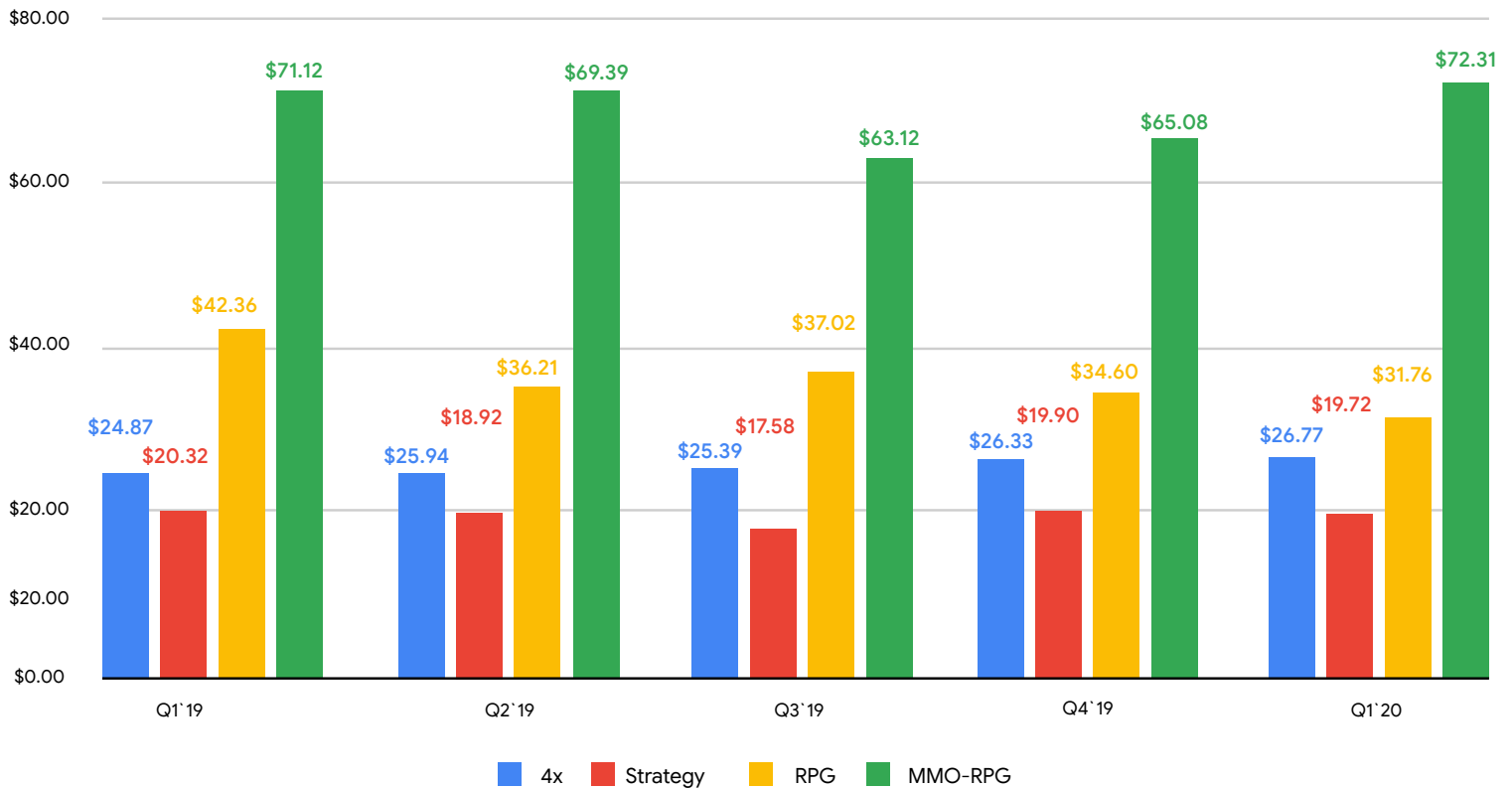
Average revenue per daily active user (ARPDau) trends from Q1'19 to Q1'20 across genres



