

Introduction: Duolingo (DUOL) was founded in 2011 by two co-founders, Luis von Ahn (CEO) and Severin Hacker (CTO), and has grown to become the most downloaded and top-grossing education language learning mobile app globally. Luis's PhD thesis is the first work on Games With A Purpose (GWAPs) played by humans that produce useful computation as a side effect. In 2007, Luis founded and invented reCAPTCHA, a new form of CAPTCHA that also helped digitize books, and served as CEO until it was acquired by Google in 2009. A driving motivation was Luis's upbringing in Guatemala. Luis saw how expensive it was for people in his community to learn English. In 2009, Luis, a Computer Science Professor at Carnegie Mellon University, began partnering with Severin, his PhD student, to develop Duolingo, which was launched in 2012. DUOL's mission is to develop the best education in the world and make it universally available. Both shared a vision that everyone, regardless of their wealth, should have access to high-quality education. They focused their efforts on creating a mobile app that delivers bite-sized, on-demand, and engaging content, making learning accessible and effective for the masses.

Tailwind: There is an enormous pool of potential language learners globally that HolonIQ estimates at ~2bn people (~6.5% share with 130 mil MAUs). Grand View Research estimates the total online language learning market to grow from US\$22.2bn in 2024 to US\$54.8bn in 2030, at a 16.6% CAGR. Self-learning apps (where Duolingo operates), however, are expected to grow at a slower CAGR of 14.4% from US\$13bn to US\$29bn. Tutoring is expected to grow at a faster rate, with an 18.7% CAGR, from US\$9.2bn to US\$25.8bn. While DUOL has a small <1% share (FY24 US\$748m revenue) of the self-learning app TAM (2024 US\$13bn), DUOL has been growing faster and gaining market share.

Products: DUOL is the world's leading mobile learning platform, offering its free ad-supported users and paying subscribers access to gamified learning courses in over 40 languages, math, music, and chess. DUOL focuses on being fun, effective, and free. The DUOL method focuses on five principles: (1) learn by doing, (2) learn in a personalized way, (3) focus on what matters, (4) stay motivated, and (5) feel the delight. None of DUOL's learning content is behind any paywall. Free ad-supported users can use it for as long as they like and complete any of their courses for free. Ad-supported free users receive either DUOL ads (for paid subscriptions) or external in-app ads. DUOL's revenues come from four products: (1) subscription (83% total), (2) advertising (8% total), (3) Duolingo English Test (DET) (5% total), and (4) other (in-app purchase) (4%). Bookings are a significant leading indicator of revenues, of which DUOL's growing subscription monetization has led to a growing subscription share of quarterly bookings from 74% to 85% over 2Q20 to 1Q25. Duolingo's product obsession and gamification have led to an industry-leading scale, a strong brand reputation, high engagement, and efficient customer acquisition (~90% of user growth is organic). The freemium model creates a strong conversion funnel for its paid subscription offerings (Super, Super Family, Max, Max Family). As of 1Q25, DUOL had 107.8mil monthly active users (MAU), 35.8mil daily active users (DAU), and 10.3mil paid subscribers. User engagement has continued to rise, increasing DAU/MAU from 20% to 36% from 1Q20 to 1Q25. Higher-paid subscriber conversion has driven Paid Sub/MAU growth from 3.3% to 7.9%.

However, while DAU growth continues to outpace MAU growth, paid subscriber growth has conversely lagged behind DAU. The annual paid sub/DAU ratio has been declining from a peak of 29.6% to 26.5% from 2022 to 2024. The quarterly has also been similarly trending lower, from 25-26%+ in 2022 to 22% in 1Q25. Notably, DUOL's ARPU metrics have not been rising. Revenue/MAU has remained flat over the last three years at US\$6.7-6.9. Revenue/DAU has declined from US\$26 in 2022 to US\$20.9 in 2024, and quarterly metrics continue to point lower. Even ad-ARPU has continued to decline since 2021. While the higher Duolingo Max product, which includes video calls with an AI-powered conversation partner, Lily, has been gaining traction (8% of paid subscribers), the negative underlying user dynamics appear to be continuing. However, these user trends are not what we would like to see.

Geography: US and ROW accounts for 42% and 58% of revenues, respectively. The UK had historically accounted for 8% of total revenues in 2023. The geography mix FOR DUOL has mainly been stable.

Distribution: DUOL adopts a mobile-first approach. Bookings from the Apple App Store have increased from 53% to 62%, while those from the Android/Google Play Store have remained steady at 20%. Meanwhile, bookings from other sources have declined from 27% to 18%. The overall mix for revenues and accounts receivable remains similar. While management will conduct testing in light of the new web ruling, users have historically gone through Apple and Google directly, as it is easier with lower friction.

Competitive Advantage: DUOL leverages extensive AI, machine learning, and data analytics, which powers its substantial data moat of over a billion exercises completed daily by its users. DUOL has a strong culture of experimentation and metrics-driven decisions. Its relentless focus on running hundreds of A/B tests each quarter on new product features enables it to continually iterate and improve learner engagement, thereby increasing DAU, which in turn leads to paid subscriber conversion and user retention. While DUOL is the leading B2C online language learning app, offering the most languages, it has become the default household name, particularly suited for the recreational and informal language learning market, thanks to its strong branding and accessibility. Duolingo's key strength lies in the gamification of daily streaks and repetitive learning, which hooks users, making the language learning experience accessible and engaging, especially for informal language learners. DUOL is an engaging way to practice the language you are learning, but it is unlikely to make one fluent or properly teach a language. Grammar is not taught, context is not given, and most of the words or sentences are entirely random and often have little real-world application, which doesn't prepare one for real-life conversations. More serious learners complain about the focus on vocabulary over conventional skills, as it lacks depth in building language fluency beyond lower intermediate levels. Lastly, DUOL is typically well-suited for beginner to intermediate learners, but it has yet to provide a strong offering for intermediate to advanced learners. This creates a graduation effect headwind where users tend to drop off and churn when they progress to higher levels, and these can be difficult to resurrect. Thus, while the monthly subscriptions are recurring in nature, the quality of the recurring revenue, although higher than most mobile apps, is not mission-critical; it tends to be lower than that of SaaS companies. This means that the long-term durability of the platform is of lower quality and one that we will not be able to underwrite with a high degree of certainty. It requires more frequent monitoring of user metrics. That said, Duolingo is leveraging opportunities with AI to make the platform more conversational, aiming to retain advanced users. The lack of real-time feedback from a human expert, especially for adult language learners, the inadequate pronunciation of words without sufficient guidance on proper pronunciation, and the limited focus on building fluency and conversational skills rather than merely memorizing vocabulary and grammar have been identified as weaknesses of DUOL. Using Max and Video Calls with Lily, which now allows users to practice conversations. The recent Apr 2025 release of 148 new languages, more than doubling their current offering, is allowing DUOL to scale at unprecedented speed and quality.

Financials: DUOL has been growing MAU and DAU rapidly into an ad-supported freemium funnel to convert free users into paying subscribers, upselling them into Super, Max, and Family plans, in turn driving the growth in subscriptions (83% of revenues) strongly. However, paid subscriber growth (58% to 39%) has lagged DAU (62% to 48%) over the last 2 years, and growth is decelerating. Gross profit margins have remained strong at 73%. Management expects a softer 1H25, followed by an improvement in 2H25. There is room for DUOL to grow current FY24 Adj EBITDA margins of 25.7% towards management's long-term targets of 30-35% supported by strong operating leverage, presenting upside to FCF margins. DUOL has a strong balance sheet with no financial debt, with net cash of US\$1bn and US\$900mil (including operating leases). DUOL has negative adjusted net working capital after including deferred revenues for the monthly/annual subscriptions that are paid upfront but not yet recognized.

Growth/Expansion: DUOL is driven by two mutually self-reinforcing learning and investment flywheels. (1) Learning flywheel: The greater the scale of their learner base, the more they can use insights from data analytics to improve both engagement and efficacy. The more engaging their products are, and the more effectively they teach, the more their learners tell their friends about DUOL, and the more they continue to grow their learner base. (2) Investment flywheel: The scale of their learner base and

word-of-mouth growth enables them to focus their capital investments on product innovation and data analytics rather than relying on brand or performance marketing. The more learners use Duolingo and convert into paid subscribers, the more DUOL can invest in creating an even more delightful, engaging, and effective learning experience. In turn, this increases their popularity and user scale, as well as the effectiveness of our data analytics and AI systems, further widening their data moat. DUOL has a powerful brand, leveraging marketing through social media influencers and performance marketing, which has resulted in strong word-of-mouth virality and extremely high user growth, with ~90% of users coming from organic sources. Most of DUOL's growth comes from organic reinvestments rather than inorganic acquisitions. DUOL has made only two small acquisitions, totaling US\$7.5 million for animation and motion design. While DUOL's new product expansion beyond language to math (launched in 2022), music (launched in 2023), and chess (launched in 2025) presents upside optionality for DUOL to stack new S-curves, thus far, substantial revenue and success have yet to materialize.

Competition: The online language learning industry is highly competitive, with thousands of free mobile apps for language learning, characterized by low barriers to entry but high barriers to scale. While DUOL competes with numerous competitors like Babbel, Busuu (Chegg), Memrise, Tandem, Rosetta Stone, etc, DUOL is the runaway top dog with ~60% share of the online learning language app market.