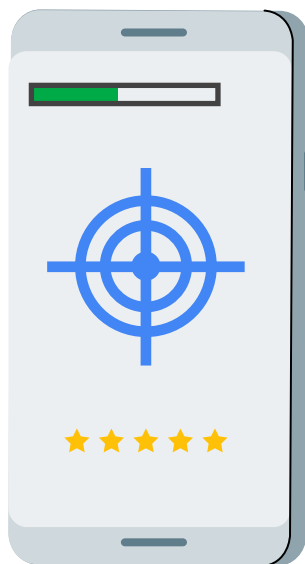
Source: Google Play

Monetization: 4X strategy

Average revenue per paying user (ARPPU) trends from Q1'19 to Q1'20 across genres



Source: Google Play

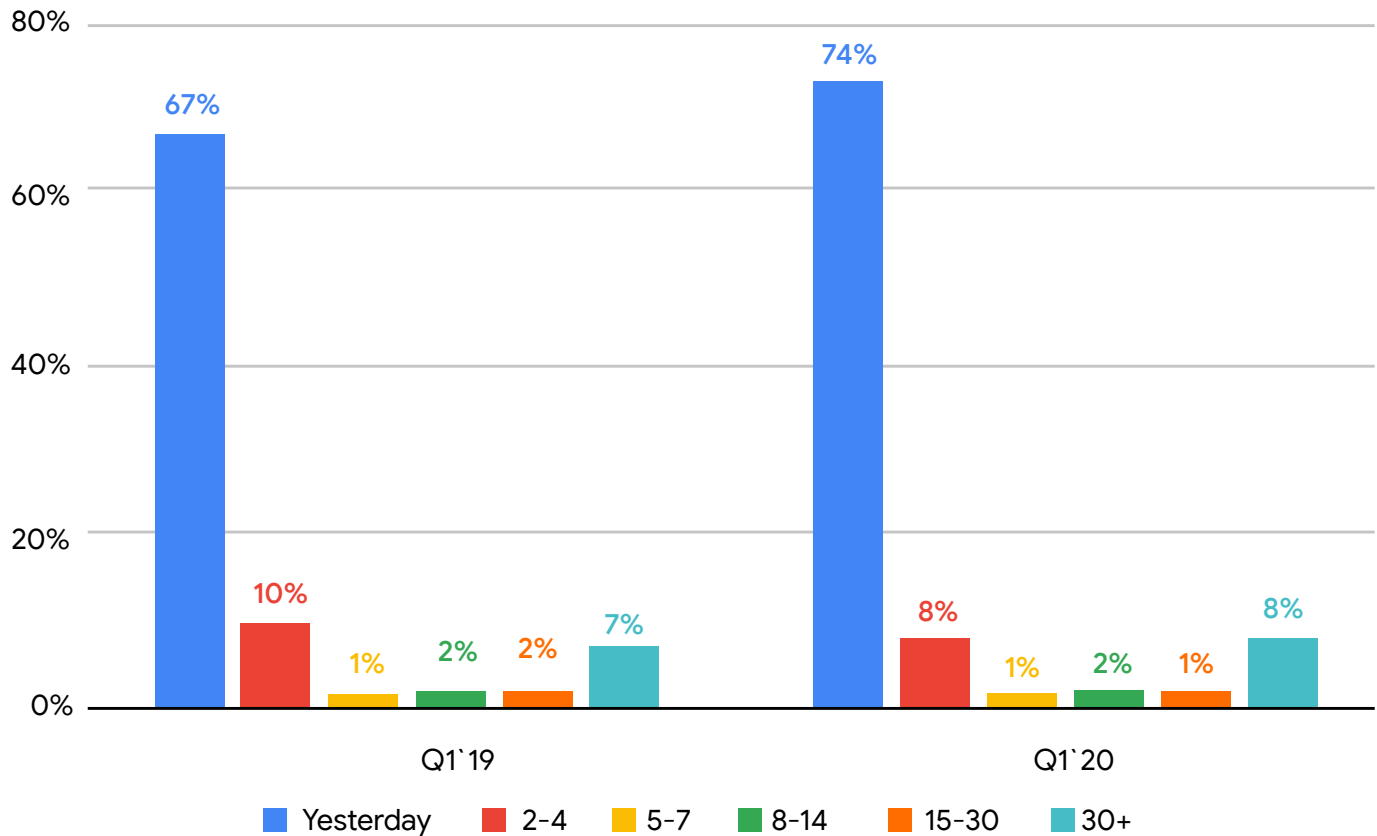


The 4X strategy game genre, unlike Strategy and MMO-RPG, improved its ARPPU and ARPPU metrics despite flat buyer conversion trends. This signals that 4X games are monetizing existing player bases more successfully. Despite not having user growth, 4X strategy still grew its revenue, which may indicate the high value of live services as well as optimized player experiences.