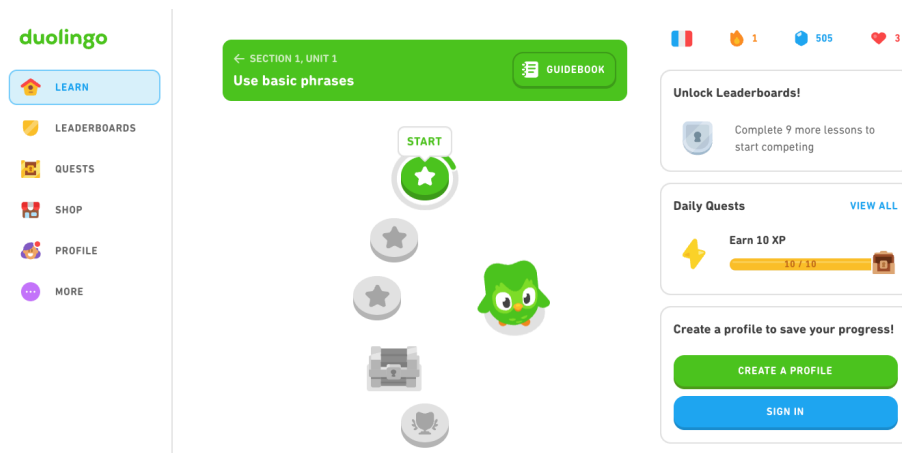
Management: DUOL is founder-led and highly mission-oriented, driven to take the long view, raise the bar, keep shipping, show, don't tell, and make it fun. DUOL has 4.1 stars on Glassdoor, with an 82% CEO approval rating and a 69% recommendation rate to a friend. DUOL has a high total insider ownership of 14.5% split 7.4% with Luis von Ahn (CEO) and 7.0% Severin Hacker (CTO), and with super-voting shares (20 votes), they have a combined 80.6% voting control (split 41.5% and 39.1%).

Luis von Ahn (CEO) is described as a "force of nature" and "one of the hardest, if not the hardest working person working at the company," combining drive, intellect, and brilliance to drive Duolingo's success. His leadership is central to the company's long-term vision, where he ensures that every decision and innovation aligns with expanding global access to education through technology. He is also noted for retaining a "signature Duolingo engagement and gamification flavor" in product development, even as the company explores AI-driven teaching methods for subjects like math and music. Severin Hacker (CTO) focuses on "deep tech" aspects such as data infrastructure, security, and innovation. He is characterized as the "chief thinker" behind new features, playing a key role in technical strategy and execution. His expertise in AI and data-driven approaches supports Duolingo's ability to optimize user engagement and niche market targeting, which are critical to DUOL's competitive edge.

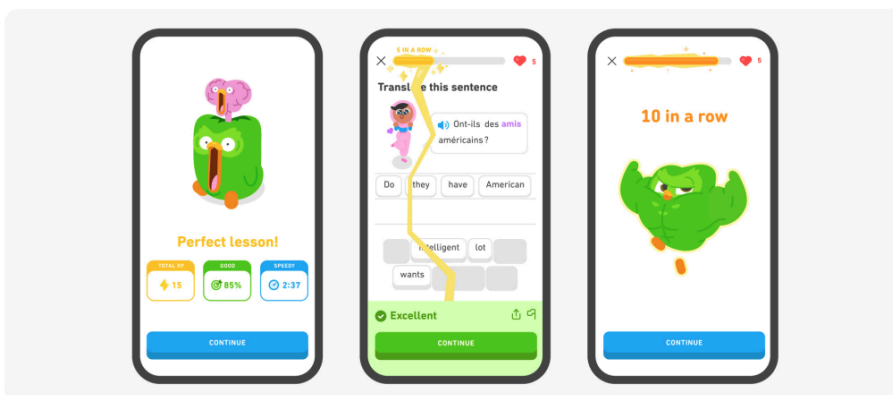
Opportunity/Risks: The most challenging aspect to underwrite is DUOL's growth endurance, which is particularly difficult for B2C consumer apps that tend to have low single-digit long-term user retention rates, combined with the graduation headwinds that will cause more advanced users to drop off. That said, management is aware and is leveraging AI to add more courses faster than ever (148 announced in May 2025) to drive top-of-funnel subscriber growth. Additionally, AI-driven video calls with Lily are used to lengthen user retention, upsell, and increase ARPU. While bookings and revenue growth continue to rise strongly, the underlying user metrics warrant caution, implying lower confidence in our ability to underwrite its growth path, driving a broader range of potential outcomes. That said, DUOL's management and product execution thus far has been solid, visionary leadership, A/B product optimizations, gamification, socialization, and viral marketing to drive strong user growth. DUOL is well-positioned to continue doing well in the years ahead, and we think they have a good chance.

Valuation: Assuming 5Y revenue growth of 10-25% and FCF margins of 30-45%, and conservative EV/FCF multiples of 20-30X (reflecting the lower business quality), and with 1% SBC dilution, DUOL could return between -14% and +15% CAGR. While DUOL is well-positioned to deliver 20%+ bookings and revenue growth over the next 1-2 years, it is much harder for us to underwrite DUOL's long-term growth endurance with a high degree of confidence. If user metrics and growth deteriorate and decelerate faster than expected, valuation multiples would compress significantly, resulting in a significant downside, which would not allow us to size our initial position large enough to invest.

Duolingo's Online Language Learning Platform



Duolingo's Gamification: Celebrating User Progress with rewards and streaks



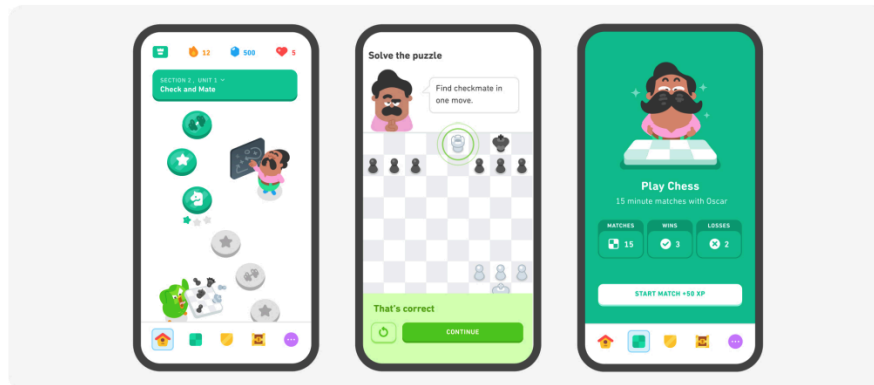
Just a few of the ways we celebrate your progress...with a healthy dose of weirdness

Duolingo Max: Video Calls with AI-powered Lily



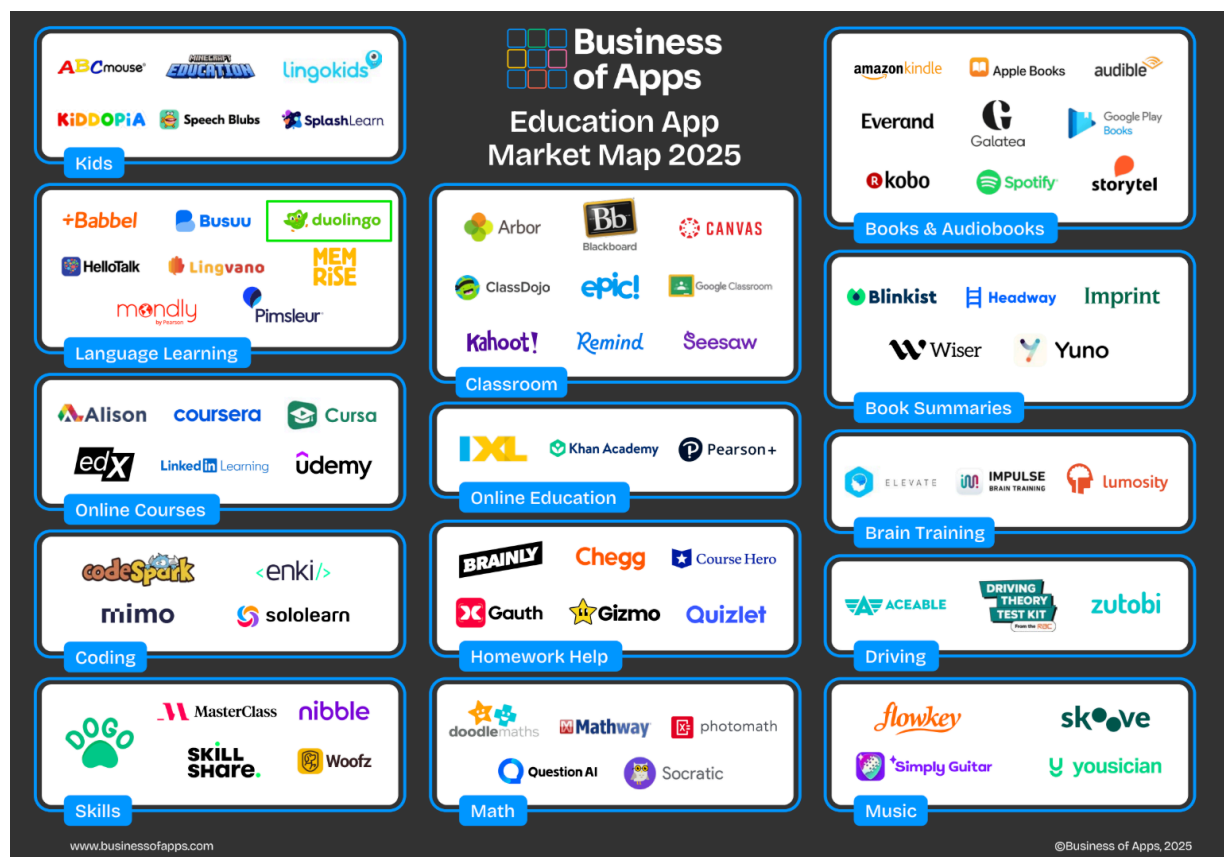
Now in 3D: Conversations with Lily that feel a little too real

Duolingo's Chess: Playing with Oscar, the new chess coach



Sharpen your skills one challenge at a time, no grandmaster title required

Market Map of Education Apps: Duolingo operates primarily in language learning

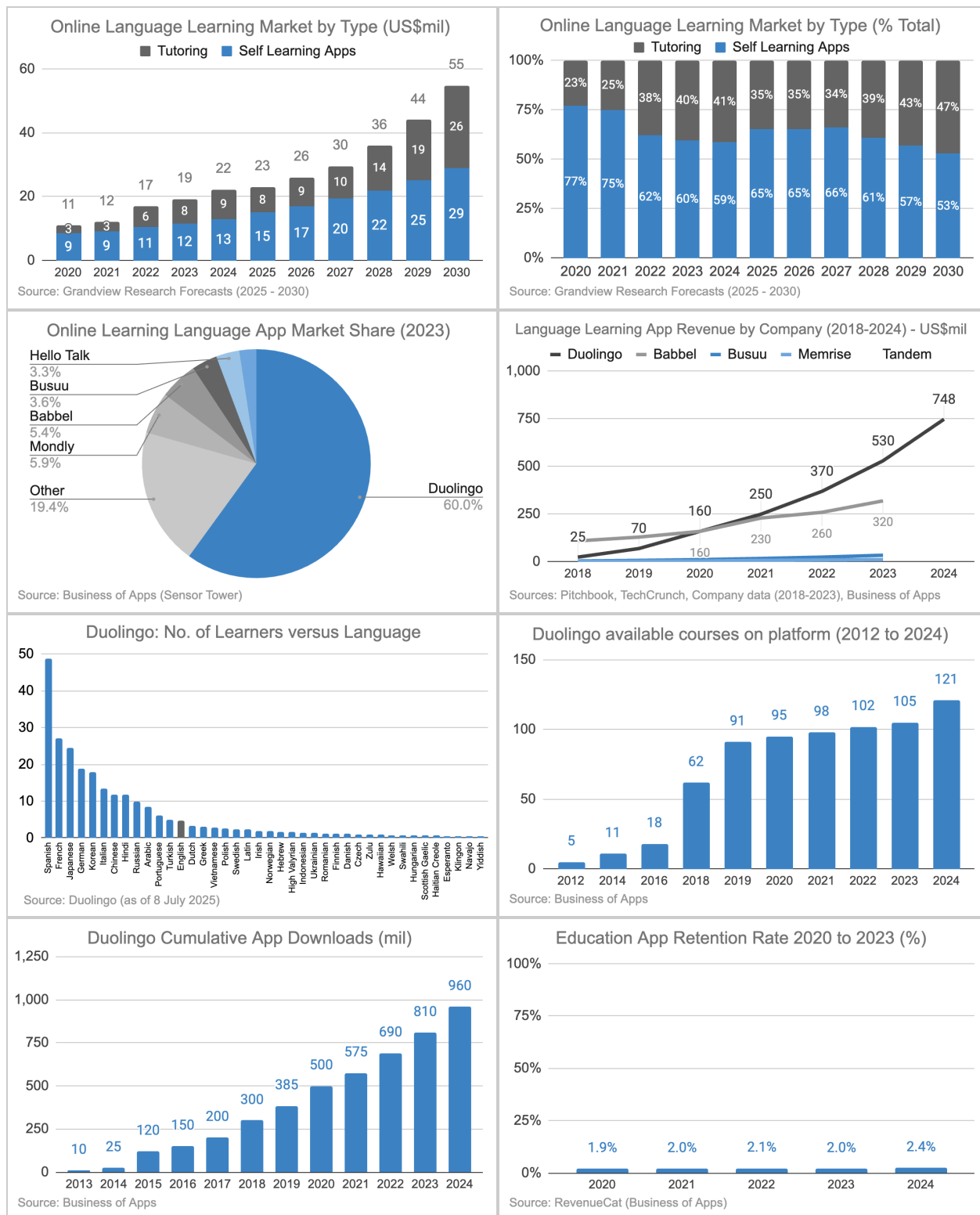


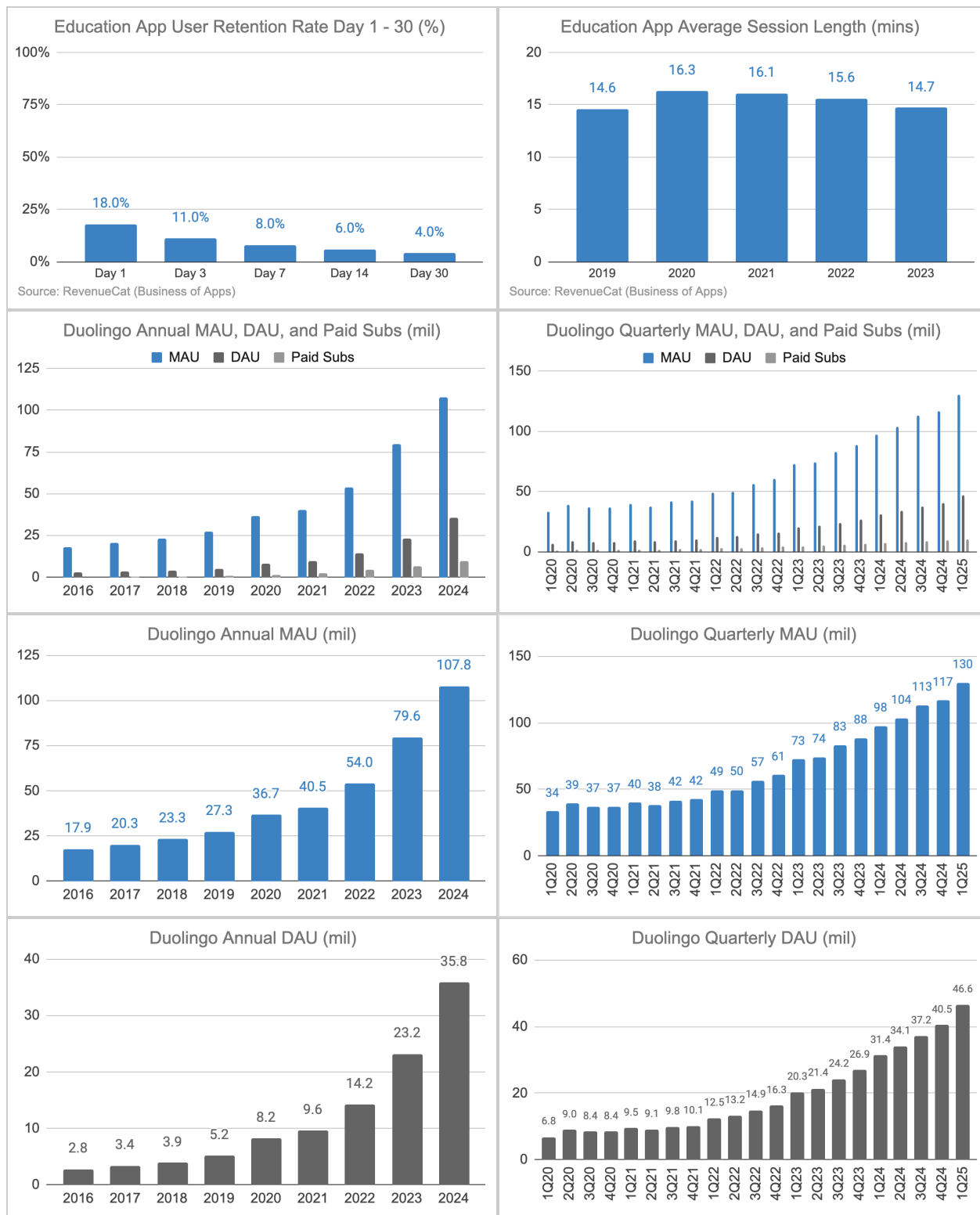
Source: [Business of Apps](https://www.businessofapps.com)

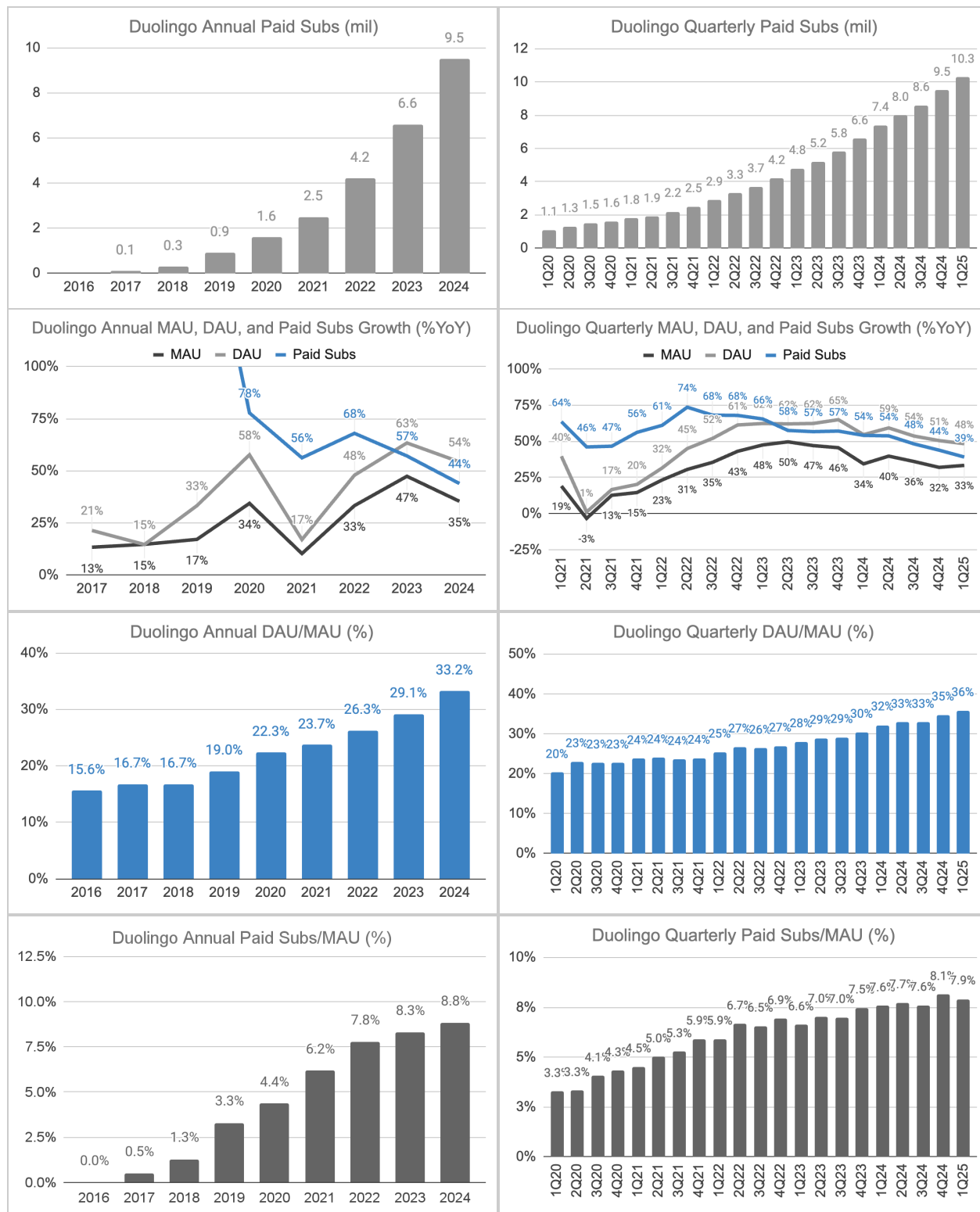
Overview of the various Language Learning Apps