We recommend developers look closely at buyer distribution, or when different buyers spend, as well as the above KPIs. Comparing buyer distribution of 4X strategy, Strategy, and the two other parent genres, we see that buyer distribution has indeed shifted.

Monetization: 4x Strategy

Average buyer distribution (last time paid) between Q1'19 and Q1'20 of top 4X games



Source: Google Play

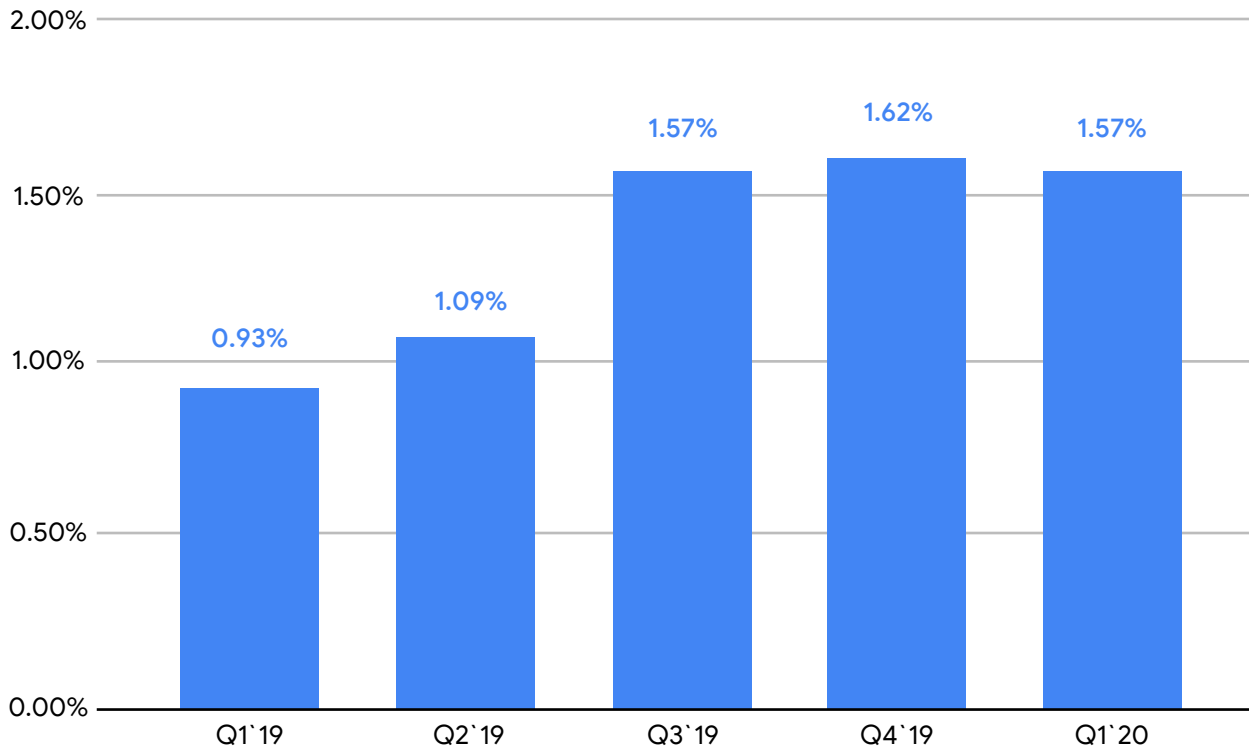
Between Q1 2019 and Q1 2020, buyers who converted two days in a row grew from 67% to 74%, which means 10% more users spending consecutively than in the year prior.