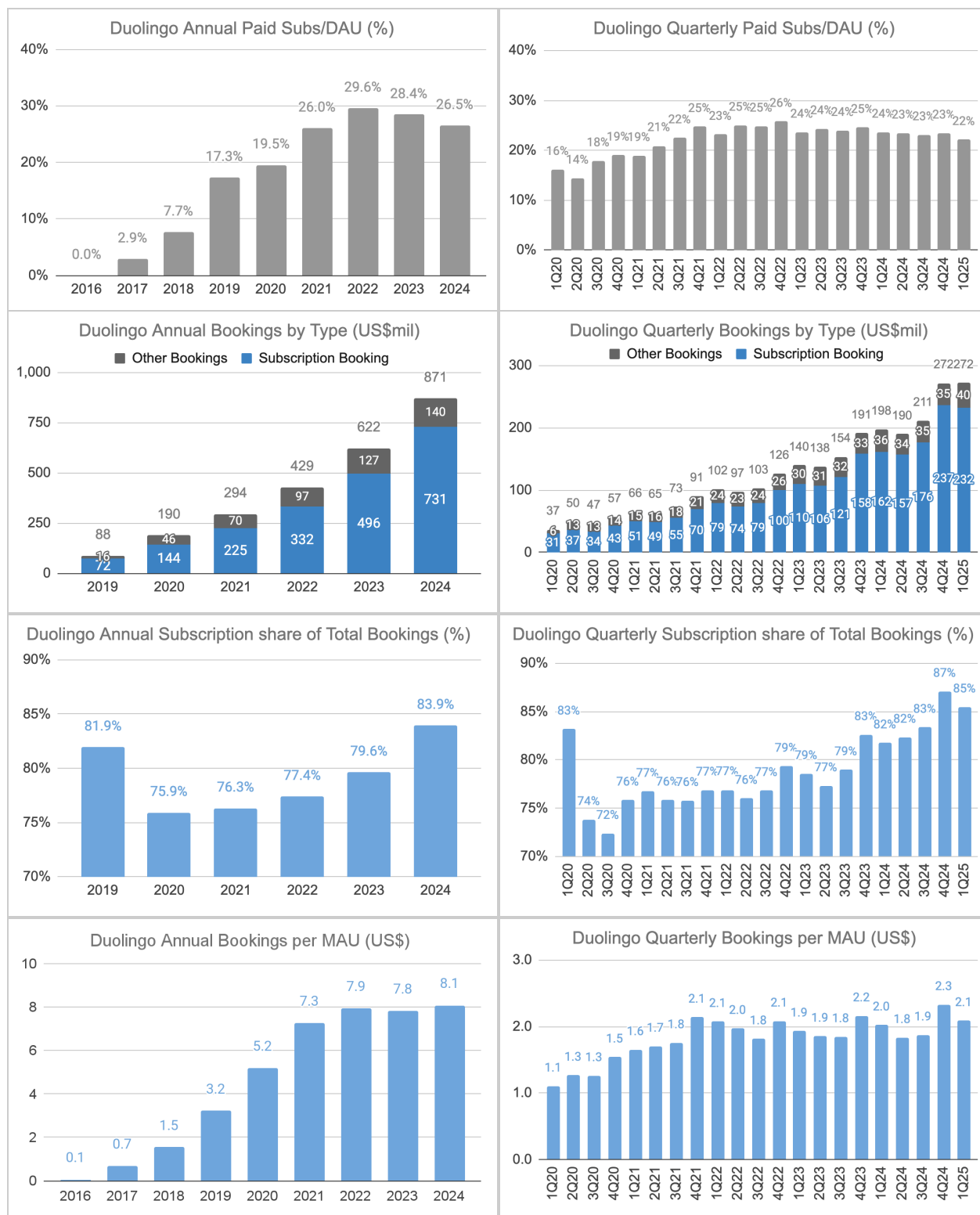
Language Learning App Name	Overview	Users & Revenue	Languages Available	Monetization Model
Duolingo	The most popular language learning app in recent years, Duolingo offers a fun, gamified learning experience	Boasts over 500 million users	Offers courses in 39 languages	Freemium, with ads; offers a premium subscription for an ad-free experience and additional features
Babbel	Unlike many of its competitors, Babbel is a subscription-only service, focusing on thorough, conversation-driven content	Reached 10 million subscriptions	Provides courses in 14 languages	Subscription-based only
Busuu	Popular in the EMEA region, Busuu offers comprehensive language learning with access to live tutors	Engages over 100 million users worldwide	Offers courses in 12 languages	Freemium; offers a subscription for premium features
Memrise	Co-founded by memory experts, Memrise uses mnemonic techniques to aid language retention	Has approximately 35 million users	Provides courses in 16 languages	Freemium, with subscriptions available for access to premium content
Drops (by Kahoot!)	Drops focus on vocabulary acquisition through visual learning	Attracts millions of users, specifics not widely reported	Offers vocabulary learning in 45 languages	Freemium, with a subscription option for additional features
HelloTalk	This app facilitates language exchange by connecting users with native speakers	Hosts over 18 million users	Supports language exchange in over 150 languages	Freemium; offers premium subscriptions for extra features
Rosetta Stone	One of the oldest and most established language learning companies, offering a wide range of language courses	Specific user numbers not disclosed, but widely recognized as a major player in the language learning market	Offers 25 different language courses	Subscription-based
Tandem	Focuses on conversational practice but also includes unique offerings like sign language and constructed languages	Serves millions of users, with specific numbers not publicly disclosed	Supports over 300 languages, including sign languages and constructed languages	Freemium; offers subscriptions for premium features
LingoDeer	Specializes in Asian languages, providing structured courses aligned with the grammar and learning styles of each language	Not widely reported, but recognized for high-quality educational content	Offers courses primarily in Japanese, Korean, and Chinese, among others	Subscription-based
Mondly	Integrates cutting-edge technologies like VR for immersive language learning experiences	Has over 60 million users	Offers 33 languages	Freemium; also offers VR experiences through paid apps

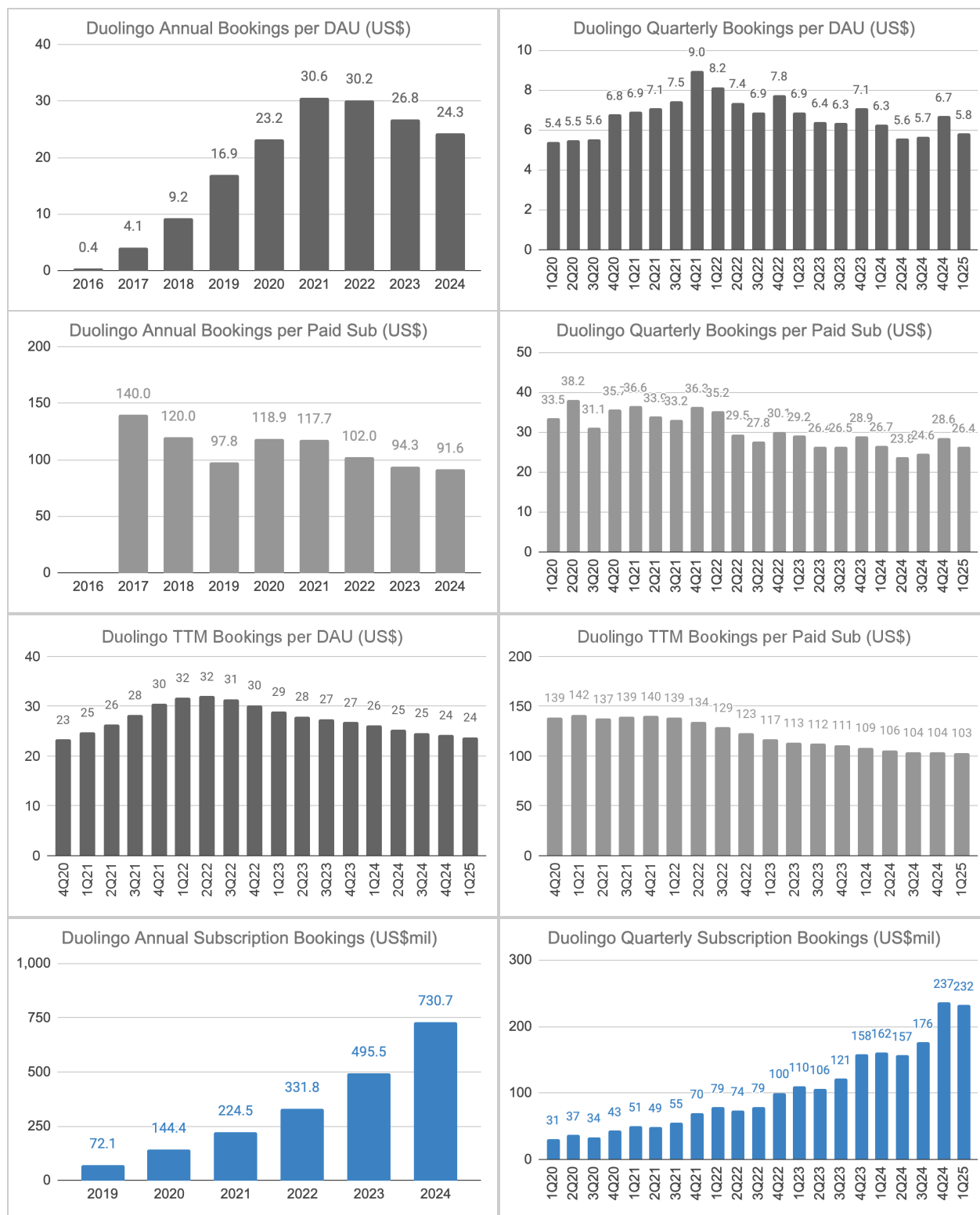
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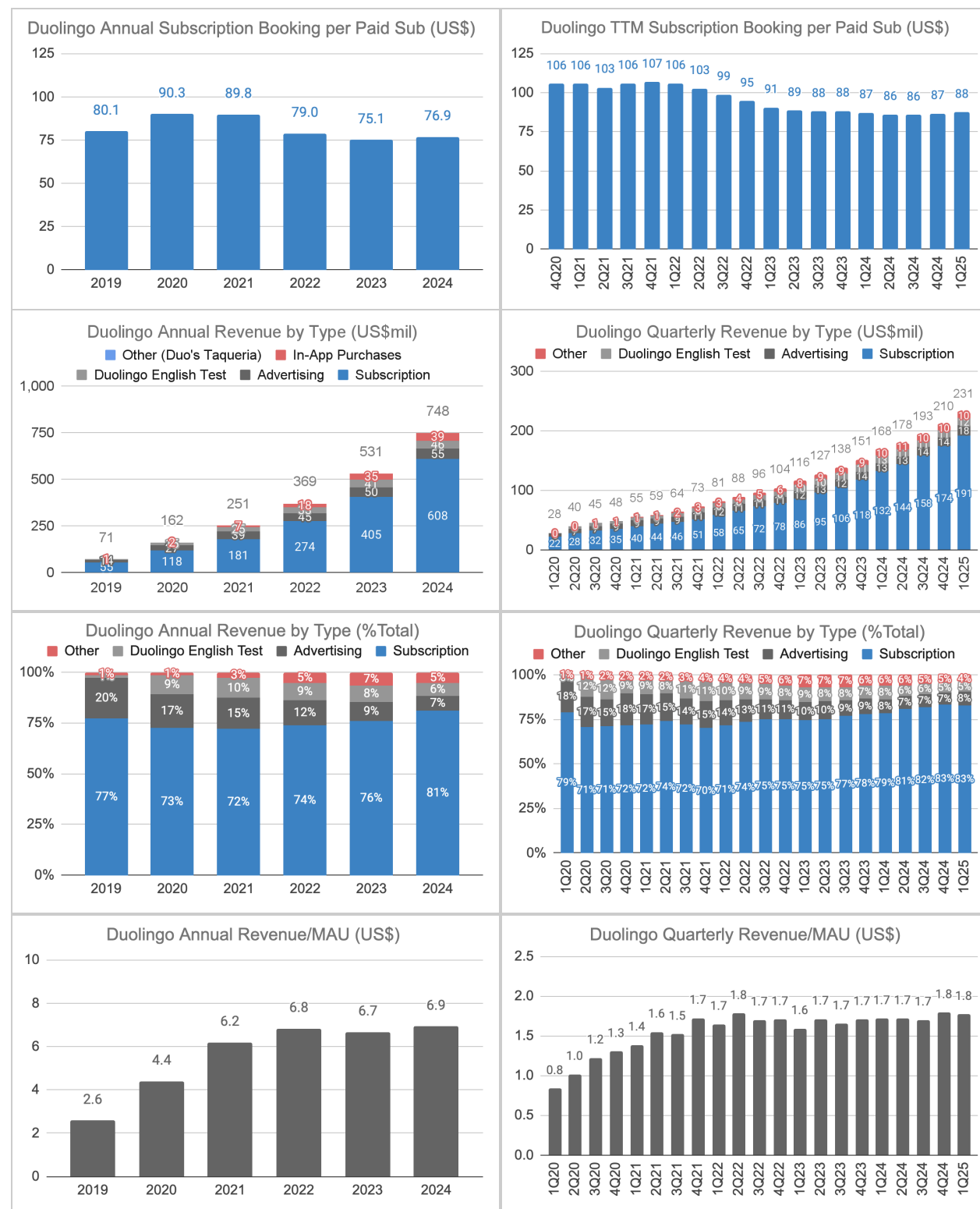