Earlier, when discussing engagement KPIs, we mentioned the improvement in D28 minutes played by new users. If engagement KPIs improved toward the end of the month, it's worth also noting when exactly monetization improved.

The data shows that monetization and buyer conversion improvements in new players occurred earlier; not only are new users spending more time in-game by day 28, they are also converting into paying users much earlier than that.

Monetization: 4x Strategy

Average week 1 conversion trends from Q1'19 to Q1'20 of top 4X games



Source: Google Play

Looking just at week-one buyer conversion, we see an increase of almost two-thirds. This could be attributed to better-quality starter-packs and clearer value propositions for merchandise, which we will explore more in our 'insights and tips' section for monetization.

Lastly, things that could have contributed to the step change between Q2'19 and Q3'19 include a higher quality of users and an overall decrease in total installs. **4X strategy is performing better not just due to optimizations for existing users, but also due to better new user experiences for those comprising the new installs.**

▶ Case study:
Star Trek™ Fleet Command:
Broadening the funnel to increase
engagement and reduce churn



The team behind the game shares what they learned about their 4X strategy players.

Star Trek™ Fleet Command is a mobile strategy game that has pushed the genre forward by blending classic MMO elements with deeper, more personalized narratives that immerse players more than any other game in the category by a US-based publisher.* This attention to personalization and storytelling begins at the very top of the player funnel, and continues on to broaden that funnel and increase retention, decreasing the churn that is common within the genre.

From first arrival into our galaxy, the player receives a high fidelity graphic game with a story-based introduction that leads them into the game and motivates them with goals and objectives. Those narrative goals, and the desire to discover more of the Star Trek universe, create a more accessible and enjoyable adventure, blended within the traditional demands of exploration and progression.

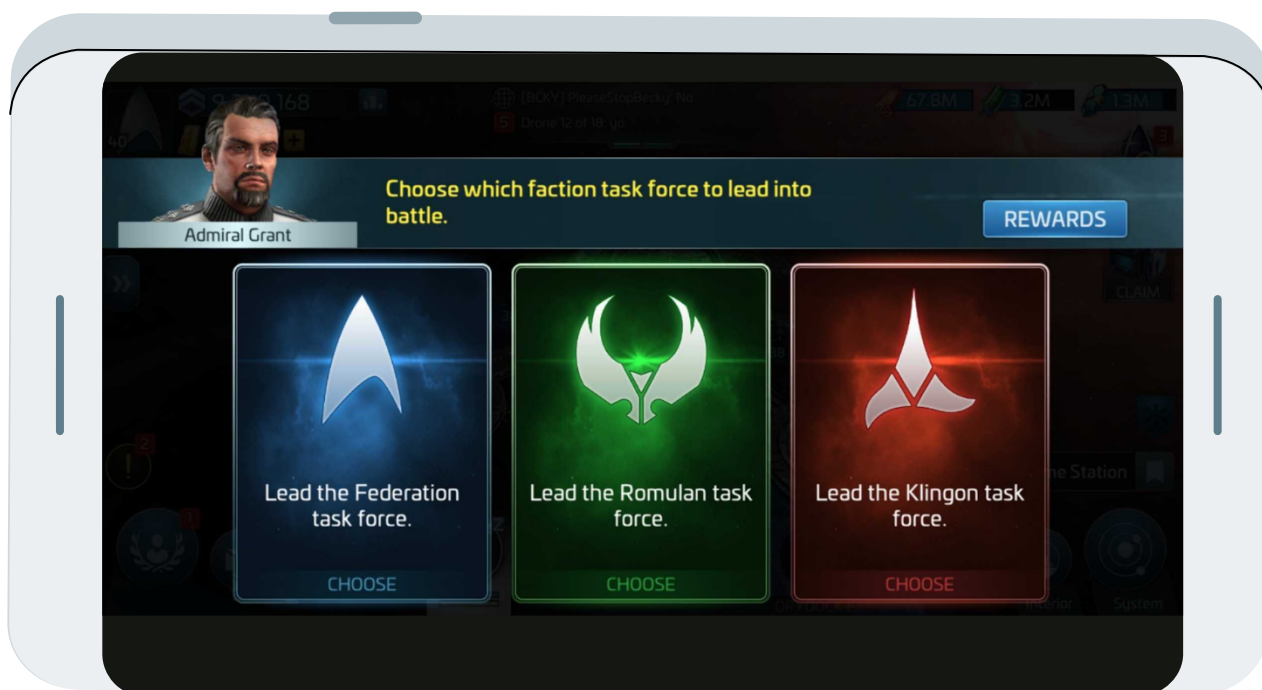
The early game experience, tied in with actual story and decision, has proven to significantly benefit retention of our players. **After integration of a core storyline during soft launch, day 30 retention rose by 37%.****

[*via AppAnnie Q1 2020](#)

Case study: Star Trek™ Fleet Command

Our narrative arcs bridge, branch, and interweave based on many choices presented to players, increasing personalization and further broadening the player funnel by deepening engagement. We see the results of this in our players' habits: **about 80% of players are playing 7 days a week.**** New content that's tied to an event, meanwhile, can be segmented and personalized, with difficulty and rewards anchored to the player's time and progress within Star Trek™ Fleet Command.

The lure of a new storyline, with new characters, can be found around every hidden star system of the game, with more arriving all the time. This influx of new content, new features, and a dynamic live ops roadmap can be segmented and personalized, with difficulty and rewards anchored to the player's time and progress within Star Trek™ Fleet Command. These elements combine to deliver a genre-leading experience that players love and continue returning to for years. **Over the past 15 months, the team has consistently reduced daily churn by half.****



"Personalization of content is critical to how we think about the success of Star Trek Fleet Command and any game like it. The more we can provide engagement for a different experience, tailored to the progress of each player, and then reward that progress with still more opportunity for new engagement, is the more successful we can be in the long-term."

**- General Manager and Vice President of Game Design,
David Eckelberry**

**based on data provided by Scopely

▶ Insights and tips: onboarding and retention



The increase in retention discussed above is likely due to one of the most powerful ways to improve game performance: improving onboarding. 4X strategy games, once notorious for a high learning curve, have made notable improvements as a genre when it comes to making it easier for new players to understand and engage with early game mechanics.



The mechanics that define the genre (explore, expand, exploit, exterminate) are a good framework to understand what new users need to be taught and guided through as seamlessly as possible to prevent churn. It's difficult for players new to a genre to understand everything simultaneously; because immediate competition can feel unfair (if a brand new player is faced with an expert player) and because resource-loss or perceived 'wasted time' after a session goes awry can be discouraging, it's recommended that 4X strategy developers **introduce the exploration and expansion mechanics first**—well before introducing the extermination elements, for example.

Layering collection mechanics, such as those common in RPG games, into the early user experience creates a sense of progression that **gives new players confidence** that their time is being well-spent and that they are succeeding in their gameplay.

This also allows players space to make mistakes and time to grow their resources and power, which provides a sense of safety in addition to accomplishment. Some 4X strategy games wait several weeks before introducing the competitive elements, and when they do so, they **allow players to opt-in to combat knowingly** (e.g. by choosing to enter a specific area or leveled quest). This type of onboarding improvement decreases the likelihood that new users will churn out of frustration, but it also creates an early game experience that is more broadly appealing and thus increases the likelihood that new users will stay.