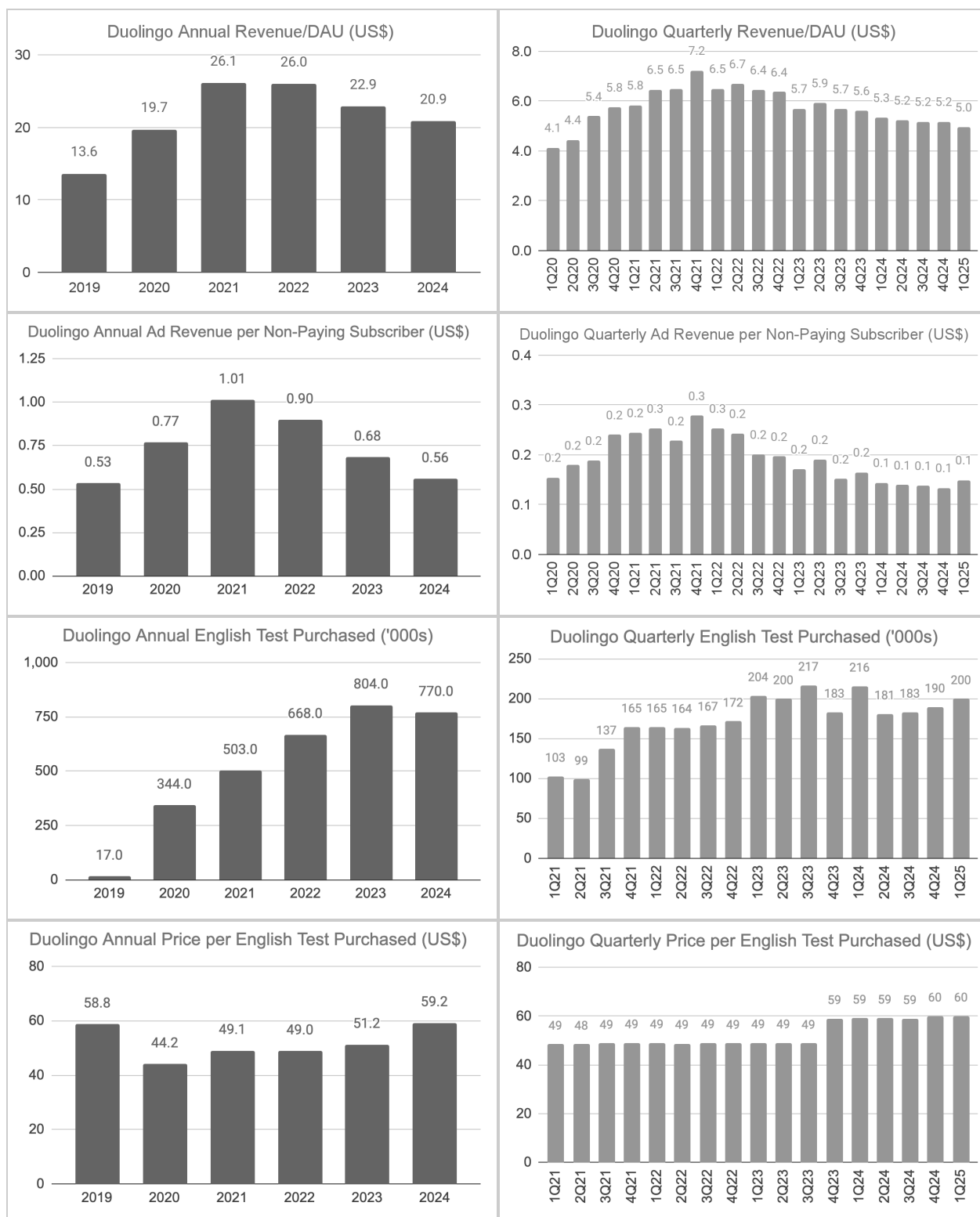


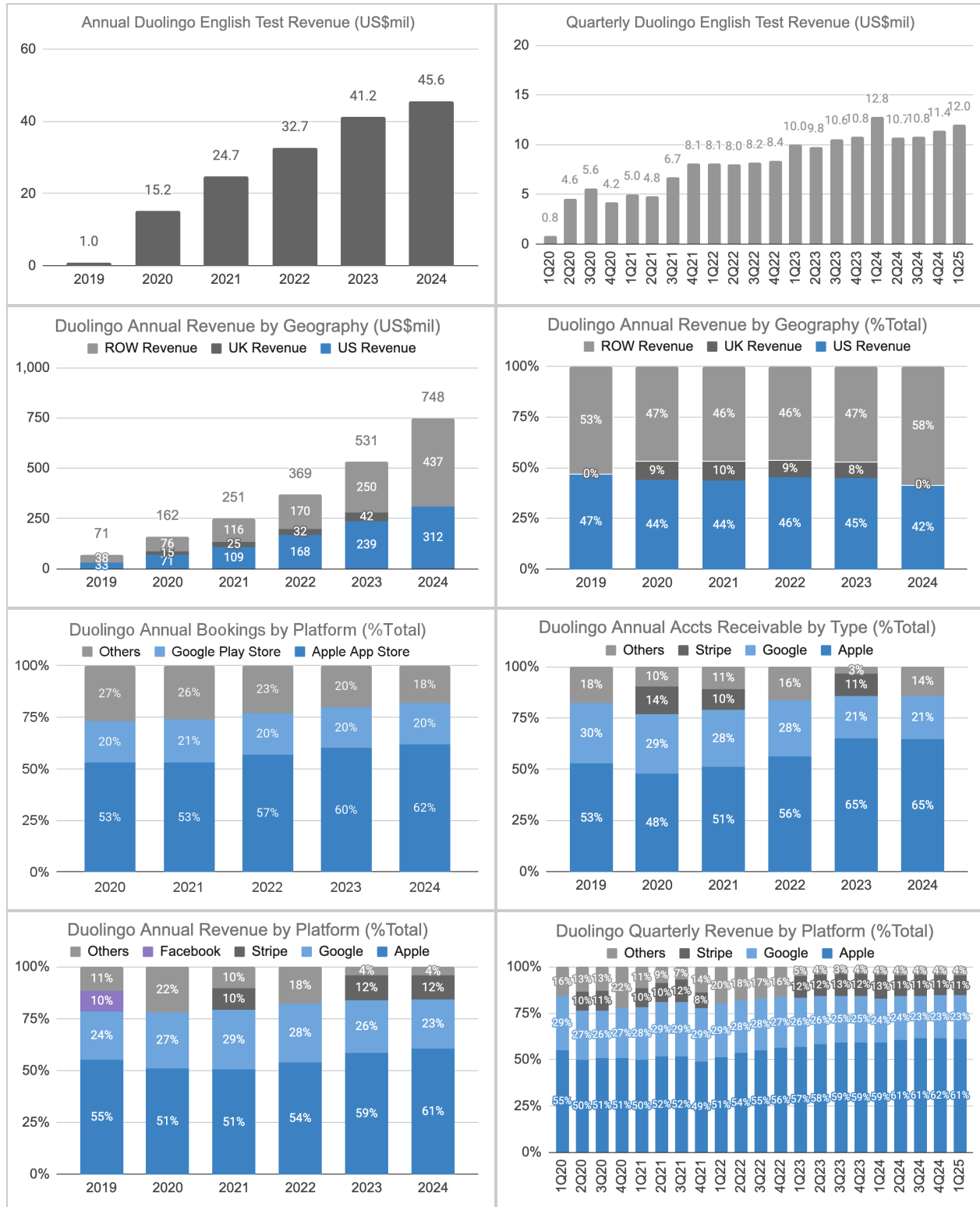


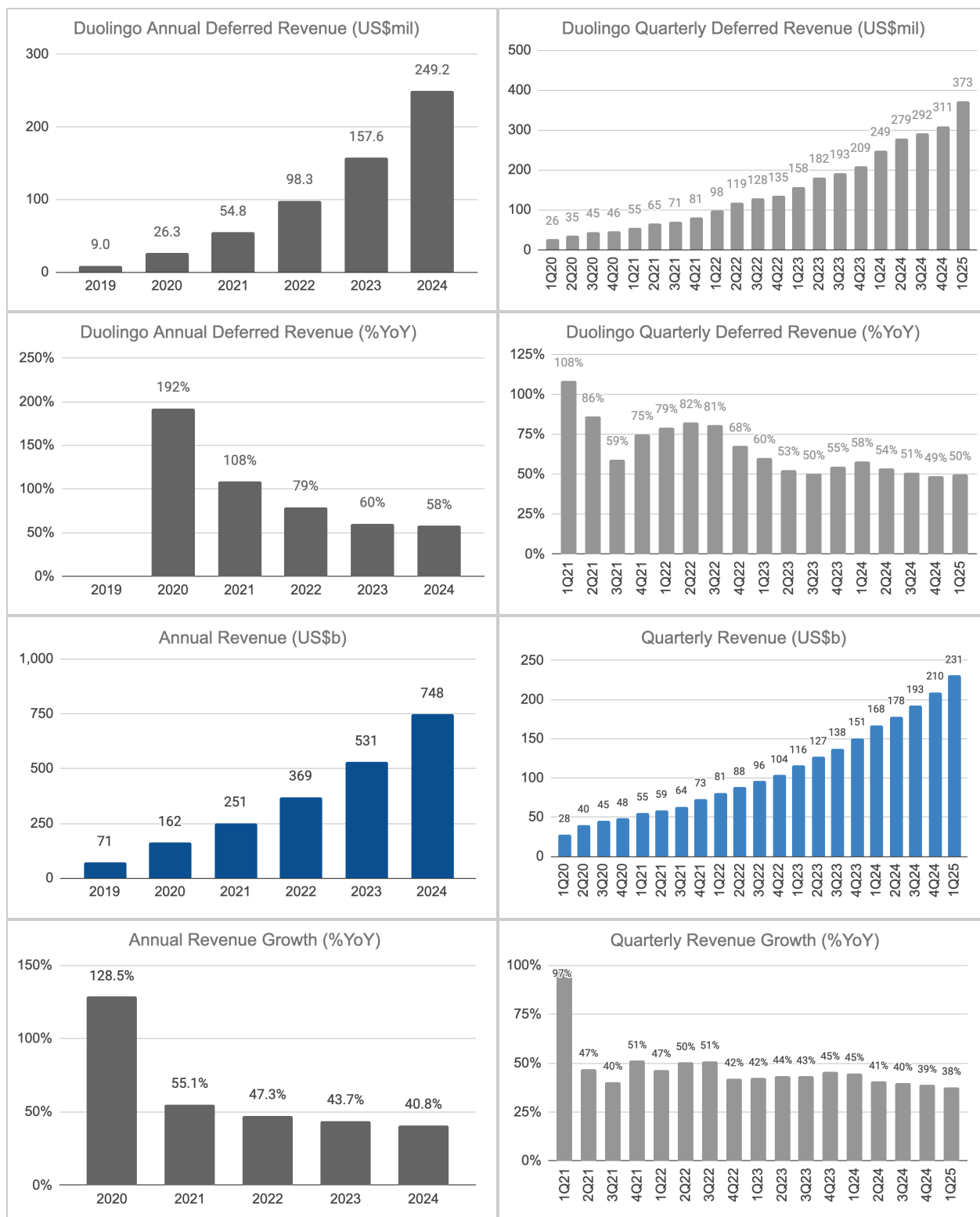


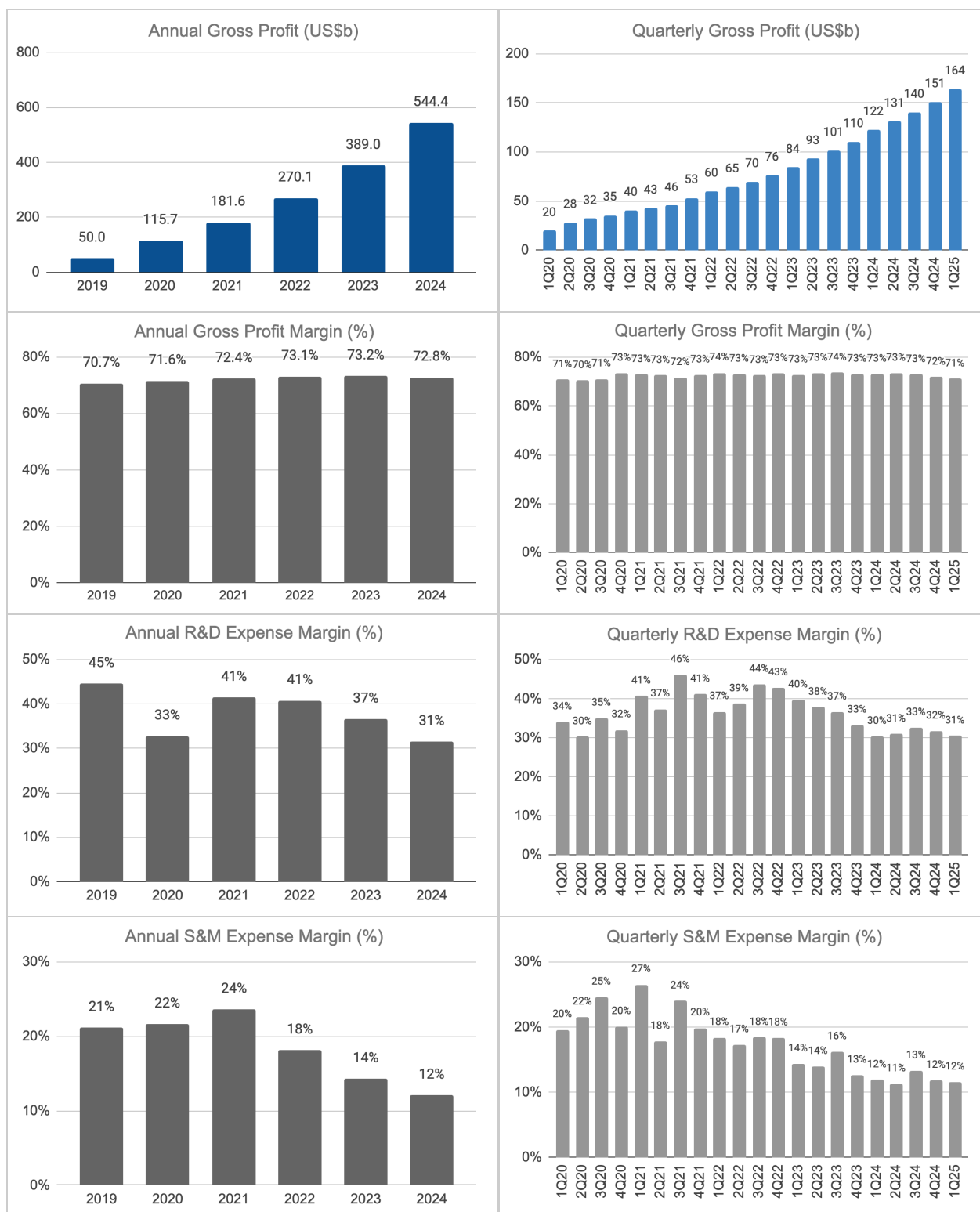


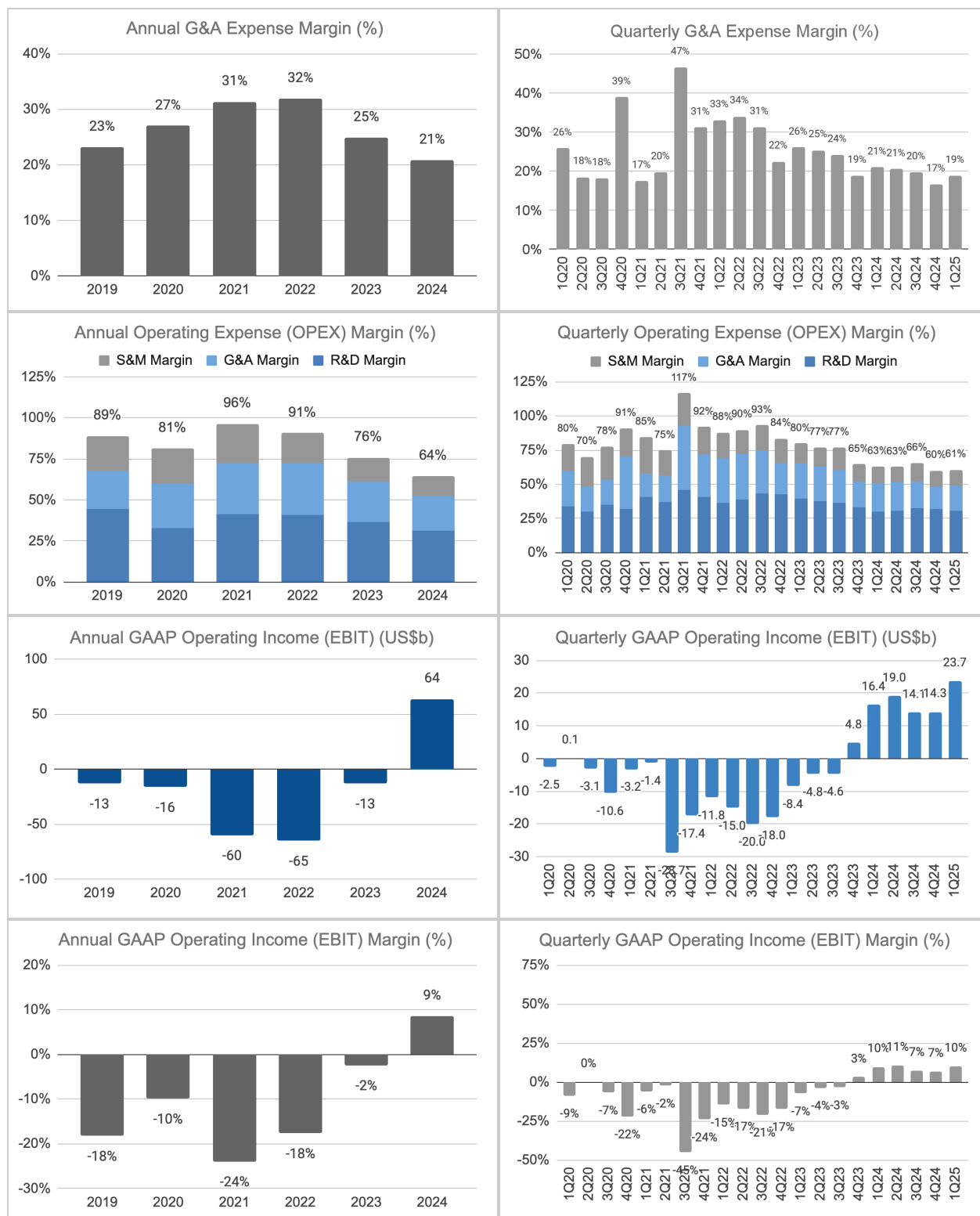


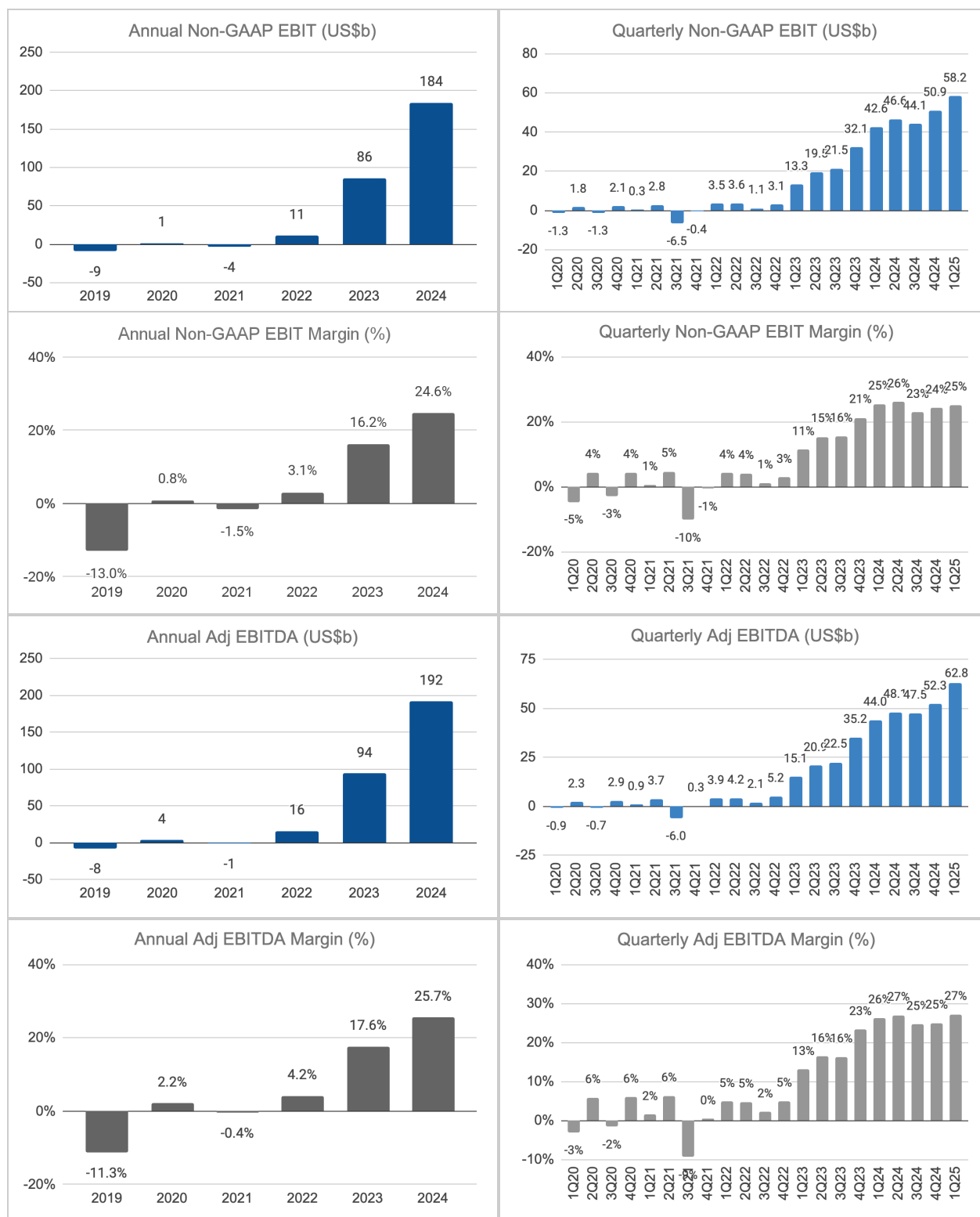


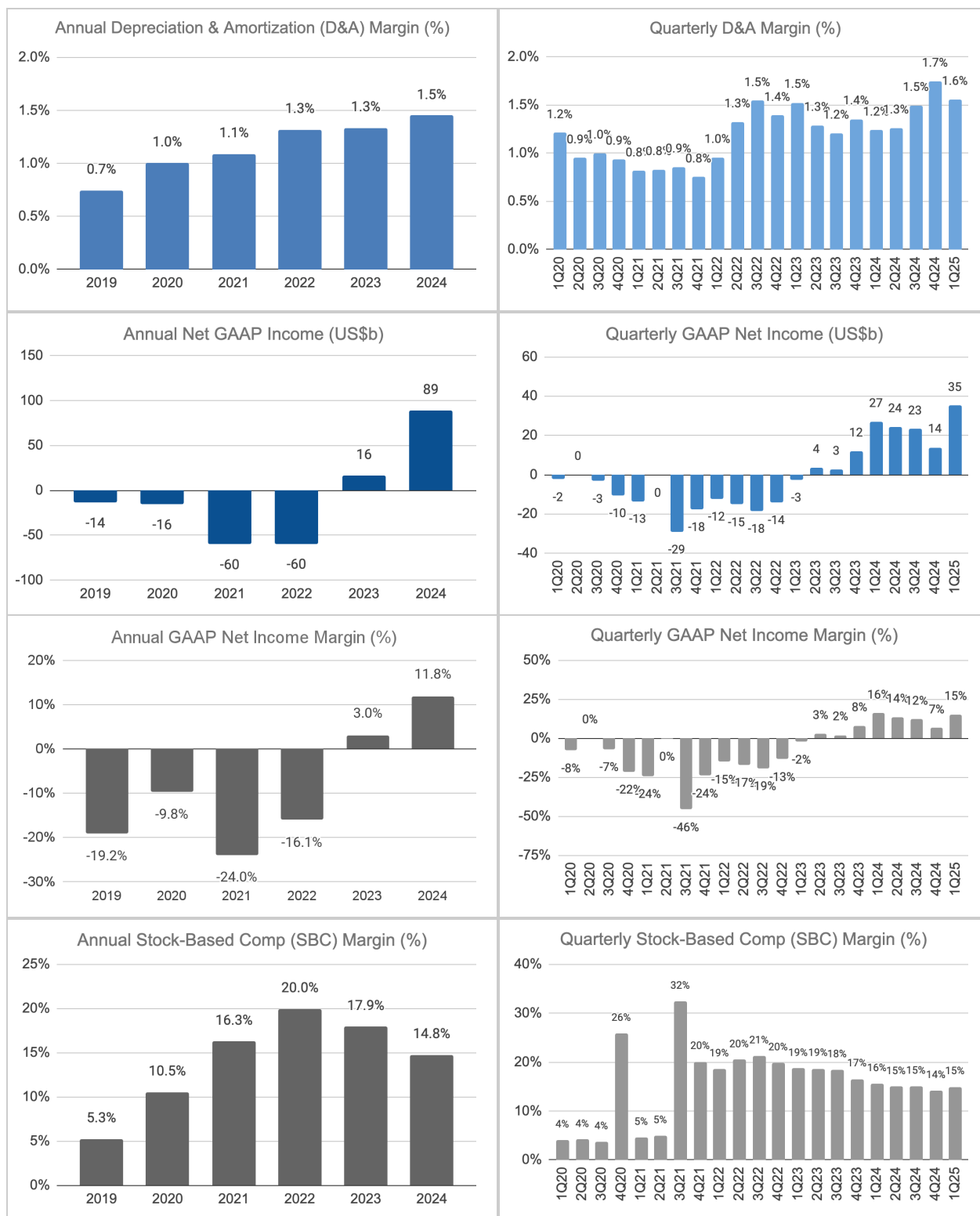


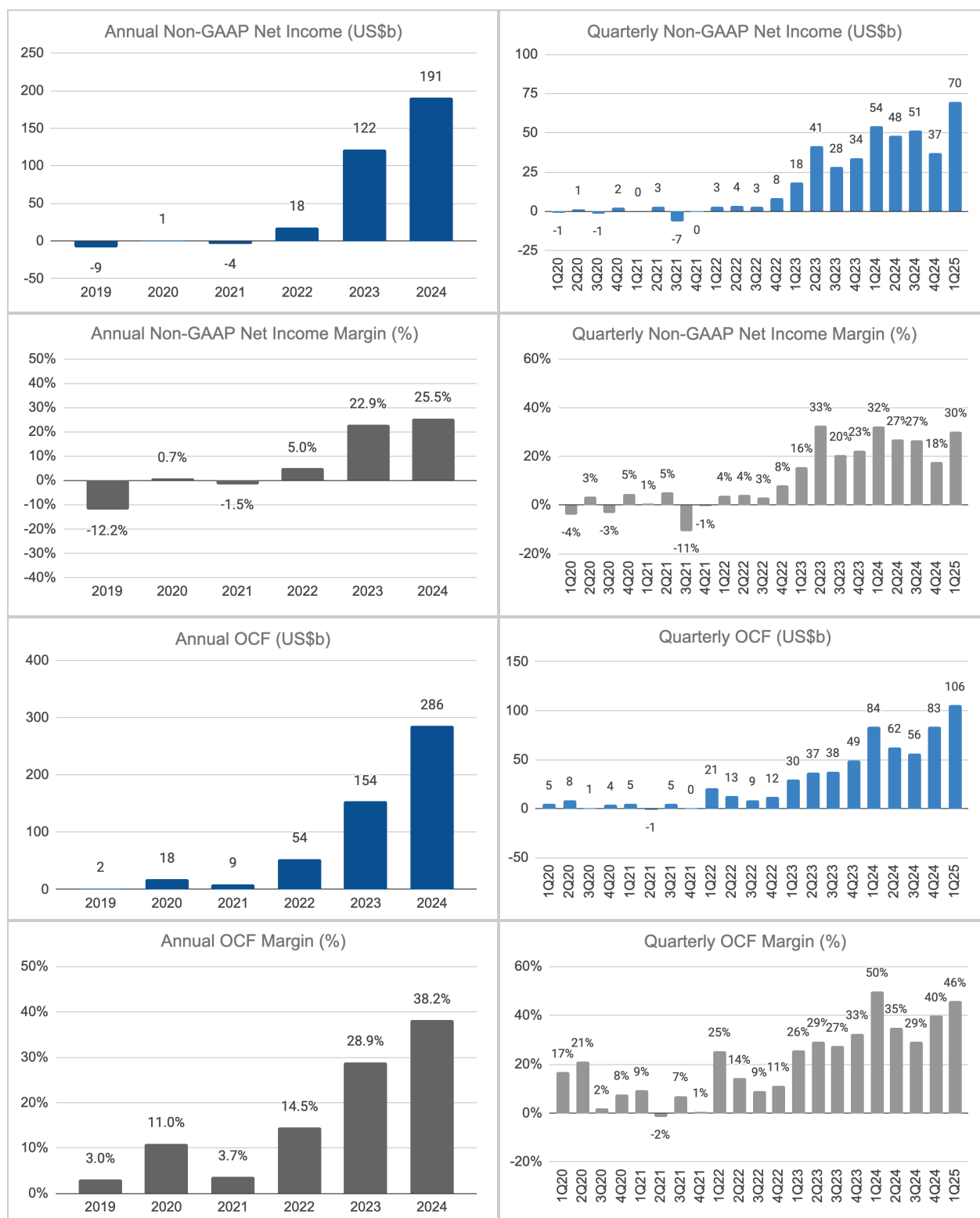


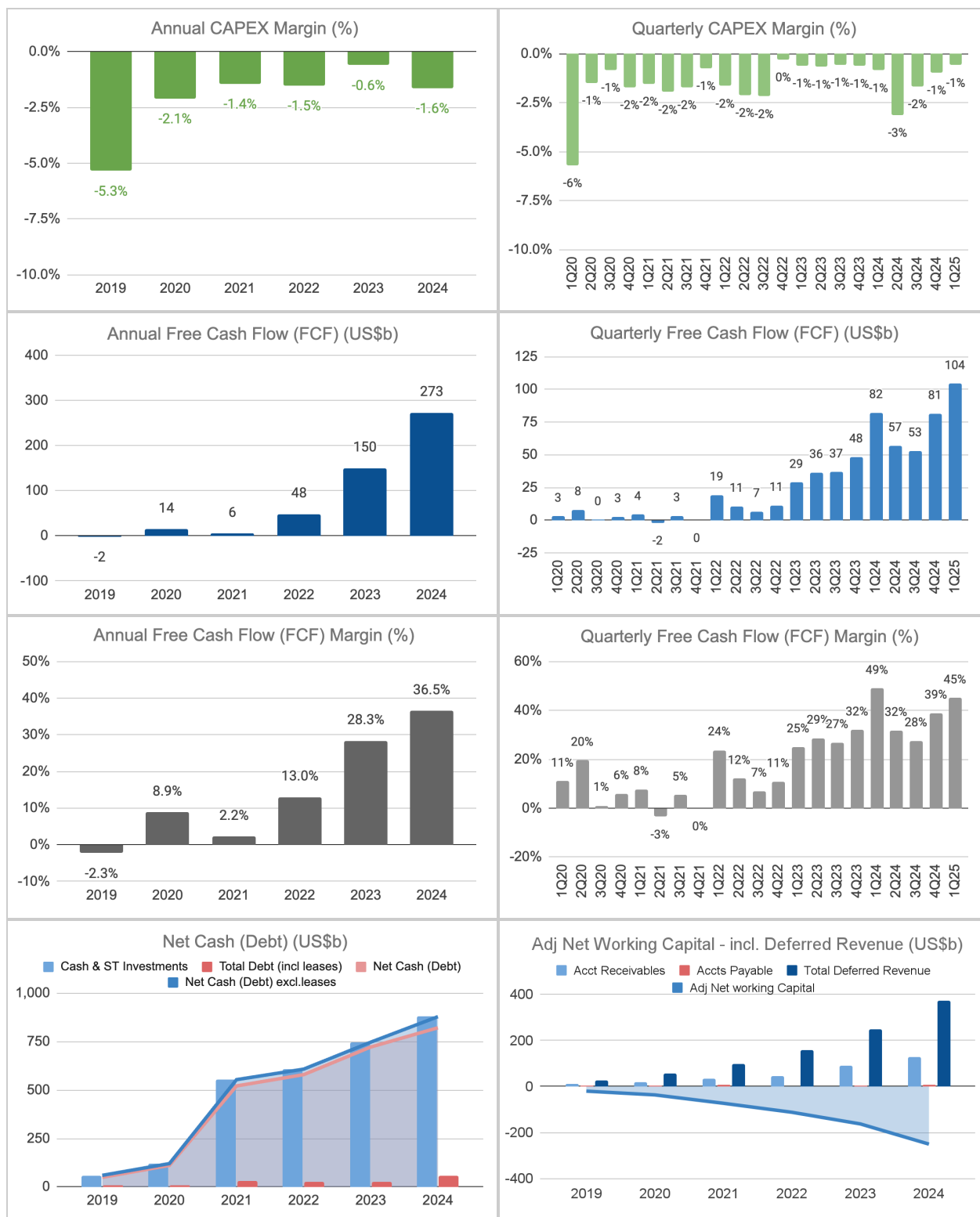