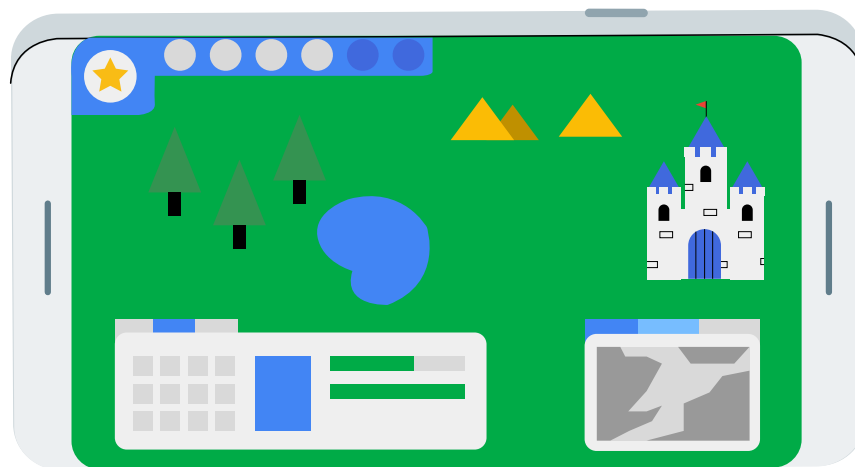
Insights and tips: onboarding and retention

In giving players more autonomy and space to practice game mechanics in the early stages of a game, developers of these newer 4X strategy games have not strayed from the traditional goal (i.e. allure) of the '4X,' where competition is a main motivator of the end-game; instead, **they have introduced the various elements of '4X' thoughtfully**, and in sequence.

Many new 4X strategy players may also simply enjoy the early sandbox elements of the game, while they consider what kind of player they want to be or what kind of strategy they want to adopt when the game at last expects them to risk the resources they have accumulated in order to build power over other players.

This onboarding experience is crucial in optimizing engagement and retention, but also for monetization. Forcing new players to spend money in order to defend themselves from attacks they aren't ready for in the first place is not an ideal player experience for anyone, let alone players new to 4X strategy.

When it comes to play style and target audience, there is room for **both casual and core** players in the 4X strategy genre. Whom a game is catered toward depends on the developer's vision and how broad of a player base is desired.



Another major change in 4X strategy games is the more **user-friendly UI/UX improvements**. Traditional standards had clustered menus and muted colors, whereas newer releases are easier to read and look more vibrant. This is a more inviting experience for players new to the game or unfamiliar with the genre. Using hybrid models alongside innovation, as well as a more narrative-focused design or incorporating IP partnerships, can also attract a wider audience.

Shifts occur in how players play certain titles, as well. For example, 4X strategy games typically used to be played in portrait mode on mobile to allow for easier typing and chatting; newer games support **landscape mode**, which provides familiarity as it resembles other handheld games.

Here are some tips in thinking through how to optimize your 4X strategy game's onboarding:

01 Prioritize the introduction of certain features

Identify which elements of gameplay are critical at what points in the game, and bring them in accordingly. Don't assume too much knowledge; keep any friction in onboarding as low as possible, and consider allowing experienced 4X strategy players to bypass any explanations with which they may already be familiar.

Avoid introducing too many of a game's mechanics and opportunities at once, especially those that are more relevant (and thus better saved for) later in the game.

02 Protect new players from unfair competition

Reduce or eliminate altogether the likelihood of experienced players confronting new players before the new players have time to find their footing and prepare for combat.

Additionally, make it clear when new players are approaching a potential confrontation, and consider allowing them to opt-in to that type of experience before assuming this is what they want.

03 Offer a sense of progression

For at least the first few play sessions, create ample opportunities for new players to collect resources, expand their abilities, or otherwise achieve evidence of success.

This will help the game experience feel rich and meaningful, even without the elements of gameplay that have yet to be introduced.