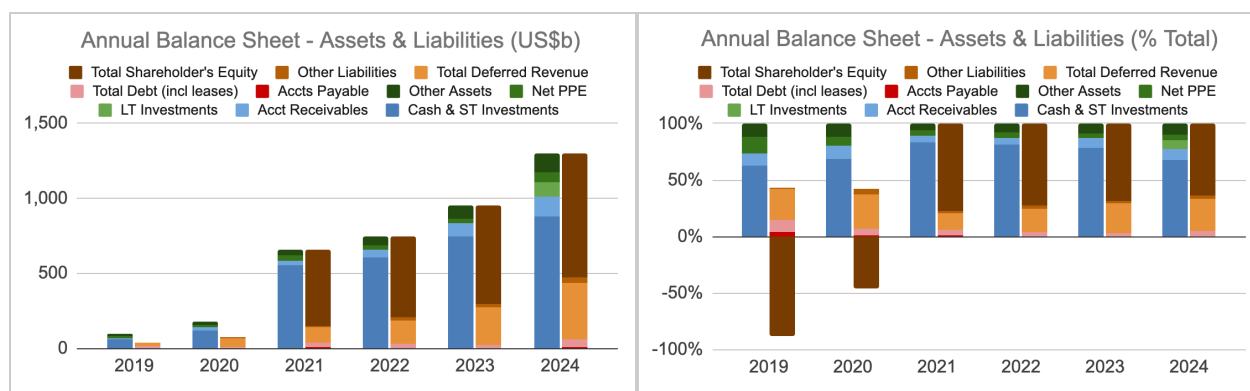












Potential Return Analysis

Potential Return Analysis (EV/FCF) - DUOL as of 08-Jul-2025			
TTM Revenue (US\$b)	\$0.811	\$0.811	\$0.811
Revenue CAGR	10.0%	20.0%	25.0%
Years	5	5	5
Future Revenue (US\$b)	\$1.306	\$2.019	\$2.476
FCF Margin	30.0%	40.0%	45.0%
FCF (US\$b)	\$0.4	\$0.8	\$1.1
Current TTM EV/FCF Valuation Multiple	58.2	58.2	58.2
Future EV/ FCF Valuation Multiple	20.0	25.0	30.0
Future Enterprise Value (EV)	\$7.8	\$20.2	\$33.4
Existing Market Cap (US\$b)	\$18.0	\$18.0	\$18.0
Less Net Cash (FY24)	\$0.822	\$0.8	\$0.8
Existing Enterprise Value (EV)	\$17.2	\$17.2	\$17.2
Dilution (-) / Buybacks (+)	-1.0%	-1.0%	-1.0%
FCF Yield	1.7%	1.7%	1.7%
Return Multiple	0.5	1.2	2.0
Return CAGR %	-14%	4%	15%

Disclaimer: This investment thesis is for informational purposes only and does not constitute financial advice. None of the information or analysis presented is intended to form the basis for any offer or recommendation. **Vision Capital Fund does not own shares in Duolingo Inc. (NASDAQ: DUOL).** Holdings of Vision Capital Fund are subject to change at any time.