04 Design a more inviting UI/Ux

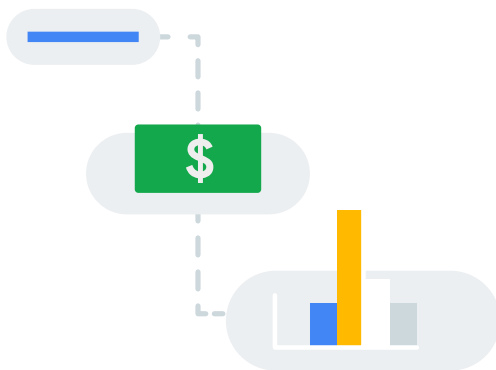
Make it easy for new players to see and understand what they're looking at, without being visually overwhelmed. Make sure your colors and style look conducive to both casual and core players (if that's your goal).

05 Optimize the 4X social experience

Keep new users as well as experienced users in mind, and adjust how you offer engagement with social features accordingly. Chat may be a good layer to start with, but consider how mentorship and other leadership opportunities for advanced players can help create a positive atmosphere for new players. Social play is among the core expectations for 4X strategy players, and that means both as friend and foe.

Consider how to create a competitive atmosphere through indicating different power positions of each player or how to raise awareness of timely events and activities. You can also read up on some additional [recommended best practices for managing multiplayer communities](#). Lastly, any meaningful game politics should be well-surfaced (menus, leaderboards, iconography), as this is a proven method for increasing retention of socially-driven players.

► Insights and tips: monetization



Some 4X strategy games deviate from standard merchandising techniques, so it's worth noting the differences to understand what is best for a particular game.

In traditional 4X strategy games, players receive a pack offering almost immediately after logging in—one that's timed to expire, in order to incentivize a purchase through fear of missing out. Newer titles sometimes forgo serving players this experience, instead moving more toward 'pull-style' merchandising techniques: bringing players to the store, rather than bringing the store to the players, and ensuring they browse for what they want, which creates a different but potentially more successful purchase pattern than what once was assumed to be the most effective.

Did you know?



Focusing less on interstitial promotions (e.g. packs) and establishing a strategy for providing more individual purchases (e.g. hero characters) can sometimes increase week-1 conversion, and we saw the genre improve week-1 conversion by nearly 70% year over year. However, traditional monetization methods aren't gone, and there is still plenty of evidence that they continue to drive revenue. Giving players more choice and autonomy in how they spend their time and money in a 4X strategy game is part of the shifting mobile landscape.

Here are some tips in thinking through how to optimize your 4x Strategy game's monetization:

01 Provide limited, incremental purchases

Provide limited, incremental purchases that provide meaningful value (limits could be daily, weekly, or monthly). Small yet helpful items provide the most value when their benefit is immediately recognizable to the player.

Scarcity also helps. This can also increase day-over-day purchases.

02 Allow users to keep items

Allow users to keep items (e.g. make them durable and permanent). Since 4X strategy is a genre about conquering digital real estate—land that can be taken away—ensure the player is finding value in ownership elsewhere.

03 Alternating pricing strategies

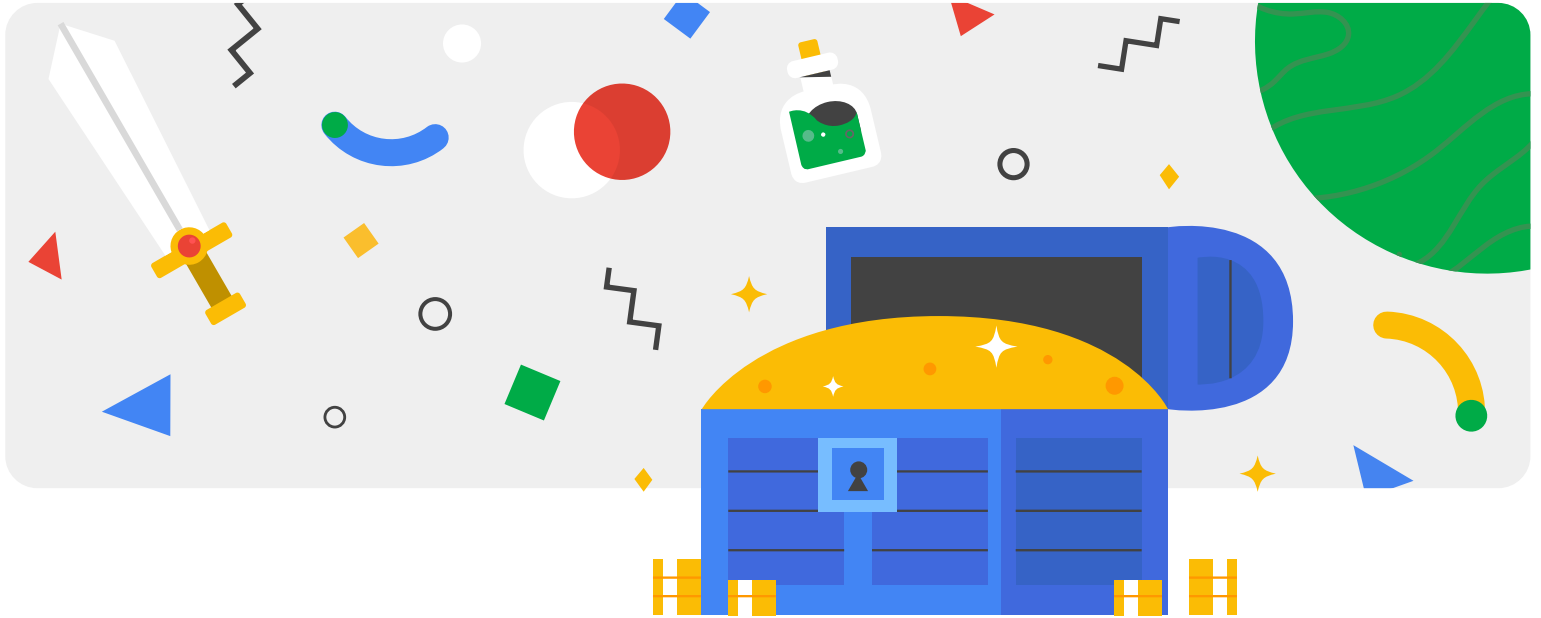
Alternate pricing strategies (and bundles). A common practice in traditional 4X strategy games is to increase bundle prices after each purchase; however, this can scare players off and even reduce the frequency of purchases once the price point gets too high with no alternatives.

Allowing players to have other choices, such as during times of conflict or when gifting items to someone else, provides more freedom for players who have preference for when or how they spend.

04 Live services for player segments

There is more than one way to play 4X strategy games, due to the sandbox nature of the genre, and therefore players often have a wide variety of different play styles and personal goals. It's a good practice to ensure you're accommodating these various needs with your live events, as well.

For example, offer strategy-driven events (e.g. base relocations) for your segment of highly strategic players, and offer events that reward resource milestones for your segment of players that enjoy resource-gathering and collecting. Players who feel the game is meeting their needs and preferred play style are more likely to engage and continue returning.



► Conclusion: 4X strategy

4X strategy is a competitive game genre for developers to enter: year-over-year installs did not increase, despite the new 4X strategy games released. This creates pressure for developers to bring fresh ideas that will attract those loyal players. The acquisition funnel is challenging, but key metrics for retention, engagement, and monetization are up. Players are better retained, playing more, and spending earlier and more frequently.

Ultimately, developers must evaluate the needs of 4X strategy players and build priority features to address those opportunities. Consider variances in progression, game economy, and player personas based on the target audience. Remember, 80% of core Strategy players play only one game during a given month, so it's critical to stand out.

We hope you find success taking action on the insights provided in this report. This 4X strategy report is just the first in a series of upcoming game genre reports, where we will provide our developer community with exclusive Google Play data and specific analyses to help grow businesses in these genres. If there are genres you want to learn more about next, please feel free to send us your feedback using this quick [survey link](#).

Howard Chen
Developer Growth Consultant
Google Play